

NON-CONFIDENTIAL

1 **Request IR-22:**

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3 **Referencing the statement at page 12 of 161 of NSPI's filing (starting at line 8), please**
4 **provide:**

5

6 **(a) a copy of the board consultant's report**

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8 **(b) all NSPI responses thereto, and**

9

10 **(c) the update referred to in the filing.**

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12 Response IR-22:

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14 (a) Please refer to OP-03, Attachment 1.

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16 (b) The Kaiser Report was reviewed as part of the 2009 General Rate Application, resulting
17 in Information Requests and Evidence from Intervenors and NSPI (which contain NSPI's
18 responses to the report). The Board accepted the report saying,

19

20 Taking all of the evidence into account, the Board accepts the findings of
21 the Kaiser Report, as well as that of the Accenture Report, that NSPI's
22 organizational structure is appropriate and its management of OM&G
23 expenditures is reasonable.¹

24

25 Please refer to Appendix B of the Direct Evidence (DE-03 – DE-04, Appendix B).

¹ NSPI 2009 Rate Case Settlement, UARB Decision, NSUARB-NSPI-P-888, November 5, 2008, paragraph 71.

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1 **Request IR-23:**

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3 **Referencing the statement at page 12 of 161 of NSPI's filing (starting at line 15), please list**
4 **by category (using the categories cited in the filing as examples) and by total all NSPI**
5 **employees:**

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7 **(a) actual at year end for each year starting with the year in which NSPI made the filing**
8 **representing "the last time electricity rates were set,"**

9

10 **(b) currently,**

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12 **(c) projected for year-end 2011, and projected for year-end 2012.**

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14 Response IR-23:

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16 Please refer to Attachment 1 for employee counts for 2009, 2010 and current as of April 30th,
17 2011. Employee counts by position for year-end 2011 and projected for year-end 2012 are not
18 available as NSPI forecasts based on division not employee.

Total All Active NSPI Employees Year over Year by Job Families

	2009.12.31	2010.12.31	2011.04.30
Non Union Total	858	930	919
Accountant	8	9	9
Accounts Payable	6	7	6
Administrative and Support Positions	81	82	78
Audit	5	6	6
Communication	6	9	7
Cost/Financial Analyst	19	20	19
Customer Care	191	170	174
Director	30	30	31
Engineering (P.Eng)	93	112	109
Environment	5	11	11
Executive	14	13	13
Field Operations	52	65	66
Finance & Accounting	20	20	17
Fuels & Energy	13	11	11
Human Resources	22	27	26
IT Related	25	27	26
Legal & Regulatory	8	11	10
Manager	77	81	83
Procurement	25	35	35
Security Officer & Support	9	10	13
Students	6	12	7
Supervisor	107	118	119
Technologist, GIS, CADD	36	44	43

	2009.12.31	2010.12.31	2011.04.30
Union Total	1012	1011	1009
Customer Service Field Reps	14	13	12
Electrical Technician	48	47	45
Electrical Technician Apprentice	6	3	4
Electrician	43	38	40
Field Operations	52	56	56
Garage Mechanic	18	19	19
Gas Turbine Operator	4	4	3
Human Resources	2	2	2
Maintenance Person	134	124	123
Meter Reader/Testers	71	75	74
Planner	29	40	40
Power Engineer	123	118	115
Power Engineer Apprentice	30	33	37
Power Plant Technician	67	65	64
Power Plant Technician Apprentice	2	3	5
Powerline Technician	162	158	164
Powerline Technician Apprentice	59	58	48
Storekeeper	25	23	22
System Operators	22	26	26
Utilityworker/Operator	101	106	110
Grand Total	1870	1941	1928

Note: The employee data in the table above includes all active, regular and active, term employees effective as of the dates provided.

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1 **Request IR-24:**

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3 **Referencing the statement at page 12 of 161 of NSPI's filing (starting at line 16 to 19),**
4 **please provide a copy of the multi-year collective agreement referred to for the listed**
5 **unionized worker positions and related wage increases through to 2012. In addition, please**
6 **provide a copy of the collective agreement which preceded the agreement referenced here.**

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8 Response IR-24:

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10 Please refer to Attachment 1, the IBEW Collective Agreement 2003 – 2007.

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12 Please refer to Attachment 2, the IBEW Collective Agreement 2007 – 2012.

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1 **Request IR-25:**

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3 **Referencing the statement at page 12 of 161 of NSPI's filing (starting at line 17), please list**
4 **by each position for which the agreement specifies a wage amount or range that amount or**
5 **range for such positions:**

6

7 **(a) actual at year end for each of year starting with the year in which NSPI made the**
8 **filing representing "the last time electricity rates were set"**

9

10 **(b) currently,**

11

12 **(c) projected for year-end 2011, and projected for year-end 2012**

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14 Response IR-25:

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16 (a-c) Please refer to Attachment 1 for hourly union wage rate details per Collective Agreement.

JOB CLASSIFICATION	Wage Rate	Wage Rate	Wage Rate	Wage Rate	Wage Rates
	2008 12-26	2010 03-05	2010 10-01	2011 03-04	2012 remain the same as 2011 up to March 31, 2012 *(Pending Negotiations)
Leading Powerline Technician (Shift)	33.90	35.26	36.31	37.76	37.76
Powerline Technician (Shift)	32.30	33.59	34.59	35.97	35.97
Leading Powerline Technician	32.37	33.66	34.71	36.10	36.10
Powerline Technician	30.83	32.06	33.06	34.38	34.38
Powerline Tech Shift Spare	32.30	33.59	34.59	35.97	35.97
Tech Powerline Trainee 1st6mos (55%)	16.96	17.63	18.18	18.91	18.91
Tech Powerline Trainee 2nd6mos(60%)	18.50	19.24	19.84	20.63	20.63
Tech Powerline App 3rd 6mos (65%)	20.04	20.84	21.49	22.35	22.35
Tech Powerline App 4th 6mos (70%)	21.58	22.44	23.14	24.07	24.07
Tech Powerline App 5th 6 Mos (80%)	24.66	25.65	26.45	27.50	27.50
Tech Powerline App 6th 6 Mos (85%)	26.21	27.25	28.10	29.22	29.22
Tech Powerline App 7th 6mos (90%)	27.75	28.85	29.75	30.94	30.94
Tech Powerline App 8th 6mos (95%)	29.29	30.46	31.41	32.66	32.66
Electrician Leading	31.77	33.04	34.09	35.46	35.46
Electrician (Shift)	30.26	31.47	32.47	33.77	33.77
Leading Electrician	31.77	33.04	34.09	35.46	35.46
Electrician	30.26	31.47	32.47	33.77	33.77
Electrician Helper (80%)	24.21	25.18	25.98	27.02	27.02
Electrician Apprentice 1st 6mo (55%)	16.64	17.31	17.86	18.57	18.57
Electrician Apprentice 2nd 6mo (60%)	18.16	18.88	19.48	20.26	20.26
Electrician Apprentice 3rd 6mo (65%)	19.67	20.46	21.11	21.95	21.95
Electrician Apprentice 4th 6mo (70%)	21.18	22.03	22.73	23.64	23.64
Electrician Apprentice 5th 6mo (80%)	24.21	25.18	25.98	27.02	27.02
Electrician Apprentice 6th 6mo (85%)	25.72	26.75	27.60	28.71	28.71
Electrician Apprentice 7th 6mo (90%)	27.23	28.32	29.22	30.39	30.39
Electrician Apprentice 8th 6mo (95%)	28.75	29.90	30.85	32.08	32.08
Electrician(Shift)App 1st 6mos (55%)	16.64	17.31	17.86	18.57	18.57
Electrician(Shift)App 2nd 6mos (60%)	18.16	18.88	19.48	20.26	20.26
Electrician(Shift)App 3rd 6mos (65%)	19.67	20.46	21.11	21.95	21.95
Electrician(Shift)App 4th 6mos (70%)	21.18	22.03	22.73	23.64	23.64
Electrician(Shift)App 5th 6mos (80%)	24.21	25.18	25.98	27.02	27.02
Electrician(Shift)App 6th 6mos (85%)	25.72	26.75	27.60	28.71	28.71
Electrician(Shift)App 7th 6mos (90%)	27.23	28.32	29.22	30.39	30.39
Electrician(Shift)App 8th 6mos (95%)	28.75	29.90	30.85	32.08	32.08
Quality Technician	33.23	34.56	35.56	36.98	36.98
Leading Electrical Technician	33.29	34.62	35.67	37.10	37.10
Electrical Technician	31.70	32.97	33.97	35.33	35.33
Electrical Tech App 5th 6 Mos (80%)	25.36	26.38	27.18	28.26	28.26

JOB CLASSIFICATION	Wage Rate 2008 12-26	Wage Rate 2010 03-05	Wage Rate 2010 10-01	Wage Rate 2011 03-04	Wage Rates 2012 remain the same as 2011 up to March 31, 2012 *(Pending Negotiations)
Electrical Tech App 6th 6 Mos (85%)	26.95	28.03	28.88	30.03	30.03
Electrical Tech App 7th 6 Mos (90%)	28.53	29.67	30.57	31.80	31.80
Electrical Tech App 8th 6 Mos (95%)	30.12	31.32	32.27	33.56	33.56
System Operator- Transmission	41.05	42.69	43.69	45.44	45.44
System Operator- Energy	38.82	40.37	41.37	43.03	43.03
System Operator- Hydro	37.95	39.47	40.47	42.09	42.09
System Operator- Distribution	37.24	38.73	39.73	41.32	41.32
SYS OPERATOR-TRAN APP 1ST 6MOS	22.58	23.48	24.03	24.99	24.99
SYS OPERATOR-TRAN APP 2ND 6MOS	24.63	25.61	26.21	27.26	27.26
SYS OPERATOR-TRAN APP 3RD 6MOS	26.68	27.75	28.40	29.54	29.54
SYS OPERATOR-TRAN APP 4TH 6MOS	28.74	29.88	30.58	31.81	31.81
SYS OPERATOR-TRAN APP 5TH 6MOS	32.84	34.15	34.95	36.35	36.35
SYS OPERATOR-TRAN APP 6TH 6MOS	34.89	36.29	37.14	38.62	38.62
SYS OPERATOR-TRAN APP 7TH 6MOS	36.95	38.42	39.32	40.90	40.90
SYS OPERATOR-TRAN APP 8TH 6MOS	39.00	40.56	41.51	43.17	43.17
SYS OPERATOR-HYDRO APP 1ST 6MOS	20.87	21.71	22.26	23.15	23.15
SYS OPERATOR-HYDRO APP 2ND 6MOS	22.77	23.68	24.28	25.25	25.25
SYS OPERATOR-HYDRO APP 3RD 6MOS	24.67	25.66	26.31	27.36	27.36
SYS OPERATOR-HYDRO APP 4TH 6MOS	26.57	27.63	28.33	29.46	29.46
SYS OPERATOR-HYDRO APP 5TH 6MOS	30.36	31.58	32.38	33.67	33.67
SYS OPERATOR-HYDRO APP 6TH 6MOS	32.26	33.55	34.40	35.78	35.78
SYS OPERATOR-HYDRO APP 7TH 6MOS	34.16	35.52	36.42	37.88	37.88
SYS OPERATOR-HYDRO APP 8TH 6MOS	36.05	37.50	38.45	39.99	39.99
SYS OPERATOR-ENERGY APP 1ST 6MOS	21.35	22.20	22.75	23.67	23.67
SYS OPERATOR-ENERGY APP 2ND 6MOS	23.29	24.22	24.82	25.82	25.82
SYS OPERATOR-ENERGY APP 3RD 6MOS	25.23	26.24	26.89	27.97	27.97
SYS OPERATOR-ENERGY APP 4TH 6MOS	27.17	28.26	28.96	30.12	30.12
SYS OPERATOR-ENERGY APP 5TH 6MOS	31.06	32.30	33.10	34.42	34.42
SYS OPERATOR-ENERGY APP 6TH 6MOS	33.00	34.31	35.16	36.58	36.58
SYS OPERATOR-ENERGY APP 7TH 6MOS	34.94	36.33	37.23	38.73	38.73
SYS OPERATOR-ENERGY APP 8TH 6MOS	36.88	38.35	39.30	40.88	40.88
SYS OPERATOR-DIST APP 1ST 6MOS	20.48	21.30	21.85	22.73	22.73
SYS OPERATOR-DIST APP 2ND 6MOS	22.34	23.24	23.84	24.79	24.79
SYS OPERATOR-DIST APP 3RD 6MOS	24.21	25.17	25.82	26.86	26.86
SYS OPERATOR-DIST APP 4TH 6MOS	26.07	27.11	27.81	28.92	28.92
SYS OPERATOR-DIST APP 5TH 6MOS	29.79	30.98	31.78	33.06	33.06
SYS OPERATOR-DIST APP 6TH 6MOS	31.65	32.92	33.77	35.12	35.12
SYS OPERATOR-DIST APP 7TH 6MOS	33.52	34.86	35.76	37.19	37.19
SYS OPERATOR-DIST APP 8TH 6MOS	35.38	36.79	37.74	39.25	39.25

JOB CLASSIFICATION	Wage Rate 2008 12-26	Wage Rate 2010 03-05	Wage Rate 2010 10-01	Wage Rate 2011 03-04	Wage Rates 2012 remain the same as 2011 up to March 31, 2012 *(Pending Negotiations)
Leading Meterperson	31.77	33.04	34.09	35.46	35.46
Meterperson	30.26	31.47	32.47	33.77	33.77
Leading Garage Mechanic	31.77	33.04	34.09	35.46	35.46
Garage Mechanic	30.26	31.47	32.47	33.77	33.77
Garage Mechanic Helper (80%)	24.21	25.18	25.98	27.02	27.02
Garage Mechanic App. 1st 6mos (55%)	16.64	17.31	17.86	18.57	18.57
Garage Mechanic App. 2nd 6mos (60%)	18.16	18.88	19.48	20.26	20.26
Garage Mechanic App. 3rd 6mos (65%)	19.67	20.46	21.11	21.95	21.95
Garage Mechanic App. 4th 6mos (70%)	21.18	22.03	22.73	23.64	23.64
Garage Mechanic App. 5th 6mos (80%)	24.21	25.18	25.98	27.02	27.02
Garage Mechanic App. 6th 6mos (85%)	25.72	26.75	27.60	28.71	28.71
Garage Mechanic App. 7th 6mos (90%)	27.23	28.32	29.22	30.39	30.39
Garage Mechanic App. 8th 6mos (95%)	28.75	29.90	30.85	32.08	32.08
Wiring Inspector	31.68	32.95	33.95	35.31	35.31
Cust. Serv. Field Rep	24.26	25.23	25.23	26.24	26.24
Csfr Learner (1st Yr - 85%)	20.62	21.45	21.45	22.30	22.30
Meter Reader	14.85	15.44	15.44	16.06	16.06
Meter Reader II		20.51	20.51	21.33	21.33
CUSTOMER PLANNER	24.28	25.25	25.25	26.26	26.26
OPERATIONS PLANNER	26.99	28.07	28.07	29.19	29.19
FORESTRY COORDINATOR	26.79	27.86	27.86	28.97	28.97
REGIONAL PLANNER	32.37	33.66	34.71	36.10	36.10
PLANNING & SUPPORT ADMINISTRAT				29.19	29.19
REGIONAL PLANNER APP 5TH 6 MOS			27.77	28.88	28.88
REGIONAL PLANNER 6TH SIX MONTH			29.50	30.68	30.68
REGIONAL PLANNER 7TH SIX MONTH			31.24	32.49	32.49
REGIONAL PLANNER 8TH SIX MONTH			32.97	34.29	34.29
GIS DATA COLLECTOR				12.98	12.98
Leading Power Engineer*	34.70	36.09	37.14	38.63	38.63
Power Engineer*	33.05	34.37	35.37	36.79	36.79
Auxiliary Power Engineer	33.05	34.37	35.37	36.79	36.79
Auxiliary Power Engineer 2nd (96%)	31.73	33.00	33.96	35.32	35.32
Auxiliary Power Engineer 3rd (93%)	30.74	31.96	32.89	34.21	34.21
Power Engineer App.1st 6mos*(50%)	16.53	17.19	17.69	18.40	18.40
Power Engineer App.2nd 6mos*(55%)	18.18	18.90	19.45	20.24	20.24

JOB CLASSIFICATION	Wage Rate 2008 12-26	Wage Rate 2010 03-05	Wage Rate 2010 10-01	Wage Rate 2011 03-04	Wage Rates 2012 remain the same as 2011 up to March 31, 2012 *(Pending Negotiations)
Power Engineer App.3rd 6mos*(60%)	19.83	20.62	21.22	22.07	22.07
Power Engineer App.4th 6mos*(65%)	21.48	22.34	22.99	23.91	23.91
Power Engineer App.5th 6mos*(75%)	24.79	25.78	26.53	27.59	27.59
Power Engineer App.6th 6mos*(80%)	26.44	27.50	28.30	29.43	29.43
Power Engineer App.7th 6mos*(85%)	28.09	29.22	30.07	31.27	31.27
Power Engineer App.8th 6mos*(90%)	29.75	30.93	31.83	33.11	33.11
Operator Learner (4th Class)	19.11	19.88	19.88	20.67	20.67
Operator Learner 3rd Class (75%)	24.79	25.78	26.53	27.59	27.59
Aux. Power Engineer App.1st 6mos*(50%)	16.53	17.19	17.69	18.40	18.40
Aux. Power Engineer App.2nd 6mos*(55%)	18.18	18.90	19.45	20.24	20.24
Aux. Power Engineer App.3rd 6mos*(60%)	19.83	20.62	21.22	22.07	22.07
Aux. Power Engineer App.4th 6mos*(65%)	21.48	22.34	22.99	23.91	23.91
Aux. Power Engineer App.5th 6mos*(75%)	24.79	25.78	26.53	27.59	27.59
Aux. Power Engineer App.6th 6mos*(80%)	26.44	27.50	28.30	29.43	29.43
Aux. Power Engineer App.7th 6mos*(85%)	28.09	29.22	30.07	31.27	31.27
Aux. Power Engineer App.8th 6mos*(90%)	29.75	30.93	31.83	33.11	33.11
Leading Gas Turbine Attendant Opr.	31.77	33.04	34.09	35.46	35.46
Gas Turbine Attendant Operator	30.26	31.47	32.47	33.77	33.77
Gas Turbine Attendant App.1ST 6mos (55%)	16.64	17.31	17.86	18.57	18.57
Gas Turbine Attendant App.2NDT 6mos (60%)	18.16	18.82	19.48	20.26	20.26
Gas Turbine Attendant App 3RD 6mos (65%)	19.67	20.46	21.11	21.95	21.95
Gas Turbine Attendant App.4TH 6mos (70%)	21.18	22.03	22.73	23.64	23.64
Gas Turbine Attendant App.5TH 6mos (80%)	24.21	25.18	25.98	27.02	27.02
Gas Turbine Attendant App.6TH 6mos (85%)	25.72	26.75	27.60	28.71	28.71
Gas Turbine Attendant App.7TH 6mos (90%)	27.23	28.32	29.22	30.39	30.39
Gas Turbine Attendant App.8TH6MOS (95%)	28.75	29.90	30.85	32.08	32.08
Leading Maintenance Person	32.37	33.66	34.71	36.10	36.10
Leading Maintenance Person (Shift)	32.37	33.66	34.71	36.10	36.10
Maintenance Person (Certified)	30.83	32.06	33.06	34.38	34.38
Maintenance Person (Certified) (Shift)	30.83	32.06	33.06	34.38	34.38
Maintenance Person Helper (80%)	24.66	25.65	26.45	27.50	27.50
Maintenance Pers. App 1st 6mos(55%)	16.96	17.63	18.18	18.91	18.91
Maintenance Pers. App 2nd 6mos(60%)	18.50	19.24	19.84	20.63	20.63
Maintenance Pers. App.3rd 6mos(65%)	20.04	20.84	21.49	22.35	22.35
Maintenance Pers. App.4th 6mos(70%)	21.58	22.44	23.14	24.07	24.07
Maintenance Pers. App.5th 6mos(80%)	24.66	25.65	26.45	27.50	27.50
Maintenance Pers. App.6th 6mos(85%)	26.21	27.25	28.10	29.22	29.22

JOB CLASSIFICATION	Wage	Wage	Wage	Wage	Wage Rates
	Rate 2008 12-26	Rate 2010 03-05	Rate 2010 10-01	Rate 2011 03-04	2012 remain the same as 2011 up to March 31, 2012 *(Pending Negotiations)
Maintenance Pers. App.7th 6mos(90%)	27.75	28.85	29.75	30.94	30.94
Maintenance Pers. App.8th 6mos(95%)	29.29	30.46	31.41	32.66	32.66
Maint Pers(Shift) App 1st 6mos (55%)	16.96	17.63	18.18	18.91	18.91
Maint Pers(Shift) App 2nd 6mos (60%)	18.50	19.24	19.84	20.63	20.63
Maint Pers(Shift) App 3rd 6mos (65%)	20.04	20.84	21.49	22.35	22.35
Maint Pers(Shift) App 4th 6mos (70%)	21.58	22.44	23.14	24.07	24.07
Maint Pers(Shift) App 5th 6mos (80%)	24.66	25.65	26.45	27.50	27.50
Maint Pers(Shift) App 6th 6mos (85%)	26.21	27.25	28.10	29.22	29.22
Maint Pers(Shift) App 7th 6mos (90%)	27.75	28.85	29.75	30.94	30.94
Maint Pers(Shift) App 8th 6mos (95%)	29.29	30.46	31.41	32.66	32.66
Leading Carpenter	30.15	31.35	31.35	32.60	32.60
Carpenter	28.71	29.86	29.86	31.05	31.05
Leading Power Plant Technician II	34.87	36.27	37.32	38.81	38.81
Power Plant Technician II	33.21	34.54	35.54	36.96	36.96
Power Plant Technician II (Shift)	33.21	34.54	35.54	36.96	36.96
Leading Power Plant Technician I	33.29	34.62	35.67	37.10	37.10
Power Plant Technician I	31.70	32.97	33.97	35.33	35.33
Power Plant Technician I (Shift)	31.70	32.97	33.97	35.33	35.33
Power Plant Tech. I App. 5th 6mos (80%)	25.36	26.38	27.18	28.26	28.26
Power Plant Tech. I App. 6th 6mos (85%)	26.95	28.03	28.88	30.03	30.03
Power Plant Tech. I App. 7th 6mos (90%)	28.53	29.67	30.57	31.80	31.80
Power Plant Tech. I App. 8th 6mos (95%)	30.12	31.32	32.27	33.56	33.56
Power Plant Tech I (Shift) App 5th 6mos (80%)	25.36	26.38	27.18	28.26	28.26
Power Plant Tech I (Shift) App 6th 6mos (85%)	26.95	28.03	28.88	30.03	30.03
Power Plant Tech I (Shift) App 7th 6mos (90%)	28.53	29.67	30.57	31.80	31.80
Power Plant Tech I (Shift) App 8th 6mos (95%)	30.12	31.32	32.27	33.56	33.56
Leading Painter	30.15	31.35	31.35	32.60	32.60
Painter	28.71	29.86	29.86	31.05	31.05
Painter Helper (80%)	22.97	23.89	23.89	24.84	24.84
Leading Meter Tester	30.15	31.35	31.35	32.60	32.60
Meter Tester	28.71	29.86	29.86	31.05	31.05
Meter Tester Helper (80%)	22.97	23.89	23.89	24.84	24.84
Leading Protective Equip. Tester	30.15	31.35	31.35	32.60	32.60
Protective Equipment Tester	28.71	29.86	29.86	31.05	31.05

JOB CLASSIFICATION	Wage Rate 2008 12-26	Wage Rate 2010 03-05	Wage Rate 2010 10-01	Wage Rate 2011 03-04	Wage Rates 2012 remain the same as 2011 up to March 31, 2012 *(Pending Negotiations)
Fuels Analyst	23.89	24.85	24.85	25.84	25.84
Fuels Analyst Learner 2nd Yr (80%)	19.11	19.88	19.88	20.67	20.67
Fuels Analyst Learner 1st Yr (65%)	15.53	16.15	16.15	16.80	16.80
Leading Storekeeper	25.83	26.86	26.86	27.93	27.93
Storekeeper	24.60	25.58	25.58	26.60	26.60
Storekeeper Learner 2nd Yr (90%)	22.14	23.02	23.02	23.94	23.94
Storekeeper Learner 1st Yr. (80%)	19.68	20.46	20.46	21.28	21.28
Storekeeper Helper (77%)	18.94	19.70	19.70	20.48	20.48
Leading Utilityworker	25.09	26.09	26.09	27.13	27.13
Utilityworker I	23.89	24.85	24.85	25.84	25.84
Utilityworker II (80% Of I)	19.11	19.88	19.88	20.67	20.67
Utilityworker III (62% Of I)	14.81	15.41	15.41	16.02	16.02
*Leading Utilityworker (Shift)	25.09	26.09	26.09	27.13	27.13
*Utilityworker I (Shift)	23.89	24.85	24.85	25.84	25.84
*Utilityworker II (Shift) (80%)	19.11	19.88	19.88	20.67	20.67
*Utilityworker III (Shift) (62%)	14.81	15.41	15.41	16.02	16.02
Leading Utilityworker Oil Filter Operator	27.26	28.35	28.35	29.48	29.48
Utilityworker Oil Filter Operator	25.96	27.00	27.00	28.08	28.08
Utilityworker Oil Filter Learner 2nd Yr (90%)	23.37	24.30	24.30	25.27	25.27
Utilityworker Oil Fil Leaner 1st Yr (80%)	20.77	21.60	21.60	22.46	22.46
Leading Utility Operator	27.35	28.44	28.44	29.58	29.58
Utility Operator	26.05	27.09	27.09	28.17	28.17
Utility Operator Lnr. 1st Yr. (85%)	22.14	23.03	23.03	23.95	23.95
Ldg. Groundhand Equip.Operator	25.83	26.86	26.86	27.93	27.93
Groundhand Equipment Operator	24.60	25.58	25.58	26.60	26.60
Groundhand Equip Op Leaner 1st Yr (89%)	21.89	22.77	22.77	23.68	23.68
Janitor Leading	14.81	15.39	15.39	16.01	16.01
Janitor	14.10	14.66	14.66	15.25	15.25

CONFIDENTIAL (Attachment Only)

1 **Request IR-26:**

2
3 **Referencing the statement at page 12 of 161 of NSPI's filing (starting at line 23), please list**
4 **personnel numbers and total salary costs (loaded and unloaded, with loading basis**
5 **explained and calculation provided) for all categories on non-union employees (using those**
6 **cited as examples of the type of categorization sought):**

7
8 **(a) actual at year end for each of year starting with the year in which NSPI made the**
9 **filing representing "the last time electricity rates were set,"**

10
11 **(b) currently,**

12
13 **(c) projected for year-end 2011, and projected for year-end 2012.**

14
15 **Response IR-26:**

16
17 Please refer to Confidential Attachment 1 for employee counts and total salary costs (loaded and
18 unloaded) for 2009, 2010 and current as of April 30, 2011. Employee counts with total salary
19 costs (loaded and unloaded) for year-end 2011 and projected for year-end 2012 are not available
20 as NSPI forecasts based on division and not by employee.

NON-CONFIDENTIAL

1 **Request IR-27:**

2

3 **With respect to the statement at page 9 of 161 of NSPI's filing that,**

4

5 **Operating and sustaining our workforce (\$14.6 million) – Wage increases**
6 **since January 1, 2009, pension, succession planning, and new positions,**

7

8 **Please provide an explanation of and the workpapers supporting that statement for each**
9 **item referenced.**

10

11 Response IR-27:

12

13 **Wage increases since January 1, 2009:** includes wage increases for both union and non-union
14 groups.

15

16 **Pension:** pension expense as provided by NS Power's actuarial consultant, Morneau Shepell.

17

18 **Succession planning:** costs related to succession planning initiatives, such as the addition of
19 power engineers and apprentices. Succession planning initiatives are designed to ensure
20 qualified employees are attracted and retained to continually provide high quality operational
21 performance. Retirements from the company create the need to hire newer and younger
22 employees in advance of the anticipated retirement. This ensures employees are available and
23 properly trained to meet the needs of our customers.

24

25 **New positions:** positions that are new to the Company since general rates were last adjusted on
26 January 1, 2009.

27

28 Please refer to Attachment 1. Working papers and calculations supporting the numbers in the
29 attachment are provided in Appendix C of the direct evidence.

Operating and Sustaining Workforce Costs
(\$M)

	Wage Increases & Labour	Succession Planning & New Positions	Pension	Total	
Power Production	\$ 5.6	\$ 1.5	\$ 4.2	\$ 11.3	Figure 5.5, Page 74
Customer Service	1.4	-	1.0	2.4	Figure 5.14, Page 85
Technical and Construction Services	0.7	0.9	1.9	3.5	Figure 5.16, Page 86
Corporate Support Groups (net of allocations)	1.4	1.4	1.7	4.5	Figure 5.20, Page 89
Corporate Adjustments	0.2	-	-	0.2	Figure 5.22, Page 91
Administrative Overheads	(8.2)	-	-	(8.2)	Figure 5.22, Page 91
				<u>\$ 13.8</u>	
				<u>\$ 0.8</u>	
				<u><u>\$ 14.6</u></u>	
					Pension Costs directly charged through labour

NON-CONFIDENTIAL

1 **Request IR-28:**

2

3 **With respect to the statement at page 12 of 161 of NSPI's filing that,**

4

5 **Overall, workforce related expenses account for \$14.6 million of the 2012**
6 **cost increases,**

7

8 **Please provide an explanation of and the workpapers supporting that statement.**

9

10 Response IR-28:

11

12 Please refer to Liberty IR-27.

NON-CONFIDENTIAL

1 **Request IR-29:**

2
3 **With respect to the statement at page 13 of 161 of NSPI's filing that,**

4
5 **Overall, reliability investments account for \$13.1 million of our 2012 cost**
6 **pressures,**

7
8 **Please provide an explanation of and the workpapers supporting that statement.**

9
10 Response IR-29:

11
12 The following table details the \$13.1 million of 2012 cost increases associated with reliability
13 investments.

14

Cost	Amount (\$M)
Vegetation management investment ⁽¹⁾	\$ 3.4
Union and Non-Union Labour ⁽¹⁾	2.9
Succession planning ⁽¹⁾	1.2
Pension ⁽¹⁾	1.9
Storm response ⁽¹⁾	3.7
TOTAL	\$ 13.1

15 (1) See Figure 5.9, page 79 of the Application

16
17 Please refer to Appendix C of the direct evidence for the supporting working papers. Section
18 5.4.2 of the Direct Evidence provides details associated with storm response and vegetation
19 management. The union and non-union labour and pension expenses relate to pension costs for
20 the test year and wage and salary increases that have been applied since the most recent change
21 in general electricity rates and for the test year, for employees that support system reliability.
22 The succession planning expenses in this category, the details of which are in Appendix C, relate
23 to planning for retirements of power line technicians and other employees that support system
24 reliability.

REDACTED

1 **Request IR-30:**

2

3 **With respect to Figure 2.1 at page 19 of NSPI's filing, please provide the corresponding**
 4 **changes in MWh and fuel (where appropriate) volumes associated with the indicated**
 5 **changes in dollars.**

6

7 Response IR-30:

8

9 Please refer to the following tables.

10

11 Change in Generation by Fuel Type

12

	MWh		
	2011 BCF	2012 GRA	Change
Import Purchases			26,163
NSPI-Owned Hydro, Tidal, & Wind			5,117
Renewable Purchases			84,549
Diesel & Light Fuel Oil			3,627
Heavy Fuel Oil			558
Natural Gas			383,954
Solid Fuel			(397,014)
Total System Requirement	12,574,388	12,681,342	106,954
Export Sales Generation	(162,731)	(34,906)	127,825
In Province Load Generation	12,411,657	12,646,436	234,779

13

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REDACTED

1 Change in Fuel Volumes

2

	Million MMBtu		
	2011 BCF	2012 GRA	Change
Diesel & Light Fuel Oil			0.0
Heavy Fuel Oil			0.0
Natural Gas			3.9
Solid Fuel			(2.6)

3

NON-CONFIDENTIAL

1 **Request IR-31:**

2

3 **With respect to page 20 of 161 of NSPI's filing, starting at line 9, please provide:**

4

5 **(a) the amount of purchases forecasted from sources other than those that will “enable**
6 **[NSPI] to meet Provincial renewable electricity regulations,” and**

7

8 **(b) list for each source identified in sub part (a) the durations, amounts, and prices**
9 **(formula or calculation basis if at other than firm) for capacity and energy already**
10 **contracted for delivery in 2012.**

11

12 **Response IR-31:**

13

14 **(a) NSPI is forecasting purchased power from imports at 484 GWh.**

15

16 **(b) This is not forecast by source. Imports are forecast in accordance with the FAM POA**
17 **Appendix B, Import Power, page 15 of 18. The methodology uses the appropriate hub's**
18 **forward prices and a 24-month rolling average for volume.**

NON-CONFIDENTIAL

1 **Request IR-32:**

2

3 **With respect to page 43 of 161 of NSPI's filing, please provide the annual figures for each**
4 **of the 23 years used to calculate the average cited.**

5

6 Response IR-32:

7

8 Please refer to Attachment 1.

Hydro Production Generation Summary - GWh

Year	Bear River (incl.)																	Totals
	Avon	Sissiboo	Black River	Dickie Brook	Fall River	Harmony	Lequille	Paradise	Nictaux	Roseway	Mersey	St. Marg't	Sheet Harbour	Tusket	Wreck Cove	Gisborne	Annapolis	
1988	25.605	95.558	93.073	9.460	2.397	3.022	24.133	20.254	35.968	3.025	170.966	25.894	41.240	11.506	267.503	6.540	23.534	859.678
1989	24.257	106.277	101.926	10.568	2.356	1.455	25.245	18.686	47.609	3.641	233.065	23.502	44.890	13.579	373.224	10.483	27.918	1,068.681
1990	23.403	102.166	95.203	8.181	2.251	2.951	26.582	19.260	44.230	2.582	218.960	22.414	40.352	10.754	280.019	8.031	27.395	934.734
1991	31.338	123.610	116.714	9.441	2.623	3.184	33.104	27.762	49.781	2.903	287.285	31.226	45.716	14.242	363.125	11.049	25.774	1,178.877
1992	31.175	116.422	108.589	8.447	2.508	3.232	26.723	20.351	48.625	2.818	248.820	31.339	40.978	10.932	278.197	7.362	32.390	1,018.908
1993	24.865	107.726	83.626	8.674	2.523	1.461	26.764	18.812	38.923	1.676	191.574	32.783	47.141	10.828	277.023	7.357	32.654	914.410
1994	22.615	140.468	81.097	10.683	2.123	0.161	27.429	22.661	40.705	2.637	256.736	27.121	39.578	13.087	284.106	6.863	33.904	1,011.974
1995	21.693	96.892	94.906	7.287	2.629	0.954	22.751	19.116	39.004	3.672	203.375	23.972	42.613	10.983	254.312	6.437	32.637	883.233
1996	31.688	118.818	100.355	9.951	2.806	2.646	31.874	27.031	52.878	3.585	282.911	35.300	53.555	16.081	300.753	9.720	31.757	1,111.709
1997	21.207	112.567	83.104	7.524	1.937	2.731	20.517	17.082	35.980	3.000	231.324	22.561	38.925	10.658	296.096	10.168	19.481	934.862
1998	23.876	90.596	82.642	9.921	2.346	3.111	25.354	19.139	33.452	2.492	183.654	25.111	45.783	11.192	296.577	7.127	28.553	890.926
1999	24.087	96.137	99.293	8.781	1.881	2.836	21.873	16.610	41.584	1.530	189.683	21.684	34.446	10.541	377.943	8.066	23.699	980.674
2000	22.629	92.075	94.521	9.357	2.195	2.842	22.918	22.124	43.190	2.417	200.038	22.007	36.677	11.083	260.308	7.764	29.066	881.211
2001	15.877	61.327	66.386	6.249	1.515	1.213	16.463	14.664	28.533	2.301	159.156	20.827	30.983	8.904	219.435	6.655	31.676	692.164
2002	27.725	126.980	102.836	10.222	2.308	2.812	29.771	21.744	45.372	2.495	233.048	28.976	43.252	12.444	303.800	0.000	30.003	1,023.788
2003	22.761	133.985	114.319	9.003	2.134	3.062	27.094	27.547	50.220	2.308	267.948	25.792	44.505	12.028	303.790	0.000	30.474	1,076.970
2004	17.870	92.926	87.462	3.675	2.001	1.859	21.614	16.436	36.662	2.163	200.796	22.778	40.308	10.382	302.721	0.000	26.547	886.200
2005	28.138	124.994	114.088	8.064	2.664	3.126	33.345	27.232	50.830	2.880	273.672	37.591	46.138	9.111	271.026	0.000	27.643	1,060.542
2006	29.992	125.149	98.297	8.931	2.602	3.145	30.263	20.102	57.032	3.656	265.204	28.562	40.340	9.984	253.297	0.000	19.144	995.697
2007	23.283	85.197	100.960	8.600	2.266	2.041	17.686	22.223	40.186	1.916	224.337	23.758	38.790	10.702	284.331	0.000	22.524	908.800
2008	30.686	119.253	113.055	5.471	2.787	2.064	28.860	24.763	44.145	1.846	241.532	30.929	54.599	10.187	340.069	0.000	15.018	1,065.264
2009	28.206	139.953	114.593	9.860	2.046	1.634	30.885	17.364	41.384	1.547	267.193	27.013	51.540	11.196	289.055	0.000	29.954	1,063.422
2010	20.792	105.772	89.298	5.236	1.603	-0.050	26.728	21.675	45.504	1.467	234.493	20.198	42.013	8.585	340.475	0.000	27.680	991.469

23 Yr Avg 24.95 109.34 97.23 8.42 2.28 2.24 26.00 20.98 43.12 2.55 228.95 26.58 42.80 11.26 296.40 4.94 27.37 975.40

23 Yr Avg (1988-2010) **975.40**

- 1. Fourth Lake Unit modelled before 1984 by increasing Bear River output by 1.085, the ratio of system operating capacities.
- 2. Fall River Unit modelled before 1987 by assuming it was 1 percent of the Mersey output (long term relationship).
- 3. Gisborne Unit modelled before 1984 by assuming it was 2.7 percent of the Wreck Cove output (long term relationship).
- 4. Annapolis Tidal Unit was modelled prior to 1986 by assuming it produced its long term average generation.
- 5. Gisborne in 2002 included in the Wreck Cv value.

CONFIDENTIAL (Attachment Only)

1 **Request IR-33:**

2
3 **With respect to the discussion of the wind-generation forecast at page 43 of 161 of NSPI's**
4 **filing, please provide for 2010 and for 2011 year to date (monthly and yearly totals where**
5 **applicable) the following:**

6
7 **(a) date of commercial operation,**

8
9 **(b) MWH generated, and**

10
11 **(c) capacity.**

12
13 Response IR-33:

14
15 (a)

	COD*	Capacity
Nuttby Wind	Dec 29th, 2010	50.6 MWs
Digby Wind	Dec 16th, 2010	30 MWs
Grand Etang	Oct 1st, 2002	0.66 MWs
Little Brook	Oct 15, 2002	0.6 MWs
Point Tupper 3	Sept 1st, 2010	22.3 MWs
Point Tupper 1**	May 20th, 2006	0.8 MWs

* Commercial Operating Date

** NSPI is minority owner.

16
17 (b) Please refer to Confidential Attachment 1.

18
19 (c) Please refer to part (a).

NON-CONFIDENTIAL

Request IR-34:

With respect to the discussion of loads at page 43 of 161 of NSPI's filing, please provide (1) total and (2) peak:

(a) monthly loads (by major class and total) for each month of 2010 and 2011 year to date, and

(b) weather-adjusted total loads for the same period.

Response IR-34:

(a) The following table indicates monthly actual loads (GWh) by major category and monthly system peak (hourly average MW).

Month	Total Residential GWh	Total Commercial GWh	Total Industrial GWh	Other Sales and Losses GWh	Total Requirement GWh	System Peak MW
Jan-10	501.5	301.6	336.4	100.9	1,240.4	2,011
Feb-10	464.9	268.4	299.6	80.3	1,113.1	2,114
Mar-10	423.3	279.3	328.7	77.2	1,108.4	1,856
Apr-10	330.7	245.8	303.8	55.8	936.2	1,655
May-10	305.5	235.6	318.1	53.5	912.7	1,489
Jun-10	250.9	240.9	316.5	74.5	882.7	1,540
Jul-10	268.7	263.9	354.8	70.2	957.7	1,600
Aug-10	265.2	256.7	353.0	80.4	955.2	1,606
Sep-10	256.6	231.5	340.2	70.9	899.2	1,597
Oct-10	295.3	244.6	327.5	95.8	963.3	1,626
Nov-10	365.0	250.5	302.7	106.2	1,024.4	1,859
Dec-10	419.7	269.8	326.3	154.4	1,170.3	1,959
Jan-11	516.1	299.7	329.1	100.7	1,245.7	2,168
Feb-11	470.8	282.1	312.3	91.2	1,156.4	2,042
Mar-11	458.1	290.2	345.2	91.3	1,184.8	2,018
Apr-11	361.9	246.0	337.5	84.9	1,030.3	1,717

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1 (b) The following table indicates the weather-adjusted total load for the period requested.

2

Month	Total Requirement GWh
Jan-10	1,256.5
Feb-10	1,137.8
Mar-10	1,137.7
Apr-10	963.6
May-10	928.9
Jun-10	884.9
Jul-10	957.8
Aug-10	955.2
Sep-10	900.2
Oct-10	963.4
Nov-10	1,026.8
Dec-10	1,203.1
Jan-11	1,266.4
Feb-11	1,165.7
Mar-11	1,188.9
Apr-11	1,039.0

3

4

NON-CONFIDENTIAL

1 **Request IR-35:**

2

3 **With respect to page 43 of 161 of NSPI's filing (starting at line 3), please provide:**

4

5 **(a) a description of the process by which exports were forecasted, and**

6

7 **(b) detailed workpapers supporting the forecast of exports.**

8

9 Response IR-35:

10

11 (a) The above reference refers to the assumptions used to calculate the forecasted hydro
12 volume rather than exports. NSPI offers the following response in order to address
13 forecasted exports.

14

15 Export volume is assumed to be 50 percent of the unused peak capacity of Tufts Cove
16 Units 2 and 3 as calculated by Strategist (FAM POA, Appendix B, page 15, Export
17 Power). This assumption can also be found in the 2012 GRA filing on page 20 of 161.

18

19 (b) No workpapers exist as this is modeled by strategist.

NON-CONFIDENTIAL

1 **Request IR-36:**

2

3 **With respect to the discussion of reviews at page 63 of 161 of NSPI's filing (starting at line**
4 **5), please list and provide copies of each "comprehensive study" supporting the cited**
5 **conclusion.**

6

7 Response IR-36:

8

9 Comprehensive reviews have been provided by:

- 10 • Accenture
11 • Kaiser Associates

12

13 Please refer to Liberty IR-67 Attachment 1 for the Accenture report, and OP-03 of the
14 Application for the Kaiser Associates report.

NON-CONFIDENTIAL

1 **Request IR-37:**

2
3 **With respect to the discussion of the 50th percentile at page 63 of 161 of NSPI's filing**
4 **(starting at line 5), please list and provide copies of each study or document that, for any**
5 **portion of the period from 2009 to present:**

6
7 **(a) benchmarks non-union salaries,**

8
9 **(b) benchmarks any other measure of compensation for non-union salaries,**

10
11 **(c) benchmarks any measure of compensation for those covered by union agreements,**
12 **and**

13
14 **(d) benchmarks any measure of OM&G by component or in total.**

15
16 **Response IR-37:**

17
18 (a) Non-union salaries and short term incentives are benchmarked using Towers Watson
19 Power Services Compensation Survey and Mercer Total Compensation Services Energy
20 Industry survey. Contracts with both Towers Watson and Mercer prohibit NSPI from
21 reproducing materials for a third party. These documents are available for viewing at NS
22 Power offices.

23
24 (b) There are no specific benchmark reports for other compensation measures. NSPI
25 reviewed the Pension Plan and Group Benefits Plan in 2010 as part of a total
26 compensation review, but this was not a benchmarking exercise.

27
28 (c) The IBEW Collective Agreement has been in effect since 2007. Comparators were used
29 during the negotiations for that contract that included Maritime Electric, Newfoundland

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1 and Labrador Hydro, New Brunswick Power, Neenah and Bowater. The Collective
2 Agreement is due to expire on March 31, 2012.

3

4 (d) Please refer to the Application, DE-03 – DE-04, Appendix B, OP-03 and Liberty IR-67

NON-CONFIDENTIAL

1 **Request IR-38:**

2

3 **With respect to the statement at page 63 of 161 of NSPI's filing (starting at line 10) that:**

4

5 **Labour costs account for most of the OM&G increase forecast in this**
6 **Application,**

7

8 **Please:**

9

10 **(a) provide the categories and amounts that comprise the remainder of the OM&G**
11 **increase, and**

12

13 **(b) provide all workpapers supporting the calculation of those amounts.**

14

15 **Response IR-38:**

16

17 (a) The categories and amounts that comprise the remainder of the OM&G increases outside
18 of labour are included in the Application, DE-03 – DE-04, Figure 5.1 on page 63. Please
19 refer to Attachment 1, which provides a variance analysis of OM&G comparing the 2012
20 test year forecast to 2009C.

21

22 (b) Please refer to Appendix C of the Direct Evidence for the working papers and Figures 5.5
23 page 74, Figure 5.9 page 79, Figure 5.14 on page 85, Figure 5.16 on page 86, Figure 5.18
24 page 87 and Figure 5.20 on page 89 of the evidence.

Operating, Maintenance and General Costs

(\$M)	2009C	2012	Increase / (Decrease)
<u>Labour:</u>			
Power Production	\$ 48.0	\$ 55.1	\$ 7.1
Customer Operations	34.5	38.6	4.1
Customer Service	16.0	17.5	1.5
Technical and Construction Services	7.4	9.0	1.6
Corporate Support Groups (net of allocations)	14.9	18.0	3.1
	120.8	138.1	17.3
Administrative Overheads	(19.2)	(27.4)	(8.2)
Total Labour net of overheads	101.6	110.7	9.1
Vegetation management	10.4	13.8	3.4
Storm response	5.0	8.7	3.7
Renewable project operating costs	-	5.4	5.4
Pension	29.3	40.8	11.5
Other	70.4	69.1	(1.3)
Total Regulated OM&G	216.7	248.5	31.8

NON-CONFIDENTIAL

1 **Request IR-39:**

2

3 **With respect to the discussion of the expansion of the technical and construction services**
4 **division to meet provincial environmental obligations at page 63 of 161 of NSPI's filing**
5 **(starting at line 12), please:**

6

7 **(a) list and describe the obligations referred to,**

8

9 **(b) identify the incremental sources (people, equipment, etc.) that comprised the**
10 **expansion, and**

11

12 **(c) identify by category and in total the incremental costs of such expansion.**

13

14 Response IR-39:

15

16 (a) The Nova Scotia Provincial government has introduced changes to environmental
17 requirements in the areas of mercury, Nitrogen Oxides, Sulfur Dioxides and Greenhouse
18 gases that require enhanced and additional monitoring along with new control technology
19 that has required incremental resources for implementation. The NS Renewable Energy
20 Standard has also introduced regulations that require NSPI to advance renewable
21 projects. In addition to air emission regulations there have been new requirements for
22 Wetlands, Species at Risk and PCB levels in electrical equipment.

23

24 (b) Incremental resources include the addition of a Senior Director of Capital Projects, two
25 Environmental Engineers and one administrative support resource accompanied by the
26 related non-labour costs of employment (computer, telephone, etc.)

27

28 (c) The incremental OM&G costs are comprised of additional labour of \$392,000 and related
29 non-labour costs increase of \$25,000.

NON-CONFIDENTIAL

1 **Request IR-40:**

2

3 **With respect to the discussion of succession planning at page 63 of 161 of NSPI's filing**
4 **(starting at line 13), please:**

5

6 **(a) list and describe the obligations referred to,**

7

8 **(b) identify the incremental sources (people, equipment, etc.) that comprised the**
9 **expansion, and**

10

11 **(c) identify by category and in total the incremental costs of such expansion.**

12

13 **Response IR-40:**

14

15 (a) To operate an electrical utility in a safe and effective manner, NSPI requires technically
16 competent professional employees. Recognizing the timelines to transfer and acquire
17 critical skills and knowledge, Technical and Construction Services designed and
18 implemented a targeted succession plan to address anticipated retirements for the next 5
19 year horizon. During this period, there are an approximate 30 specialized technical
20 employees eligible for retirement which represents nearly 700 years combined
21 experience.

22

23 (b) Labour was the main element that comprised the expansion (addition of a Senior Director
24 of Technical Services, a Junior CADD Specialist, a Chemical Asset Specialist, an
25 Engineering Technician, and six Engineers in Training), accompanied by related non-
26 labour costs of employment (computer, telephone, etc.).

27

28 (c) The incremental OM&G costs are comprised of a labour increase of \$490,000 and a
29 related non-labour cost increase of \$55,000.

CONFIDENTIAL (Attachment Only)

1 **Request IR-41:**

2

3 **With respect to each component items listed in Figure 5.1 at page 63 of 161 (line 20), except**
4 **for the Labour costs item, please provide copies of the contract services agreements for said**
5 **services provided by outsider contractors, if any, for the 2010 through and including the**
6 **future test year periods.**

7

8 Response IR-41:

9

10 Please refer to Confidential Attachment 1 for contract services agreements relating to vegetation
11 management.

12

13 Please refer to Confidential Attachment 2 for contract services agreements relating to storm
14 response.

15

16 Please refer to Confidential Attachment 3 for contract services agreements relating to renewable
17 project operating costs.

NON-CONFIDENTIAL

1 **Request IR-42:**

2
3 **Provide the following by month and in total the 2008 actual, 2009 actual, 2010 actual, 2011**
4 **year-to-date actual, 2011 forecasted total (combining YTD actuals plus forecasts for**
5 **remainder of year) and 2012 forecasted (excluding vegetation management):**

6
7 **(a) the average cost per hour (in total and by high level categories if available) for**
8 **O&M work provided by an affiliate contractor (separated by each providing**
9 **affiliate),**

10
11 **(b) the average cost per hour (in total and by high level categories if available) for**
12 **O&M work provided by a third party contractor (separated by each providing third**
13 **party), and**

14
15 **(c) the average cost per hour (in total and by high level categories if available) for**
16 **O&M work provided by employees.**

17
18 **Response IR-42:**

19
20 (a) OM&G work provided by an affiliate contractor is not recorded by the average cost per
21 hour within NS Power's financial systems. Please refer to Liberty IR-043 for total
22 dollars charged to OM&G by affiliate contractors. Emera Utility Services is the only
23 affiliate supplier of transmission and distribution maintenance and construction services.
24 Please refer to Liberty IR-041 Confidential Attachment 2 for the contract detailing the
25 services and rates.

26
27 (b) OM&G work provided by a third party contractor is not recorded by the average cost per
28 hour within NS Power's financial systems. Please refer to Liberty IR-041 Confidential
29 Attachment 1, 2, and 3 for specific contracts.

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- 1
- 2 (c) OM&G work provided by employees is not recorded by the average cost per hour within
- 3 NS Power's financial systems. Please refer to Liberty IR-025 for average wage rates for
- 4 unionized positions across NS Power. The rates reflect base salary amounts only.

NON-CONFIDENTIAL

1 **Request IR-43:**

2

3 **Please provide the following total dollars charged to OM&G for 2008 actual, 2009 actual,**
4 **2010 actual, 2011 year-to-date actual, 2011 forecasted total (combining YTD actuals plus**
5 **forecasts for remainder of year) and 2012 forecasted (excluding vegetation management)**
6 **by an affiliate contractor (separated by each providing affiliate).**

7

8 Response IR-43:

9

10 Please refer to the table below for total dollars charged to OM&G, separated by each providing
11 affiliate for 2008 actual, 2009 actual, 2010 actual and 2011 year-to-date actual. The actual
12 dollars charged to OM&G does not include accruals, consistent with the method used for Code
13 of Conduct reporting. NS Power does not forecast affiliate related OM&G costs.

14

Total Dollars Charged to OM&G Actuals by an affiliate contractor				
Affiliate Contractor	2008	2009	2010	2011 YTD
EMERA UTILITY SERVICES-TRANSFORMER DIVISION	472	432	14,395	1,125
EMERA UTILITY SERVICES (Cablecom, F.A. Tucker)	1,351,900	3,247,326	3,048,711	769,282
	1,352,372	3,247,758	3,063,106	770,407

15

NON-CONFIDENTIAL

1 **Request IR-44:**

2

3 **Please provide detailed work papers showing the calculation of each amount shown on**
4 **Figure 5.1 of NSPI's filing.**

5

6 Response IR-44:

7

8 Please refer to Liberty IR-38.

NON-CONFIDENTIAL

1 **Request IR-45:**

2

3 **With respect to the statement at page 64 of NSPI's filing that,**

4

5 **We have built, and contracted for, extra capacity to meet the Renewable**
6 **Energy Standards and greenhouse gas reduction targets, but it is too early to**
7 **close down facilities the new renewable generation capacity will render**
8 **redundant**

9

10 **and the following statements that**

11

12 **a single-minded focus on OM&G savings could result in higher fuel costs to**
13 **customers**

14

15 **and that NSPI**

16

17 **will not jeopardize generation efficiencies to achieve operating cost**
18 **reductions,**

19

20 **Please explain the following:**

21

22 **(a) what specifically causes NSPI to fear that facility closure is premature,**

23

24 **(b) what facilities NSPI would close for redundancy absent a concern about of**
25 **prematurity,**

26

27 **(c) what jeopardization of efficiencies the statement contemplates,**

28

29 **(d) what operating cost reductions the statement contemplates, and**

30

31 **(e) by how much 2012 forecasted OM&G costs are increased by the points being made**
32 **here.**

NON-CONFIDENTIAL

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Response IR-45:

(a-e) The comments at page 64 of NSPI’s Direct Evidence describe a future potential state for the company, not present circumstances in 2011 and 2012. Specifically, as NSPI transforms its generation mix over time to add cleaner energy from wind, biomass, hydro and tidal, the company will continue to incur a variety of costs relating to the operation of the existing thermal fleet. It may be observed in future that closing a facility might appear to result in lower OM&G costs. Rather than accept that assumption at face value, the company will take a comprehensive view of overall costs during this future transition phase. Decisions will reflect the lowest reasonable overall cost to customers, including retaining the ability to reliably serve customer load.

The vast majority of renewable energy resource which has been added to date has been wind generation. Wind energy is intermittent and produces anywhere from a very low percentage of name plate capacity to a very high percentage.

NSPI has been developing forecasting tools to better predict the production from the newly constructed wind generation. However, this intermittent wind generation capacity does not replace thermal generation capacity on a one for one basis.

The addition of thermal capacity (Tufts Cove 6 and biomass projects) will add to NSPI’s capacity. The enhanced Atlantic Canada interconnection and the future potential purchase of renewable energy and capacity from the Nalcor Muskrat Falls project will again increase NSPI’s capacity. At that time, in the second half of this decade, it may be economic to retire one or two of the thermal generating units.

To retire thermal units prior to having sufficient capacity to replace them, greatly increases the probability of increasing fuel and purchased power costs during high

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1 demand times and thermal unit outage events. These extra fuel and purchased power
2 costs can easily more than offset any operating and maintenance costs savings derived
3 from closing thermal units. The result is that customers will see higher costs.

4
5 The 2012 forecasted OM&G costs do not include increases related to the comments on
6 page 64. The purpose of the commentary is to add to the understanding of future cost
7 pressures on the company and customers, which was also discussed with customer
8 representatives during the recent Depreciation proceeding (P-891) and which contributed
9 to the settlement agreement in that matter.

NON-CONFIDENTIAL

1 **Request IR-46:**

2

3 **With respect to the statement at line 15 of page 64 of NSPI's filing about "extra capacity"**
4 **please identify:**

5

6 **(a) the units and amounts of extra capacity contemplated, and**

7

8 **(b) when each component identified in subpart (a) would be deemed extra as intended**
9 **here.**

10

11 **Response IR-46:**

12

13 (a-b) Please refer to Liberty IR-45.

REDACTED

1 **Request IR-47:**

2

3 **With respect to the statement at line 25 of page 64 of NSPI's filing that,**

4

5 **NS Power's compensation policy is to aim for pay rates approximating the**
6 **50th percentile of comparable non-union positions.**

7

8 **Please provide the following:**

9

10 (a) **copy of said policy,**

11

12 (b) **all supporting documents, workpapers, and studies which support the indicated**
13 **range and,**

14

15 (c) **supporting analysis which documents NS Power's ability to achieve this goal on an**
16 **historical and going forward basis.**

17

18 **Response IR-47:**

19

20 (a) Please refer to Attachment 1.

21

22 (b-c) Nova Scotia Power participates in annual salary surveys which focus on power utilities,
23 including Towers Watson Power Services Compensation DataBank, and Mercer MTCS
24 for the energy sector. Please refer to Liberty IR-037(a).

25

26 Confidential Figure 1 below shows Nova Scotia Power's 2011 market position relative to
27 the 2010 Towers Watson and Mercer surveys.

28

29

REDACTED

1 NSPI's ability to achieve the goal of maintaining a compensation structure benchmarked
2 at the 50th percentile in the market requires periodic assessment of job rates relative to
3 market and a performance based annual salary review to continue progressing employee
4 salaries toward benchmarked job rates.


5

6 Confidential Figure 1

7



8

title: Salary Administration	Date issued: 1995 03 31	Policy No.. HR07
 Policy & Guidelines	Revision Date: 2005 04 01	
	Source: Human Resources	

Emera Inc.'s salary administration policy helps to attract and retain competent employees and rewards improved productivity.

Emera's defined competitive market position objective is to target base pay at the median paid to positions with similar responsibilities in Atlantic Canada (and, in some cases, the Canadian market).

All non-union positions are rated using the Hay Guide Chart Profile Method of job evaluation. Each job has a salary range associated with it. Each salary range consists of a range minimum (85%) and a range maximum (100%). The establishment of salary ranges ensures fairness and equity between positions within the company. All employees will be paid within the salary ranges established for their position. Ongoing participation in national and local compensation surveys ensures that these salary ranges remain externally competitive with those in comparable organizations.

Data collected from the compensation surveys is analyzed and the company's salary/wages are reviewed annually to determine if adjustments are necessary to maintain the company's competitive market position.

Annual salary increases implies continued satisfactory performance. Managers or Supervisors must conduct performance appraisals as supporting documentation for annual salary increases. Any general adjustments that are required are made annually, at the beginning of the calendar year.

The only exception to the annual salary review is in the case of significant changes in job responsibility. Please refer to the job evaluation policy for further information.

Procedure

New Hires: New employees will normally be hired at the minimum of the salary range (85%), however, new employees may be hired at a rate greater than the minimum in consideration of such factors as advanced or specialized education or training, level of experience, or possession of highly developed technical skills. New hire rates above the minimum must receive the approval of the Compensation Consultant and the related Senior Manager.

Union Positions: Wages rates for unionized positions will be established during negotiations and set forth in the respective collective agreements for the duration of the agreements.

Transfers: Nova Scotia Power encourages employees to apply for opportunities within the Company. If an employee transfers to a new position with the same job evaluation points, his/her salary will remain the same.

An employee transferring to a position with different job evaluation points will be placed in the new salary range. The employee will be placed at the minimum (85%) if his/her salary is less than the minimum.

Progression through the salary range is based on the implied additional value of increased job specific knowledge and skills. If the employee's salary is above the minimum of the new position, consideration will be given to the value of the employee's Company experience, transferable skills, knowledge and internal equity. Based on this, the new Manager, in consultation with the Compensation Consultant, will make a recommendation to the related Senior Manager for placement within the salary range.

Promotions: Any increase resulting from a promotion will be based on an assessment of the employee's qualifications and experience in relation to the duties and responsibilities of the position and will require approval of the related Senior Manager and the Compensation Consultant.

Acting Pay: an employee who assumes the responsibilities of a position in a higher salary range (which is not normally required or expected in the employee's regular position) may be eligible for acting pay. Salary adjustments are determined using the following guidelines:

- The increase is a maximum of 10%, or the required increase to bring the salary to the minimum (85%) of the "acting" position salary range.
- In no case shall the salary exceed the range maximum of the "acting" position.
- The "acting" position will be reviewed as part of the annual salary review process and any required salary adjustments will be made.
- Upon re-assignment to their regular position, the employee shall receive the pay rate they would have received had the "acting" status not occurred.

Red Circling: this occurs when an employee's salary exceeds the range maximum of their position. Steps will be taken to eliminate this situation as soon as possible. These may include:

- Reduction or no salary increases during the annual salary review;
- Reduction to range maximum of the position over a specified period of time.

Appropriate steps will be determined jointly by the employing Manager, Human Resources and the Compensation Consultant.

Emera's discretion to change Policy

Emera reserves the right at its sole discretion to change this Policy at any time.

NON-CONFIDENTIAL

1 **Request IR-48:**

2

3 **With respect to the statement at page 69 of NSPI's filing that,**

4

5 **The remainder of the increase in labour-related costs of \$5.0 million**
6 **primarily reflects succession planning initiatives, such as the addition of**
7 **power engineers and apprentices,**

8

9 **Please:**

10

11 **(a) provide a detailed narrative description of the initiatives' goals and objectives,**
12 **scope, incremental changes produced (staffing, costs, etc.),**

13

14 **(b) provide the details supporting its 2012 costs proposed for inclusion in rates,**

15

16 **(c) provide all available cost/benefit analyses justifying the initiatives, and**

17

18 **(d) indicate what costs the initiatives will offset by type, magnitude and dates.**

19

20 **Response IR-48:**

21

22 **(a) Strong succession and workforce planning initiatives are critical for a utility providing an**
23 **essential service. As with many organizations, we have a significant number of**
24 **experienced employees who are, or soon will be, eligible for retirement. This is true both**
25 **in critical technical roles as well as in leadership roles. To manage this transition, our**
26 **succession planning initiatives have increased in areas of Engineer-in-Training,**
27 **apprenticeship programs and leadership development, to ensure knowledge transfer to**
28 **new and developing employees.**

29

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1 (b) The following table details the succession planning costs by major operating area:
2

OM&G Group	\$M	Reference
Power Production	\$ 1.5	Figure 5.5, page 74
Customer Operations	1.2	Figure 5.9, page 79
Technical & Construction Services	0.9	Figure 5.16, page 86
Corporate Support	1.4	Figure 5.20, Page 89
Total	\$ 5.0	

3

4
5 (c-d) To operate an electrical utility in a safe and effective manner, NS Power requires
6 technically competent professional employees and recognizing the timelines to transfer
7 and acquire critical skills and knowledge we have designed and implemented a
8 succession plan to address anticipated retirements for the next 5 year horizon. These
9 initiatives are essential for business continuity and offset the avoided costs of
10 labour/workforce interruption, safety and operating risk.

NON-CONFIDENTIAL

1 **Request IR-49:**

2

3 **With respect to the discussion at page 69 of NSPI's filing about the Administrative**
4 **Overhead (AO) credit, please provide:**

5

6 **(a) the rates used, and**

7

8 **(b) details of the calculation resulting in the credit to OM&G costs cited.**

9

10 Response IR-49:

11

12 (a) The Administrative Overhead rates used are shown in the table below:

13

	Power Production	Hydro Production	Customer Operations	Shared Services
Regular Labour	24.0%	18.5%	77.2%	53.3%
Overtime Labour	12.0%	9.3%	38.6%	26.7%
Contractor	5.0%	Note 1	23.5%	-
Vehicle Regular	-	-	50.7%	-
Vehicle Overtime	-	-	25.4%	-

14 Note 1: Hydro Production Contractor rate is the same as Power Production (5.0%)

15

16 (b) Please refer to Attachment 1 for details of the calculation of the Administrative Overhead
17 credit to OM&G.

	Eligible Capital	AO Rate	Estimated AO
COPS Labour	8,959,451	77.2%	6,915,800
COPS OT Labour	2,077,239	38.6%	801,710
COPS Contracts	40,971,557	23.5%	9,611,927
			<u>17,329,438</u>
Vehicle Regular	7,773,913	50.7%	3,939,042
Vehicle Overtime	1,984,129	25.3%	502,679
			<u>4,441,721</u>
PP contracts	71,916,355	5.0%	3,574,243
PP Labour	4,517,494	24.0%	1,084,650
PP OT Labour	125,725	12.0%	15,093
			<u>4,673,986</u>
Hydro Labour	432,600	18.5%	79,901
Hydro OT Labour	168,400	9.2%	15,552
			<u>95,453</u>
IT Labour	1,673,667	53.3%	892,399
IT OT Labour	-	26.7%	-
			<u>892,399</u>
			<u>27,432,997</u>

NON-CONFIDENTIAL

1 **Request IR-50:**

2

3 **With respect to the Sustainability Group discussed at page 72 of NSPI's filing (starting at**
4 **line 21), please provide:**

5

6 **(a) date of group's inception,**

7

8 **(b) initial, current, and projected 2012 staffing,**

9

10 **(c) unloaded and loaded salary costs projected for 2011 and 2012,**

11

12 **(d) list, description, and dates of projects worked on in 2011 and projected for 2012.**

13

14 Response IR-50:

15

16 (a) The Sustainability Group was established by August of 2009.

17

18 (b) Initial (August, 2009) staffing was 8 FTEs. The group currently has 9 FTEs and is
19 projected to have 9 FTEs in 2012.

20

21 (c) Please refer to the Application, DE-03 – DE-04, Appendix C, page 23.

22

23 (d) The primary responsibility of the Sustainability Group is to lead the transformation of the
24 currently carbon intensive generation side of the business to a much more balanced
25 portfolio of prime energy sources. The group's 2011 and 2012 responsibilities include:

26

27 (i) Corporate Strategic Planning processes

28

29 (ii) RES Compliance and Carbon Management

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- 1 (iii) Prospecting and developing wind sites in preparation for construction in advance
2 of 2015
3
- 4 (iv) Partnerships with IPPs on renewable energy projects, including First Nations
5
- 6 (v) Supporting development initiatives where significant stakeholder work is required
7 – such as the proposed Harbour East Transmission Project
8
- 9 (vi) Various initiatives such as Carbon Capture and Storage and Hydrogen enriched
10 Natural Gas
11
- 12 (vii) Policy analysis and government relations at the provincial and federal level
13 related to the group’s mandate (for example respecting the proposed federal
14 framework for retiring coal plants)
15
- 16 (viii) Initiatives respecting new technologies such as electric vehicles and tidal
17 generation and preparing for their introduction in Nova Scotia.

REDACTED

1 **Request IR-51:**

2

3 **With respect to the Point Tupper, Nuttby Mountain and Digby wind projects discussed on**
4 **page 73 of NSPI's filing (starting at line 21) please provide:**

5

6 **(a) description of the basis for forecasting 2012 operating costs,**

7

8 **(b) monthly operating costs for each project for each month of 2011 (actual for year to**
9 **date plus forecasted for remainder of 2011), and**

10

11 **(c) monthly forecasted operating costs for each project for each month of 2012.**

12

13 **Response IR-51:**

14

15 (a) 2012 operating costs have been developed based on the 2011 forecasted operating costs.
16 The 2011 annual forecasted values have been escalated at a rate of [REDACTED] for labour
17 items plus the addition of one Full Time Equivalent (FTE), and [REDACTED] for non-
18 labour items.

19

20 (b) Please refer to Partially Confidential Attachment 1. Pt. Tupper Wind Farm operating
21 costs are currently recovered in the FAM. The Application requests the amounts be
22 included as part of general rates consistent with other rate base investments.

23

24 (c) Forecasted operating costs for 2012 have not been prepared monthly.

Monthly Operating Costs
Millions of dollars

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011
	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Total
Point Tupper	[REDACTED]												
Nuttby Mountain	[REDACTED]												
Digby	[REDACTED]												

	Jan-11	Feb-11	Mar-11	Apr-11
	Actuals	Actuals	Actuals	Actuals
Point Tupper	\$ -	\$ -	\$ 0.00	\$ 0.00
Nuttby Mountain	0.07	0.14	0.15	0.17
Digby	0.09	0.09	0.10	0.24
	\$ 0.16	\$ 0.23	\$ 0.25	\$ 0.41

Notes:

- 1) Point Tupper OM&G Costs are currently recovered through the FAM as approved by UARB Order P-128.10/Matter No. M02763. This Application requests the operating costs be recovered through general rates consistent with other ratebase investments.
- 2) Figures presented reflect whole numbers which may cause \$0.1M in rounding differences on some line items.

NON-CONFIDENTIAL

1 **Request IR-52:**

2

3 **Please provide the full documentation of the annual reviews by the Canadian Electricity**
4 **Association cited on page 74 of NSPI's filing for:**

5

6 **(a) the years cited in the filing, and**

7

8 **(b) for 2010 (provide expected date if not yet available).**

9

10 **Response IR-52:**

11

12 (a) Please refer to Attachments 1 and 2 for the 2007 and 2008 referenced report. The 2009
13 annual review is available in Appendix D of the Direct Evidence.

14

15 (b) 2010 annual review has not yet been received. It is expected mid-2011.

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1 **Request IR-53:**

2

3 **With respect to the work and asset management strategy development cited at the top of**
4 **page 75 of NSPI's filing, please:**

5

6 **(a) explain the work involved in developing that strategy,**

7

8 **(b) describe qualitatively how anything related to that strategy will affect 2012 OM&G**
9 **and any other costs, and**

10

11 **(c) provide a calculation and supporting workpapers of the quantitative effects on 2012**
12 **OM&G and any other costs.**

13

14 Response IR-53:

15

16 (a) A comprehensive asset management methodology was developed for NSPI's generating
17 business in 2010. Key elements included work management, reliability planning,
18 advanced technology, information management, and asset planning. The methodology
19 involves the adoption of standardized processes, measurements and reporting along with
20 predictive maintenance standards and programs. Application of these elements will carry
21 on through 2011 and 2012.

22

23 (b) The adoption of the asset management methodology was an effective solution to
24 contribute to succession planning and asset planning requirements in the business. The
25 benefits of a standardized approach to maintenance and reliability planning, asset
26 planning, condition based maintenance practices and operator support tools are reflected
27 in the 2012 OM&G estimates.

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1 (c) The asset management approach will allow us to meet the challenges of aging
2 infrastructure and an aging workforce while sustaining operating performance. The
3 associated effects resulting from the adoption of this asset management strategy will be
4 measured and tracked over the next number of years as the programs develop and
5 experience is observed.

REDACTED

1 **Request IR-54:**

2
3 **With respect to the discussion on page 75 of NSPI's filing (starting at line 10) about NSPI,**
4 **multi-skilled workers, term labor, and contract workers, please provide a comparison of**
5 **unloaded and loaded labor costs for all three (using similar job classifications) for 2010,**
6 **2011 year to date, 2011 forecasted (YTD actual plus forecasts for year remainder), and**
7 **2012 forecasted.**

8
9 **Response IR-54:**

10
11 Below is a chart outlining the hourly rate for NSPI regular and term employees, the loaded rates
12 for the same classifications, as well as the contractor's rates for similar job classifications.

13

<i>NSPI Job Classification</i>	Jan-10	Mar-10	Oct-10	Mar-11
Maintenance Person Certified	30.83	32.06	33.06	34.38
Power Plant Technician I	31.70	32.97	33.97	35.33
Electrician	30.26	31.47	32.47	33.77

14

<i>NSPI Regular Employees - Loaded rates</i>	Jan-10	Mar-10	Oct-10	Mar-11
Maintenance Person Certified	36.23	37.67	38.85	40.40
Power Plant Technician I	37.25	38.74	39.91	41.51
Electrician	35.56	36.98	38.15	39.68

15

<i>NSPI Term Employees - Loaded rates</i>	Jan-10	Mar-10	Oct-10	Mar-11
Maintenance Person Certified	33.91	35.27	36.37	37.82
Power Plant Technician I	34.87	36.27	37.37	38.86
Electrician	33.29	34.62	35.72	37.15

16 *Maintenance Person Certified includes pipefitters, welders, millwrights and machinist*

17 *Power Plant Technician I includes either Electrical, Instrument, or Chemical Technicians*

2012 General Rate Application (NSUARB P-892)
NSPI Responses to Liberty Information Requests

REDACTED

1

	2010	2011
Pipfitter		
Welder		

2

	2010	2011
Machinist		

3

	2010	2011
Electrician		
Journeyman Technician		

4

	2010	2011
Machinist		

5 NSPI loaded labour costs include base salary amounts and employer portion of health, dental, and life insurance as
6 well as worker compensation costs, and base pension costs. The rates for contractors typically include loaded labour
7 costs and allowances for overheads, management, office support and profit.

NON-CONFIDENTIAL

1 **Request IR-55:**

2

3 **With respect to the breakdown of Customer Operations expense increases (1) discussed at**
4 **the top of page 77 and (2) listed in Figure 5.7 on page 79 of NSPI's filing, please provide**
5 **calculations and supporting workpapers detailing the breakdown by the categories cited**
6 **and any others that are available.**

7

8 Response IR-55:

9

10 Please refer to the Application, DE-03 – DE-04 Appendix C, pages 36 to 44 inclusive for a full
11 listing of expenses by account, including variance explanations detailing the specific changes in
12 each area. Please also refer to responses to Liberty IR-58, 59 and 60.

NON-CONFIDENTIAL

1 **Request IR-56:**

2

3 **With respect to the statement on page 79 of NSPI's application that,**

4

5 **The increases in vegetation management and storm costs relate directly to**
6 **the increased frequency and severity of weather experienced in Nova Scotia,**
7 **in particular high winds,**

8

9 **Please provide:**

10

11 **(a) statistical or other quantified support available to support frequency and**
12 **(separately) severity increases, broken down by year where available, and**

13

14 **(b) provide a detailed description of expectations for continuation of increased**
15 **frequency and severity levels in 2012, and**

16

17 **(c) provide all available support for such expectations.**

18

19 **Response IR-56:**

20

21 **(a) Fig. 2 of Attachment 1 shows that the frequency of sustained winds > 60 km/h has**
22 **increased in the Halifax area over the last several years. Wind severity has also increased,**
23 **particularly in the Halifax area, as shown in Figs. 3-6 of Attachment 1.**

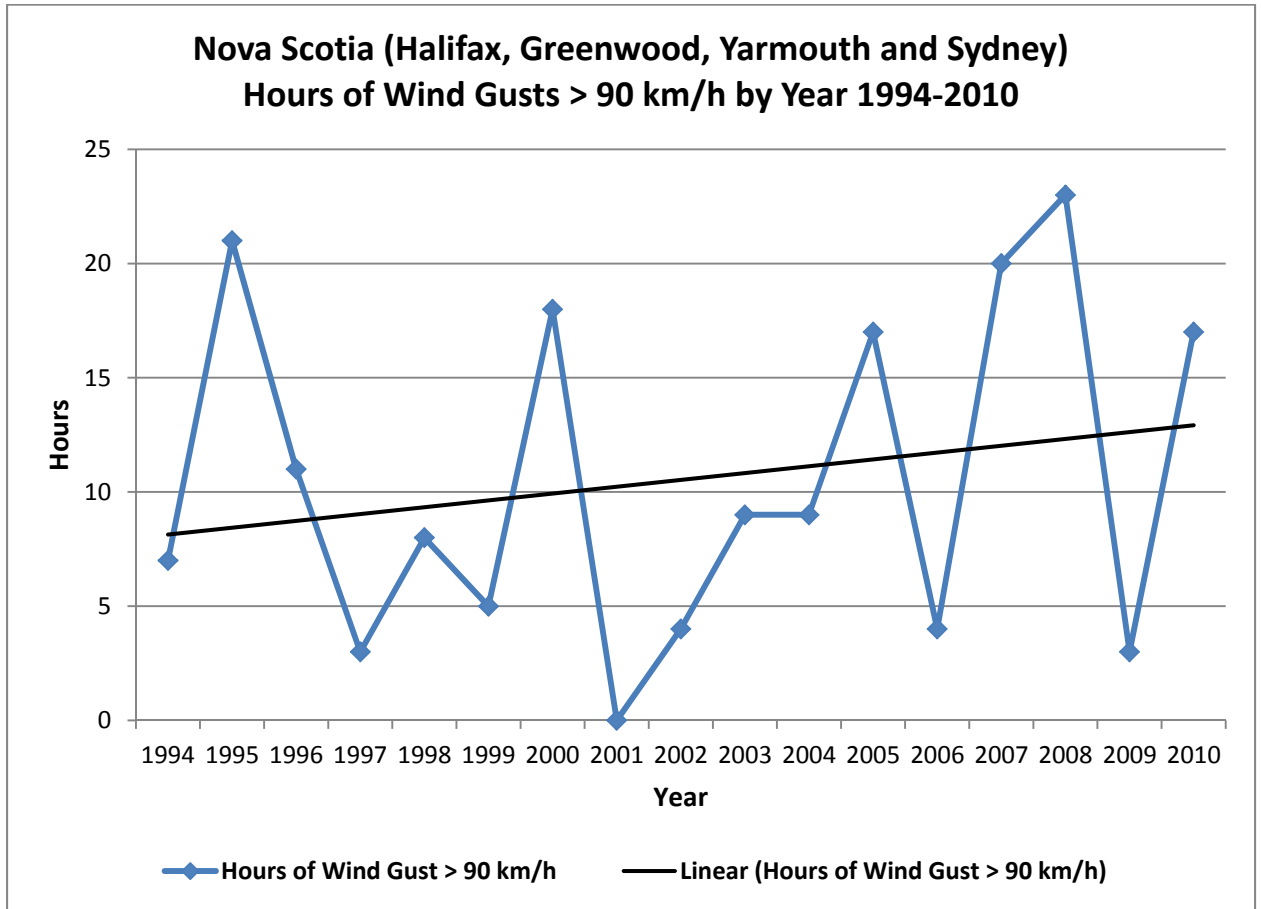
24

25 **(b-c) As indicated in the Application, DE-03 – DE-04, pages 80-82, the increase in vegetation**
26 **management investment is necessary to storm-harden NSPI's system and improve service**
27 **during severe weather conditions, in particular preventing outages caused by off right-of-**
28 **way hazard trees falling into, and damaging, power lines. While it is not possible to**
29 **know in advance how many hours of high wind speed will be experienced in any given**
30 **year, NSPI believes that the experience of the past five years warrants making this**

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1 additional investment. A detailed analysis of our recent experience is provided in
2 Attachment 1.

3



Severe Weather in the Canadian Maritimes - April 5 2011



**Severe Weather in the Canadian Maritimes:
A Study Of The Recent Trends of High Winds
And Ice Accretion Events**

April 5, 2011

Updated Report

Prepared for

**Nova Scotia Power Inc
Halifax, N.S.**

By

**Scotia Weather Services Inc.
192 Wyse Road, Suite 8
Dartmouth Nova Scotia
B3A 1M9**

**D. Reichheld
M.A. MacLeod**

Severe Weather in the Canadian Maritimes - April 5 2011

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Introduction

In February 2009, Scotia Weather Serviced Inc. produced a report for Nova Scotia Power Inc. (NSPI) investigating severe weather events over the Maritimes for the past several years, and their effects on the reliability of the grid. In this update, data from 2009 and 2010 has been analyzed and added to the dataset compiled in the initial report, and the conclusions from that report are revisited based on the new information.

This report will not go into the details of the motivations and techniques used in the data analysis, as this has been discussed in the original report. Also, while this report does not present any specific information about individual events (such as Tropical systems in 2009 and 2010), these events are included in the data analyzed, and so (as with the original report) are accounted for.

High Winds

Looking at the peak hourly gusts from the various stations we noted that in the past two years, as in the previous report, there is no general trend valid for all the stations in the Maritimes. In fact, as before, there is no common trend in stations across any individual province. As an example, only Charlottetown showed a significant increase in strong winds in 2010 (Fig. 1), and after a relatively calm 2009, Halifax returned to a relatively windy state in 2010 (Fig. 2).

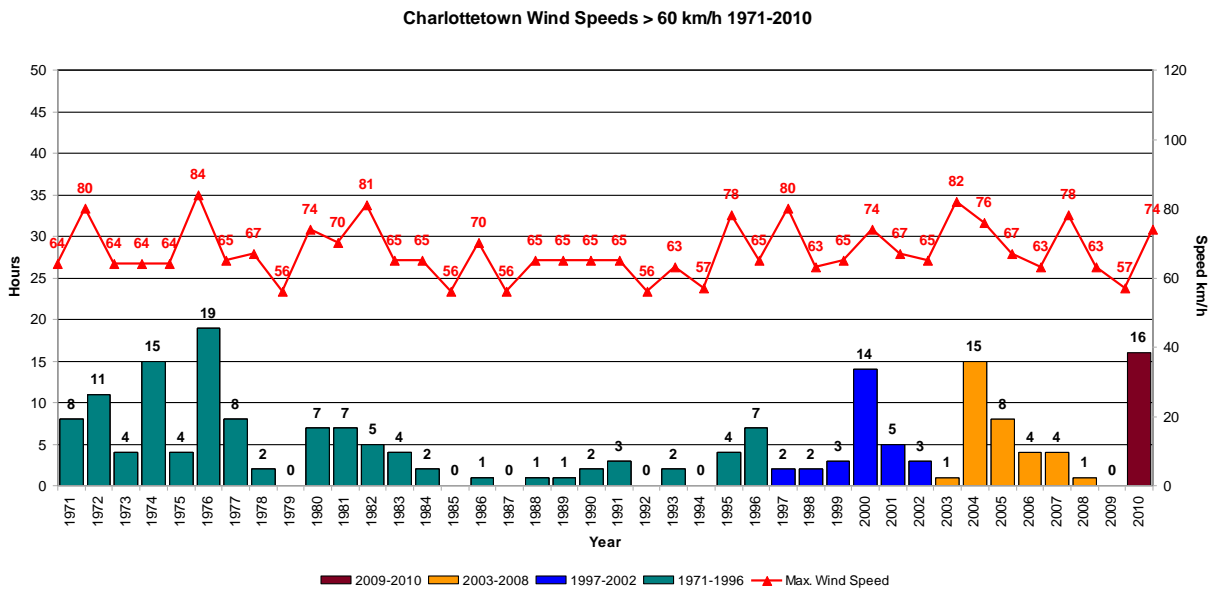


Fig. 1 Sustained winds at Charlottetown Airport 1971-2010

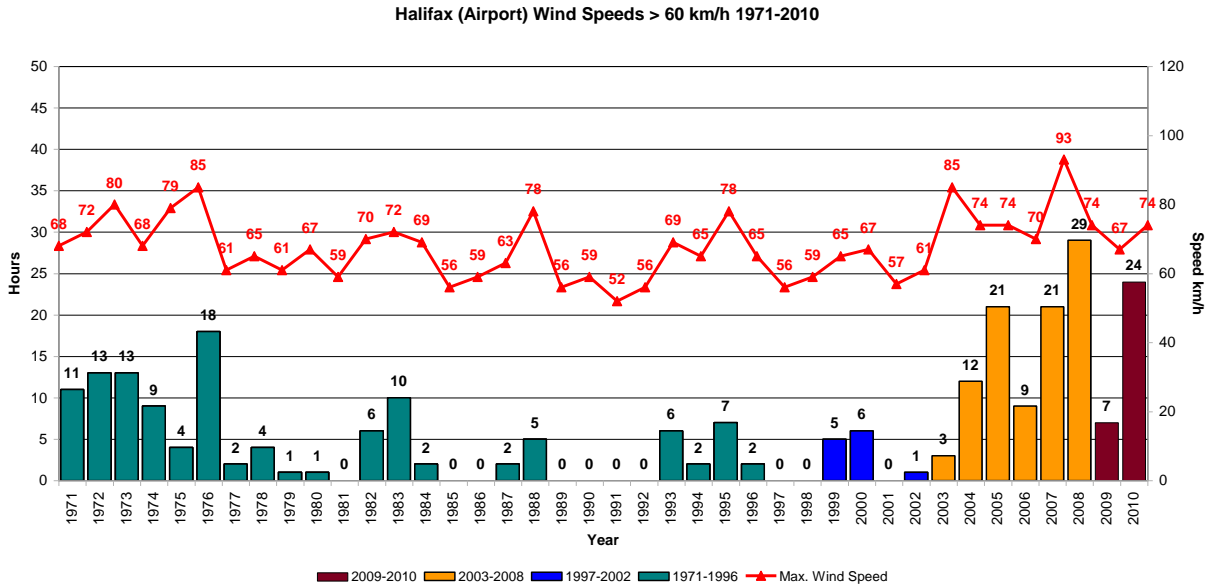


Fig. 2 Sustained winds at Halifax Stanfield Airport 1971-2010

A similar behaviour was noted with the wind gusts, in that there was no uniform trend across all the stations; some maintained the status quo from the past 5-6 years, some had a minor change, while some had a dramatic increase. Specifically in Nova Scotia, Yarmouth, Greenwood and Sydney showed very few high wind events in the last two years, with Sydney, and Greenwood (Figs. 3 and 4) continuing a trend from the past 10 years, and Yarmouth (Fig. 5) showing a decrease from the average of the previous 5 years.

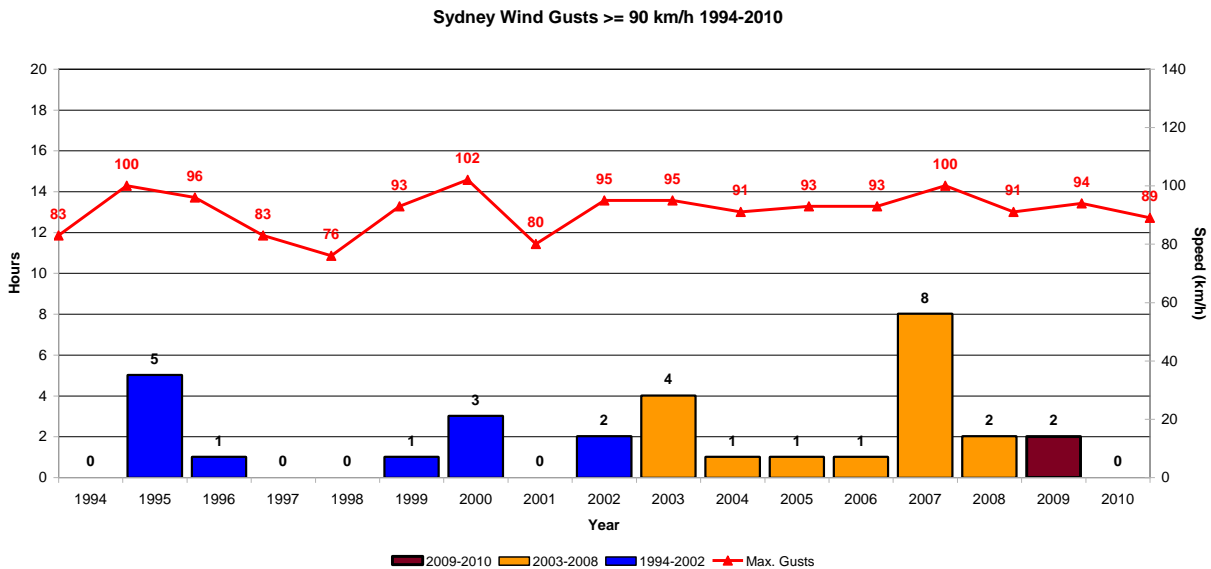


Fig. 3 Wind gusts for Sydney Airport 1994-2010

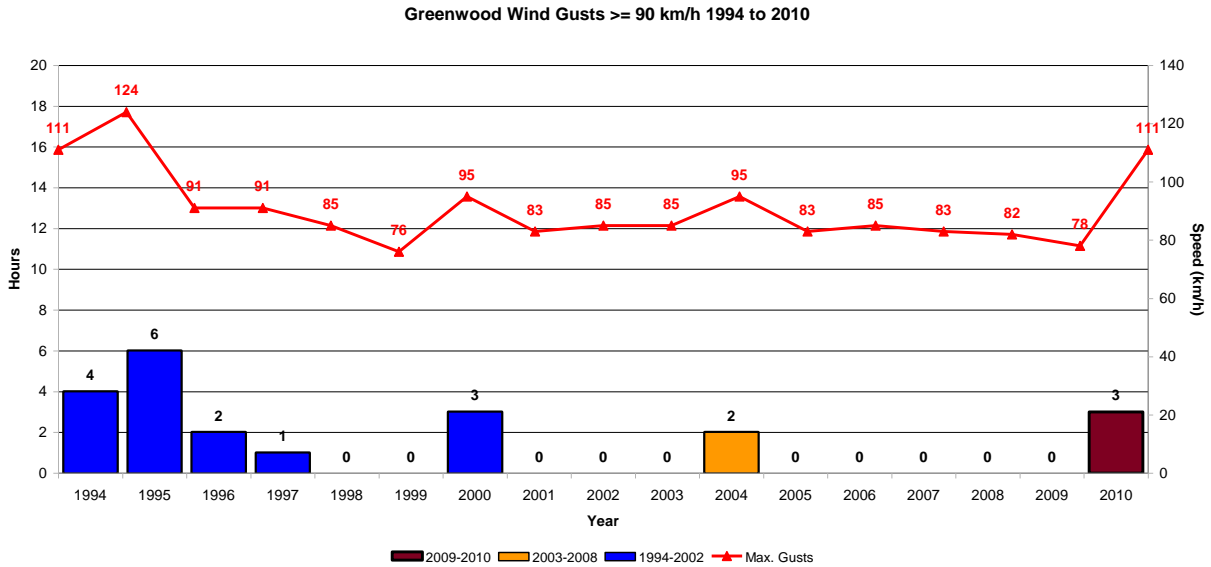


Fig. 4 Wind gusts for CFB Greenwood 1994-2010

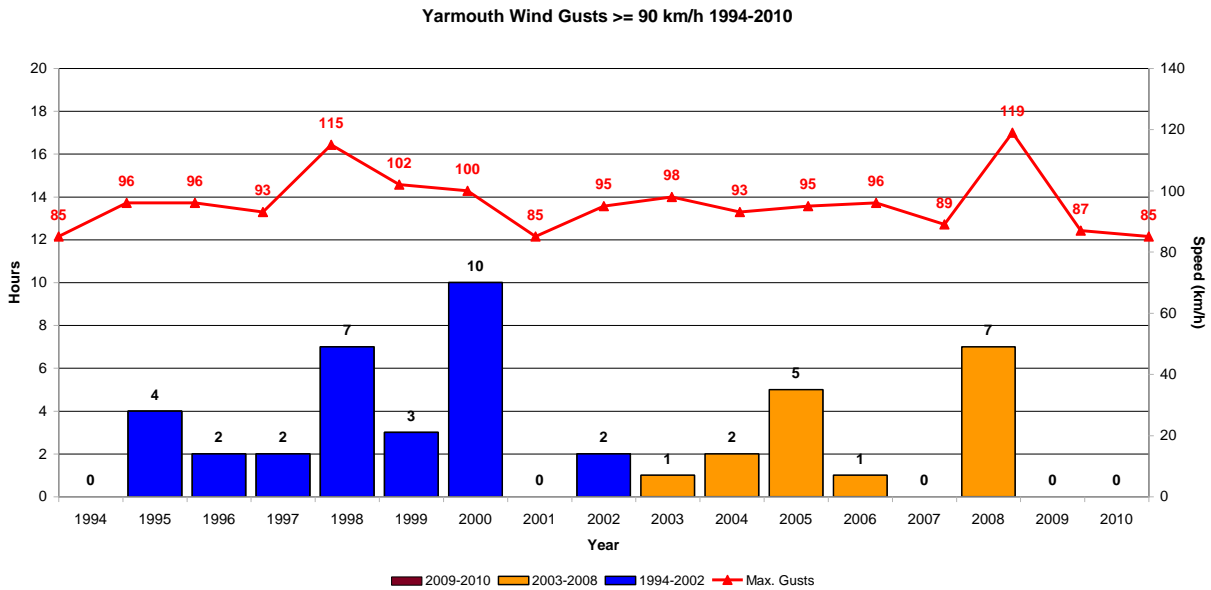


Fig. 5 Wind gusts for Yarmouth airport 1994-2010.

As in the last report, Halifax Stanfield airport was the only station to show a significant number of windy events in 2009, and 2010. Even with that, in 2009 there was a decrease in the number of high wind events, however, in 2010 the number returned the approximate average value over the past 5-7 years (Fig. 6). In summary, there has been no significant change in the general

picture across the province in terms of high wind events from the previous report, in that Halifax has continued with the greatest number of high wind events.

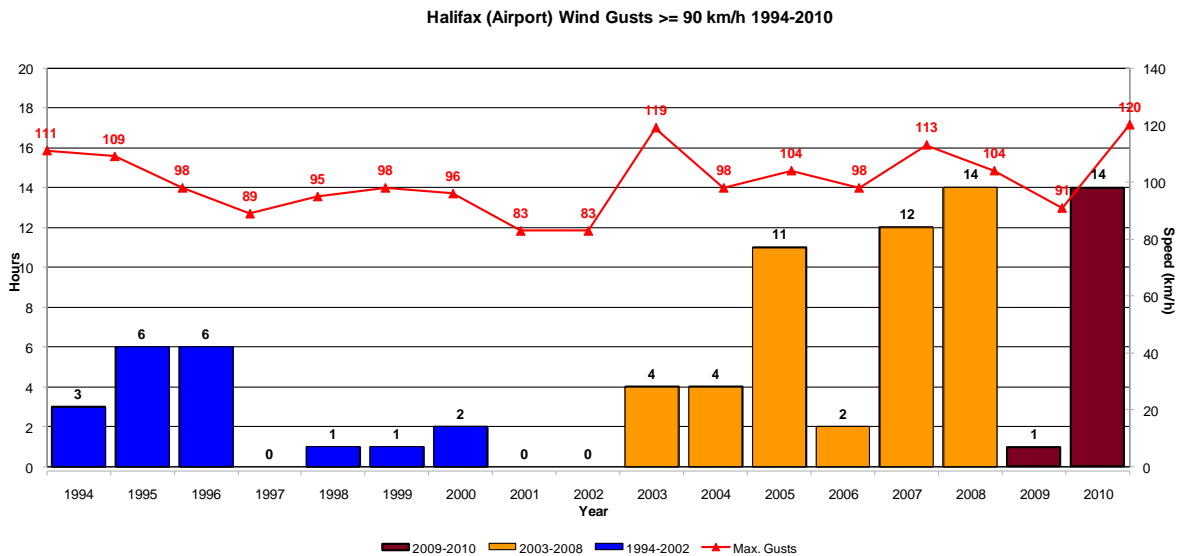


Fig. 6 Wind gusts for Halifax Stanfield Airport 1994-2010.

Ice Accretion

Using the same criteria from the previous report, the number of ice accretion events were examined across Nova Scotia. From the previous report it was noted that there were no identifiable trends with the wet snow, other than there was a high degree of variability from year to year. In the past two years the province seemed to be on the low side of this variability, with only a few hours over a couple of stations that fit the criteria used (Fig 7).

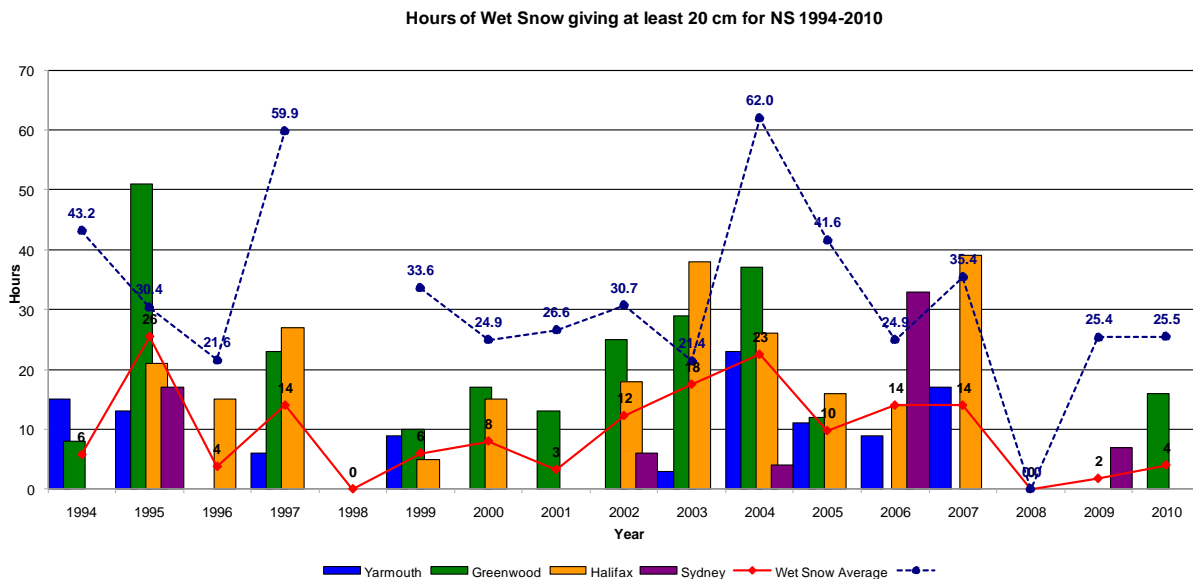


Fig. 7 Wet Snow events in Nova Scotia, by station, 1994-2010

For the freezing rain, followed by strong winds, we noted that the only possible trend seemed to be an increase in events in the last two years of the previous study (2007, and 2008). However, the past two years (2009, and 2010) this has dropped off, with only Halifax and Sydney recording any significant freezing rain events in 2009 (Fig. 8), and even then much fewer than what was observed in the previous two years. Overall, the last two years have shown a net decrease across the province in ice accretion events (as defined in the previous report) from the previous years.

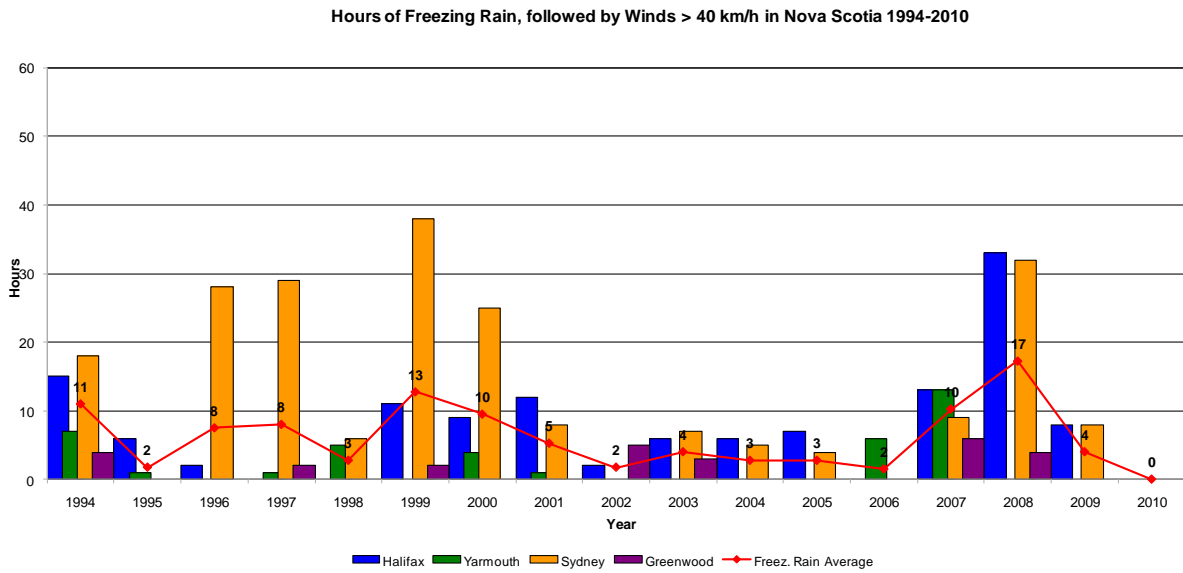


Fig. 8 Freezing rain events for Nova Scotia, by station, 1994-2010.

Combined Events and Effect on Reliability

Combining all the extreme weather events across Nova Scotia, we noted an overall decrease in extreme weather in 2009, then an increase in 2010. Looking at specific stations, it was noted that in two stations; Yarmouth and Sydney had lower number of extreme events in the last two years than in the previous 5 (Figs. 9 and 10), Greenwood showed a slight increase in 2010 (Fig. 11), and Halifax had a relatively quiet year in 2009, but returned to just below the average number of events from the previous 5 years (Fig. 12).

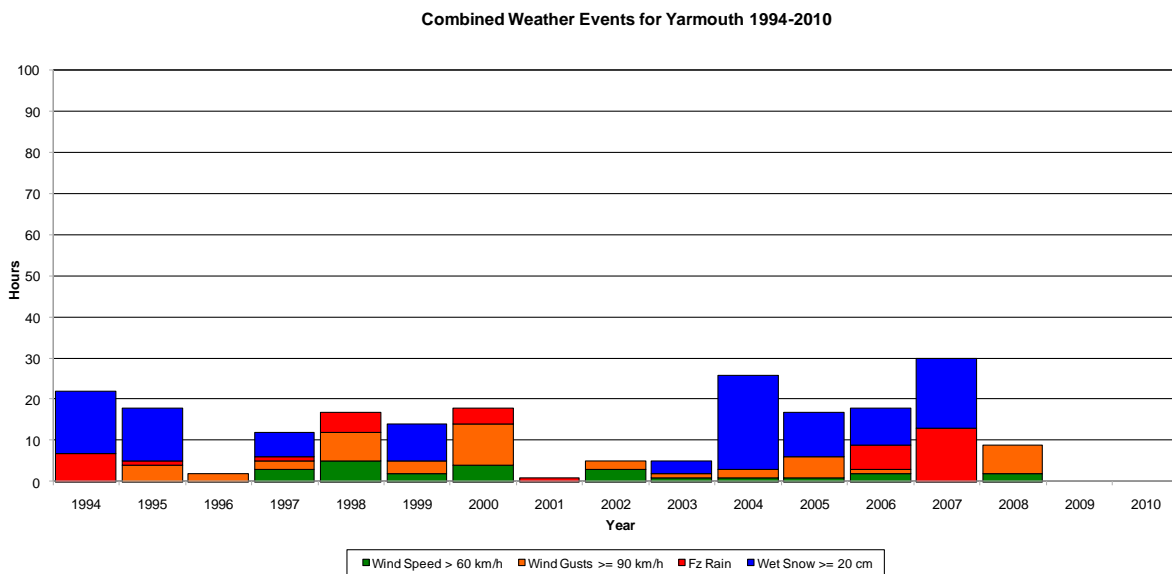


Fig. 9 Combined weather events for Yarmouth Airport, 1994-2010

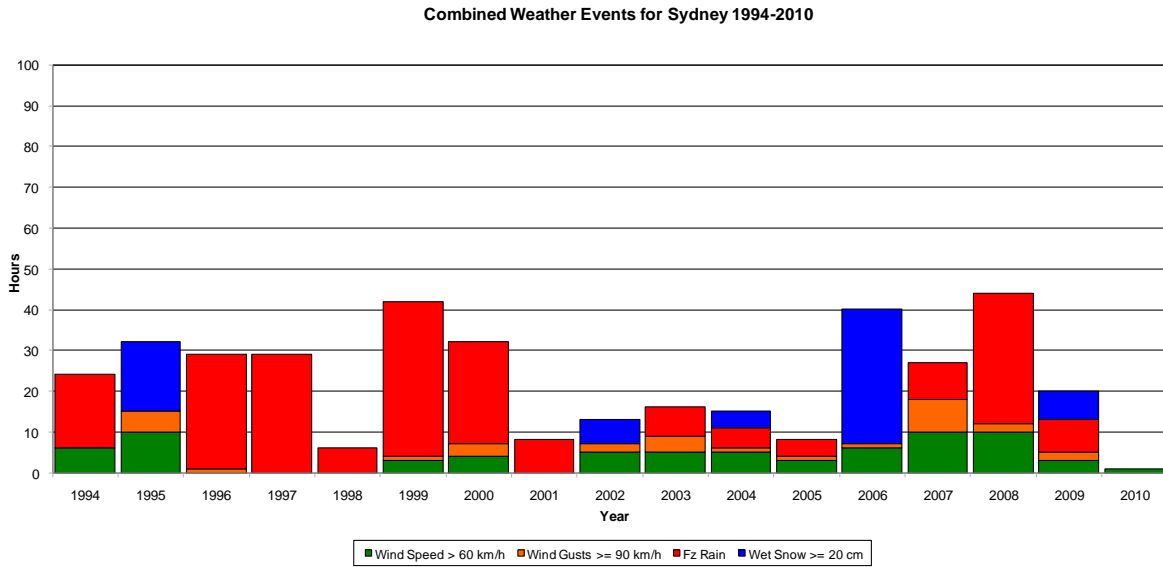


Fig. 10 Combined weather events for Sydney Airport, 1994-2010.

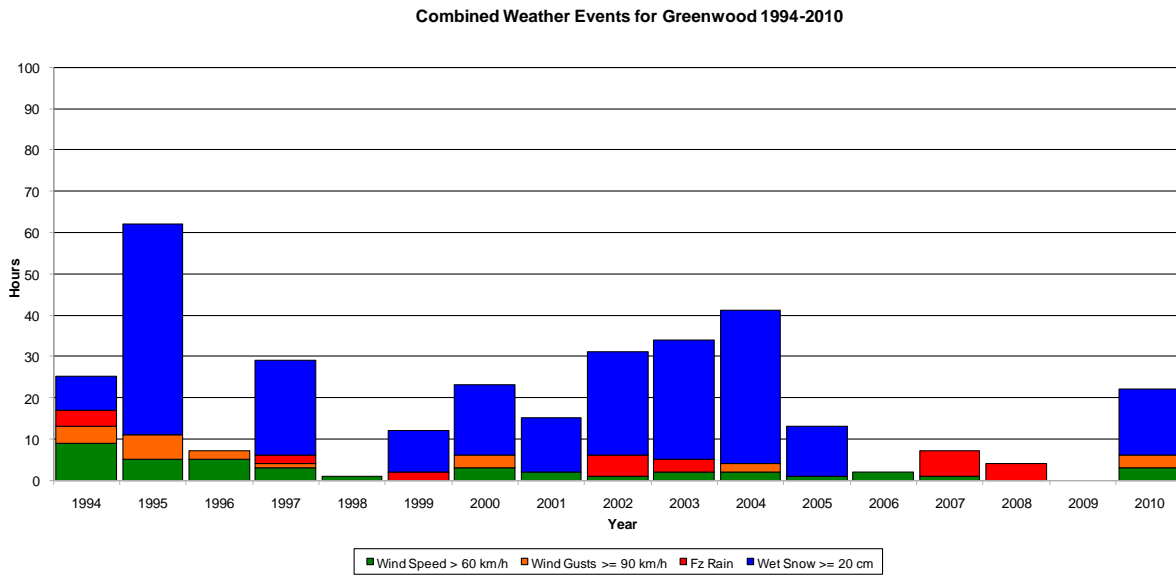


Fig. 11 Combined weather events for CFB Greenwood, 1994-2010.

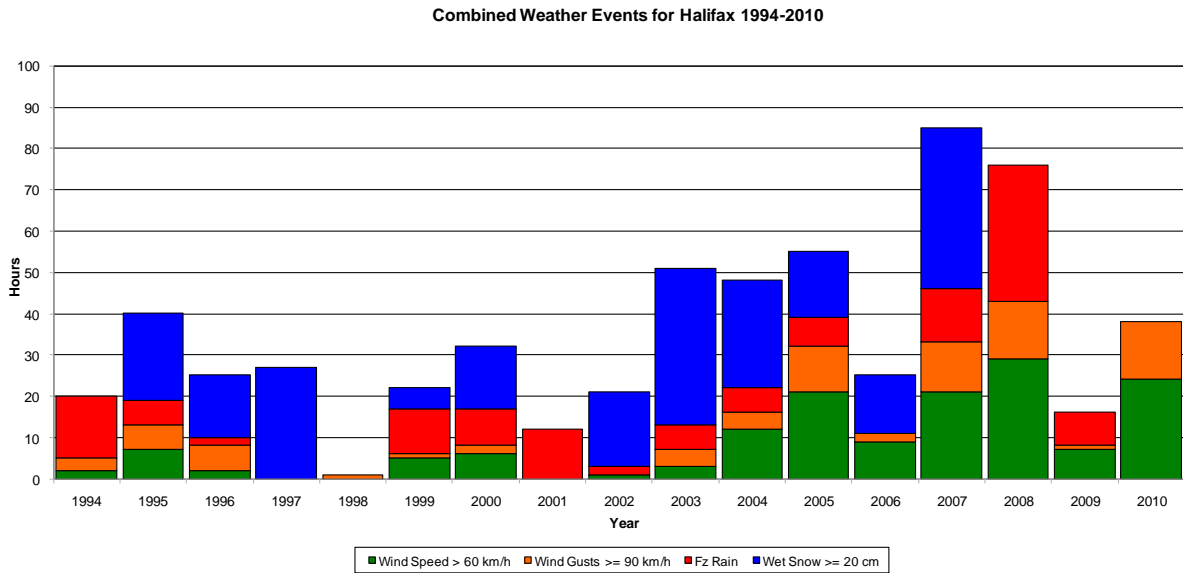


Fig. 12 Combined weather events for Halifax Stanfield Airport, 1994-2010.

In the previous report we examined how these combined events could have affected the reliability of the grid. It was determined that when the combined events for each station were weighted by the approximate population percentage represented by each station, there was a reasonably good correlation with the SAIF Index (provided by NSPI), especially in the past 5-6 years. A test of this approximate relationship would be to see the trend of the SAIF Index in 2009 and 2010, and how it correlates with the data from the extreme events noted across Nova Scotia. When this was done, it was noted that while a general match was found, in that there was an improvement in reliability in the overall quiet year in 2009, and a decrease in reliability in 2010 (Fig. 13).

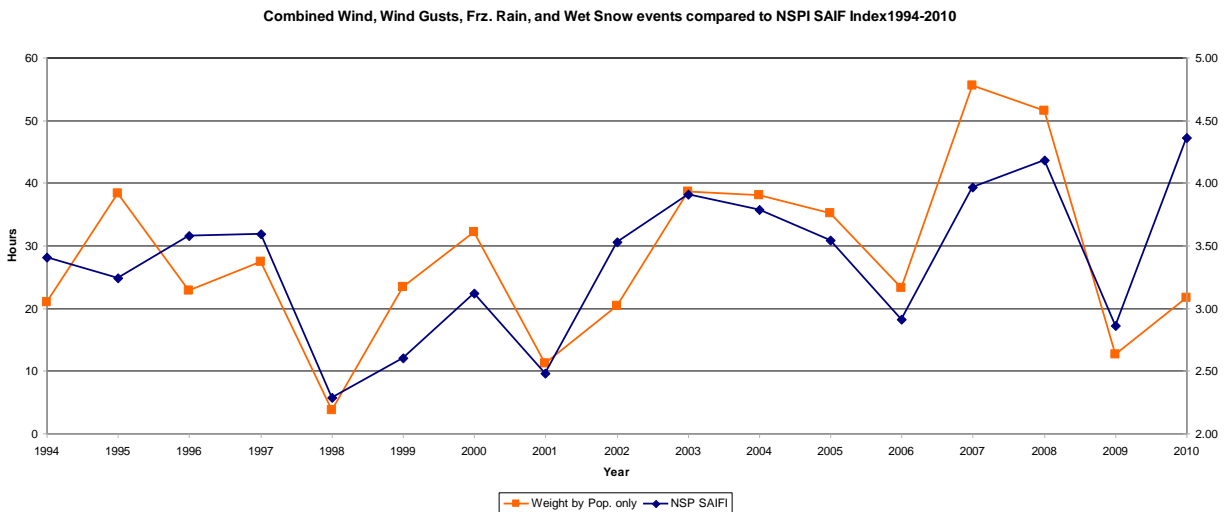


Fig. 13 Combined events, weighted by population, compared to NSPI SAIF Index.

However, the decrease in reliability in 2010 actually exceeded the peak values seen in 2007 and 2008 by a slight amount, even though the combined events from 2010 were definitely lower than those in 2007 and 2008. This suggests that while reliability is, in some way, connected to the extreme events analyzed, a simple weighted average, which treats all events equally, is likely too simple a relationship. To illustrate this, a comparison of the NSPI SAIF Index to individual events was done (Figs. 14 to 17 inclusive).

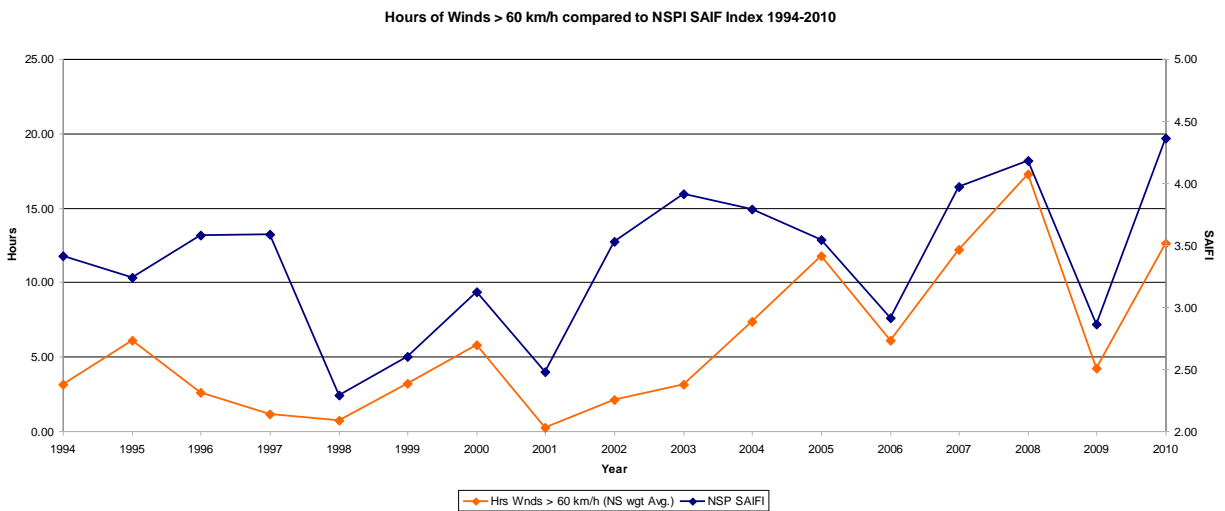


Fig. 14 Weighted average of high wind events in Nova Scotia, compared to the SAIFI

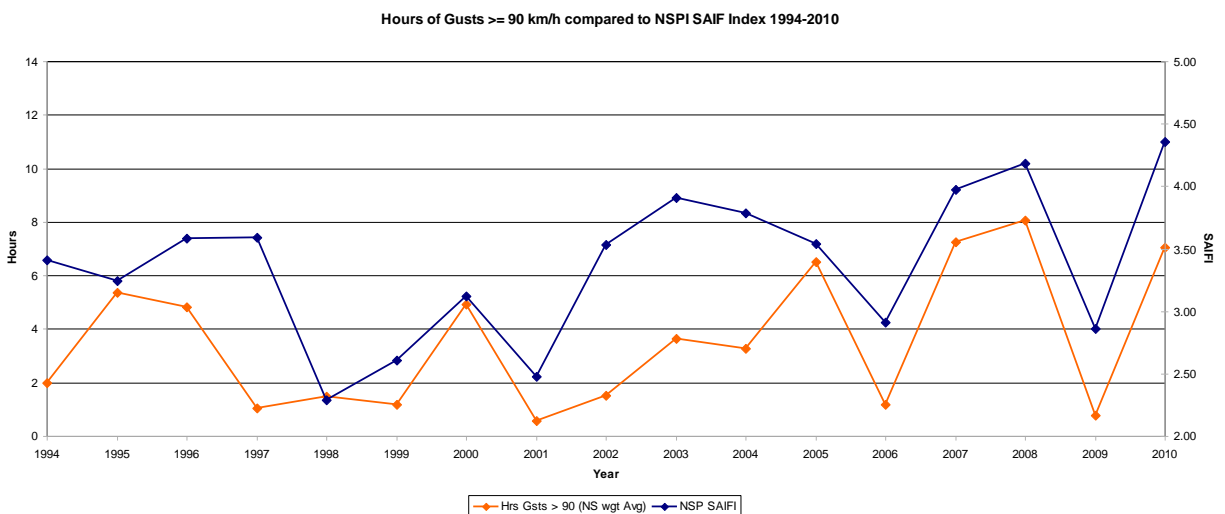


Fig. 15 Weighted average of high wind gust events compared to SAIFI.

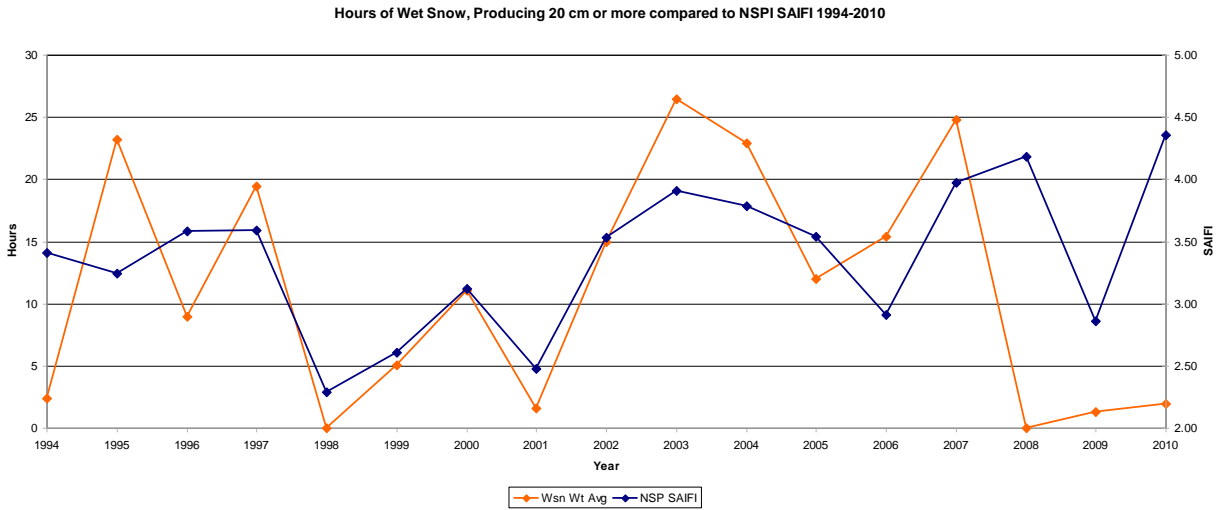


Fig. 16 Weighted average of wet snow events compared to SAIFI.

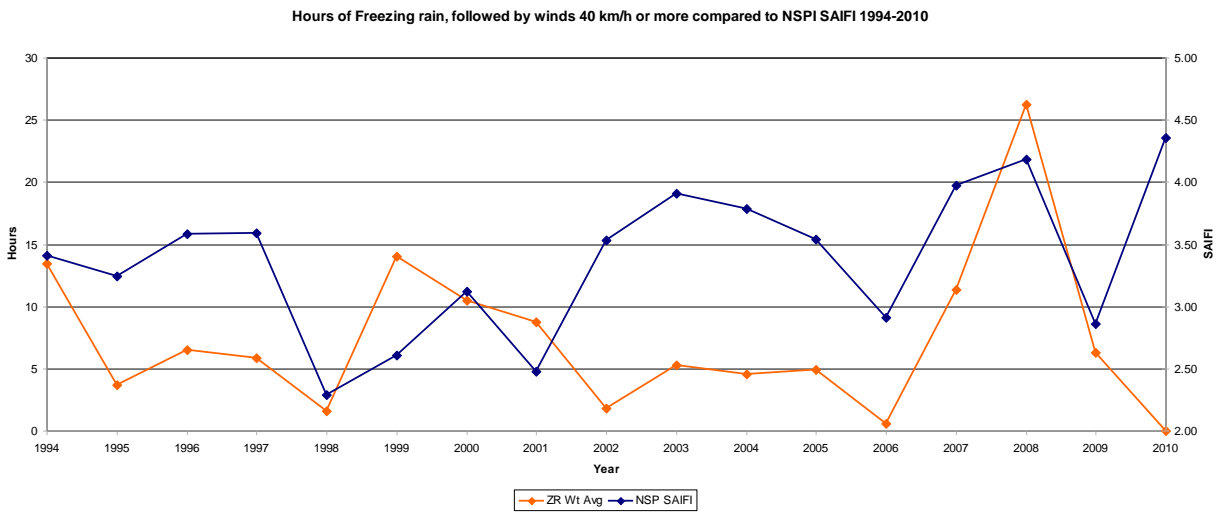


Fig. 17 Weighted average of Freezing rain events (followed by winds over 40 km/h) and SAIFI.

Conclusions

Looking at these comparisons, it can be seen that since 2005, the SAIF Index closely follows the trends of the High wind events, while prior to 2005 the Index is closer to the combined trends as previously analyzed. In fact, the best match since 2005 is that of the SAIF Index to the occurrences of Winds Gusts of 90 km/h or more. It could, therefore, be concluded that in the past 6 years the reliability of the NSPI grid has been dictated by the occurrences of high wind events in Nova Scotia, specifically occurrences of Wind Gusts of 90 km/h or more, even more specifically of strong wind gusts in the the Halifax area (given that this was the only location which reported a significant number of wind gusts in this time), which represents the largest population density of the province, implying a greater amount of infrastructure that is affected.

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1 **Request IR-57:**

2

3 **With respect to Figure 5.11 in NSPI's application for each year's calculation of Storm**
4 **Operating Costs, please:**

5

6 **(a) list the accounts and describe the expense categories included,**

7

8 **(b) provide the breakdown of total costs by account and expense type,**

9

10 **(c) provide the same information requested in parts (a) and (b) of this request for 2011**
11 **year to date costs, and**

12

13 **(d) for each year shown in the figure, show the distribution of Storm Operating Costs**
14 **over each month of that year.**

15

16 **Response IR-57:**

17

18 **(a-c) Please refer to Attachment 1.**

19

20 **(d) Please refer to Attachment 2.**

Account	2006	2007	2008	2009	2010	2011 YTD
001 Regular Labour	\$425,325	\$756,270	\$657,218	\$603,274	\$1,148,144	\$149,269
002 Overtime Labour	1,620,248	3,823,949	3,099,862	2,222,957	4,811,739	1,290,013
004 Term Labour	28,127	46,997	18,576	57,847	115,204	38,085
011 Travel Expense	121,197	256,246	183,605	241,137	446,021	55,611
012 Materials	37,327	168,569	235,564	128,902	111,631	56,677
013 Contracts	1,282,874	6,281,736	3,338,947	4,189,892	7,002,049	922,631
014 Overtime Meals	38,277	65,636	41,747	74,962	60,153	40,165
021 Telephones	24,055	18,375	11,389	7,515	15,325	7,122
025 Leasing	-	-	-	-	12,426	-
031 Fleet Fuel	-	43,326	24,197	-	-	-
041 Meals & Entertainment	100,792	237,053	152,743	186,205	353,830	135,717
058 Personal Equipment	7,817	21,970	6,257	7,493	14,350	4,232
Total	\$3,686,039	\$11,720,127	\$7,770,105	\$7,720,184	\$14,090,872	\$2,699,522

Note: 2011 YTD includes January-April

	2006	2007	2008	2009	2010	2011
Jan	\$783,088	\$1,145,785	\$1,277,969	\$1,169,410	\$782,146	\$1,230,892
Feb	392,566	600,876	279,620	558,880	758,616	746,202
Mar	185,517	121,293	108,112	1,403,102	698,674	429,696
Apr	26,322	423,728	50,853	43,176	84,449	292,732
May	39,289	49,068	21,340	7,186	205,858	
Jun	298,640	182,295	117,496	20,130	114,742	
Jul	294,250	140,819	38,254	134,409	18,804	
Aug	238,194	526,048	131,655	2,296,117	12,920	
Sep	(185,054)	105,727	994,117	3,348	5,967,163	
Oct	145,689	43,045	5,976	18,743	418,056	
Nov	297,850	7,317,434	776,124	520,498	969,052	
Dec	1,169,688	1,064,009	3,968,589	1,545,185	4,060,392	
YTD Total	\$3,686,039	\$11,720,127	\$7,770,105	\$7,720,184	\$14,090,872	\$2,699,522

NON-CONFIDENTIAL

1 **Request IR-58:**

2

3 **With respect to the \$3.7 million Storm Operating Cost increase request noted on page 81 of**
4 **NSPI's filing (at line 10), please provide:**

5

6 **(a) a narrative description of the justification for the increase, and**

7

8 **(b) a calculation showing how the amount was derived.**

9

10 **Response IR-58:**

11

12 (a) Nova Scotia Power responds to significant weather event related outages according to its
13 Emergency Services Restoration Plan (ESRP), which was developed by NSPI and
14 subsequently endorsed by the UARB following Hurricane Juan and the November 2004
15 ice storm. NSPI includes in rates an estimate of the operating costs associated with
16 restoring power per this plan. NSPI's 2012 application includes an update in its estimate
17 of these costs based on actual experiences over the past five years. These expenditures
18 are required in order to ensure customers receive best practice service restoration, as
19 outlined in the ESRP.

20

21 (b) Please refer to Attachment 1.

**Storm Operating Cost
Match 2012 Estimate with Escalated Historical Costs**

Acct	2011 Budget (\$)	Escalated Storm Cost	Increase (decrease) (\$)
001 Regular Labour	\$626,654	\$1,090,281	\$463,626
002 Overtime Labour	2,231,365	3,882,225	1,650,861
011 Travel Expense	207,998	361,884	153,886
012 Materials	31,200	54,283	23,083
013 Contracts	1,692,705	2,945,042	1,252,337
014 Overtime Meals	41,600	72,377	30,777
021 Telephones	31,200	54,283	23,083
041 Meals & Entertainment	126,879	220,749	93,870
058 Personal Equipment	10,400	18,094	7,694
Total	\$5,000,000	\$8,699,217	\$3,699,217

Historical Storm costs OM&G

Year	Actual / Estimated Storm Exp. (\$)	Escalation	2010 Equivalent Expense (\$)
2005	7,933,035	1%	8,337,700
2006	3,686,040	1%	3,835,708
2007	11,720,125	1%	12,075,257
2008	7,770,104	1%	7,926,283
2009	7,720,183	1%	7,797,385
2010 ¹	10,000,000		10,000,000
Average Expense, 2010 Dollars			8,328,722
CPI			2.2%
Average Expense, 2012 Dollars			\$ 8,699,217

(1) 2010 expense was estimated prior to the year end. Actual 2010 storm operating expense was \$14,094,664

NON-CONFIDENTIAL

1 **Request IR-59:**

2

3 **With respect to the statement on page 81 of NSPI's application that,**

4

5 **NS Power's Vegetation Management Program is the most effective**
6 **investment to improve customer reliability,**

7

8 **Please provide:**

9

10 **(a) a description of the basis for the statement, and**

11

12 **(b) all analytical support for it.**

13

14 Response IR-59:

15

16 (a) NSPI uses a methodology to measure the effect of projects on customer reliability. This
17 approach divides the net present value of performing the work by the estimated annual
18 number of customer hours of interruption that will be avoided (ACHI) through the
19 completion of the work. The ratio \$/ACHI is used to prioritize perspective projects as
20 well as measure the effectiveness of completed work. In 2011, the vegetation
21 management program is calculated to return the lowest \$/ACHI (most cost effective
22 investment) when compared against the other strategies in the reliability investment plan.
23 Further details regarding NSPI's reliability program are found in Attachment 1.

24

25 (b) Please refer to Attachment 2 and the summary table below.

2012 General Rate Application (NSUARB P-892)
NSPI Responses to Liberty Information Requests

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1

2011 Reliability Investment Strategy	Forecast (NPV \$)	ACHI	\$/ACHI
Equipment Replacements	9,478,451	58,750	161
Storm Hardening	2,610,769	23,155	113
System Improvements	6,221,332	67,481	92
Technology Improvements	1,953,140	31,670	62
Vegetation Management	13,213,406	275,352	48
Totals:	33,477,100	456,408	73

2

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Reliability Investment Strategy 2009–2014

MARCH 17, 2009

Energy Everywhere



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Executive Summary

Over the last six years, Nova Scotia Power has faced increasing challenges regarding system performance. These challenges have had a direct effect on customer satisfaction rates, and our customers' confidence in the system.

System improvements, public awareness of improvements, and customer belief that actions by Nova Scotia Power have improved reliability are key elements of the company's Reputation Plan.

More severe weather conditions and aging equipment have placed greater stress on our electrical system. As well, customer expectations related to reliability have heightened.

Research and analysis has shown three main causes of recent outages:

- defective equipment
- vegetation contact
- loss of transmission supply

Strategies targeting these issues will have the greatest effect on system reliability. This plan addresses these three main causes.

The Reliability Investment Strategy defines clear goals and presents sound tactical approaches to improve service to customers. It is an aggressive five-year plan that will improve our customers' experience and enhance the reputation of our company. The plan is focused, with specific targeted outcomes. This commitment to reliability will result in improvements that both shareholders and customers want to see. In short, this five-year plan is intended to make Nova Scotia Power the most reliable utility in Atlantic Canada.

"We intend to improve our customer's experience in terms of system reliability."

*Rob Bennett, CEO, Nova Scotia
Economic Development Committee,
February 10, 2009.*

"When we combined all of the weather events, without taking intensity of the events into account, we found a very strong correlation with the SAIFI data. A correlation that became nearly perfect in the past six years. This result strongly suggests that the largest influence on the reliability of NSPI's system, especially over the past six years, has been the weather."

Severe Weather in the Canadian Maritimes: A Study of the Recent Trends of High Winds and Ice Accretion Events (Scotia Weather Services, March 2009)

Section One: Situation Analysis

What is the problem to be solved?

Nova Scotia Power's proposed five-year plan to improve system performance will improve the customer experience. The company has given careful consideration to determine the best strategies to address the causes of outages on the Nova Scotia Power system.

This section outlines how reliability performance is actually measured. Further detail is found in the sidebar.

Measuring Reliability

Nova Scotia Power measures and reports the service performance of its electrical power distribution system using the same measures that are employed throughout the utility industry in Canada and worldwide. The common measures that are used to report service continuity are System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI) and Customer Average Interruption Duration Index (CAIDI). Briefly defined:

- SAIFI is about the average number of power interruptions that customers experience in a year
- SAIDI is about the average time customers are without power in a year
- CAIDI is about how long, on average, that each interruption a customer experiences lasts.

Currently, Nova Scotia Power spends approximately \$50 million a year on the existing distribution and transmission system for inspections, capital maintenance replacements, and vegetation management activities. In addition, approximately \$28 million is spent on growth and expansion of new assets to serve growing demands on the system, including new customers. An incremental investment of \$20 million a year in reliability initiatives will increase proactive replacement and maintenance activities to avoid and reduce the number of customer interruptions.

FREQUENCY, DURATION, & INTERRUPTION

SAIFI is a measure of the average "frequency" of interruptions. Interruption events ranging in size from one customer interruption (CI) to several thousand CI must be averaged. SAIFI provides a weighted average for interruption frequency as all customer interruptions are counted and then averaged over the customer base.

$$SAIFI = \frac{\text{Sum of all Customer Interruptions}}{\text{Customer Base}}$$

SAIDI is the average "duration" of interruptions. The duration of each interruption is recorded and added together. The total customer hours (CH) of interruption, averaged over the customer base, produces a weighted average.

$$SAIDI = \frac{\text{Sum of all Customer Hours}}{\text{Customer Base}}$$

CAIDI is the average interruption duration experienced by customers who experienced an interruption.

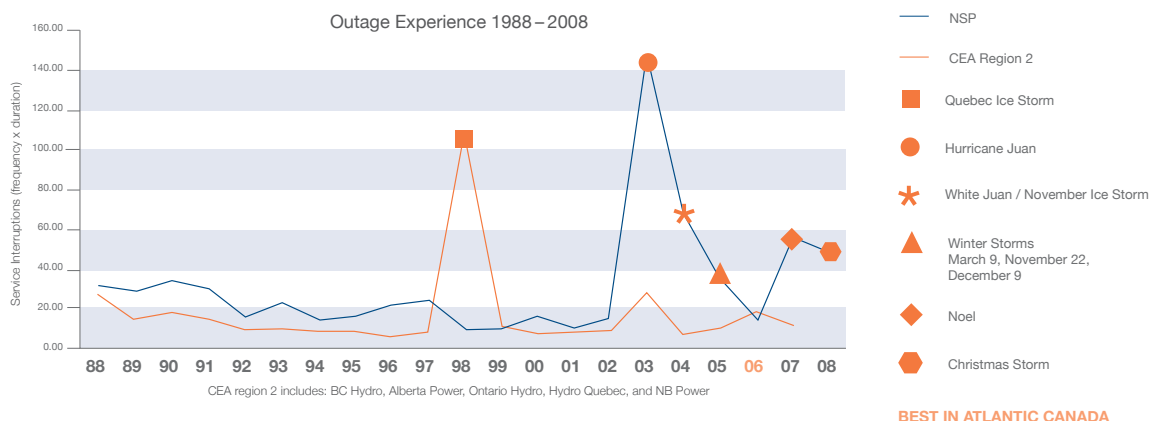
$$CAIDI = \frac{SAIDI}{SAIFI}$$

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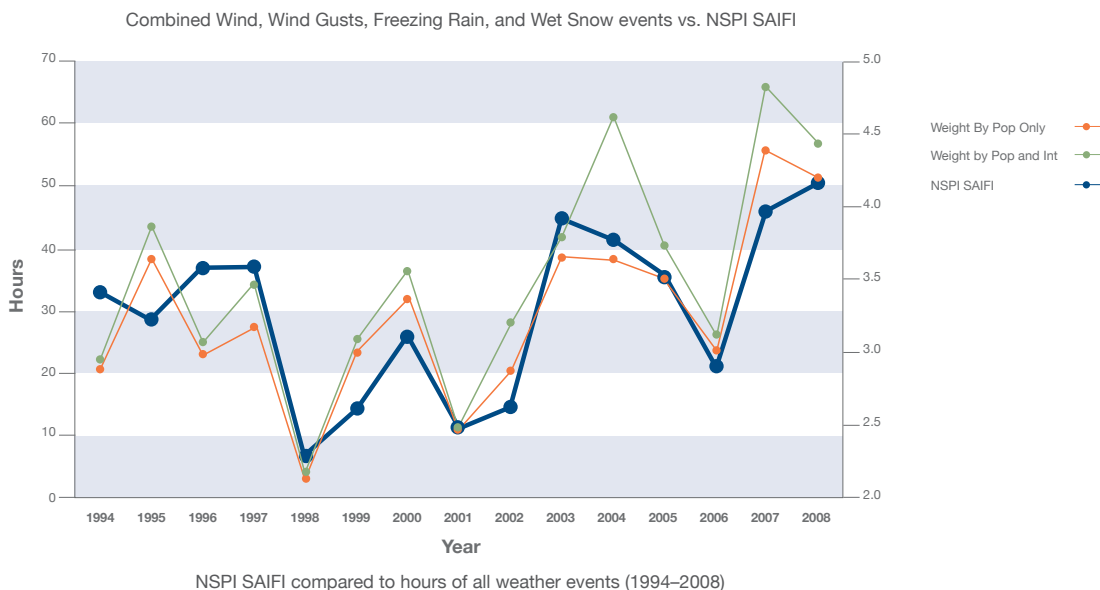
From 1997-2002, many replacement programs and initiatives were introduced to enhance the distribution and transmission system. Those programs, combined with relatively stable weather, allowed Nova Scotia Power to achieve its best-ever reliability performance during this period. This strong reliability performance correlated with high customer satisfaction during the same period.

While the system had seen many infrastructure improvements, it was not designed to withstand weather changes we have seen this decade, starting in 2003 with Hurricane Juan, continuing with the Ice Storm of November 2004 (which prompted a UARB review), White Juan in January 2005 and a large low pressure system in March of the same year. After a brief respite in 2006, the fall of 2007 brought Post-Tropical Storm Noel and 2008 concluded with three major storms as well as large related outages from salt contamination.

Since 2003, Nova Scotia Power customers have experienced more frequent and lengthier outages, primarily due to the more severe weather conditions facing our region and an increase in storms with wind gusts in excess of 90 kilometres per hour. The incidence of severe weather has been more prevalent in the Halifax area (home to the largest number of customers) than any other part of Nova Scotia. In 2006, when Nova Scotians saw a break in severe storms, Nova Scotia Power had the best reliability performance in Atlantic Canada.



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Nova Scotia Power has determined strategic next steps to improve reliability performance. This document provides a high level summary of the three main causes of outages.

1. Vegetation Management

There is a strong correlation between vegetation management programs and system performance. Tree caused outages are the dominating factor for outages in wind/storm events, accounting for 45 per cent of outages during storm events.

To reduce outages caused by vegetation contacts, Nova Scotia Power will significantly increase spending on its vegetation management program.

2. Transmission

Loss of transmission supply outages account for approximately 29% of all the customer interruptions experienced annually. Transmission-related outages generally fall into two categories: forced and planned outages.

Forced transmission outages account for 64% of the loss of supply transmission interruptions. The primary causes of forced outages are failed insulators, conductor damage, damage to structures, hardware problems and vegetation (tree) contacts.

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Planned transmission outages account for 36% of the loss of supply outages as measured over the last five years. Planned outages occur when crews isolate equipment to make required repairs or for maintenance and capital replacement activities. Most planned outages are short in duration but have a large effect on reliability experience because of the large number of customers interrupted.

To improve loss of transmission supply outages, this plan recommends installing improved switching and sectionalizing capabilities on transmission lines that serve customer loads. As well, Nova Scotia Power will replace known problematic cement growth ceramic insulators with toughened glass suspension insulators to improve transmission line performance.

3. Defective/Deteriorating Equipment

On average, defective equipment accounts for approximately 18% of the customer interruptions experienced annually. Current feeder inspection programs work to identify defective and deteriorated equipment prior to equipment failure that can result in outages to customers.

In 2002, Nova Scotia Power's inspection program was revamped to identify the highest priority work. While the inspection program was effective at prioritizing the problem areas, the investment for repairs has continued to be challenging.

As equipment ages, its ability to handle stress, particularly in harsh conditions, is diminished. As the average age of transmission and distribution equipment increases, more devices deteriorate. Approximately 50 per cent of Nova Scotia Power's distribution system is more than 35 years old, with a typical life expectancy of 40 years. More than 50 per cent of the transmission infrastructure is older than 35 years, with a typical life expectancy of 50-55 years.

To address defective and deteriorating equipment, Nova Scotia Power will increase its investment in equipment replacement, make improvements to the transmission and distribution system, and implement technology improvements.



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Section Two: Investing Wisely

How will Nova Scotia Power respond?

Four strategies will address the main causes of customer service disruptions. The chart below provides an overview of these strategies and the causes they address.

Primary Outage Cause	Aging Assets and Deteriorated Equipment Replacements	System Performance Improvements	Technology Improvements	Storm Hardening
LOSS OF SUPPLY	•	•		•
DEFECTIVE EQUIPMENT	•	•	•	
VEGETATION CONTACT				•

STRATEGY ONE:

Aging Assets and Deteriorated Equipment Replacements

- Transmission Line Insulator Replacements/Conductor Upgrades**



Specific types of porcelain line insulators experience a failure phenomenon known as cement growth. When this growth occurs, the mechanical strength of the insulator is compromised and random failures can occur. A replacement program for these insulators is recommended. Many transmission line conductors are more than 50 years old. In some locations, failures have occurred because conductors have become brittle or stretched and require replacement.

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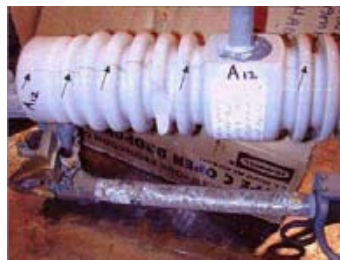
- **Distribution Porcelain Cutout Replacements**

Cutouts are the fusing devices used on the distribution system to protect equipment against electrical faults. They were commonly provided with a porcelain insulator body which has had high failure rates due to cracks in the porcelain. There are approximately 200,000 porcelain cutouts on the system. Nova Scotia Power typically experiences approximately 1,200 random failures per year although this number continues to escalate. A replacement program using synthetic insulators is recommended.



- **Target Worst Performing Feeders and Highest Customer Density**

System performance statistics are measured by distribution feeders. This allows Nova Scotia Power to monitor the effectiveness of each feeder section, and how many customers are being affected by faults on the feeders. Nova Scotia Power currently targets investments on feeders with the worst performance in terms of customer interruptions. Where the company has invested, customers have seen a significant improvement. Expansion of this approach is recommended to include additional feeders or feeder segments.



Results of 2007 Targeted Feeder Device Replacements

Feeder	Location	% CI Improvement
104H-411	KEMPT ROAD	99.5%
104H-413	KEMPT ROAD	42.5%
104H-423	KEMPT ROAD	97.5%
104H-433	KEMPT ROAD	38.6%
129H-411	KEARNEY LAKE ROAD	98.1%
15N-401	WILLOW LANE	52.1%

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- **Other Distribution Device Replacements**

Pin type insulators, porcelain lightening arrestors, in-line switches and automatic sleeves can fail without warning. The Reliability Investment Strategy includes a specific plan to replace these devices. In coastal environments, consideration will be given to replace pin insulators with high insulation clamp-tops, thereby improving performance in salt spray and high winds. As well, Nova Scotia Power has a number of distribution class underground cables nearing the end of their life expectancy. The plan takes this into account, finding the best program to refurbish or replace targeted cable sections.



STRATEGY TWO:

System Performance Improvements

- **Transmission Switch and Breaker Upgrades**

Many existing transmission line switches are rated for operation only when the system is de-energized. This requires switching outages affecting large numbers of customers while faults on the transmission system are isolated. Upgrading switches to live-line operation, or replacing them with breakers, is recommended in locations where significant customer interruptions could be avoided.



- **Recloser Additions**

Reliability performance can be significantly improved by installing additional sectionalizing devices to minimize the number of customers affected during outages. Additional sectionalizing points reduce the length of line that needs to be patrolled and inspected after an outage event, and can reduce restoration challenges related to cold-load pick-up. Implementing sectionalizing reclosers enables future distribution automation projects.

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- **Distribution Automation/Auto-transfers**

Distribution automation involves the automatic transfer of a load to an adjacent supply feeder when a fault is identified. Sensing devices detect and isolate faults so the load transfer can occur. This approach is limited to locations where capacity is available in an adjacent feeder, and can help avoid significant sustained service disruptions in these locations.

- **Fuse Coordination**

Distribution protection is a system of coordinated, fast-acting switches and fuses. Over time, fuse links deteriorate, or are replaced with incorrect sizes. Miscoordination of sizes can lead to customers being exposed to broader fault conditions. Replacement of fuses is recommended as part of the cut-out replacement program.

STRATEGY THREE:

Technology Improvements

- **GIS Customer Connectivity Data Collection**

Nova Scotia Power's Outage Management System (OMS) does not allow us to trace outages to individual customers or groups of customers because of the electrical "connectivity" model that is used. This causes challenges with precise outage prediction algorithms and limits the ability to optimize response to outages. Updating connectivity data will also improve accuracy of outage statistics. It will result in more accurate outage predictions, more focused outage response, and better planning data for response teams. All of this will result in shorter outage duration for customers. It will also facilitate more single-phase reclosing which can reduce the number of customers who experience interruptions.

- **Remote Communications on New Reclosers**

New reclosers will be installed with remote communications capability. A staged approach will enable remote control and indication for sectionalized devices, improving response time and remote switching capability.

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STRATEGY FOUR:
Storm Hardening

- **Conductor Upgrades, Re-Insulation and Re-Tensioning**
Over time, conductors can deteriorate or stretch and become slack due to previous weather events. With heavy wind, conductors can easily come into contact with each other, causing customer interruptions. In many instances, insulators and ties have also become deteriorated. Nova Scotia Power recommends that targeted locations receive new conductors and insulators.
- **Distribution Off-Road Relocations to Roadside**
Sections of distribution lines not located along road sides are more difficult to access and inspect. As a result, faults on these sections typically result in longer outages. Nova Scotia Power proposes to expand initiatives to rebuild the worst performing off-road systems, moving them to the roadside for easier access.
- **Standard Changes**
In some locations, Nova Scotia Power should revisit construction and design standards to ensure a more reliable system. Examples include use of insulated overhead cable in remote areas, clamp-top insulators in high-wind coastal areas and installing additional storm guys. A reliability-based design standard is recommended to complement existing standards for remote or harsh environment locations.
- **Vegetation Management**
Approximately 45 per cent of all customer interruptions are related to tree interference. Funding has been approved by the Utility and Review Board to implement annual Vegetation Management spending of \$10.4 million. Over time, this investment will improve system performance and customer experience during adverse weather.



Crescent Beach
Tropical Storm Noel, November 2007



Goshen
December 2006



Tropical Storm Noel
November 2007



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Section Three: Our Results Focused Investment Approach

How will we know when we have seen improvement?

The Reliability Investment Strategy endorses the approach detailed in the attached table. This recommended approach best addresses the reliability and performance concerns expressed by customers and stakeholders, as well as balancing the interests of shareholders.



This chart outlines proposed investments over the next five years, and corresponding customer interruptions that will be avoided as a direct result of that investment.

Preventing customer interruptions creates a better customer experience. Better customer experience will result in higher customer satisfaction. Customer trust regarding the company's ability to deliver core service is a key element in our Reputation Plan – and our success.

Summary

Nova Scotia Power has seen increasing challenges regarding system performance. Analysis shows a correlation between this reality and more severe weather. The challenges related to reliability have a direct effect on customer satisfaction and customer confidence.

The company's Reliability Investment Strategy identifies the problems to be resolved, how resolution will occur and sets targets for improvements in customer experience.

Successful implementation of the strategy will enable achievement of Nova Scotia Power's goal to have the best reliability in Atlantic Canada, and improve the company's reputation with customers and key stakeholders.

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Five Year (2010–2014) Incremental Reliability Investment Strategy

Strategy

Tactic

Aging Assets and Deteriorated Equipment Replacements	Transmission Line Insulator Replacements / Conductor Upgrades
	Distribution Cutout Replacements
	Target Worst Performing Feeders and Highest Customer Density
	Distribution Device Replacements (arrestors, insulators, sleeves, cable refurbishments, etc.)
System Performance Improvements	Recloser Additions (sectionalizing / 1 phase reclosing)
	Distribution Automation / Auto-Transfers
	Fuse Coordination (linked with cutout replacements)
	Transmission Switch and Breaker Upgrades
Technology Improvements	GIS Customer Connectivity Data Collection
	Remote Communication on New Reclosers
Storm Hardening	Conductor Upgrades, Re-Insulation and Re-Tensioning
	Distribution Off-Road Relocations to Road Side
	Standard Changes (Hendrix Cable in Remote Locations, Clamp Top Insulators, etc.)
	Vegetation Management
Incremental Reliability Based Capital Investment Vegetation Management OM&G Total Annual Investment	
Projected Customer Interruptions Avoided	
Cummulative Percentage Reduction in Customer Interruptions	

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Investment

	2010	2011	2012	2013	2014	Total
	\$3,000,000	\$3,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$12,000,000
	\$3,000,000	\$3,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$12,000,000
	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$20,000,000
	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$10,000,000
	\$2,000,000	\$1,500,000	\$250,000	\$250,000	\$250,000	\$4,250,000
			\$1,400,000	\$1,200,000	\$800,000	\$3,400,000
	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,250,000
	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$15,000,000
	\$1,500,000					\$1,500,000
			\$700,000	\$700,000	\$700,000	\$2,100,000
	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$7,500,000
	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,500,000
	\$250,000	\$500,000	\$1,000,000	\$1,000,000	\$1,000,000	\$3,750,000
	\$10,400,000	\$10,400,000	\$10,400,000	\$10,400,000	\$10,400,000	\$52,000,000
	\$21,000,000	\$19,250,000	\$18,600,000	\$18,400,000	\$18,000,000	\$95,250,000
	\$10,400,000	\$10,400,000	\$10,400,000	\$10,400,000	\$10,400,000	\$52,000,000
	\$31,400,000	\$29,650,000	\$29,000,000	\$28,800,000	\$28,400,000	\$147,250,000
	164765	148949	109470	108588	106823	638595
	26%	23%	17%	17%	17%	100%

Investment Strategy	Item	Forecast NPV of Spend	Calculated ACHI	Average \$/ACHI
Equipment Replacements	Feeder Exit Cable Replacements	\$ 317,587	16,380	\$ 19
Equipment Replacements	Targeted Feeder Replacements	\$ 1,270,621	20,945	\$ 61
Equipment Replacements	Distribution Cutout Replacements	\$ 2,953,283	11,149	\$ 265
Equipment Replacements	Transmission Line Insulator Replacement	\$ 3,018,100	6,814	\$ 443
Equipment Replacements	Substation Insulator & Cutout	\$ 1,500,000	2,862	\$ 524
Equipment Replacements	Halifax U/G Cable Replacement	\$ 418,861	600	\$ 698
		\$ 9,478,451	58,750	\$ 161
Storm Hardening	New Reliability Technologies	\$ 110,769	16,814	\$ 7
Storm Hardening	Distribution Off Road to Roadside	\$ 2,500,000	6,341	\$ 394
		\$ 2,610,769	23,155	\$ 113
System Improvements	3H/6H Recloser Replacement Program	\$ 579,463	16,678	\$ 35
System Improvements	Downline Recloser Additions	\$ 444,765	9,950	\$ 45
System Improvements	Recloser Control Replacements	\$ 249,918	3,637	\$ 69
System Improvements	Substation Switch & Breaker Upgrade	\$ 2,866,718	29,693	\$ 97
System Improvements	Distribution Feeder Ties	\$ 500,000	3,257	\$ 154
System Improvements	Reliability Keltic Drive New Feeder	\$ 1,580,468	4,266	\$ 370
		\$ 6,221,332	67,481	\$ 92
Technology Improvements	New RTU Deployment	\$ 509,706	9,141	\$ 56
Technology Improvements	GIS Connectivity Project	\$ 1,443,434	22,529	\$ 64
		\$ 1,953,140	31,670	\$ 62
Vegetation Management	Vegetation - Asset Protection/Customer Focus	\$ 2,156,459	63,519	\$ 34
Vegetation Management	Vegetation - Asset Renewal	\$ 5,438,737	113,962	\$ 48
Vegetation Management	Vegetation - Sustainability	\$ 1,495,653	29,836	\$ 50
Vegetation Management	Vegetation - Reactive	\$ 4,122,557	68,035	\$ 61
		\$ 13,213,406	275,352	\$ 48

NON-CONFIDENTIAL

1 **Request IR-60:**

2
3 **With respect to the request for \$3.4 million to address danger trees, on page 82, line 21 of**
4 **NSPI's application, please provide:**

5
6 **(a) a description of the activities and expected resources anticipated,**

7
8 **(b) the basis for determining that this level of expenditure is appropriate,**

9
10 **(c) detailed calculations and supporting workpapers underlying the amount requested,**

11
12 **(d) all cost/benefit analyses supporting the reasonableness of the amount requested,**

13
14 **(e) all analyses existing as of the time of the NSPI filing of the changes in reliability**
15 **metrics anticipated to result from the proposed expenditure, and**

16
17 **(f) all analyses existing as of the time of the NSPI filing of the changes in OM&G and**
18 **other costs that would result from the proposed expenditure.**

19
20 **Response IR-60:**

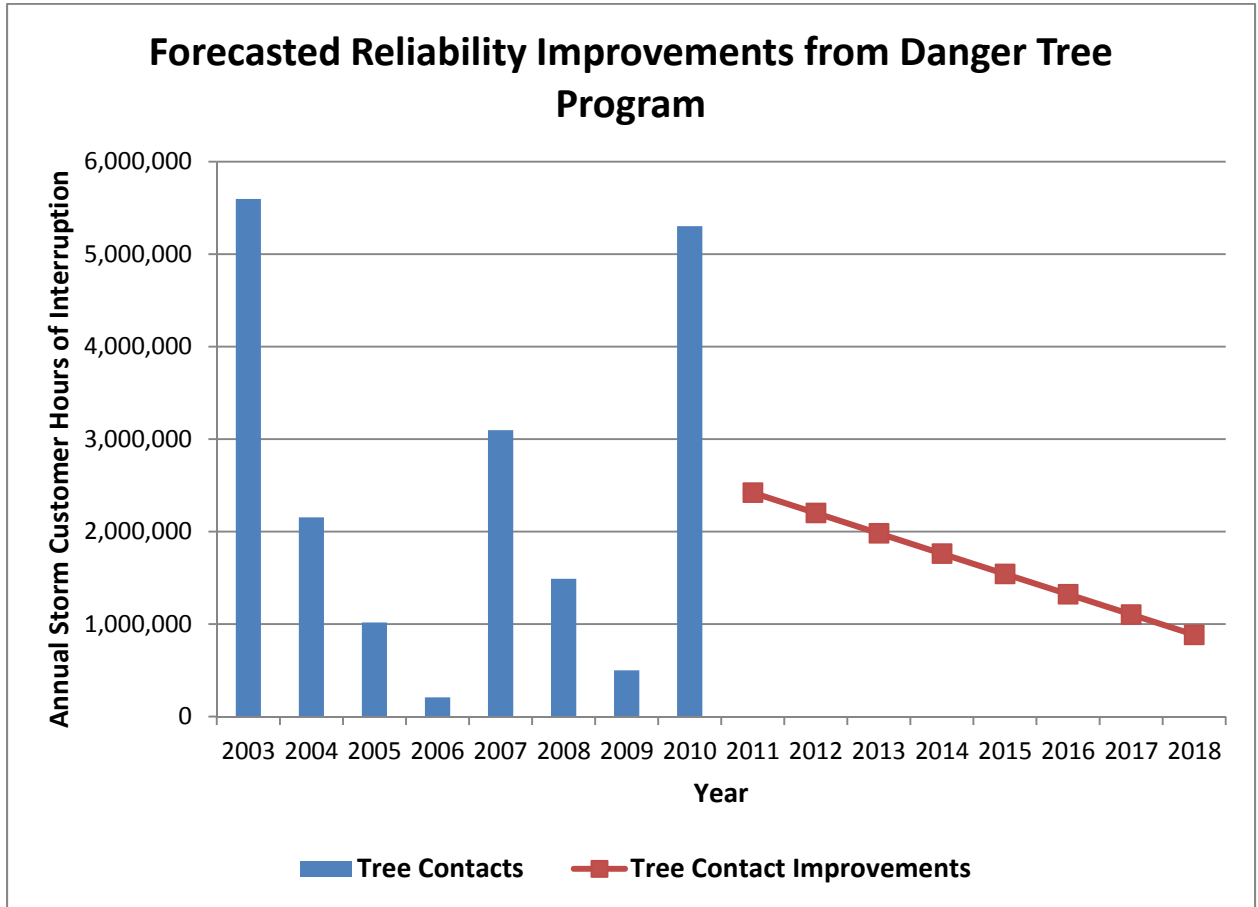
21
22 (a) The activities for off right-of-way vegetation management include topping or removing
23 the overall height of taller trees most susceptible to blow down from high winds, and full
24 tree removal when tree topping leaves the tree in an unhealthy condition. Approximately
25 20 percent of the time, removals occur.

26
27 Off right-of-way vegetation management will include aerial bucket crews specialized in
28 tree work and ground crews. Please refer to Liberty IR-059 Attachment 1.

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- 1 (b) In the NSPI 2009 Rate Case UARB IR-5 Attachment 3 Pages 17-18, enclosed here as
2 Attachment 1, NSPI provided a detailed summary from field scoping of storm hardening
3 (danger tree) work, totaling \$3.4 million for the calendar year 2009, at an average cost of
4 \$400/span for distribution, and an average cost of \$4500/km for transmission.
5
6 NSPI's vegetation program manages (on average) 25,000 spans of distribution circuits,
7 and 750 km of transmission corridors per year. Analysis of danger tree management
8 work indicates that, on average, 17.5 percent of distribution spans require danger tree
9 management, after routine ROW management is complete. NSPI estimates that 50
10 percent of treated transmission kilometers also require danger tree management.
11
- 12 (c) Annual Distribution danger tree program = (17.5 percent) x 25,000 spans x \$400/span =
13 \$1.7 million. Annual Transmission danger tree program = (50.0 percent) x 750 km x
14 \$4,500/km = \$1.7 million. Total annual danger tree program = Distribution +
15 Transmission = \$3.4 million.
16
- 17 (d) Please refer to Attachment 2. The annual reduction in Customer Hours of Interruption
18 (CHI) as a result of the \$3.4 million danger tree removal program would result in an
19 annual \$/ACHI of 15.48. This \$/ACHI is lower (more cost effective) than all of the
20 existing reliability strategy programs as illustrated in NSPI response to Liberty IR-059.
21
- 22 (e) The Figure below shows the actual CHI from tree related outages during storms, as well
23 as the anticipated reductions in CHI resulting from the proposed annual danger tree
24 program, and assumes the storm activity in each of the years 2011 to 2018 to be the same
25 as the average annual storm activity from 2003 to 2010.

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1
2
3
4
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6

(f) The driver for this expenditure is improved service to customers, particularly during severe weather events. NSPI has not estimated any effects on other OM&G accounts. To the extent that other costs are reduced (e.g. fewer trouble calls), NSPI would expect to re-invest these savings to further improve reliability.

NON-CONFIDENTIAL

1 Request IR-5:

2
3 **With respect to Page 109 of 218, direct evidence, Figure 6.11. In NSPI's 2006 filing NSPI**
4 **requested approval to increase Vegetation Management costs to \$10.4 million total,**
5 **including Transmission Vegetation Management at \$3.2 million, and Distribution**
6 **Vegetation Management at \$7.2 million. The Board approved \$6.8 million total, including**
7 **Transmission Vegetation Management at \$3.2 million, and Distribution Vegetation**
8 **Management at \$3.6 million. In a report submitted to the Board on September 26, 2006**
9 **NSPI stated that a \$7.0 million Total Vegetation Management Program was appropriate.**
10 **The Board agreed with this report. On February 15, 2008 NSPI requested Board approval**
11 **for deferred recovery of \$2.0 million in additional vegetation management costs and on**
12 **March 12, 2008 the Board approved this request. This would bring the Board approved**
13 **Total Vegetation Management program to \$8.8 million. NSPI is now requesting that the**
14 **Total Vegetation Management costs be approved at \$13.8 million.**

15
16 **a) In the context of NSPI's 2006 Report what has caused this increase from NSPI's**
17 **figure of \$7.0 million?**

18
19 **b) Is the \$13.8 million Total Vegetation Management cost contemplated to be a**
20 **recurring expenditure or solely a 2009 cost?**

21
22 Response IR-5:

23
24 a) The September 26, 2006 report provided cost information on the Distribution System
25 portion of NSPI's total Vegetation Management Program. NSPI's recommendation for a
26 \$7.0 million program was for Distribution Vegetation Management and additional to the
27 Board approved \$3.2 million Transmission Vegetation Management program. Please
28 refer to Attachment 1.

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1 Response IR-5: (cont'd)

2
3 Interference from trees outside rights-of-way is a leading cause of outages during severe
4 weather. This is discussed in the attached report prepared by vegetation expert CN
5 Consulting. Please refer to Attachment 2.

6
7 Consistent with this, within the current application, NSPI proposes to increase
8 Distribution System Vegetation Management spending to \$9.06 million, compared to the
9 \$7 million amount included in the September 26, 2006 report. This expenditure will
10 further “storm-harden” the Distribution System by addressing danger trees growing
11 outside the rights-of-way.

12
13 With respect to Transmission Vegetation Management, this Application requests an
14 increase of \$1.54 million more than the amount approved by the Board in the 2006 Rate
15 Case Decision. The total Transmission Vegetation Management Program will cost \$4.74
16 million. This expenditure will address vegetation growing outside of the transmission
17 rights-of-way.

18
19 NSPI proposes to increase total Vegetation Management spending by \$3.4 million
20 compared to amounts previously reviewed and endorsed by the Board. This is an increase
21 of \$7.0 million compared to the amounts previously approved for recovery in rates.

22
23 NSPI is not seeking recovery of the 2008 \$2.0 million vegetation management deferral at
24 this time.

25
26 b) NSPI proposes this level of recurring annual expenditure for at least a five-year period
27 beginning in 2009. Please refer to Attachment 3 – NSPI Five Year Vegetation
28 Management Plan, 2009-2013.

2009 General Rate Application (NSUARB P-888)
NSPI Responses to UARB Information Requests

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1 Response IR-5: (cont'd)

2

3 The increased spending and NSPI vegetation management practices have been reviewed
4 by CN Consulting. The consultant has concluded:

5

6 CNUC endorses the proposed increased funding to the NSPI UVM
7 program. The practices employed by NSPI are consistent with accepted
8 industry vegetation management practices. The allocation of funding
9 across the program elements provides an effective balance of cost and
10 service reliability.

11

12 The funding as proposed will ensure further improvements to electric
13 service reliability, expand the current use of proper practices (and the
14 subsequent benefits) to all NSPI customers, and ultimately provide for a
15 long-term reduction in UVM costs.

Nova Scotia Utility and Review Board

IN THE MATTER OF *The Public Utilities Act*, R.S.N.S. 1989, c. 380, as amended

- and -

IN THE MATTER OF a Public Review of the Power Outages Resulting from the Storm of November 13 and 14, 2004

DISTRIBUTION SYSTEM VEGETATION MANAGEMENT REPORT

NOVA SCOTIA POWER INC.

DATED: September 29, 2006

Date Filed: July 8, 2008

NSPI (UARB) IR-5 Attachment 1 Page 2 of 33

Executive Summary

Nova Scotia Power Inc.'s (NSPI's) 2006 Rate Application proposed to increase spending on vegetation management by \$5.2 million. In its Decision, the Utility and Review Board (Board, UARB) approved the portion of the increase attributable to transmission system vegetation management but did not approve the \$3.6 million increase proposed for distribution system vegetation management. The Board elected to defer further consideration of this until NSPI provided a response to the report prepared for the Board by the Liberty Consulting Group (Liberty, Consultant) and addressed Board consultant PricewaterhouseCoopers LLP's (PWC) concerns regarding costs and benefits associated with the NSPI proposal.

The following information addresses the matters raised by Liberty and PWC and other parties to the 2006 Rate Case.

- Vegetation encroachment is confirmed as the single largest cause of electric service interruptions. During periods of severe weather, vegetation conflict accounts for almost 35% of customer outages. A material increase to funding of distribution system vegetation management is necessary to further improve customer reliability and to "storm-harden" the distribution system. NSPI experience during recent large-scale outage events confirms that our customers want this.
- In recent years, NSPI has reduced the number of customer interruptions due to vegetation conflict. Over the same period the number of outage events (i.e. the root cause of one or more customer interruptions) due to vegetation conflict has increased. The relationship between these two measures is a function of allocating limited vegetation management funding to those areas with the largest positive effect on reliability. In order to maintain the improvements in outage frequency and reverse the

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NSPI (UARB) IR-5 Attachment 1 Page 3 of 33

trend in the number of outage events, a significant increase to distribution system vegetation management spending is required.

- NSPI accepts Liberty's findings regarding distribution system vegetation management in the areas reviewed by the Consultant. The Board consultant's report confirms that distribution system vegetation clearances in the primarily rural and remote areas inspected by the Consultant require attention. This is consistent with NSPI's proposal to increase annual spending on this activity by \$3.6 million.
- NSPI projects that annual distribution system vegetation management spending of \$7 million over a five year period is forecast to deliver a 25% improvement in the number of tree-related customer interruptions and a 30% improvement in tree-related customer hours of interruption. The timing and magnitude of cost savings arising from this program are difficult to predict. The program is justified by: its positive effect on reliability; addressing customer expectations; and not operating costs.

Within this report, NSPI has provided a thorough discussion of vegetation-related matters involving electric service reliability. A detailed feeder-specific plan for vegetation management spending is presented and a forecast of reliability improvements over the long-term is provided.

NSPI has demonstrated that we are optimizing existing spending on vegetation management. Further improvements to service reliability and increased insulation from severe weather events must begin with a material increase to distribution system vegetation management funding.

Parties to the Outage Review have clearly confirmed that this is desired. The Board's consultant has reinforced that this is necessary. What remains is the Board's approval to fund this program and recover this additional expense in customer rates.

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INTRODUCTION

NSPI vegetation management practices and the associated spending on this program were reviewed by the Board and stakeholders in the Board's review of power outages following the storm of November 13 and 14, 2004 and the 2006 Rate Case Application. In the latter, NSPI had proposed to increase vegetation management spending on the distribution system by \$3.6 million to \$7.2 million. The Board's response was provided in paragraph 370 of its Decision, dated March 10, 2006:

In the view of the Board, the results of the Power Outage Review provide a useful context for the assessment of NSPI's request for a doubling of its vegetation management budget. Liberty's report on NSPI's distribution system has since been filed with the Board in late 2005. The Board is now awaiting a response to the report from NSPI. **In the circumstances, the Board considers it appropriate to defer any additional spending on vegetation management for NSPI's distribution system until a full evaluation is undertaken of Liberty's report.** While the Board is mindful that NSPI is able to identify feeders upon which such monies could be expended, the Board determines that such activities would be premature given the pending deliberations following the filing of Liberty's recent report. **The review of Liberty's report will also provide NSPI with the opportunity to outline the Company's estimates of the reduced outage and repair costs that can be anticipated from increased vegetation management (a measure of the program's success recommended by PWC in its Report).** Thus, in relation to vegetation management on NSPI's distribution system, the Board does not approve any increase in spending for the test year. The current level of expenditure for the distribution system shall remain at \$3.6 million.¹
[emphasis added]

The above referenced Liberty report provided an assessment of NSPI distribution plant and maintenance practices in areas of the Province noted to be of concern by customers who participated in the Outage Review Hearing. In general, the Liberty report's findings were supportive of NSPI plant condition and maintenance practices, but critical of NSPI vegetation management in the areas inspected.

¹ NSPI 2006 Rate Case, UARB Decision, NSUARB - NSPI-P-882, March 10, 2006, paragraph 370

Date Filed: July 8, 2008

NSPI's initial response to the consultant's report was filed March 13, 2006. Given that this followed the release of the Board's Decision by only three days, the NSPI filing did not comment on the Liberty findings specific to vegetation management other than to confirm the following:

As summarized in the Liberty Report Conclusions (provided on page 9) the consultant supports increased vegetation management spending on the distribution system. NSPI agrees with this view. Increased vegetation management spending on distribution is the most cost-effective means of improving customer reliability. The specific feeders referenced by Liberty are provided in Attachment 1.

NSPI will conduct additional tree-trimming consistent with the monies provided in rates by the Board. A proposal to the Board in this matter will be forthcoming.²

This filing addresses the vegetation management issues raised in the Liberty report and those noted in the 2006 Rate Case Decision.

Liberty November 29, 2005 Report

Summary of Findings Re: Distribution Vegetation Management

The Liberty Report contains the following:

The NSPI distribution vegetation management program is based on a predictive management strategy that is a science-based program of managing the land base to create sustainable conditions where vegetation/line conflicts are minimized.³

Findings pertaining directly to NSPI vegetation management practices in the areas reviewed stated that:

² NSPI letter to UARB dated March 13, 2006, page 11

³ The Liberty Consulting Group report dated November 29, 2005, page 16

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- All circuits, including those recently maintained, require attention to vegetation management. The overall condition of the power system with regard to vegetation control is poor.
- NSPI does not have an effective and formal full circuit vegetation management program.⁴

NSPI Comments

NSPI does not contest the Consultant's findings with respect to the primarily rural and remote feeders inspected by the Consultant. These feeders were identified by participants to the Outage Hearing and NSPI acknowledges vegetation in these areas requires attention.

As well, NSPI confirms we do not employ a cyclical full-circuit tree-trimming model. Rather, NSPI uses a combination of proactive and reactive vegetation management techniques. This results in multiple trimming cycles along a feeder as opposed to a single set cycle across the entire length of the feeder.

The objective of NSPI's approach is to optimize vegetation management spending among and along feeder rights-of-way. This serves to direct vegetation management funds to those areas which have the greatest positive effect on service reliability. As reflected in the Liberty findings, this approach will not produce uniform vegetation clearances, particularly in the rural areas reviewed by the Consultant.

As discussed later in this document, a cyclical full-circuit right-of-way clearing methodology has its merits. However it is more expensive than the approach proposed by NSPI and would not optimize expenditures. For these reasons NSPI is not proposing to transition to this model.

NSPI is not, however, proposing to maintain the status quo. We understand our customers expect improved reliability and greater insulation from severe weather events.

⁴ The Liberty Consulting Group Report dated November 20, 2005, page 3

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This requires a material increase to annual vegetation management spending as was reflected in NSPI's 2006 Rate Application. Our position on this has not changed. Annual spending in excess of \$7 million is required to "storm-harden" the NSPI distribution system and meet our customers' expectations regarding service reliability.

NSPI's proposal is fully consistent with the primary finding presented in the Liberty report, that an expansion of NSPI's distribution system vegetation management program is required.

NSPI's comment on the reliability and specific maintenance activities associated with the feeders referenced in the Consultant's report was presented in Attachment 1 of NSPI's March 13, 2006 filing.

2006 Rate Case Re: Distribution Vegetation Management

Board Decision

The Board Decision provides:

The review of Liberty's report will also provide NSPI with the opportunity to outline the Company's estimates of the reduced outage and repair costs that can be anticipated from increased vegetation management (a measure of the program's success recommended by PWC in its Report).⁵

The referenced PWC (PricewaterhouseCoopers LLP) report was prepared on behalf of UARB staff and contained the following with respect to the assessment of the vegetation management program:

NSPI has not provided an estimate of the amount of the future reduced outage and repair costs, but expects the expenditures to help contain, but not reduce, levels of OM&G. As noted above, NSPI indicated it does not have detailed forecasts of future OM&G expenses so no support of its

⁵ NSPI 2006 Rate Case, UARB Decision, NSUARB - NSPI - P-882, March 10, 2006, paragraph 370

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assertions is available. NSPI has provided an estimate of increased reliability factors resulting from the investment in response to Consumer Advocate (“CA”) IR-37 but has not quantified savings in related OM&G costs going forward. As a result we are unable to conclude whether the additional \$5.2 million included in revenue requirement is reasonable, or whether a portion of that cost should be deferred to future periods for purposes of revenue requirement determination.⁶

Similar views were expressed in the Rate Case closing arguments of Intervenors opposed to the increase in vegetation management spending. The Consumer Advocate provided:

6. One of the basic requirements to be met by NSPI in applying for an increase in rates is to show that each of the proposed expenditures is required and is the most economical or lowest expenditure that is needed. That requirement is particularly important when, as at present, significant rate increases are being sought at a time when both NSPI and its ratepayers are under financial pressure.
7. NSPI witnesses should expect that they will be required to justify proposed expense increases. That requirement is not satisfied merely by making the request for rate recovery of additional expenses. NSPI must demonstrate to the Board that it has conducted an internal evaluation and prioritization of its needs and that the requested expenses truly are necessary.⁷

Avon et al submitted:

In the 69kV right-of-way widening assessment report, NSPI sets out in detail its widening activities by corridor and kilometer and the budget. No such plan has been submitted for the Board or for Intervenors to review when considering the reasonableness of the doubling of expenditures associated with vegetation management. Indeed, we would submit it is premature to approve spending of millions of dollars prior to the time when details of that proposed spending are set out.⁸

⁶ NSPI 2006 Rate Case, NSUARB - NSPI - P-882, PricewaterhouseCoopers Evidence, October 17, 2005, paragraph 9, page 21

⁷ NSPI 2006 Rate Case, Consumer Advocate Closing Argument, page 13

⁸ NSPI 2006 Rate Case, Avon et al Closing Submission, paragraph 204

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The Board Decision and the comments of Intervenors opposed to NSPI's proposed increased spending can be summarized as follows:

1. Concern with respect to the magnitude of the increase compared to existing funding;
2. The requirement for presentation of a detailed plan of the vegetation management work to be undertaken; and
3. The requirement for an analysis illustrating the benefits, in terms of improved reliability and costs, accruing to customers as a result of an expanded vegetation management program.

In order to address these issues, the following sections provide:

1. a summary of the effects of vegetation encroachment on service reliability (including the potential effect of an expanded vegetation management program on NSPI service restoration costs);
2. a discussion of alternative vegetation management models;
3. an overview of the NSPI vegetation management model; and
4. specifics of the NSPI vegetation plan (pending funding approval)

1. Effects of Vegetation Encroachment on Service Reliability⁹

Trees in contact with power lines can become energized and conduct electricity to ground resulting in an electric service interruption. The extent to which a tree will conduct

⁹ Safety is also an important consideration of NSPI's vegetation program as trees can become energized and their proximity to power lines can represent a threat to the public. However, throughout this report, vegetation management is discussed in the context of its effects on electric service reliability. NSPI does have distinct programs and procedures to address public safety associated with vegetation. These include public education programs and the Customer Requested Work subprogram. During the period of 2003-2005 NSPI received and field scoped an average of 4,791 calls per year at an average annual cost of \$728,000. Where safety concerns were confirmed by the field scope, work was completed to address this. These programs will not be affected by the funding level approved by the Board or vegetation management model employed by NSPI. It should also be noted that in completing work aimed at reliability improvements, the clearance standards employed by NSPI are the same as those utilized where safety rather than reliability is the primary concern.

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electricity is a function of the amount of moisture in the tree, the amount of moisture on the surface of the tree (rain, fog, and snow) and the voltage of the contacted conductor.

Vegetation conflicts arise from either in-growth, as trees grow into contact with conductor, or weather events which cause trees in proximity to the system to contact the conductor. Vegetation conflict can create a ground fault or a phase-to-phase fault. A ground fault occurs when current is conducted to ground through the tree. A phase-to-phase fault occurs when current is conducted through a tree to adjacent electrical conductors (phases). In-growth of trees most frequently results in ground faults, while phase-to-phase faults are more likely the outcome of the interaction of weather events and vegetation in proximity to the line.

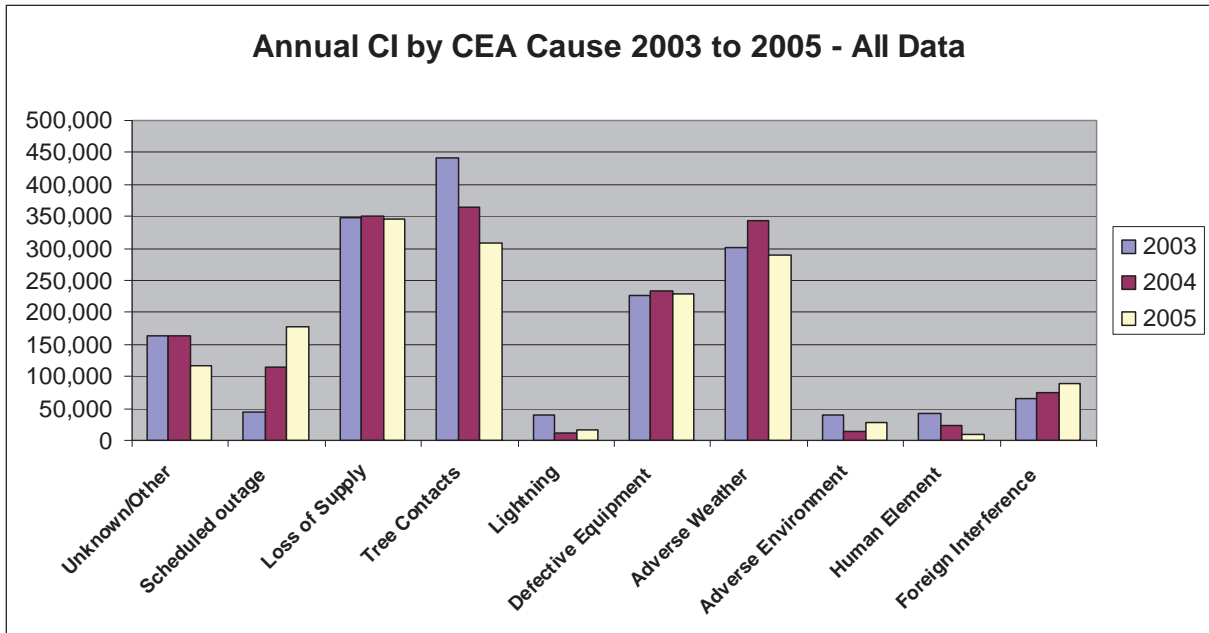
Vegetation conflict attributable to severe weather events has a higher probability of causing customer interruptions. This is due to the fact that during such events, larger diameter branches can come into frequent or constant contact with the conductor. Thus the current flow necessary to create a ground fault is much more likely to occur and the potential to have a portion of the tree bridge two phases, creating a phase-to-phase fault, is increased.

The charts presented on the following pages illustrate the effect of vegetation encroachment on NSPI service reliability in total and during severe weather events.

In the chart below the causes¹⁰ of customer outages for the period 2003 to 2005 are presented. This information includes all weather events and confirms that tree contacts are the leading cause of customer interruptions (CI), accounting for approximately 20% of total customer interruptions. Combined with outages caused by Adverse Weather, of which vegetation conflict is often a secondary factor, the two categories account for almost half of all customer outages.

¹⁰ Canadian Electricity Association (CEA) outage cause categories

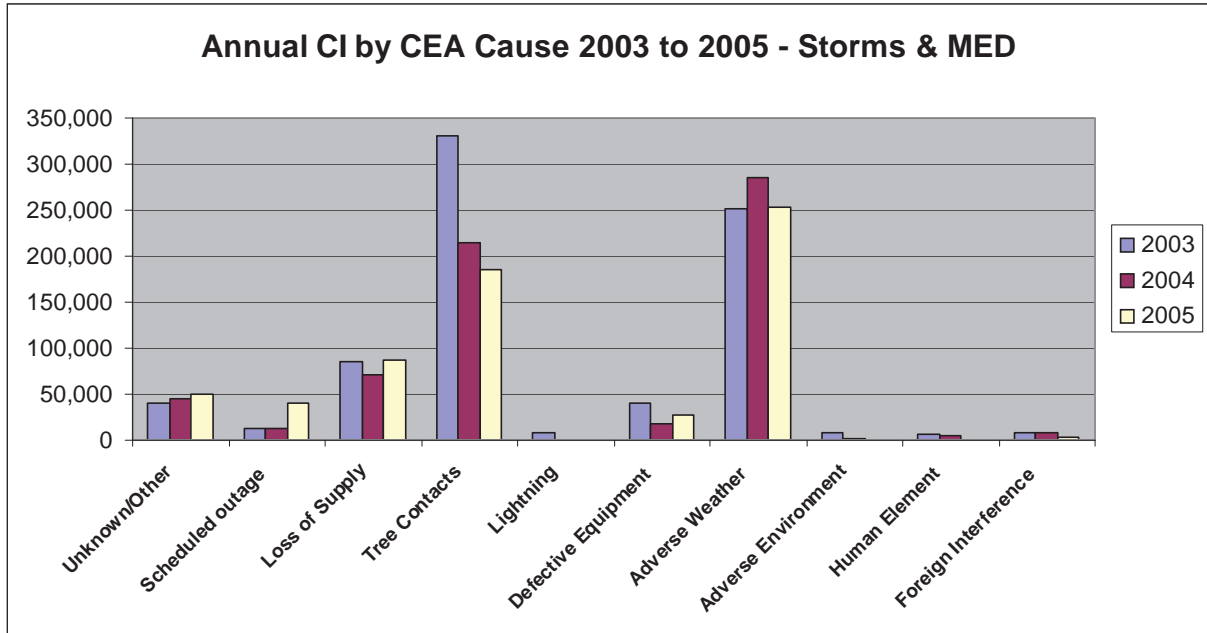
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The following chart presents the causes of customer interruptions which occur during large-scale outage events. For the period 2003 to 2005, when storms and Major Events Days¹¹ (MEDs) are considered, tree contacts account for almost 35% of total customer outages. Trees and Adverse Weather combined, account for approximately two-thirds of the total.

¹¹ Major Event Days are days in which the average interruption duration exceeds a threshold value. The Major Event Day threshold value is calculated in advance of the current year using data from the previous five years.

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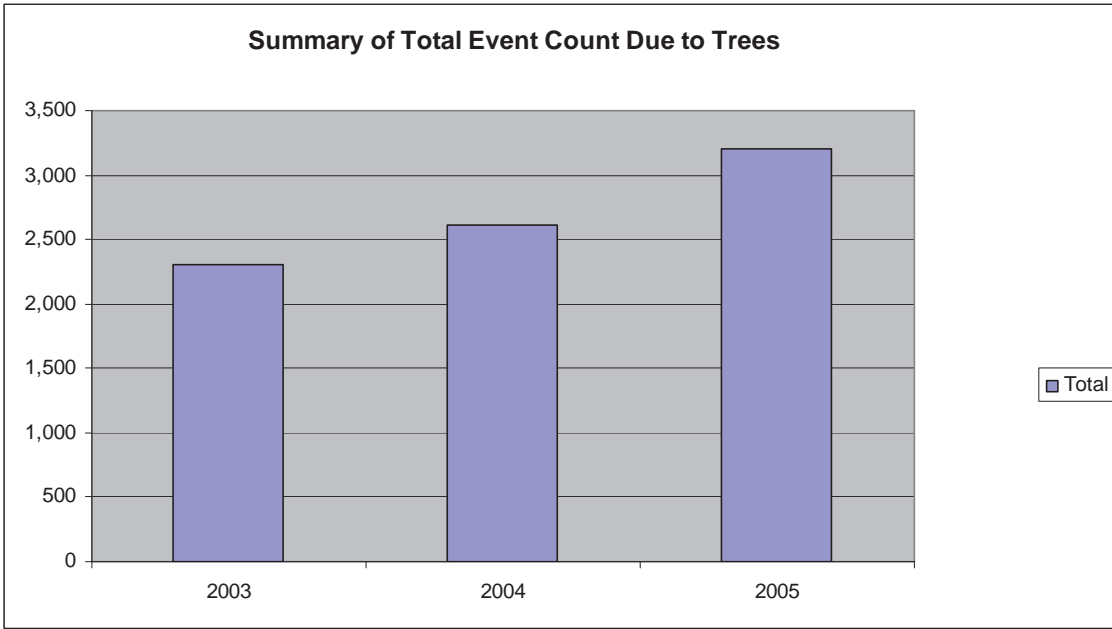


Both charts affirm the importance of limiting vegetation encroachment as a means to reduce customer outages. The second chart, in particular, reinforces that, as a tool to storm-harden the distribution system, increased vegetation clearances are essential. (During severe weather, increased vegetation clearances offer the dual benefits of reduced outage frequency and reduced outage duration as it is during such conditions that service restoration is the most challenging and, as a result most likely to be prolonged.)

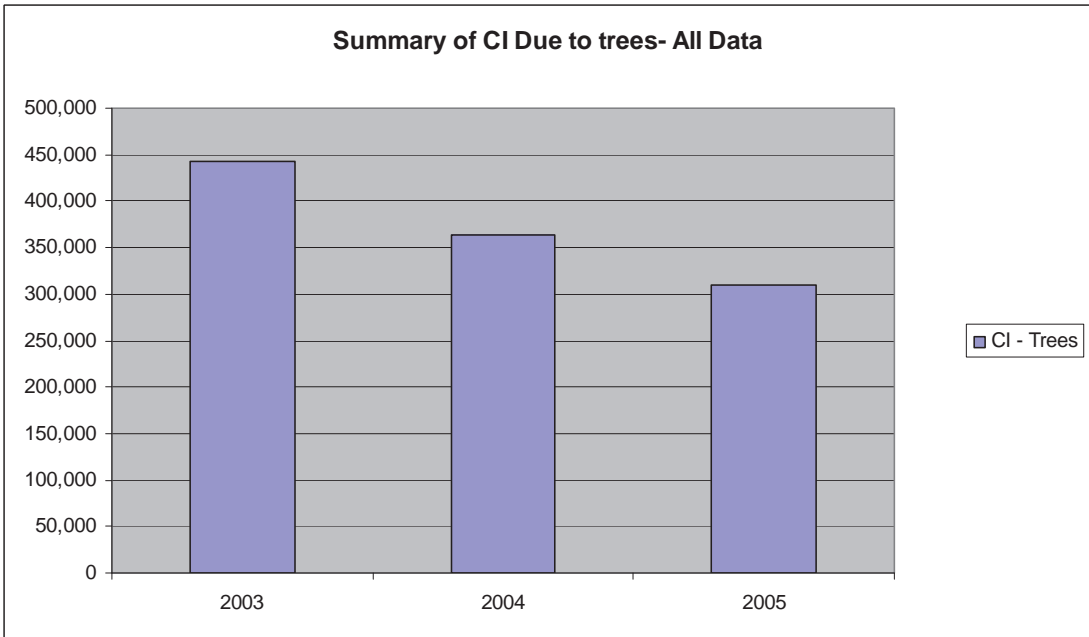
The discussion above focuses on total customer interruptions. This integrates the number of outage events with the number of customers affected during each event. Both elements are important to consider when developing a vegetation management strategy. The charts which follow segregate outage events from customer outages.

The frequency of vegetation-related outages over the period 2003 to 2005 is presented in the chart below. The chart shows annual increases, increasing from 2,300 outage events attributable to vegetation in 2003 to 3,200 in 2005.

Date Filed: July 8, 2008



This increase is significant. However, it did not translate into increased customer outages as is evident from the chart below. Over the same period the number of customer interruptions due to vegetation conflict actually declined from 440,000 to 310,000.



Date Filed: July 8, 2008

The apparent contradiction between the two charts is a reflection that the increased number of outage events has tended to occur on the feeders or feeder sections with the fewest customers. Over this period, the increased number of outage events caused by trees has been more than offset by the lower customer densities of the affected feeders.

This trend is expected and is consistent with NSPI's strategy regarding the optimization of vegetation management funding. It is not a reflection of vegetation management spending in total. As provided in the following table this has remained essentially stable over this period and has exceeded that provided in customer rates over this period.

	Distribution management spending (actual)-\$million	Amount funded in rates-\$million
2003	\$4.5	\$2.6
2004	3.7	2.6
2005	\$3.8	\$3.6

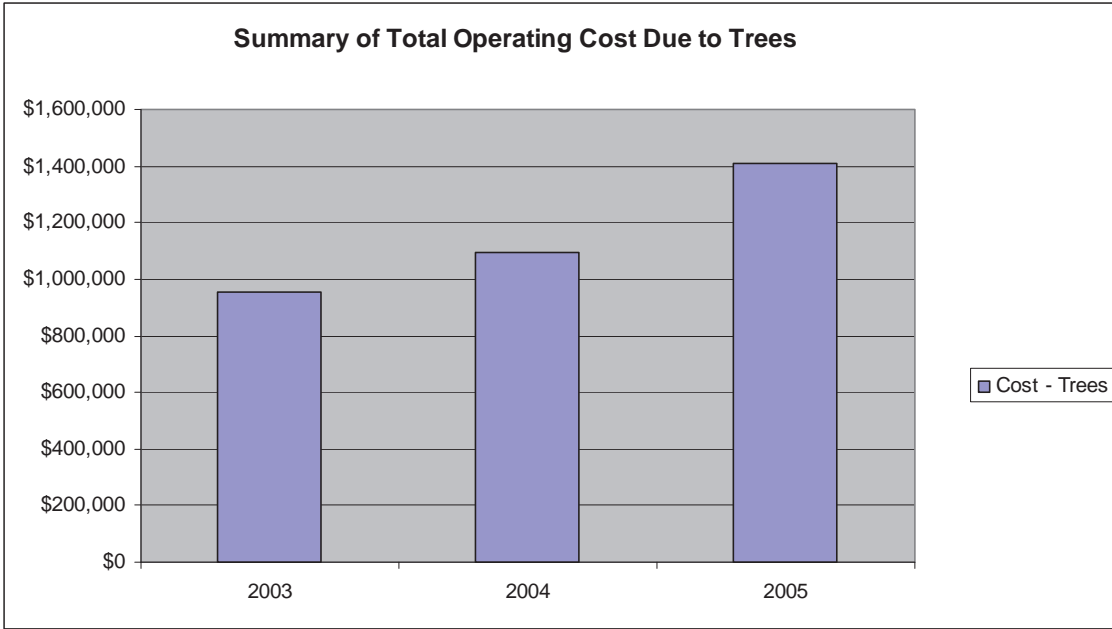
Combined, the three elements discussed above; distribution vegetation management expenditures, customer interruptions due to vegetation and customer interruption events due to vegetation, lead to the following conclusions:

1. NSPI has optimized its existing distribution vegetation management spending, realizing a material improvement in customer interruptions without an increase in spending; and
2. Further improvement in this regard is necessary to over time, abate the escalation in outage events and storm-harden the distribution system.

It is NSPI's objective to pursue improvements to vegetation clearances across the NSPI distribution system. This will require a material change to spending by NSPI and the UARB's approval for recovery of this from customers.

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Over time operational savings may be created by increased vegetation clearances. The chart below presents the costs incurred to respond to tree-related events during the period 2003 to 2005. Not surprisingly, the increase in cost from \$950,000 in 2003 to \$1,400,000 in 2005 mirrors the increase in outage events over the same period.



This chart indicates that if NSPI is able to reduce the number of outage events, operational savings with respect to service restoration can emerge. However it should be recognized that due to the uncertain nature of system-wide service restoration costs, compared to the initial spending on vegetation management, these savings will likely require some time to emerge and be relatively small in comparison. It is likely they will amount to less than 10% of the increased annual cost of the program proposed by NSPI.

This weak cost/benefit relationship highlights the fact that the justification for expanding a vegetation management program is reliability and customer-service based, not financial. Reducing vegetation clearances across the distribution system will result in a sustained net cost to the utility. However, it is necessary if the concerns of the participants in the Outage Review and those raised in the Liberty report are to be addressed and lengthy customer outages arising from severe weather are to be reduced.

2. Vegetation Management Alternatives

Across the electric utility industry different models are applied to vegetation management. However essentially all can be characterized by one or a combination of the following three approaches:

1. Breakdown maintenance (reactive);
2. Preventative maintenance (proactive); or
3. Predictive maintenance (proactive).

Programs based solely on breakdown maintenance generally are focused on reliability as problems are addressed after they have occurred. Over time the breakdown approach can be expected to generally result in escalating costs without significant improvements in reliability. It is not considered a sustainable electric utility model.

Preventive maintenance programs offer significant improvements to service reliability but generally are expensive to manage and generally require a similar level of effort annually. This approach promotes a uniform level of vegetation across the system.

The full feeder cycle approach, referenced in the Liberty report, where all segments of a given feeder are treated on a fixed cycle is typical of preventative maintenance programs. Five to seven year cycles are commonly used in northern climates such as Nova Scotia as a basis for preventative maintenance vegetation management programs.

Programs based on predictive maintenance can provide the same benefits as preventative maintenance programs at a lower annual cost. A predictive maintenance approach integrates the site-specific characteristics of vegetation and location on the power system in order to identify areas to be treated. Using this information, certain sections of the feeders are trimmed prior to trees creating true conflict with the reliability of the feeder.

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Rather than a single site visit to clear an entire feeder as would be typical of a preventive maintenance model, for predictive models, there may be several treatment cycles contained within one feeder. The benefit of this from a financial perspective is that it reduces overall vegetation costs and places a focus on those areas requiring the most immediate attention.

3. NSPI Vegetation Management Model

Over the past four years NSPI has employed a combination of predictive and breakdown maintenance. The breakdown or reactive portion of the program is driven by the previous year's reliability statistics and response to demonstrated problems.

The predictive or proactive portion of the program is driven by the results of NSPI's annual feeder inspection program. The feeder inspection process highlights areas where tree conditions are potentially problematic. These areas are then subjected to a prioritization process and incorporated into annual vegetation management work plans by NSPI's forestry team.

As part of the annual planning process NSPI's professional forestry and engineering personnel consider the nature and extent of vegetation conflict and its location relative to the feeder. This serves to identify areas to be treated. Starting in late August, available vegetation data from NSPI's feeder inspection process as well as field input from NSPI's Forestry team is integrated with data from the Distribution Engineering specialists concerning feeder configuration, performance and customer density. This information identifies priority areas for vegetation management in the coming year.

In general, a three phase line receives a heavier weighting than a single phase. As well feeder sections between the substation and first recloser receive a heavier weighting than those further down the feeder. This approach provides the maximum positive effect on feeder reliability by alleviating those conflicts on a given feeder that would affect the largest number of customers.

Date Filed: July 8, 2008

In developing a plan that integrates reactive and proactive work, a specific portion of the available budget is assigned to various elements and work is then identified up to the budget cap. Thirty-five percent of the current budget is allocated to reactive work and sixty-five percent to proactive work. The relative weighting in budget allocation between reactive and proactive work is targeted on achieving reliability improvements at the optimal overall cost.

Reactive work is generally inherently more expensive than proactive work. Weighting expenditures in favor of proactive work allows a greater portion of the system to be addressed in a given year within the overall budget cap. Proactive work provides the greatest positive effect on overall costs by avoiding outages before they occur.

Within the reactive portion of the budget, twenty-four percent of the budget is assigned to address the worst performing feeders across the system. Worst performing feeders are identified based on the number of CIs and events due to trees. Customer requested work (CRW) consumes approximately eleven percent of the budget. The CRW allocation is based on NSPI's experience with the volume of calls and associated work over the past five years.

On the proactive side, budget allocation is broken out to reflect the overall level of tree-related issues and a specific percentage is allocated to each operating region. Sixty-four percent of the overall budget is allocated to feeder inspection based work.

Feeders and/or portions thereof which become part of NSPI's annual vegetation management work plan, are selected on the basis of an extensive prioritization process. Prioritization is focused on ensuring available expenditures are directed to those areas of the system which will produce the greatest impact on reliability for the lowest cost.

For the reactive portion of the program the following process is followed:

1. Performance data for the 40 worst performing feeders based on tree-related Customer Interruptions is collated;
2. Each of these feeders are field scoped to identify the number of spans threatened by trees and the cost/span is projected;
3. CI/span is calculated by dividing the total tree-related CIs for that feeder (or portion thereof) by the number of threatened spans identified from the field-scope;
4. \$/CI is calculated by dividing the total number of tree-related CIs by the total projected cost of the job;
5. A probability of successful intervention is projected based on:
 - Number of tree incidents
 - Type of tree incidents
 - Number of customers
6. \$/CI is discounted based on probability projection;
7. Feeders are prioritized against lowest cost/CI; and
8. An annual work plan is created based on funding completion of the identified work on each of the prioritized feeders up to the total of the annual budget allotted to reactive work.

Date Filed: July 8, 2008

Summary

NSPI's experience with vegetation management is that a blended predictive/breakdown approach will improve customer reliability at less cost than a preventative maintenance model. Our analysis suggests, implementation of a preventative model, based on a seven year cycle would cost approximately \$12 million annually¹², an increase in excess of three times the existing funding level.

However, our experience is also that the current budget level is insufficient to storm-harden the NSPI system or prevent the number of tree-related incidents from escalating. Both will have negative effects in terms of service reliability and increased cost in the long-term.

NSPI's plan for an expanded distribution system vegetation management program is provided in the following section. The plan proposes a sustainable level of distribution vegetation funding which balances cost and service reliability. In the long-run this recommendation will allow NSPI to avoid further increases to vegetation management and service response costs. Plan development is described in the following section along with an assessment of the anticipated effect on customer outages and projected cost savings.

4. NSPI Vegetation Management Plan

A significantly increased vegetation management program will deliver improved reliability and a system better prepared to withstand severe weather events.

¹² NSPI currently operates approximately 25,000 km of distribution line. Using an average of 17 spans per km, there are approximately 425,000 spans to be treated. Assuming that only 60% of the eligible spans would be treated in a given year, annual treatment levels based on a seven year cycle would be 36,429 spans per year. Based on current average costs of \$325/span this would require an annual expenditure in each of \$11,839,286.

Date Filed: July 8, 2008

NSPI believes that a blended approach of predictive and breakdown vegetation management could achieve similar reliability results as a preventative maintenance approach at an annual expenditure of approximately \$7 million or roughly double the current budget.

Increasing the budget to this level would allow NSPI to increase the predictive (proactive) portion of its current vegetation management program while maintaining adequate reactive funding to ensure that the feeders with the weakest reliability are addressed in a timely manner. In a more proactive position, NSPI will address larger portions of rural and remote feeders. As discussed earlier, improved clearances in these areas will deliver both outage frequency and duration improvements for these customers.

NSPI estimates that, by the end of a five year period of increased vegetation management spending, an improvement in reliability can be achieved approximately equal to the avoidance of 83,000 customer interruptions and 166,000 customer hours of interruption due to tree-related contacts. This represents a 25% improvement in tree-related customer interruptions and a 30% improvement in tree-related customer hours of interruption.

A reactive plan for 2007 based on current data has been compiled and is provided in Appendix I. This plan would be reviewed and updated at year-end to account for the most current reliability data.

Appendix II provides a five year feeder-specific proactive plan which was generated based on inputs from NSPI's feeder inspection program.

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The table below summarizes annual proactive plan spending by region for Years 1 to 5 of the program.

	Northeast	Sydney	Metro	West	Total
Year 1	\$1,163,648	\$595,677	\$785,623	\$1,760,368	\$4,305,316
Year 2	820,926	585,373	775,264	2,187,494	\$4,369,057
Year 3	1,196,520	472,279	450,000	2,356,578	\$4,475,377
Year 4	1,196,325	300,000	325,000	2,406,526	\$4,227,851
Year 5	1,239,680	375,000	450,000	2,266,091	\$4,330,771

These two elements of the distribution system vegetation management plan equal approximately \$6 million annually. Combined with vegetation management costs associated with Customer Requested Work and expenses incurred to address hazard tress, the total annual cost for the distribution system vegetation management program equals approximately \$7 million.

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Appendix I

Region	Geo Reference	Feeder Number	Net Spans in Conflict	Customers	Occurrences	Tree related Ci	ci/span	Job Cost	Span Cost	Prob. Of Impact Change in Ci	\$/ci	
Metro	Fall River	127H-411	113	2287	17	9781	86.6	\$36,724	\$325	60%	\$6	
Metro	Sackville	101H-422	34	707	8	2753	81.9	\$10,921	\$325	40%	\$10	
Metro	Sackville	101H-421	76	2560	8	5179	68.4	\$24,597	\$325	40%	\$12	
Metro	Woodlawn	40H-all	41	4855	9	2390	58.6	\$13,263	\$325	40%	\$14	
Metro	Sackville	101H-412	23	2501	3	2509	109.1	\$7,475	\$325	20%	\$15	
West	Kentville	50V-401	30	880	4	2743	92.4	\$9,653	\$325	20%	\$18	
Sy'd	Whycomomagh	67C-412	150	954	34	2040	13.6	\$48,750	\$325	90%	\$27	
NE	Stelleron	50N-410	433	1,137	72	5870	13.6	\$140,725	\$325	90%	\$27	
NE	Stewiacke	16N-302	110	641	12	2152	19.6	\$35,750	\$325	60%	\$28	
Sy'd	Keltic Drive	11S-411	320	1406	20	6124	19.1	\$104,000	\$325	60%	\$28	
NE	Antigonish	4C-424	148	246	24	2124	14.4	\$48,100	\$325	80%	\$28	
NE	Onslow	1N-402	310	2,231	35	3681	11.9	\$100,750	\$325	90%	\$30	
NE	Church Street	22N-401	99	2,178	10	2407	24.3	\$32,175	\$325	40%	\$33	
NE	Haliburton	62N-416	250	1,933	20	3029	12.1	\$81,250	\$325	60%	\$45	
Sy'd	Margaree	58C-403	238	988	18	2430	10.2	\$77,350	\$325	60%	\$53	
Metro	Burlington	18V-413	518	934	33	2939	5.7	\$168,480	\$325	90%	\$64	
NE	Musquodobit	88H-402	686	605	46	3684	5.4	\$222,950	\$325	90%	\$67	
NE	Haliburton	62N-413	868	1,835	29	4526	5.2	\$282,100	\$325	90%	\$69	
NE	Salmon River	57C-426	984	1,433	39	4620	4.7	\$319,800	\$325	90%	\$77	
									Budget	\$1,664,000		

Note: Green jobs are fully funded. Blue job is partially funded
 Green \$1,445,012
 Blue \$218,988 of the full budget available

Appendix II

Northeast Region 5 Year Proactive Plan

Year	Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related Events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer ¹
Year 1	Pictou	55N-204	4	5	536	2	160	40.0	\$1,560	\$325	20%	32	\$3	\$2,33
	Truro	15N-403	25	30	1,509	16	6611	264.4	\$9,750	\$325	60%	3,967	\$6	\$2,58
	Antigonish	4C-432	29	35	546	21	1073	37.0	\$11,310	\$325	80%	858	\$21	\$4,14
	Park Street	20N-201	12	14	651	2	651	54.3	\$4,680	\$325	20%	130	\$7	\$5,75
	Park Street	20N-204	12	14	636	4	5	0.4	\$4,680	\$325	20%	1	\$7	\$5,89
	Tatamagouche	4N-313	122	146	1,047	22	1675	13.7	\$47,580	\$325	80%	1,340	\$45	\$9,09
	Brownell	17N-201	10	12	315	2	3	0.3	\$3,900	\$325	20%	1	\$12	\$9,90
	Brownell	17N-203	10	12	298	0	0	0.0	\$3,900	\$325	20%	0	\$13	\$10,47
	Pictou	55N-203	12	14	349	2	2	0.2	\$4,680	\$325	20%	0	\$13	\$10,73
	Pictou	55N-202	12	14	326	0	0	0.0	\$4,680	\$325	20%	0	\$14	\$11,48
	Stewiacke	16N-301	261	313	1,622	25	583	2.2	\$101,790	\$325	80%	466	\$63	\$12,55
	Stellerton	56N-414	347	416	1,043	45	1562	4.5	\$135,330	\$325	90%	1,406	\$130	\$12,98
	Church Street	22N-404	15	18	353	0	0	0.0	\$5,850	\$325	20%	0	\$17	\$13,26
	Truro	15N-402	2	2	41	0	0	0.0	\$780	\$325	20%	0	\$19	\$15,22
	Tatamagouche	4N-311	99	119	986	15	2252	22.7	\$38,610	\$325	60%	1,351	\$39	\$15,66
	Springhill	6N-301	53	64	989	2	2	0.0	\$20,670	\$325	20%	0	\$21	\$16,72
	Haliburton	62N-414	658	789	1,342	27	112	0.2	\$256,508	\$325	90%	101	\$191	\$19,11
	Springhill	74N-411	60	72	877	3	75	1.3	\$23,400	\$325	20%	15	\$27	\$21,35
	Antigonish	4C-441	1,241	1,489	1,879	42	3171	2.6	\$483,990	\$325	90%	2,854	\$258	\$25,76
	Total Year 2	Springhill	6N-302	18	25	194	1	1	0.1	\$8,190	\$325	20%	0	\$42
	Onslow	1N-405	280	392	1,503	18	280	1.0	\$127,400	\$325	60%	168	\$85	\$33,91
	Onslow	1N-403	111	156	1,084	5	1250	11.2	\$50,611	\$325	20%	250	\$47	\$37,35
	Upper Musquodoboit	88H-401	993	1,390	1,182	48	1901	1.9	\$451,815	\$325	90%	1,711	\$382	\$38,22
	Church Street	22N-402	342	479	774	23	36	0.1	\$155,610	\$325	80%	29	\$201	\$40,21
	Brownell	17N-202	35	49	276	0	0	0.0	\$15,925	\$325	20%	0	\$58	\$46,16
	Haliburton	62N-412	25	35	197	1	1	0.0	\$11,375	\$325	20%	0	\$58	\$46,19
Total Year 3	Tatamagouche	4N-312	950	1,520	1,865	22	2852	3.0	\$820,926	\$325	80%	2,282	\$265	\$52,98

¹ Adjusted cost per customer is equal to Operational Cost divided by the number of customers multiplied by 1 minus the Probability of Impact

Northeast Region 5 Year Proactive Plan

Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related Events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer ¹
Oxford Jct.	3N-303	270	432	944	15	139	0.5	\$140,400	\$325	60%	83	\$149	\$59.49
Haliburton	62N-415	228	365	786	20	1093	4.8	\$118,560	\$325	60%	656	\$151	\$60.34
Park Street	20N-203	12	19	81	0	0	0.0	\$6,240	\$325	20%	0	\$77	\$61.63
Elmsdale	82V-402	372	595	2,470	4	3262	8.8	\$193,440	\$325	20%	652	\$78	\$62.65
Parrsboro	37N-411	175	280	509	11	442	2.5	\$91,000	\$325	60%	265	\$179	\$71.51
Pictou	55N-201	60	96	344	1	1	0.0	\$31,200	\$325	20%	0	\$91	\$72.56
Trenton	50N-411	234	374	1,123	5	5	0.0	\$121,680	\$325	20%	1	\$108	\$86.68
Total Year 4		1,603	2,885	1,174	64	742	0.5	\$1,196,520	\$325	90%	668	\$799	\$79.88
Antigonish	4C-430	342	616	771	20	962	2.8	\$937,755	\$325	60%	577	\$259	\$103.80
Sheet Harbour	96H-412	100	180	413	5	683	6.8	\$200,070	\$325	20%	137	\$142	\$113.32
Maccan	30N-411	915	1,647	464	51	1928	2.1	\$58,500	\$325	90%	1,735	\$1,154	\$115.36
Salmon River	57C-422	2,384	3,814	1,195	34	3816	1.6	\$535,275	\$325	90%	3,434	\$1,037	\$103.74
Debert	81N-412							\$1,196,325					
Total Year 5								\$1,239,680					
Total								\$1,239,680					

Date Filed: July 8, 2008

Sydney Region 5 Year Pro Active Plan

Year 1	Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related Events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer
	Reserve Street	81S-303	12	14	2117	2	482	40.2	\$4,680	\$325	20%	96	\$2	\$1.77
	Terrace Street	6S-225	6	8	894	0	0	0.0	\$2,486	\$325	20%	0	\$3	\$2.23
	New													
	Waterford	15S-301	14	17	1829	0	0	0.0	\$5,460	\$325	20%	0	\$3	\$2.39
	Reserve Street	81S-306	14	17	1765	1	1	0.1	\$5,460	\$325	20%	0	\$3	\$2.47
	Terrace Street	6S-221	6	7	519	0	0	0.0	\$2,340	\$325	20%	0	\$5	\$3.61
	Reserve Street	81S-305	21	25	1715	0	0	0.0	\$8,041	\$325	20%	0	\$5	\$3.75
	Keltic Drive	11S-301	18	22	1474	2	3	0.2	\$7,020	\$325	20%	1	\$5	\$3.81
	Keltic Drive	11S-303	14	17	1061	3	17	1.2	\$5,460	\$325	20%	3	\$5	\$4.12
	Reserve Street	81S-307	10	12	710	1	1	0.1	\$3,972	\$325	20%	0	\$6	\$4.48
	Port Hastings	2C-401	5	6	346	0	0	0.0	\$1,950	\$325	20%	0	\$6	\$4.51
	Keltic Drive	11S-302	14	17	968	3	5	0.4	\$5,460	\$325	20%	1	\$6	\$4.51
	Reserve Street	81S-301	19	22	1222	1	1	0.1	\$7,266	\$325	20%	0	\$6	\$4.76
	New													
	Waterford	15S-303	18	22	1165	1	1	0.1	\$7,020	\$325	20%	0	\$6	\$4.82
	Keltic Drive	11S-304	20	23	1070	0	0	0.0	\$7,621	\$325	20%	0	\$7	\$5.70
	Townsend St	4S-all	115	138	6293	3	2536	22.1	\$44,850	\$325	20%	507	\$7	\$5.70
	New													
	Waterford	15S-302	28	34	1425	0	0	0.0	\$10,920	\$325	20%	0	\$8	\$6.13
	Reserve Street	81S-304	20	24	978	2	4	0.2	\$7,800	\$325	20%	1	\$8	\$6.38
	Terrace Street	6S-223	12	14	552	0	0	0.0	\$4,680	\$325	20%	0	\$8	\$6.78
	Cheticamp	103C-311	14	17	636	0	0	0.0	\$5,490	\$325	20%	0	\$9	\$6.91
	Whitney Pier	82S-302	3	3	127	0	0	0.0	\$1,098	\$325	20%	0	\$9	\$6.92
	Terrace Street	6S-224	12	14	484	0	0	0.0	\$4,680	\$325	20%	0	\$10	\$7.74
	Keltic Drive	11S-305	43	52	1622	3	3	0.1	\$16,824	\$325	20%	1	\$10	\$8.30
	Whitney Pier	82S-303	50	60	1775	1	1	0.0	\$19,500	\$325	20%	0	\$11	\$8.79
	Reserve Street	81S-302	55	66	1640	1	1	0.0	\$21,450	\$325	20%	0	\$13	\$10.46
	Whitney Pier	82S-304	50	60	1203	5	175	3.5	\$19,500	\$325	20%	35	\$16	\$12.97
	Point Tupper	1C-411	31	37	659	1	1	0.0	\$12,090	\$325	20%	0	\$18	\$14.68
	Baddeck	104S-311	72	86	1086	10	1036	14.4	\$27,965	\$325	40%	414	\$26	\$15.45
	Little VJ	84S-302	12	14	212	1	2	0.2	\$4,680	\$325	20%	0	\$22	\$17.66
	Albert Bridge	57S-402	174	209	1490	11	57	0.3	\$68,007	\$325	60%	34	\$46	\$18.26
	Port Hastings	2C-402	150	180	1194	20	110	0.7	\$58,500	\$325	60%	66	\$49	\$19.60

Date Filed: July 8, 2008

Sydney Region 5 Year Pro Active Plan

Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related Events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer
Baddeck	104S-313	43	52	484	7	22	0.5	\$16,770	\$325	40%	9	\$35	\$20,79
Little VJ	84S-305	40	48	597	0	0	0.0	\$15,600	\$325	20%	0	\$26	\$20,90
St. Peters	59C-403	33	40	482	1	1	0.0	\$12,870	\$325	20%	0	\$27	\$21,36
Margaree	58C-405	100	120	540	18	1761	17.6	\$39,000	\$325	60%	1,057	\$72	\$28,89
Albert Bridge	57S-401	168	202	1637	4	2051	12.2	\$65,520	\$325	20%	410	\$40	\$32,02
Keltic Drive	11S-306	13	16	86	0	0	0.0	\$5,038	\$325	20%	0	\$59	\$46,86
Wreck Cove	85S-402	49	59	243	8	197	4.0	\$19,110	\$325	40%	79	\$79	\$47,19
Cheticamp	103C-313	50	60	300	0	0	0.0	\$19,500	\$325	20%	0	\$65	\$52,00
Total								\$595,677					
Year 2								\$136,500	\$325	60%	871	\$157	\$62,67
Point Tupper	85S-401	300	420	1461	11	1452	4.8	\$45,500	\$325	20%	82	\$86	\$68,42
Cleveland	22C-403	100	140	532	4	410	4.1	\$2,298	\$325	20%	0	\$104	\$83,57
Gannon Rd	3S-405	5	7	22	0	0	0.0	\$91,000	\$325	20%	0	\$121	\$96,94
Cheticamp	103C-314	200	280	751	0	0	0.0	\$1,130	\$325	20%	0	\$126	\$100,46
Mulgrave	100C-423	2	3	9	0	0	0.0	\$48,685	\$325	40%	93	\$191	\$114,55
Cleveland	22C-402	107	150	255	6	233	2.2	\$32,760	\$325	20%	15	\$161	\$128,47
Baddeck	104S-312	72	101	204	2	74	1.0	\$227,500	\$325	40%	449	\$221	\$132,40
St. Peters	59C-402	500	700	1031	6	1123	2.2	\$585,373					
Total								\$75,400	\$325	20%	93	\$204	\$163,03
Year 3								\$52,520	\$325	20%	1	\$208	\$166,07
St. Peters	59C-all	145	232	370	3	466	3.2	\$160,680	\$325	20%	196	\$221	\$176,81
Aberdeen	9C-all	101	162	253	1	3	0.0	\$301	\$325	20%	0	\$301	\$241,11
Mulgrave	100C-421	309	494	727	4	979	3.2	\$182,000	\$325	20%	1	\$495	\$395,65
Little VJ	84S-303	1	1	1	0	0	0.0	\$1,378	\$325	20%	0	\$689	\$551,12
Mulgrave	100C-422	350	560	368	1	3	0.0						
Point Tupper	IC-412	3	4	2	0	0	0.0						
Total								\$472,279					
Year 4								\$300,000					
Total								\$300,000					
Year 5								\$375,000					
Total								\$375,000					

Metro Region 5 Year proactive Plan

Year 1	Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer
	Maple Street	54H-303	2	2	794	2	4	2.2	\$703	\$325	20%	1	\$1	\$0.71
	Kempt Road	104H-413	7	8	1658	6	144	20.6	\$2,730	\$325	40%	58	\$2	\$0.99
	Kempt Road	104H-433	5	6	1566	1	1	0.2	\$1,950	\$325	20%	0	\$1	\$1.00
	Elmsdale	82V-403	52	62	1673	40	1843	35.6	\$20,174	\$325	90%	1,659	\$12	\$1.21
	Albro Lake	62H-303	3	3	596	1	2	0.8	\$992	\$325	20%	0	\$2	\$1.33
	Maple Street	54H-304	8	10	1242	6	6	0.7	\$3,225	\$325	40%	2	\$3	\$1.56
	Kempt Road	104H-441	10	12	1975	0	0	0.0	\$3,900	\$325	20%	0	\$2	\$1.58
	Albro Lake	62H-304	12	15	2430	0	0	0.0	\$4,837	\$325	20%	0	\$2	\$1.59
	Armdale	2H-411	2	2	286	0	0	0.0	\$661	\$325	20%	0	\$2	\$1.85
	Farrell St	99H-311	12	14	1906	0	0	0.0	\$4,589	\$325	20%	0	\$2	\$1.93
	Porters Lk	126H-311	57	69	1090	43	1160	20.2	\$22,406	\$325	90%	1,044	\$21	\$2.06
	Kearney Lk	129H-411	41	49	5923	1	1	0.0	\$15,990	\$325	20%	0	\$3	\$2.16
	Albro Lake	62H-301	3	4	479	0	0	0.0	\$1,323	\$325	20%	0	\$3	\$2.21
	Spryfield	20H-306	18	22	2486	0	0	0.0	\$7,028	\$325	20%	0	\$3	\$2.26
	Beaufort	7H-all	10	11	1258	0	0	0.0	\$3,721	\$325	20%	0	\$3	\$2.37
	Burnside	108H-413	20	24	2545	0	0	0.0	\$7,648	\$325	20%	0	\$3	\$2.40
	Yale Street	9H-all	14	17	1766	0	0	0.0	\$5,478	\$325	20%	0	\$3	\$2.48
	Kempt Road	104H-421	13	15	1574	1	1	0.1	\$4,919	\$325	20%	0	\$3	\$2.50
	Penhorn	48H-302	13	16	1452	4	5	0.4	\$5,085	\$325	20%	1	\$4	\$2.80
	Rockingham	23H-301	11	13	1159	2	2	0.2	\$4,341	\$325	20%	0	\$4	\$3.00
	Penhorn	48H-304	8	10	874	0	0	0.0	\$3,307	\$325	20%	0	\$4	\$3.03
	Sackville	101H-423	29	35	2773	3	124	4.3	\$11,310	\$325	20%	25	\$4	\$3.26
	Elmsdale	82V-401	285	342	2875	38	9627	33.8	\$111,150	\$325	90%	8,664	\$39	\$3.87
	Albro Lake	62H-302	19	23	1490	1	4	0.2	\$7,441	\$325	20%	1	\$5	\$4.00
	Dartmouth East	113H-434	53	64	2869	6	141	2.7	\$20,670	\$325	40%	56	\$7	\$4.32
	Sackville	101H-413	56	67	2869	9	5701	101.8	\$21,840	\$325	40%	2,280	\$8	\$4.57
	Lakeside	103H-433	23	27	1503	4	999	0.0	\$8,867	\$325	20%	0	\$6	\$4.72
	Dartmouth East	113H-443	36	43	2110	8	999	27.7	\$14,076	\$325	20%	200	\$7	\$5.34
	Dartmouth East	113H-432	72	86	3131	8	9	0.1	\$28,070	\$325	40%	4	\$9	\$5.38
	Farrell St	99H-312	16	19	900	1	15	1.0	\$6,077	\$325	20%	3	\$7	\$5.40
	Burnside	108H-412	9	11	528	0	0	0.0	\$3,597	\$325	20%	0	\$7	\$5.45
	Kearney Lk	129H-412	96	115	4745	3	84	0.9	\$37,440	\$325	20%	17	\$8	\$6.31
	Kempt Road	104H-412	35	42	1611	0	0	0.0	\$13,650	\$325	20%	0	\$8	\$6.78

Metro Region 5 Year proactive Plan

Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer
Robinson's Corner	84W-301	77	92	1605	11	959	12.5	\$29,951	\$325	60%	575	\$19	\$7.46
Tidewater	92H-331	105	126	2131	19	1115	10.6	\$40,950	\$325	60%	669	\$19	\$7.69
Maple Street	54H-301	38	46	1482	4	1354	35.6	\$14,820	\$325	20%	271	\$10	\$8.00
Hubbards	87W-311	92	110	1769	14	483	5.3	\$35,800	\$325	60%	290	\$20	\$8.10
Akerley Blvd	124H-301	5	6	183	2	2	0.4	\$1,943	\$325	20%	0	\$11	\$8.49
Penhorn	48H-303	8	10	294			0.0	\$3,183	\$325	20%	0	\$11	\$8.66
Robinson's Corner	84W-302	7	8	239	4	176	26.4	\$2,604	\$325	20%	35	\$11	\$8.72
Musquodoboit Hbr	87H-313	390	468	1725	40	1619	4.2	\$152,100	\$325	90%	1,457	\$88	\$8.82
Burnside	108H-411	17	20	556	1	1	0.1	\$6,614	\$325	20%	0	\$12	\$9.52
Chester	87W-312	86	103	1400	15	2844	33.0	\$33,589	\$325	60%	1,706	\$24	\$9.60
Tidewater	92H-334	45	53	1014	8	8	0.2	\$17,363	\$325	40%	3	\$17	\$10.27
Akerley Blvd	124H-302	6	8	179			0.0	\$2,480	\$325	20%	0	\$14	\$11.09
Lakeside	103H-434	47	56	1091	1	1	0.0	\$18,330	\$325	20%	0	\$17	\$13.44
Tidewater	92H-332	43	51	886	2	230	5.4	\$16,701	\$325	20%	46	\$19	\$15.08
Total								\$785,623					
Backyard Feeders								\$60,000					
Porters Lk	126H-312	542	759	1774	25	2025	3.7	\$246,610	\$325	80%	1,620	\$139	\$27.80
Lucasville	131H-421	314	440	3803	5	80	0.3	\$142,870	\$325	20%	16	\$38	\$30.05
Musquodoboit Hbr	87H-311	298	417	886	13	1831	6.1	\$135,590	\$325	60%	1,099	\$153	\$61.21
Musquodoboit Hbr	87H-312	379	531	937	18	1261	3.3	\$172,445	\$325	60%	757	\$184	\$73.62
Water Street	1H-429	4	6	17			0.0	\$2,026	\$325	20%	0	\$119	\$95.33
Fall River	127H-413	25	35	83	1	1	0.0	\$11,479	\$325	20%	0	\$138	\$110.64
Fall River	127H-412	3	5	5	1	1	0.3	\$1,543	\$325	20%	0	\$309	\$246.94
St Margarets Bay	92H-333	6	8	1			0.0	\$2,701	\$325	20%	0	\$2,701	\$2,160.70
Total								\$775,264					
Year 3 Feeder								\$300,000					

Metro Region 5 Year proactive Plan

Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer
Total	Trimming Backyard Feeders							\$150,000 \$450,000					
Year 4	Feeder							\$200,000					
Total	Trimming Backyard Feeders							\$125,000 \$325,000					
Year 5	Feeder							\$325,000					
Total	Trimming Backyard Feeders							\$125,000 \$450,000					

West Region 5 Year Pro Active Plan

Year 1	Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related Events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer
	New Minas	22v-312	16	19	915	4	93	0.0	\$6,318	\$325	20%	0	\$7	\$5.52
	New Minas	22v-321	20	24	1006	2	1494	4.7	\$7,722	\$325	20%	19	\$8	\$6.14
	Ridge	83V-302	34	41	1464	48	3535	43.9	\$13,268	\$325	20%	299	\$9	\$7.25
	New Minas	22v-323	478	573	1967	21	1201	7.4	\$186,381	\$325	90%	3,182	\$95	\$9.48
	High Street	70w-321	174	209	1351	2	24	6.9	\$67,860	\$325	80%	961	\$50	\$10.05
	Barrington	22w-312	35	42	1049	1	88	0.7	\$13,650	\$325	20%	5	\$13	\$10.41
	New Minas	22V-313	20	24	583	1	474	4.4	\$7,862	\$325	20%	18	\$13	\$10.79
	Acadia	45V-202	19	23	470	26	31	25.1	\$7,371	\$325	20%	95	\$16	\$12.55
	Windsor	79v-401	558	670	1674	4	136	0.1	\$217,760	\$325	90%	28	\$130	\$13.01
	New Minas	22V-322	61	74	1469	2	3	2.2	\$23,924	\$325	20%	27	\$16	\$13.03
	Middleton	65v-303	42	51	966	2	3	0.1	\$16,497	\$325	20%	1	\$17	\$13.66
	Bridgewater	89w-303	430	516	1106	38	699	1.6	\$167,700	\$325	90%	629	\$152	\$15.16
	East	37w-202	10	12	204	2	354	0.0	\$3,900	\$325	20%	0	\$19	\$15.29
	Bridgewater	89w-301	25	30	496	7	922	14.2	\$9,750	\$325	20%	71	\$20	\$15.73
	East	78w-302	28	34	380	4	985	32.9	\$10,920	\$325	40%	369	\$29	\$17.24
	Martin's	70w-314	31	37	502	9	746	32.2	\$11,934	\$325	20%	197	\$24	\$19.02
	Brook	25w-302	65	78	799	3	3	11.5	\$25,350	\$325	40%	298	\$32	\$19.04
	High Street	64V-303	14	17	229	3	3	0.0	\$5,476	\$325	20%	0	\$24	\$19.13
	Shelburne	48w-204	37	45	602	3	3	0.1	\$14,586	\$325	20%	1	\$24	\$19.38
	Greenwood	64v-302	11	13	170	3	3	0.0	\$4,212	\$325	20%	0	\$25	\$19.82
	Liverpool	48w-201	20	24	314	3	3	0.2	\$7,800	\$325	20%	1	\$25	\$19.87
	Greenwood	11w-202	21	25	308	2	229	0.0	\$8,190	\$325	20%	0	\$27	\$21.27
	Liverpool	63V-311	59	70	856	12	464	3.9	\$22,885	\$325	20%	46	\$27	\$21.39
	Kingston	76v-301	44	53	322	2	2	10.5	\$17,238	\$325	60%	278	\$54	\$21.41
	Maitland	63V-312	72	87	963	1	5	0.0	\$28,220	\$325	20%	0	\$29	\$23.44
	Bridge	11w-203	41	49	540	7	7	0.1	\$15,990	\$325	20%	1	\$30	\$23.69
	Kingston	79v-403	68	82	626	7	7	0.1	\$26,676	\$325	40%	3	\$43	\$25.57
	Windsor													

West Region 5 Year Pro Active Plan

Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related Events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer
Kingston	63V-313	351	421	2070	12	823	2.3	\$136,890	\$325	60%	494	\$66	\$26.45
Clyde River	23w-302	157	188	915	18	1729	11.0	\$61,230	\$325	60%	1,037	\$67	\$26.77
Indian Path	80w-302	712	854	1026	37	1143	1.6	\$277,680	\$325	90%	1,029	\$271	\$27.06
Indian Path	80w-301	423	508	600	27	1847	4.4	\$164,970	\$325	90%	1,662	\$275	\$27.50
Digby	77v-303	88	106	986	3	17	0.2	\$34,398	\$325	20%	3	\$35	\$27.91
East Green	36w-301	250	300	694	21	610	2.4	\$97,500	\$325	80%	488	\$140	\$28.10
Hbr	55V-311	98	118	1088			0.0	\$38,259	\$325	20%	0	\$35	\$28.13
Waterville								\$1,760,368					
Total													
Year 2	77v-302	122	170	1342	5	428	3.5	\$55,283	\$325	20%	86	\$41	\$32.96
High Street	70w-203	25	35	272			0.0	\$11,375	\$325	20%	0	\$42	\$33.46
Pleasant St													
Yarmouth	88w-321	57	80	613	3	285	5.0	\$25,935	\$325	20%	57	\$42	\$33.85
High Street	70w-204	26	36	267			0.0	\$11,757	\$325	20%	0	\$44	\$35.23
Hantsport	20v-311	106	149	1071			0.0	\$48,321	\$325	20%	0	\$45	\$36.09
High Street	70w-312	66	92	633	1	14	0.2	\$29,857	\$325	20%	3	\$47	\$37.73
Greenwood	64v-301	90	126	847	4	863	9.6	\$40,950	\$325	20%	173	\$48	\$38.68
Lr. East													
Pubnico	20w-312	15	21	139	3	5	0.3	\$6,825	\$325	20%	1	\$49	\$39.28
Barrington	22w-311	164	230	1104	9	680	4.1	\$74,620	\$325	40%	272	\$68	\$40.55
Ridge	83V-301	203	284	899	20	749	3.7	\$92,383	\$325	60%	449	\$103	\$41.10
Auburndale	73w-411	3,689	5165	4048	158	11080	3.0	\$1,678,495	\$325	90%	9,972	\$415	\$41.46
High Street	70w313	245	344	1048	20	1778	7.2	\$111,693	\$325	60%	1,067	\$107	\$42.63
Total								\$2,187,494					
Year 3	36V-303	410	657	1748	15	1236	3.0	\$213,408	\$325	60%	742	\$122	\$48.83
Hillaton	36V-302	365	583	1530	14	804	2.2	\$189,540	\$325	60%	482	\$124	\$49.55
New Minas	22V-314	26	42	220			0.0	\$13,666	\$325	20%	0	\$62	\$49.69
Lockeport	37w201	30	48	245			0.0	\$15,600	\$325	20%	0	\$64	\$50.94
Pleasant St													
Yarmouth	88w-312	309	494	1891	9	3804	12.3	\$160,711	\$325	40%	1,522	\$85	\$50.99
High Street	70w311	428	685	857	23	197	0.5	\$222,768	\$325	80%	158	\$260	\$51.99
Waterville	55V-312	155	248	926	6	428	2.8	\$80,496	\$325	40%	171	\$87	\$52.16
Claire	93V-312	97	156	773			0.0	\$50,544	\$325	20%	0	\$65	\$52.31
Gulch	13v-303	848	1356	1482	25	1054	1.2	\$440,856	\$325	80%	843	\$297	\$59.49

Date Filed: July 8, 2008

West Region 5 Year Pro Active Plan

Substation	Feeder	Conflict @ Report	Spans in Conflict	Customers	Tree-related Events	2005 Tree-related CI	CI/Span	Operational Cost \$	Estimated \$/Span	Probability of Impact	Expected Gain in CI	\$/Customer	Adjusted \$/Customer
	19w-312	195	312	1011	8	89	0.5	\$101,400	\$325	40%	36	\$100	\$60.18
	91w-411	852	1363	719	50	1984	2.3	\$443,061	\$325	90%	1,786	\$616	\$61.62
	50w-411	163	261	1073	4	1562	9.6	\$84,760	\$325	20%	312	\$79	\$63.19
	83v-303	653	1045	1041	21	1743	2.7	\$339,768	\$325	80%	1,394	\$326	\$65.28
Total								\$2,356,578					
Year 4													
Lr. Woods	21w-311	61	110	385			0.0	\$35,685	\$325	20%	0	\$93	\$74.15
Hbr													
Pleasant St	88w-311	129	231	769	1	1	0.0	\$75,184	\$325	20%	0	\$98	\$78.22
Yarmouth	12v-304	328	590	972	13	1165	3.6	\$191,646	\$325	60%	699	\$197	\$78.87
Lequille	93v-311	275	496	1589	4	28	0.1	\$161,109	\$325	20%	6	\$101	\$81.11
Claire	70V-311	540	972	1396	12	6849	12.7	\$315,900	\$325	60%	4,109	\$226	\$90.52
Bridgetown	50w-412	2,360	4248	1509	84	8984	3.8	\$1,380,600	\$325	90%	8,086	\$915	\$91.49
Milton	93V-313	421	758	1810	4	45	0.1	\$246,402	\$325	20%	9	\$136	\$108.91
Claire								\$2,406,526					
Total													
Year 5													
Barrington	22w-313	294	529	947	6	33	0.1	\$171,990	\$325	40%	13	\$182	\$108.97
Caledonia	57w-401	1,394	2,509	743	29	2693	1.9	\$815,490	\$325	90%	2,424	\$1,098	\$109.76
Waterville	55v-313	489	880	1552	8	950	1.9	\$285,890	\$325	40%	380	\$184	\$110.52
Hebron	16w-301	866	1,559	1,719	13	1,759	2.0	\$506,598	\$325	60%	1,055	\$295	\$117.88
Bridgewater													
East	89w-302	285	512	841	8	977	3.4	\$166,479	\$325	40%	391	\$198	\$118.77
Shelburne	25w-303	379	682	1,106	6	375	1.0	\$221,715	\$325	40%	150	\$200	\$120.28
Lequille	12V-303	167	301	644	5	53	0.3	\$97,929	\$325	20%	11	\$152	\$121.65
Total								\$2,266,091					

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Nova Scotia Power, Inc.

June 30, 2008

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Date Filed: July 8, 2008

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Nova Scotia Power Report

Executive Summary

CN Utility Consulting (CNUC) was commissioned by Nova Scotia Power Inc. (NSPI) to provide expert opinion on NSPI's vegetation management program and its application to increase program funding as provided in its 2009 Rate Application. This report presents the results of CNUC's review.

CNUC agrees with and supports NSPI's application for increased Utility Vegetation Management (UVM) funding. We are satisfied with NSPI's current approach to scheduling and prioritizing UVM work in their service territory and the UVM practices employed by NSPI.

NSPI's balanced approach to scheduling work is both efficient and effective. Moreover, if NSPI would be expected to alter their current scheduling methods to come more in line with cycle based scheduling, NSPI would need considerably more funding than is currently being requested.

We believe that NSPI's request is reasonable and is in keeping with the desire to ensure improved electric reliability for their customers, while keeping the costs of UVM as low as possible.

CN Utility Consulting Qualifications

As illustrated in Appendix 1, CN Utility Consulting is qualified to comment on all aspects of a UVM program. CNUC has participated in the development of numerous UVM industry standards, best practices, and regulations.

CNUC has a fact based understanding of current UVM industry practices and requirements. This knowledge comes from CNUC's extensive benchmarking work within the UVM industry, which provides an understanding of how UVM programs are developed, structured and operated.

Introduction to Utility Vegetation Management

Utility Vegetation Management programs are one of the largest maintenance functions of electric utility companies. It is currently estimated that in excess of three billion dollars is spent annually in North America on preventing and keeping vegetation and trees from conflicting with energized power lines. The primary cited reasons include:

1. Electric Service Reliability

It is generally accepted that the majority of all electric distribution power interruptions occur when trees, or portions of trees, grow or fall into overhead electric power lines. The resulting interruptions present real problems for individual customers and also result in costly and time consuming repairs which become necessary in order to restore power.

While many of these interruptions cannot be prevented (due to storms, heavy winds, etc.) a good portion can, and are mitigated by managing the vegetation before it becomes a problem. Effective vegetation management programs prevent power interruptions and, equally important, reduce the long term costs associated with emergency response and restoration efforts.

2. Public Safety

When trees interfere with power lines, there is always the threat of unsafe exposures to the public. Another hazard relates to people climbing trees without the knowledge that energized lines are nearby. While the most effective method in preventing these occurrences comes through public education, employee training, and worker safety laws, the work of a UVM program also contributes to mitigating these hazards.

3. Fires

Arcing between any part of a tree and a bare high-voltage conductor has the potential to occur if the physical separation between them is reduced. If, for example, arcing does occur between a twig and a high-voltage line, there is the possibility that the twig can ignite and fall to the ground. If

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flammable material is present on the ground, it could cause a fire. While the incidence of fires caused by tree and power line conflicts is low (less than 1% of wildland fires) the potential for fires still exists.

Naturally, utilities want to prevent outages and remove safety hazards. Utility companies also want to maintain lines using what are considered to be “good utility practices”. Operating a comprehensive Utility Vegetation Management program is one practice that mitigates potential problems.

Utility Vegetation Management Expectations and Regulatory Trends

It is important to briefly discuss trends in regulatory oversight and the increased expectations for UVM programs and activities currently being performed by utility companies in North America.

As a result of our benchmarking¹, national review of laws², and work with regulators and utilities throughout North America, we have identified a trend towards increasing oversight and higher expectations of utility vegetation management activities. Regulators and consumers are demanding more effective and cost efficient UVM efforts on the part of utility companies. This trend is evidenced by such examples as:

- The new North American Electric Reliability Corporation (NERC) UVM requirements found in FAC-003 are applicable to many utility companies in North America that manage vegetation on transmission systems. These new regulations, which were promulgated in 2007 by the Federal Energy Regulatory Commission (FERC), specify a greater amount of UVM work to be done on transmission systems than was expected in the past. While FAC-003 is focused on transmission voltage UVM efforts, these types of requirements and standards are also showing up as being applicable to distribution programs.
- Within the last year, Florida passed new regulations requiring utilities to achieve a 3 year cycle on distribution circuits.
- Within the last year, Oregon passed a mandatory clearance requirement for UVM work on all distribution circuits.
- Within the last year, Missouri has also passed new UVM requirements that range from achieving fixed cycles to greater oversight by the regulators.

Other states and provinces have already started to focus a great deal of attention on this important activity, and as a result, the industry is improving current

¹ These studies included the participation of over 50 utility companies from the US and Canada. This benchmarking was done in 2002 and 2006

² This study was performed by CNUC in 2002 and 2007 and only covered UVM laws in the United States.

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practices to address these raised expectations. We are also seeing an increase in the number of utilities that are seeking additional approved funding to achieve and maintain increasing expectations.

Cost versus Benefit

Utility companies have an obligation to consider costs versus benefit when designing and implementing UVM programs. Utility companies cannot ensure (nor has anyone ever accomplished) the complete elimination of tree related outages. To do so would require elimination of any tree that could grow, fall, and/or damage an overhead line. Also, utility companies cannot gold-plate³ their system. UVM costs are typically one of the highest expenses at any utility company and any change to a program can result in significant increased costs to rate payers.

Given this reality, utility companies must continually balance the costs to perform the work with the reasonably expected benefits.

The Mechanics of Tree Related Power Outages

In recent years the UVM industry has learned a great deal about the mechanics of tree related outages. In particular the influence of vegetation from outside of rights of way has been determined to be much more important than originally thought. In a 2005 Transmission and Distribution World article⁴, the author stated:

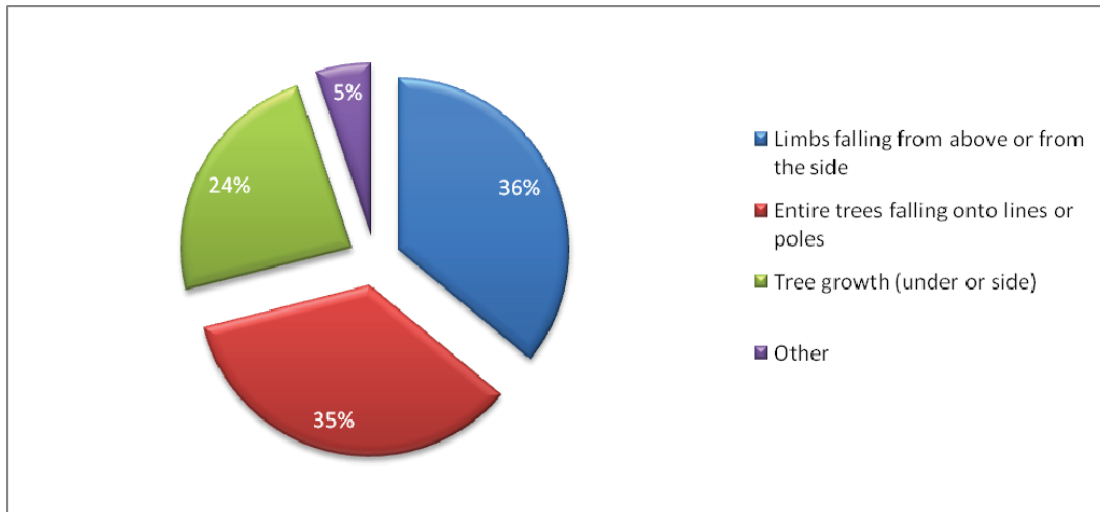
“Just pruning trees away from lines will not stop all the outages. Several studies conducted by experienced right-of-way managers across the continent have shown that trees growing into power lines actually caused less than 14% of the outages for all utilities contacted.

The data further showed that trees that fall into the lines — often from outside of the rights of way — cause 66% to 94% of the outages. Current research suggests that the trees causing outages are in clusters in specific areas along specific circuits. They are not uniformly spread across the system. Outages are often initiated from events that occur off the rights of way. “

Our own 2006 benchmarking efforts have pointed to a similar conclusion. The following chart provides an overview of the causes of tree related outages as reported by our benchmarking participants.

³ Gold plating a UVM system typically refers to carelessly expending resources on a function without due regard to the cost or effectiveness of the effort.

⁴ Transmission and Distribution World ELECTRIC RELIABILITY AND OUTAGES Nov 1, 2005 by Ward Peterson, Davey Resource Group (http://tdworld.com/mag/power_electric_reliability_outages/)



CNUC Work and Findings

CN Utility Consulting work for NSPI consisted of:

1. Numerous phone and conference calls with NSPI personnel to discuss their current UVM related practices and procedures.
2. Review of specific NSPI documentation regarding UVM practices and procedures.
3. Follow-up calls in which NSPI responded to specific CNUC questions.
4. Review of documentation related to NSPI's request for additional funding.
5. Review of reports associated with this case (Liberty Consulting Group and PricewaterhouseCoopers).
6. Onsite review of NSPI's program to validate the information presented by NSPI.

Based on our review, CNUC was able to reach certain conclusions regarding:

1. NSPI's current approach to scheduling UVM work
2. NSPI's request for additional funding
3. NSPI's current UVM operations as compared to the UVM industry

Our findings are discussed in the following sections.

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1. NSPI's Current Approach to Scheduling UVM Work

The term "cycle" is used in the UVM industry to generally identify the time it takes to complete required work on any given system. To illustrate, an electric utility company that is on a 5-year distribution cycle would be expected to perform all necessary maintenance on its distribution lines/circuits once during a 5 year period. This cycle work can include such activities as tree pruning and removal, along with other mechanical, chemical and/or cultural vegetation management practices.

There are many factors that can serve to influence what an appropriate cycle is for a given utility. For example, a utility that is located in a region of North America that has a slower growing and sparse population of vegetation may have a longer cycle (in years) than a utility that has a higher population of fast growing vegetation.

NSPI's scheduling method would not be considered a traditional "cycle" based approach. NSPI utilizes a scheduling methodology that identifies where the UVM budget would be best spent to minimize costs and ensure improvements in electric service reliability.

2. NSPI's Request for Additional Funding

CNUC has reviewed the budget increase proposal presented by NSPI in the 2009 Rate Case Application and the Distribution System Vegetation Management methodology described in the 2006 Distribution System Vegetation Management Report.

CNUC concurs with the premise that additional funding will improve distribution reliability for NSPI customers. Equally important, this funding would allow NSPI to improve electric reliability to isolated customers that are located off of mainline circuits who may not have benefited from NSPI's prior UVM efforts. Moreover, the additional monies are earmarked for long-term UVM related reliability projects (hazard tree removals and ROW widening) which will benefit all NSPI customers.

If NSPI were to move towards a more traditional "cycle-based" approach to their program, the needed funding would be significantly more than currently requested. In order to transition to a different type of scheduling model NSPI would likely take years to have it fully implemented and could require a doubling or tripling of current UVM expenses.

Equally important, we would urge that the requested money be approved as soon as possible. We know that the longer required UVM work is avoided, the costlier it becomes to perform down the road.

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In 1997, Environmental Consultants Inc. (ECI) published a study titled *The Economic Impacts of Deferring Electric Utility Maintenance*⁵. They found that deferring tree maintenance beyond the time a tree reached the conductors, increased pruning costs 20% in one year, 40% in two, 60% in three and 65% in four years (before inflation).

ECI also pointed out that there are additional negative consequences associated with deferred maintenance. For example, disposing of the extra biomass can be very costly. ECI relates an example from their study where one utility measured twice as much biomass from a site that was allowed to grow just one-year longer. The increased biomass requires more time to haul, stack, and chip than the same trees pruned on a more frequent cycle.

3. NSPI's Current UVM Operations as Compared to the UVM Industry

As part of our work, CNUC compared NSPI's UVM practices and procedures to those of other utilities in North America. As explained earlier, CNUC performs the largest UVM benchmarking in the industry and is familiar with the current dominant practices. We have also performed program reviews at various other utility companies in North America. In comparing NSPI's program to the rest of the industry we performed a Document review (covered in Section A), and an on-site Field Review (covered in section B)

A. Document Review

In order to perform this comparison we reviewed NSPI manuals and documents, and interviewed various key personnel involved with NSPI's program to identify documented UVM practices. We then compared those practices to what we would expect to see at our benchmarked utilities.

This review looked at numerous typical UVM program attributes and many of which are further detailed in Appendix -2. Furthermore our comparison also revealed that NSPI has many practices that would be considered "best in class". These are also identified in Appendix- 2.

The review of NSPI documentation and subsequent comparison to our benchmarks did not reveal any noteworthy concerns. NSPI's programmatic approach to UVM is comparable (and in some cases superior) with what we would expect to find at other utilities.

⁵ Browning, Mark D, and Henry V. Wiant. 1997. *The Economic Impacts of Deferring Electric Utility Tree Maintenance*. *Journal of Arboriculture* 23(3):106-112.

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B. Field Review

CNUC performed an onsite review of NSPI UVM operations. This work involved interviews with key NSPI employees, review of the NSPI computer system, and a review of examples of scheduled work, completed work, and work in-progress.

We spent approximately 14 hours in the field reviewing work and tree conditions along approximately 496 kilometers of line. This included work in rural areas and in the City of Halifax. While we did not see the entire service territory, we believe that we covered enough area to get a balanced and correct view of NSPI UVM efforts.

Our general observations were that completed work was consistent with current industry practices. Pruning methods are compliant with practices identified in ANSI- A300, herbicides were being effectively used (where applicable and allowable), and NSPI utilized the appropriate crews and equipment for UVM work on both the transmission and distribution systems.

A number of practices stood out in our review and would definitely be considered best practices.

NSPI has had the goal, and has been achieving, the creation of stable plant communities underneath and adjacent to many distribution lines. This concept generally involves removing tall growing vegetation under and adjacent to the distribution power lines and allowing appropriate native low-growth vegetation to occupy the space. The result of this effort is the long-term reduction of costs and required work (fewer trees to prune on a regular basis) and the mitigation of tree related threats to electric service reliability. NSPI is working towards the goal of eliminating much of the current inventory of trees requiring frequent costly and damaging tree work, and allowing the native low-growing vegetation to compatibly exist under and adjacent to the lines.

This concept is currently widely used in our industry for managing transmission system rights-of-way but has not been widely adopted for use on distribution systems. NSPI is well ahead of the industry in this area. If NSPI is provided the funding to further apply this best practice they will be able to reduce long-term UVM maintenance requirements and the associated costs.

As well, NSPI is one of the first utility companies that we are aware of, that has fully embraced and implemented a comprehensive computerized system to manage required UVM work on its transmission system. This impressive system allows NSPI to accurately manage, predict, and schedule required work along each and every span of its transmission system.

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Conclusions

CNUC endorses the proposed increased funding to the NSPI UVM program. The practices employed by NSPI are consistent with accepted industry vegetation management practices. The allocation of funding across the program elements provides an effective balance of cost and service reliability.

The funding as proposed will ensure further improvements to electric service reliability, expand the current use of proper practices (and the subsequent benefits) to all NSPI customers, and ultimately provide for a long-term reduction in UVM costs.

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Appendix 1 – CN Utility’s Qualifications

CN Utility Consulting Inc. (CNUC) was started in 1999 to provide the Utility Vegetation Management (UVM) industry with high level consulting on all issues related to UVM. The company was founded by Stephen Cieslewicz and Robert Novembri who had a combined 40 years of experience in the UVM industry. Prior to starting the company they held senior positions at Pacific Gas & Electric Company (PG&E) and were responsible for the largest UVM program in North America.

CNUC has established itself as one of, if not the, most qualified and experienced UVM consulting company in the industry. Some of the noteworthy projects and qualifications include:

1. CNUC was commissioned by the Federal Energy Regulatory Commission (FERC) as the lead UVM experts for the Joint US/Canadian investigation of the Northeast Blackout. This work has resulted in new UVM regulations and standards which are applicable across North America.
2. CNUC completed a national assessment of laws and regulations that apply to UVM activities. This project involved identifying and evaluating, on a state by state basis, all current UVM regulatory requirements in the United States.
3. CNUC has completed the largest Benchmarking study of UVM activities in North America. These projects (2002 and 2007) involved the participation of over 50 utility companies in the United States and Canada. This work has been characterized as the leading source of information regarding UVM practices, trends, and issues that currently exists in the industry.

CNUC also has extensive experience in various Legislative, Regulatory and Legal Proceedings. Examples include:

- Participated in rate making proceedings and provided testimony on the validity of rate requests.
- At the request of various Public Utility Commissions, provided commentary on proposed new UVM related regulations.
- Been involved with various UVM related legislative efforts at a state and federal level.
- Provided testimony and advice on various UVM related legal cases.
- Direct involvement with the development, interpretation, and promulgation of numerous industry standards and regulations. This includes, but is not limited to, GO 95 Rule 35, NESC 218,

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PRC's 4293 and 4292, the Uniform Fire Code, the Urban/Wildland Interface Fire Code, and ANSI A300.

- Currently serving on the North America Electric Reliability Corporation's (NERC) Vegetation Management Standard Drafting Committee which developed, and is currently updating, the FAC-003 transmission standard for North America.

CNUC (and Stephen Cieslewicz) is also very active in the UVM industry and has been recognized as experts in this field:

- Past President of the Utility Arborist Association. (industry dominant non-profit organization devoted to Utility Arboriculture)
- International Society of Arboriculture (ISA) Certified Arborist since 1989. (also Certified Utility Specialist)
- One of the industry experts chosen to develop the ISA's advanced certification exam for Utility Specialists.
- Advisory Council Member for the Project Habitat awards and programs
- Received the 2003 Utility Arborist Award in Montreal Canada during the International Society of Arboriculture's annual conference
- Currently serves on numerous industry related projects and committees

CNUC's direct experience coupled with our unique benchmarking and research projects, qualifies us to provide expert opinions on most aspects of a UVM program and activity. This knowledge of regulatory requirements and best management practices is based on an empirical and fact-based understanding of the industry.

---End---

Appendix 2 - Comparison to UVM Industry Practices

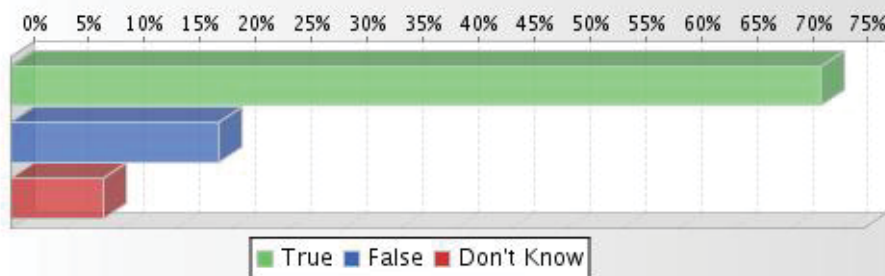
This appendix contains specific comparison between NSPI operations and those of our benchmarking participants. This comparison is followed by a list of specific best management practices that are included in NSPI's program.

Area	Industry Standard	NSPI
Program structure	Centralized	Centralized
Employee qualifications	High	High
Industry involvement	High	High
Workload assessments/inventories	Sporadic	Strong
Scheduling	Cycle based	Actual need
Work on secondary and service drops	Yes	Yes
Contracting methods	Competitively Bid	Competitively Bid
Work techniques (A300 etc.)	Compliant	Compliant
Cut painting and climbing spurs	Not used	Not used
Tree removal policy	Yes	Yes
Tree replacements	Yes	Yes
Tree Growth Regulators	Yes	No
Public Education programs	Yes	Yes
Customer Notifications	Yes routine	Yes routine
Internal education (engineering etc)	Yes	Yes
Agency issues	Yes	Yes
Media work	Yes	Yes
UVM work (other than line clearing)	Yes	Yes
Right-tree right place programs	Yes	Yes
UVM related R&D	Yes	Yes
Computerized Work management	sporadic	Yes (transmission)
Post Auditing of completed work	sampling	sampling
Emergency Response preparedness	Yes	Yes
In growth considerations	limited	limited
UVM Inspection Frequency	routine	routine
Distribution Inspection frequencies	routine	routine
Hazard tree identification program	Sporadic	Expanding program

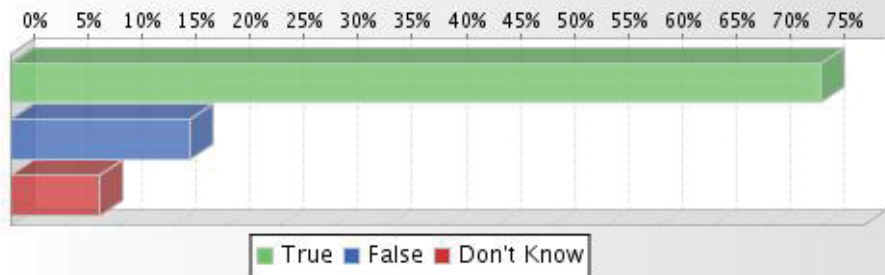
Best Management Practices

We note that NSPI has many attributes that are considered to be “best in class” practices by the industry. The following is information taken from our benchmarking results. Each of these would be answered in the affirmative by NSPI.

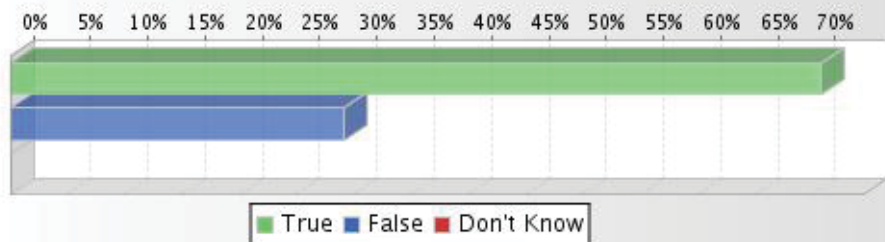
When designing and constructing new electric facilities (poles, towers, etc.) existing and future vegetation is considered – True



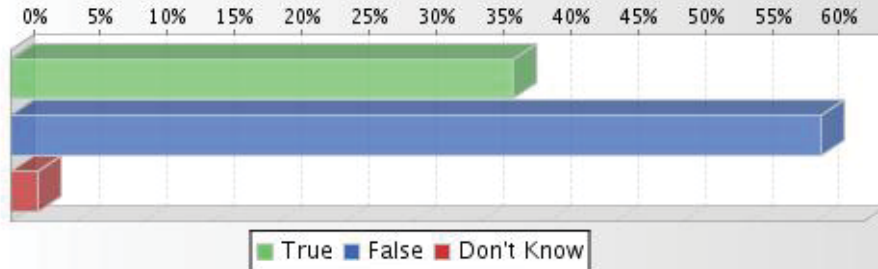
When obtaining new easements or franchise agreements vegetation is considered and addressed in the documented language – True



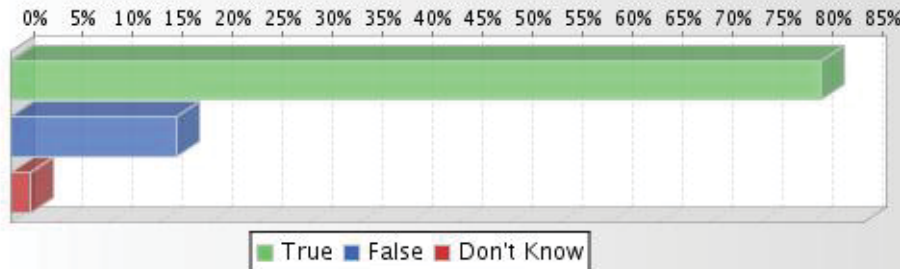
Developing workload projections, planning, budgeting, and scheduling is based on an accurate understanding of the existing and likely future vegetation – True



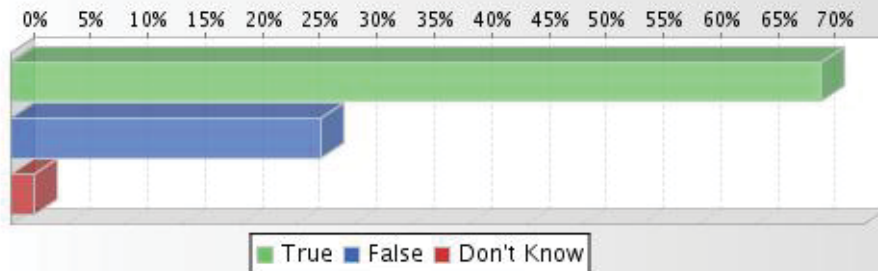
Funding is based on a clear understanding of the required work, and not on historic spending – True



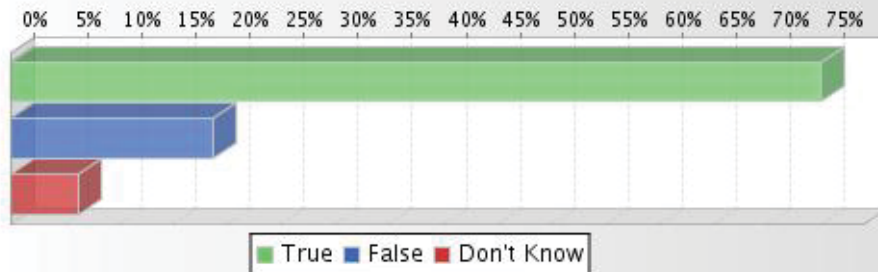
Scheduling is based on an updated and ongoing analysis of the workload and current conditions – True



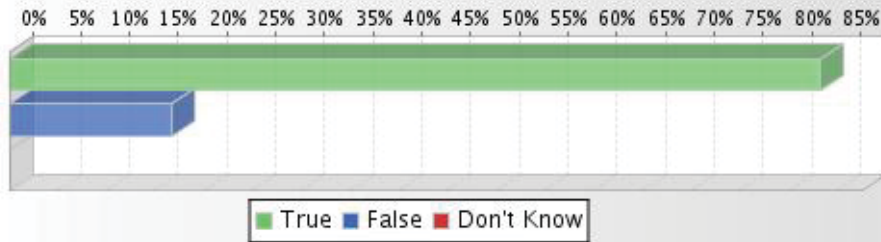
Field inspections of vegetation conditions occur on a frequent basis, and are based on anticipated growth and changing conditions – True



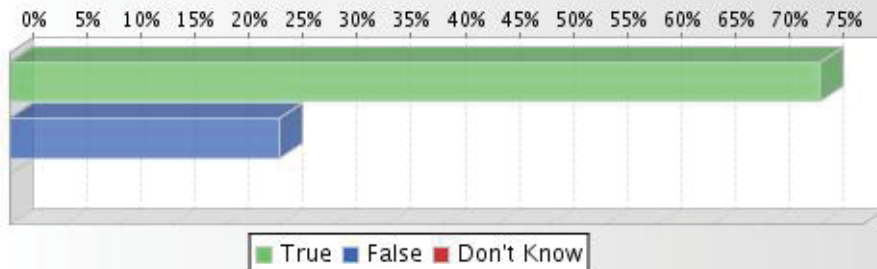
Executive management understands and fully supports our UVM program and activities – True



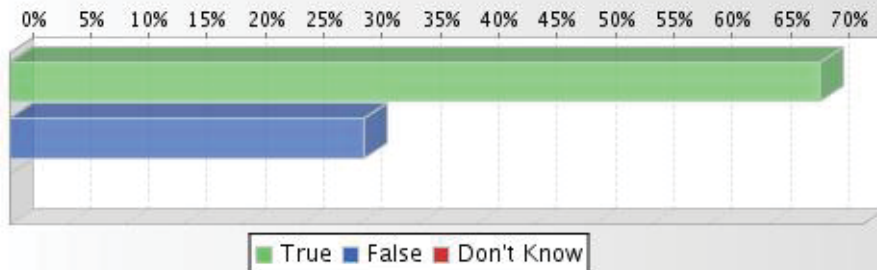
Utility and contract employees at all levels in our UVM program have appropriate qualifications, ongoing training, and applicable certifications to perform the required work – True



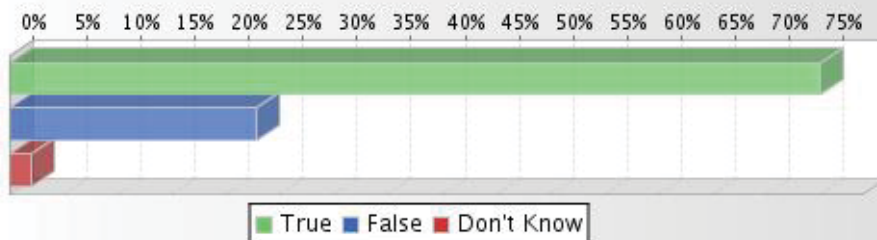
Our UVM program continuously evaluates new technology, products and work methods that are aimed at program improvement – True

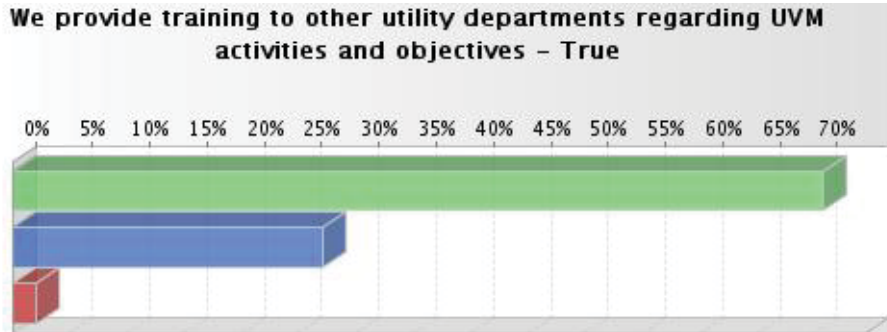


We have a formal management plan outlining UVM practices, objectives, and approved procedures – True



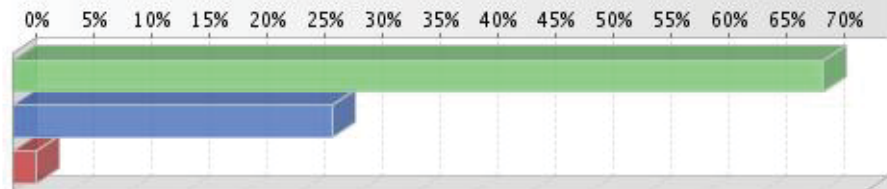
We have a quality assurance program, and a documented procedure for ensuring that work is completed per specifications and industry standards – True





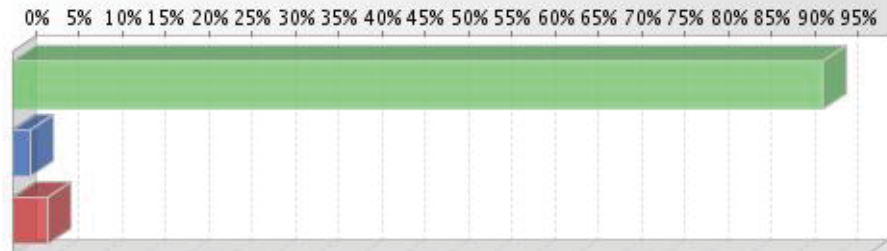
True False Don't Know

We have a system(s) and procedures capable of managing work identification, assignments, and the job status for all required UVM work. – True

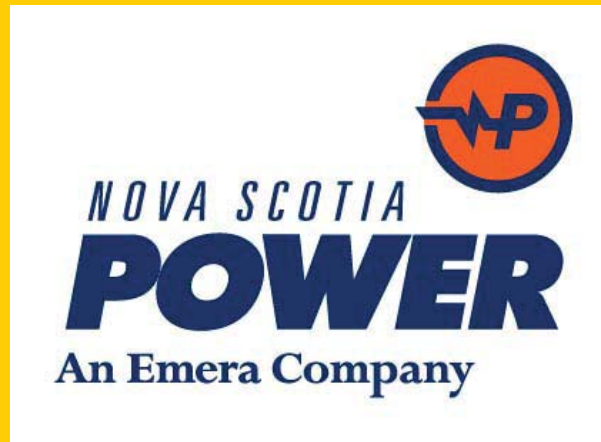


True False Don't Know

Our pruning is done in accordance with ANSI A300 guidelines. – True



True False Don't Know



**Five Year
Vegetation
Management Plan
2009 - 2013**

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1 □ 0 Overview

This plan covers expenditures funded in current rates through the period 2008-2013 and also addresses the potential for incremental spending over a five year period.

The Distribution portion of the plan is based on a combination of predictive and reactive management activity. The Transmission portion of the plan is based on predictive management activity. This blended approach is targeted at improved system reliability and customer satisfaction at the lowest long term cost.

A summary of the 5 year expenditures currently funded in rates as well a 5 year projection for incremental spending is provided below.

Base 5 Year Plan		Year	2009	2010	2011	2012	2013
Currently Approved in Rates - \$6.8 M	Distribution - Customer Requested Work		720,000.00	720,000.00	720,000.00	720,000.00	720,000.00
	Distribution - Feeder Inspections		1,936,000.00	1,936,000.00	1,936,000.00	1,936,000.00	1,936,000.00
	Distribution - Feeder Performance		944,000.00	944,000.00	944,000.00	944,000.00	944,000.00
	Transmission		3,200,000.00	3,200,000.00	3,200,000.00	3,200,000.00	3,200,000.00
Total Base Veg Spending			6,800,000.00	6,800,000.00	6,800,000.00	6,800,000.00	6,800,000.00
Incremental 5 Year Plan		Year	2009	2010	2011	2012	2013
Requested Additional \$3.4M for Storm Hardening	Transmission Danger Tree Removals		\$1,540,000.00	\$1,540,000.00	\$1,540,000.00	\$1,540,000.00	\$1,540,000.00
	Distribution Danger Tree Removals		\$1,860,000.00	\$1,860,000.00	\$1,860,000.00	\$1,860,000.00	\$1,860,000.00
Subtotal			\$3,400,000.00	\$3,400,000.00	\$3,400,000.00	\$3,400,000.00	\$3,400,000.00
	Distribution - Feeder Inspections		\$2,780,000.00	\$2,780,000.00	\$2,780,000.00	\$2,780,000.00	\$2,780,000.00
	Distribution - Feeder Performance		\$820,000.00	\$820,000.00	\$820,000.00	\$820,000.00	\$820,000.00
Subtotal			\$3,600,000.00	\$3,600,000.00	\$3,600,000.00	\$3,600,000.00	\$3,600,000.00
Total Incremental Veg Funding			\$7,000,000.00	\$7,000,000.00	\$7,000,000.00	\$7,000,000.00	\$7,000,000.00

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2.0 Plan Principles

2.1 Current Rates Funded Transmission Management

The activities within the Transmission management section of the plan are identified through a predictive management approach. Mechanical, chemical and cultural controls are utilized to ensure incompatible vegetation is managed. Treatments are designed to encourage the development of plant communities with power line compatible structure and growth patterns.

The sum of activities within the plan is targeted at increasing the amount of sustainable rights of way within the system. Increasing sustainability will reduce the frequency and/or extent of required future maintenance.

2.2 Current Rates Funded Distribution Management

The activities within the Distribution management section of the plan are identified through a blend of predictive and reactive management approaches. The activities within the plan are grouped under the Feeder Inspection, Feeder Performance and Customer Requested Work streams.

Reactive work is generally more expensive than proactive (predictive) work. Weighting expenditures in favour of proactive work allows a greater portion of the system to be addressed in a given year within the overall budget cap. Proactive work provides the greatest positive effect on overall costs by avoiding outages before they occur.

2.2.1 Feeder Inspection (predictive)

This activity is driven by the results of NSPI's annual feeder inspection program. Through the feeder inspection process, areas are highlighted where tree conditions are potentially problematic. These areas are then subjected to a prioritization process which weights the expenditure against customer count for the feeder. This ensures the largest number of customers benefit from the available expenditure.


2.2.2 Feeder Performance (reactive)

This activity is focused on the worst performing feeders across the system. Worst performing feeders are identified based on the number of Customer Interruptions (CIs) and events due to trees. Feeders within this group are selected based on an extensive prioritization process. This results in the available expenditures being targeted at those areas which will produce the largest increase in performance for the least cost.

2.2.3 Customer Requested Work (reactive)

This activity allows the program to react to specific vegetation conflicts identified by customers. Customers call and identify specific areas on the system (generally adjacent to the customer's property) which are exhibiting vegetation conflicts with the line. All work identified by a customer is subsequently field scoped to confirm a true conflict is present prior to a work crew being dispatched. This field scoping results in approximately 65% of the locations identified by customers being treated.

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2.2.4 Sustainability (Follow Up)

This activity is a function of the need to follow up previously completed aerial tree trimming with the implementation of integrated vegetation management techniques to control the growth of all incompatible vegetation within the distribution right of way. Activities include; manual ground cutting, mechanical mowing and herbicide application.

2.2.5 Large Hazard Tree Removal

This activity is specifically designed to provide a level of storm proofing against branch or whole-tree failures from larger trees outside the existing distribution rights of way that pose a threat to the system upon collapse. While not limited to, most trees identified under this activity are American Elm that have been affected by Dutch Elm Disease.

3.0 Incremental Vegetation Management Investment

3.1 Incremental Distribution Management

In recent years, NSPI has reduced the number of customer interruptions due to vegetation conflict. Over the same period the number of outage events (i.e. the root cause of one or more customer interruptions) due to vegetation conflict has increased. The relationship between these two measures is a function of allocating limited vegetation management funding to those areas with the largest positive effect on reliability. In order to maintain the improvements in outage frequency and reverse the trend in the number of outage events, a significant increase to distribution system vegetation management spending is required. This plan provides direction for an additional \$3.6 million.

NSPI projects that annual distribution system vegetation management spending of \$7.2 million over a five year period will deliver a 25% improvement in the number of tree-related customer interruptions and a 30% improvement in tree-related customer hours of interruption. Funding would have to increase by \$3.6 million to achieve these results.

Increasing the budget to this level would allow NSPI to increase the predictive (proactive) portion of its current vegetation management program while maintaining adequate reactive funding to ensure that the feeders with the weakest reliability are addressed in a timely manner. In a more proactive position, NSPI will address larger portions of rural and remote feeders. Improved clearances in these areas will deliver both outage frequency and duration improvements for these customers.


3.2 Incremental System Storm Hardening – Transmission & Distribution

Dependence on electrical power has been increasing over the last decade. The negative impact of storms on the electrical system has been increasingly a source of discontent from the customer base. During periods of severe weather, vegetation conflict accounts for almost 35% of customer outages. A material increase in funding to facilitate specific storm hardening activities is necessary to further improve customer reliability during storm conditions. This plan provides direction for an additional \$3.4 million for Storm Hardening.

Removal of danger trees and/or edge trees which are not wind firm as well as buffer strips left from forest harvesting activities are critical to storm hardening the system. Removing trees in these categories can significantly reduce tree related storm impacts. These activities can reduce the potential for side strikes during storm events from between 70-80 % depending on the height of adjacent trees and it creates conditions that allow for significantly longer maintenance cycles.

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4.0 Five Year Distribution Vegetation Management Plan Details

4.1 NSPI 2008 (Current rate based funding) Distribution Management Plan


4.1.1 Feeder Inspection activity (Predictive Management)

2008 (Base Funding +\$2000k Approved Deferral) Distribution Feeder Inspection Based trimming					
Territory	Locality/Community	Feeder	# Spans to Treat	Average Span Cost	Feeder Budget
West					
	New Minus	22v-312	23	\$325	\$7,475
	New Minus	22v-321	28	\$325	\$9,100
	New Minus	22V-313	28	\$325	\$9,100
	Windsor	79v-401	728	\$325	\$236,600
	New Minus	22V-322	101	\$287	\$28,987
	Middleton	65v-303	63	\$337	\$21,231
	Lockeport	37w-202	14	\$325	\$4,550
	Shelburne	25w-302	100	\$416	\$41,600
	Liverpool	48w-201	28	\$325	\$9,100
	Maitland Bridge	76v-301	174	\$325	\$56,550
	Kingston	63V-312	51	\$320	\$16,320
	Windsor	79v-403	96	\$325	\$31,200
	Elmwood	73W-411	85	\$435	\$36,975
	Mossman Rd.& Oak Rd.	73W-411	18	\$322	\$5,796
	White Rock to Acadia	L-4049 (45V)	43	\$648	\$27,864
	Yarmouth	16W-302	12	\$524	\$6,290
	Baker Point	522W-311	33	\$329	\$10,866
	Bear River	13V-303	40	\$263	\$10,520
	Indian Path	80W-302	539	\$325	\$175,175

Subtotal \$745,299.00

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4.1.1 Feeder Inspection activity (Predictive Management)... continued

2008 (Base Funding +\$2000k Approved Deferral) Distribution Feeder Inspection Based Trimming					
Territory	Locality/Community	Feeder	# Spans to Treat	Average Span Cost	Feeder Budget
Central					
	Amherst (Town)	20N & 17N	278	\$300	\$83,400
	Springhill	6N-301	166	\$300	\$49,800
	Liechester	22N-403	68	\$325	\$22,100
	Tatamagouche	4N-313	89	\$400	\$35,600
	River Hebert	65N-201	189	\$300	\$56,700
	Debert	5N-301	13	\$200	\$2,600
	Truro	1N-403	115	\$325	\$37,375
	Lake of the Woods Subdivision	92H-332	67	\$254	\$17,018
	Maple Street	54H-303/304	64	\$325	\$20,800
	Elmsdale	82V-403	440	\$325	\$143,000
	Albro Lake	62H-301/302 /303/304	241	\$325	\$78,325
	Farrell St	99H-311/312	69	\$325	\$22,425
	Spryfield	20H-306	164	\$291	\$47,724
	Burnside	108H-413/412	101	\$325	\$32,825
	Penhorn	48H-302, 303, 304	110	\$325	\$35,750
	Rockingham	23H-301	116	\$325	\$37,700
	Sackville	101H-423	194	\$325	\$63,050
	Dartmouth East	113H-434	160	\$325	\$52,000
	Lakeside	103H-433	8	\$325	\$2,600
	Dartmouth East	113H-443	64	\$325	\$20,800
	Hubbards	87W-311	560	\$325	\$182,000
	Robinson's Corner	84W-302	233	\$325	\$75,725
	Burnside	108H-411	24	\$325	\$7,800
	Akerley Blvd.	124H-301	16	\$325	\$5,200
	Lakeside	103H-434	85	\$325	\$27,625

Subtotal \$1,159,944.00

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4.1.1 Feeder Inspection activity (Predictive Management) ... continued


2008 (Base Funding +\$2000k Approved Deferral) Distribution Feeder Inspection Based trimming					
Territory	Locality/Community	Feeder	# Spans to Treat	Average Span Cost	Feeder Budget
East					
	Bridge Avenue	62N-414	450	\$325	\$146,250
	Sutherlands River	50N-410)	159	\$400	\$63,600
	Wreck Cove to Gisborne	85S-405	130	\$308	\$40,040
	Ben Eion	524S-311	75	\$325	\$24,375
	Cheticamp	103C-311	20	\$325	\$6,500
	Keltic Drive	11S-305	60	\$325	\$19,500
	Whitney Peir	82S-303 /304	140	\$325	\$45,500
	Baddeck	104S-311	100	\$325	\$32,500
	Port Hastings	2C-402	210	\$325	\$68,250
	Bridge Ave.	62N-415/412)	450	\$296	\$133,250
	Reserve St.	81S-303	17	\$325	\$5,525
	Baddeck	104S-313	60	\$325	\$19,500
	Little VJ	84S-305	56	\$325	\$18,200
	St. Peters	59C-403	46	\$325	\$14,950
	Keltic Drive	11S-306	18	\$325	\$5,850
	Cheticamp	103C-313	70	\$325	\$22,750
	Cleveland	22C-403	140	\$325	\$45,500

Subtotal \$712,040.00

Total Predictive \$2,617,283.00

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4.1.2 Feeder Performance Activity (Reactive Management)


2008 (Base Funding +\$2000k Approved Deferral) Distribution Feeder Performance Based trimming

Territory	Locality/Community	Feeder	# Spans to Treat	Average Span Cost	Feeder Budget
West					
	Milton	50W-412	314	\$223	\$70,022
	Milton	50W-411	341	\$261	\$89,001
	Hillaton	36V-302	342	\$295	\$100,890
	Tusket	102W-312	870	\$350	\$304,500
	Broad River	46W-301	100	\$400	\$40,000
Central					
	Burlington	18V-413	461	\$350	\$161,350
	Tidewater	92H-331	300	\$300	\$90,000
East					
	Gannon Road	3S-307	59	\$300	\$17,700
	Whycocomagh to Mabou	67C-411	115	\$300	\$34,500
	Benacadie	11S-411G	177	\$300	\$53,100
	Pomquet to Monastery	4C-441G	417	\$350	\$145,950
	Antigonish to Pomquet	4C-441	200	\$300	\$60,000
	Margaree	58C-405	50	\$350	\$17,500
	Lochaber (Step down 57C-422)	514C-311	190	\$350	\$66,500
	Mulgrave	100C-421	106	\$400	\$42,400
	Arisag (step down 4C-430)	581C-311	208	\$365	\$75,920
	Antigonish (southeast)	4C-430	204	\$300	\$61,200
	Country Harbour to Goldboro	57C-426G	183	\$400	\$73,200

Total Reactive \$1,503,733.00

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4.1.3 Customer Requested Work Activity

2008 (Base Funding) Distribution Customer Requested Work Based Trimming


Territory	Activity	Projected # Spans	\$ Per Span	Budget
West				
	Trimming – Valley	238	\$492	\$104,000
	Scoping			\$25,000
	Asplundh - South Shore	343	\$360	\$104,000
	Scoping			\$25,000
Central				
	Trimming-HFX-Trucks	425	\$405	\$101,800
	Scoping			\$35,000
Central & Eastern				
	Trimming-Northeast	474	\$348	\$191,000
	scoping Asplundh			\$25,000
Eastern				
	Trimming –CB	309	\$320	\$88,200
	Scoping			\$21,000
				\$ 720,000.00

4.1.4 Sustainability (Province – wide) \$884,762.00

4.1.5 Large Hazard Tree Removal (Province – wide) \$80,000.00

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4.2 Distribution Management Plan 2009-2013 (Current Rate Base+ Incremental Funding)


4.2.1 Feeder Inspection Activity (Predictive Management) - 2009 – 2013

Preliminary scoping for the Feeder Inspection (predictive management) stream for the period 2009-2013 has been completed and the results are presented in the following table. Feeders out of specific substations have been identified for treatment. Specific field scoping will be completed as part of the plan implementation to verify and refine the prioritization for treatment of the various feeder sections.

Territory	Year	Substation	Feeder	# Customers	Budget
West	2009				\$1,424,845
		Indian Path	80W-301	600	
		Digby	77V-303	986	
		East Green Harbour	36W-301	694	
		Waterville	55V-311	1088	
		Digby	77V-302	1342	
		High Street	70W-203	272	
		Pleasant St. Yarmouth	88W-321	613	
		High Street	70W-204	267	
		Hantsport	20V-311	1071	
		High Street	70W-312	633	
		Greenwood	64V-301	847	
		Lr. East Pubnico	20W-312	139	
		Barrington	22W-311	1104	
		High Street	70W-313	1048	
Central	2009				\$2,092,329
		Church Street	22N-404	353	
		Kempt Road	104H-413	1658	
		Kempt Road	104H-433	1566	
		Kempt Road	104H-441	1975	
		Albro Lake	62H-304	2430	
		Armdale	2H-411	286	
		Farrell St	99H-311	1906	
		Porters Lk	126H-311	1090	
		Beaufort	7H-all	1258	
		Yale Street	9H-all	1766	
		Kempt Road	104H-421	1574	
		Rockingham	23H-301	1159	
		Kempt Road	104H-412	1611	

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4.2.1 Feeder Inspection Activity (Predictive Management) - 2009 – 2013

Territory	Year	Substation	Feeder	# Customers	Budget
		Rockingham	23H-301	1159	
		Kempt Road	104H-412	1611	
		Robinson's Corner	84W-301	1605	
		Tidewater	92H-331	2131	
		Akerley Blvd	124H-301	183	
		Robinson's Corner	84W-302	239	
		Tidewater	92H-334	1014	
		Akerley Blvd	124H-302	179	
		Lakeside	103H-434	1091	
		Back yard feeders			
		Penhorn	48H-302	1452	
		Penhorn	48H-304	874	
		Sackville	101H-423	2773	
		Albro Lake	62H-302	1490	
		Dartmouth East	113H-434	2869	
		Lakeside	103H-433	1503	
		Dartmouth East	113H-443	2110	
		Farrell St	99H-312	900	
		Burnside	108H-412	528	
		Kempt Road	104H-412	1611	
		Robinson's Corner	84W-301	1605	
		Tidewater	92H-331	2131	
		Hubbards	87W-311	1769	
		Penhorn	48H-303	294	
		Burnside	108H-411	556	
		Tidewater	92H-334	1014	
		Akerley Blvd	124H-302	179	
		Tidewater	92H-332	886	
		Back yard feeders	various		
		Lucasville	131H-421	3803	

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4.2.1 Feeder Inspection Activity (Predictive Management) - 2009 – 2013

Territory	Year	Substation	Feeder	# Customers	Budget
		Upper Musquodobit	88H-401	1182	
		Musquodobit Harbour	87H-311	1831	
		Haliburton	62N-412	197	
		Tatamagouche	4N-312	1865	
		Truro	15N-402	41	
East	2009				\$1,198,825
		Point Tupper	85S-401	1461	
		Cleveland	22C-403	532	
		Gannon Road	3S-405	22	
		Cheticamp	103C-314	751	
West	2010				\$2,107,820
		Auburndale	73w-411	4048	
		Hilliton	36V-303	1748	
		Hilliton	36V-302	1530	
Central	2010				\$1,576,396
		Musquoduobit Hbr	87H-312	937	
		Tatamagouche	4N-312	1865	
		Haliburton	62N-415	786	
		Park Street	20N-203	81	
		Back yard feeders	various		
		Metro feeder trimming	various		
		Water Street	1H-429	17	
		Fall River	127H-412	5	
		St Margarets bay	92H-333	1	
East	2010				\$1,031,784
		St. Peters	59C-402	1031	
		St. Peters	59C-401	370	
		Mulgrave	100C-421	727	
		Antigonish	4C-430	1174	
		Little VJ	84S-303	1	


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Territory	Year	Substation	Feeder	# Customers	Budget
West	2011				\$2,514,828
		New Minus	22V-314	220	
		Lockeport	37w201	245	
		Pleasant St Yarmouth	88w-312	1891	
		Waterville	55V-312	926	
		Claire	93V-312	773	
		Argyle	19w-312	1011	
		Middlefield	91w-411	719	
		Milton	50w-411	1073	
		Wolfville	83v-303	1041	
		Lr. Woods Harbour	21w-311	385	
		Pleasant St Yarmouth	88w-311	769	
		Lequille	12v-304	972	
		Claire	93v-311	1589	
		Bridgetown	70V-311	1396	
		Claire	93V-313	1810	
Central	2011				\$1,019,600
		Elmsdale	82V-402	2470	
		Parrsboro	37N-411	509	
		Trenton	50N-411	1123	
		Metro feeder trimming	various		
		Back yard feeders	various		
		Sheet Harbour	96H-412	771	
East	2011				\$1,181,572
		Antigonish	4C-430	1174	
		Salmon River	57C-422	464	
		Mulgrave	100C-422	368	
		Point Tupper	1C-412	2	
West	2012				\$2,266,091
		Barrington	22w-313	947	
		Caledonia	57w401	743	
		Waterville	55v-313	1552	
		Hebron	16w301	1719	
		Bridgewater East	89w-302	841	
		Shelburne	25w-303	1106	
		Lequille	12V-303	644	
Central	2012				\$2,027,867
		Metro feeder trimming	various		
		Back yard feeders	various		
		Debert	81N-411	286	
		Parrsboro	37N-414	393	
		Church Street	22N-403	803	

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East	2012				\$422,042
		Englishtown	104S-313	522	
		Fortress Loiusbourg	57S-401	2033	
		Boisdale	11S-301	1480	
		Aberdeen	9C-(all)	253	
		Whycocomagh	67C-411	1477	
West	2013				\$2,128,487
		Middleton	65V-302	2019	
		Waterville	55v-314	1047	
		Lr. Woods Harbour	21w-312	279	
		Tusket	102w-311	1096	
		Bridgetown	70V-312	829	
		Middleton	65V-301	489	
		Shelburne	25w-301	825	
		Pleasant St Yarmouth	88w323	1182	
		Pleasant St Yarmouth	88w322	293	
Central	2013				\$2,125,506
		Dickie Brook	24C-443	1008	
		Pugwash	7N-301	1361	
		Haliburton	56N-401	528	
		Trenton	50N-412	232	
		Parrsboro	37N-413	350	
		Goshen	57C-417	60	
		Dickie Brook	24C-442	714	
		Trafalgar	89H-401	82	
		Oxford Jct.	3N-301	545	
		Maccan	30N-412	254	
		Oxford Jct.	3N-411	31	
		Sheet Harbour	96H-411	1009	
		Trenton	50N-311	5	
East	2013				\$462,007
		Townsend Ave.	4S-(all)	2125	
		Keltic Drive - Coxheath	11S - 411	3526	
		Tarbot/ Ingonish / Cape North	85S-402	500	
		Gannon road	3S-403	1782	
		New Waterford	15S-301, 302;303	3256	

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4.2.2 Feeder Performance activity (Reactive Management) 2009-2013

The allocation of the Feeder Performance (reactive) spend for the period 2009-2013 will be determined based on a year by year analysis of previous years' system performance data.

4.2.3 Customer Requested Work activity - 2009-2013

The CRW expenditure is a function of Customer Demand. The following table represents the projected annual expenditure during the period of 2009-2013 assuming current levels of activity (base funding) are maintained in each of the other activity streams.

Region	Activity	Budget
West		
	Trimming - Valley	\$104,000
	scoping	\$25,000
	Asplundh - South Shore	\$104,000
	scoping	\$25,000
Central		
	Trimming-HFX-Trucks	\$101,800
	Scoping	\$35,000
Central & Eastern		
	Trimming-Northeast	\$191,000
	scoping Asplundh	\$25,000
Eastern		
	Trimming -CB	\$88,200
	scoping	\$21,000

4.3 Storm Hardening


Vegetation conflict attributable to severe weather events has a higher probability of causing customer interruptions.

On the Distribution System this is due to the fact that during such events, larger diameter branches can come into frequent or constant contact with the conductor. Thus the current flow necessary to create a ground fault is much more likely to occur and the potential to have a portion of the tree bridge two phases, creating a phase-to-phase fault, is increased. Tree failures from the side of the right of way are also a major source of customer interruptions during storm events.

On the Transmission System, tree failures from the side of the right of way are the main source of customer interruptions due to tree during storm events.

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4.3.1 Year One Distribution Class Storm Hardening

Initial scoping has been completed in order to identify year one activity for incremental distribution class storm hardening. As part of the implementation of the plan, scoping will be completed for years 2 -5. Feeders will be identified based on the level of treatment completed on the system at the time of scoping as well as approved activity forecasted in the plan at that time.

Geographic Reference	Feeder	# Spans	Budget
Advocate to Apple River	607N-301GA	400	\$160,000
(Rte. 307) Wallace to Middleboro	4N-311G	180	\$72,000
Richmond Rd. to Wallace Grant	4N-311	200	\$80,000
Plainfield to WestBranch & taps	509N-301	360	\$144,000
Pictou rotary to Sundridge and Poplar Hill	56N-414	234	\$93,600
Beaver Meadow to Marshy Hope	4C-430	270	\$108,000
Lochaber Lake (Both sides)	514C-301	378	\$151,200
Salmon Rvr. Lk. To Indian Hbr. Lk. (XC)	57C-426	468	\$187,200
Trafalgar to West Loon Lake	89H-401	150	\$60,000
Dean to College Lake	88H-402G	300	\$120,000
Tangier to Bear Lake	703H-311	400	\$160,000
Ruth Falls to Quoddy (XC)	96H-412	200	\$80,000
East Maitland to Urbania	1N-402G	135	\$54,000
Georgefield Rd.	639V-311	126	\$50,400
Mill Village to North Salem	640V-311	100	\$40,000
White Rock Rd.	83V-303	61	\$24,400
Sandy Point Rd. Jordan Bay	25W-303	90	\$36,000
Adjacent to Hwy 103 and Danesville	50W-412	330	\$132,000
Ingomar area	25W-301	70	\$28,000
St. Catherines River/ Port Mouton area	46W-301	200	\$80,000
	Total	4652	\$1,860,800

Date Filed: July 8, 2008

NSPI (UARB) IR-5 Attachment 3 Page 18 of 18

	<h2>Five Year Vegetation Management Plan</h2>	<p>Date Jan 17, 2008</p> <p>Page 18 of 18</p>
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4.3.2 Year One Transmission Class Storm Hardening

Initial scoping has been completed in order to identify year one activity for incremental Transmission class storm hardening. As part of the implementation of the plan, scoping will be completed for years 2 -5.

Line No.	Kms	Budget
5016	10	\$34,000
5026	47	\$319,600
5532	48	\$163,200
5524	42	\$142,800
5527	68	\$231,200
5029/6514	22	\$74,800
6516	3	\$20,400
6001	17	\$91,800
7003/7004	50	\$340,000
6531	36	\$122,200
Total	343	\$1,540,000

Year	Cost	NPV	ACHI	Average \$/ACHI
2012	\$ 3,400,000	\$ 3,400,000	219,589	15.48
2013	\$ 3,400,000	\$ 6,174,636	439,178	14.06
2014	\$ 3,400,000	\$ 8,975,099	658,767	13.62
2015	\$ 3,400,000	\$ 11,600,206	878,356	13.21
2016	\$ 3,400,000	\$ 14,060,935	1,097,945	12.81
2017	\$ 3,400,000	\$ 16,367,581	1,317,534	12.42
2018	\$ 3,400,000	\$ 18,529,791	1,537,123	12.05

WACC: 6.68%

Net Present Value: \$18,529,791

Avoided Customer Hours of Interruption: 1,537,123

Overall \$ / ACHI: 12.05

Annual \$/ACHI: 15.48

NON-CONFIDENTIAL

1 **Request IR-61:**

2

3 **With respect to the increase in Customer Service costs described on page 83, line 2 and**
4 **charted in Figure 5.12 of NSPI's filing, please provide:**

5

6 **(a) a list of the expense categories and accounts included in Customer Service costs in**
7 **each of the yearly columns charted,**

8

9 **(b) a breakdown of total Customer Service Costs and of the increase cited by those**
10 **categories and accounts in each of the yearly columns charted.**

11

12 **Response IR-61:**

13

14 **(a-b) Please refer to Appendix C, pages 45 - 47 and OR-05 of the 2012 Application.**

NON CONFIDENTIAL

1 **Request IR-62:**

2

3 **With respect to the “one-time programs and initiatives to improve customer service” cited**
4 **on page 84 of NSPI’s filing, please:**

5

6 **(a) describe them in detail,**

7

8 **(b) list their one-time costs in total, and**

9

10 **(c) break out their one-time costs by program and initiative wherever available.**

11

12 Response IR-62:

13

14 Satisfying our customers is a priority at Nova Scotia Power. We know from research that price,
15 reliability, environmental performance and day to day service interactions are all significant
16 drivers of our customers’ satisfaction.

17

18 In addition to the work we do to control costs (and therefore price), improve our reliability, and
19 increase the amount of electricity from renewable sources, NSPI is implementing changes
20 focused on improving customers’ service experiences with us.

21

22 Seven strategies have been identified as key to improving our service. These are shown in the
23 table below. During 2010 and 2011, a number of initiatives were advanced/completed
24 leveraging the implementation of new work management and scheduling technologies and
25 processes. Improvements in service levels, redesign of customer experience processes, and
26 customer service training were priority areas of focus.

NON CONFIDENTIAL

1 Service Levels

2
3 Nova Scotia Power has identified 39 key measures of our day to day service to customers, from
4 how quickly we answer customer phone calls, to how long it takes to repair a street light, to the
5 accuracy of meter reads. A target has been established for each measure and a red light/green
6 light system is used to report on performance. Missed service levels (Red lights) are flagged and
7 corrective action taken.

8
9 During 2010 and 2011, we initiated a process to improve our consistency of meeting service
10 level targets, and to align these internal targets with customer expectations. A transactional
11 research process was designed and implemented to obtain feedback from customers about
12 whether the service levels they experienced met their expectations. Adjustments to service level
13 targets were/are then made accordingly.

14
15 NSPI estimates that approximately \$1.8 million of incremental investment was made in 2010 and
16 \$0.5 million is forecast for 2011 in service level related initiatives, which is not expected to recur
17 in the 2012 test year.

18
19 Redesign of Customer Experience Processes

20
21 Whether connecting power to a new house, or answering a billing inquiry, the experience we
22 provide our customers is greatly affected by our internal processes. In 2010 and 2011 NSPI
23 made a number of changes (large and small) to our customer service delivery processes. Done in
24 conjunction with the introduction of new work management and scheduling technology, we were
25 able to leverage the capabilities of the new software, and also manage the people, process and
26 technology changes in an integrated fashion.

NON CONFIDENTIAL

1 NSPI estimates that approximately \$3.1 million of incremental investment was made in 2010 and
2 \$2.0 million is forecast for 2011 for the redesign of customer experiences, which is not expected
3 to recur in 2012.

4
5 Employee Training

6
7 One of NSPI's key strategies to improve our customer service is to involve employees and build
8 a culture of customer service inside our company. During 2010 and 2011, over 1300 employees
9 from across all areas of our organization participated in a training program focused on improving
10 our service to customers. The program was designed (customized for NSPI), and delivered by a
11 leading international customer service training organization.

12
13 NSPI estimates that \$0.2 million of incremental investment was made in 2010 and \$0.4 million is
14 forecast for 2011 for this company wide customer service training program, which is not
15 expected to recur in 2012.

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NON CONFIDENTIAL

Customer Service Strategy	Tactics
Align standards with customer expectations.	<ul style="list-style-type: none"> • Conduct Transactional research and benchmarking. • Modify Service Levels based on results of transactional research and benchmarking.
Define, document and execute standards-based processes.	<ul style="list-style-type: none"> • Create Customer Service Guidebook. • Technical training and launch of the Guidebook.
Take ownership of the customer experience.	<ul style="list-style-type: none"> • Create a new construction team to improve the NEW INSTALL process (based on successful results of Large Builder Pilot). • Assign internal owners for key customer experiences with newly defined service and performance standards.
Set and keep commitments.	<ul style="list-style-type: none"> • Meet service levels consistently in Customer Care Centre & Field. • Redesign processes and deliver new Service level customer metrics. • Introduce new / additional service commitments into our service offering.
Communicate proactively and effectively to customers.	<ul style="list-style-type: none"> • Create targeted customer communications for priority experiences (customized inserts, bill enhancements for target audience). • Review and rewrite, as required, existing web and print customer communications. • Outbound service calls to Commercial customers.
Offer customers more options and control.	<ul style="list-style-type: none"> • Exploit new channel service strategy options including web and social media. • Improved Customer Care Centre features (i.e. Virtual Hold, Self Service technology add-ons).
Engage employees in realizing a customer service vision.	<ul style="list-style-type: none"> • Skill Building Basics for customer-facing employees. • Customer Service Training for Management and frontline Supervisors. • Customer Service Training for a Service culture for all employees.

REDACTED

1 **Request IR-63:**

2

3 **With respect to the \$0.5 million increase**

4

5 **to reflect actual and forecasted write-off experience partially offset by**
6 **process improvement gains**

7

8 **cited on page 85 of NSPI's filing, (starting at line 3), please:**

9

10 **(a) list the expense categories and accounts included in that increase,**

11

12 **(b) provide the actual amounts by category and account for 2010 and for 2011 year to**
13 **date,**

14

15 **(c) provide the forecast for the remainder of 2011, total expected 2011 amounts,**

16

17 **(d) provide the forecast for 2012,**

18

19 **(e) describe the basis for calculating the expected offset, and**

20

21 **(f) show the dollar effect of the offset on write-offs for 2012.**

22

23 **Response IR-63:**

24

25 **(a) Please refer to Section OR-05 of the Application.**

REDACTED

1 (b) Please see OR-05 for 2010 actuals.

	2011 Actual (Jan – Apr) (\$M)
Write-offs	
Recoveries	
Commissions	

2

3 (c) Please see OR-05 for the 2011 full year forecast.

	2011 Forecast (May-Dec) (\$M)
Write-offs	
Recoveries	
Commissions	

4

5 (d) Please refer to part (a).

6

7 (e) The offset is due to an expected increase in customer recoveries from previously written-
 8 off debt. This is due to new process improvements of net bad debt management
 9 including third party collection agency contracts and introducing primary and secondary
 10 placement programs for previously written off debt.

11

12 (f)

	2009 Compliance (\$M)	2012 Forecast (\$M)	Variance (2012F vs. 2009C) (\$M)
Write-offs	4.32	5.72	1.4
Recoveries	(1.39)	(2.34)	(0.95)
Total	2.93	3.38	0.45

13

NON-CONFIDENTIAL

1 **Request IR-64:**

2

3 **With respect to the Technical and Construction Services discussion starting at line 14 on**
4 **page 85 of NSPI's filing, please provide:**

5

6 **(a) total staffing and staffing by title of the group for each of 2009 and 2010 at year end,**
7 **current, and expected 2011 and 2012 year end,**

8

9 **(b) the specific reasons for any increases in staffing since the end of 2010,**

10

11 **(c) a listing of known projects to which such increased staffing has been assigned and is**
12 **expected to be assigned through the end of 2012,**

13

14 **(d) the portion of time of the professionals in the group capitalized in 2009, 2010, and**
15 **2011 year to date,**

16

17 **(e) the portion expected to be capitalized in the remainder of 2011 and in 2012,**

18

19 **(f) detailed calculations (by cost type) of the forecasted 2011 and 2012 increases above**
20 **2012, and**

21

22 **(g) the types and amounts of costs assumed to be capitalized and excluded from the**
23 **calculated increase.**

NON-CONFIDENTIAL

1 Response IR-64:

2

3 (a) Technical and Construction (T&C) Services Staffing by Group

4

T&C Services Groups	2009	2010	Current	2011	2012
Administration	15	18	17	17	17
Environmental Policy and Programs	6	6	6	5	5
Project Implementation	7	7	7	7	7
T&D Engineering	38	44	44	44	39
T&D Planning & Performance	5	5	5	5	4
Transmission Planning	8	8	8	8	8
Protection Equipment Test Centre	4	4	4	4	4
Generation Services	20	22	22	22	22
Environment	27	27	27	27	27
Generation Planning	4	4	4	4	4
Inspection Program	2	2	2	2	2
Total Technical and Construction	136	147	146	145	139

5

6 (b) There are no planned increases in staffing after 2010 based on our current workforce and
7 capital investment planning.

8

9 (c) The significant projects that have influenced staffing requirements since 2009 are:

10

- 11 • Seven mercury abatement projects
- 12 • Three wind projects
- 13 • Lower Water Street head office
- 14 • Lower Water Street substation
- 15 • Tufts Cove Unit 6

16

17 The expected significant projects that will influence staffing through to the end of 2012
18 are:

19

- 20 • Port Hawkesbury biomass

NON-CONFIDENTIAL

- 1 • Additional wind projects
- 2 • Asset management implementation
- 3 • LED streetlight replacement program
- 4 • Execution of the customer reliability investment
- 5 • Hydro infrastructure renewal
- 6 • Transmission system upgrades for renewable projects
- 7 • Expanded utilization of GIS technologies

8

9 (d) Portion of all Technical and Construction Services employees labour cost capitalized,
10 2009 to 2011 year to date

11

T&C Services	2009 (%)	2010 (%)	2011 YTD (%)
Percent Capitalized	24	28	27

12

13 (e) Portion of all Technical and Construction Services employees labour cost capitalized,
14 remainder of 2011 to 2012

15

T&C Services	2011 (May-Dec) (%)	2012 (%)
Percent Capitalized	28	28

16

17 (f) Please refer to Appendix C, pages 20 - 22 of the Application.

18

19 (g) Technical and Construction Services Labour in the amount of \$3.45 million in 2011 and
20 \$3.49 million in 2012 is expected to be capitalized, which are excluded from the
21 calculated increase.

NON-CONFIDENTIAL

1 **Request IR-65:**

2

3 **Please identify and provide the work group of all individuals engaged now and proposed to**
4 **be engaged through the end of 2012 in the management, oversight, observation, or**
5 **monitoring of any type of the design, engineering, procurement, construction, or any other**
6 **capital work associated with the NPPH biomass project.**

7

8 Response IR-65:

9

10 Technical and Construction Services is the work group primarily engaged in the capital work
11 associated with the NS Power Port Hawkesbury biomass project, with support from Power
12 Production, Human Resources, Procurement, Safety and Legal Services for specific matters.
13 Within Technical & Construction Services the Generation Services, Transmission & Distribution
14 Engineering, Environment Services, Project Implementation and Cost Control teams are engaged
15 in the delivery of this project.

NON-CONFIDENTIAL

1 **Request IR-66:**

2
3 **Please provide the job descriptions for the head of and each direct report to the**
4 **Sustainability group discussed at the bottom of page 86 of NSPI's application.**

5
6 Response IR-66:

7
8 The head of the Sustainability group is the Executive Vice President (EVP) Sustainability.
9 Direct reports to the EVP Sustainability are General Manager Carbon Management, Director of
10 Renewable Energy, Director of Wind Energy and Director of Strategic Planning. The
11 accountabilities for each position are as follows:

12
13 **EVP, Sustainability**

- 14 • Successful execution of the group's mandate as described in Liberty IR 50 d)
15 • Participation as member of NSPI Executive Leadership group
16 • Development of direct reports

17
18 **General Manager, Carbon Management**

- 19 • Participates in planning for transformation of the generation portion of NSPI from a
20 carbon intensive to a more balanced portfolio
21 • Inputs into business plans to ensure alignment with transformation plan.
22 • Interfaces with Provincial and Federal governments to achieve fair treatment in policy
23 development and regulation pertaining to the electricity sector
24 • Follows developments in emerging technologies including tidal energy, carbon capture
25 and storage and hydrogen enriched natural gas

26
27 **Director, Renewable Energy**

- 28 • Participate in commercial negotiations, evaluation and project approval processes
29 (internal and external) for new renewable investments

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1 • Advance stakeholder initiatives, industry knowledge and technology awareness regarding
2 renewable energy sources (biomass, tidal, solar)

3 • Lead due diligence efforts for new commercial projects
4

5 **Director, Wind Energy**

6 • Participate in commercial negotiations, evaluation and project approval process for new
7 renewable investments

8 • Evaluate and screen potential new sites for wind projects

9 • Advance stakeholder initiatives, industry knowledge and technology awareness regarding
10 renewable energy sources (wind)

11 • Lead due diligence efforts for new commercial projects
12

13 **Director, Strategic Planning**

14 • Lead annual strategic planning cycle activities and internal reporting.

15 • Lead commercial development activities connected to the strategy.

16 • Market analysis and related industry research

CONFIDENTIAL (Attachment Only)

1 **Request IR-67:**

2

3 **Please provide:**

4

5 **(a) a copy of the Accenture report referred bottom of page 88 of NSPI's filing, and any**
6 **additional or supplementary information provide to the NSUARB or to NSPI.**

7

8 Response IR-67:

9

10 Please refer to Confidential Attachment 1 for a copy of the Accenture Final Report.

11

12 The Accenture Final Report was reviewed as part of the 2007 and 2009 General Rate
13 Applications, resulting in Information Requests and Evidence from Intervenors and NSPI. The
14 Board accepted the report saying,

15

16 Taking all of the evidence into account, the Board accepts the findings of the
17 Kaiser Report, as well as that of the Accenture Report, that NSPI's organizational
18 structure is appropriate and its management of OM&G expenditures is
19 reasonable.¹

¹ NSPI 2009 Rate Case Settlement, UARB Decision, NSUARB-NSPI-P-888, November 5, 2008, paragraph 71.

NON-CONFIDENTIAL

1 **Request IR-68:**

2

3 **With respect to the alignment with Lower Water Street estimates discussed at the top of**
4 **page 90 of NSPI's application, please provide detailed calculations demonstrating that**
5 **alignment.**

6

7 Response IR-68:

8

9 The Lower Water Street business case included operating costs of \$8 per square foot for a total
10 of \$1,052,640. The 2012 test year included in this application includes operating costs of
11 \$1,050,000 related to Lower Water Street. This aligns with the \$8 per square foot used in the
12 business case. Also, the 2012 test year costs reflect rental recovery amounts related to affiliates,
13 consistent with the UARB decision framework of fully allocated costs.

NON-CONFIDENTIAL

1 **Request IR-69:**

2

3 **With respect to the statement on page 90 of NSPI's application that,**

4

5 **Other costs increased \$1.6 million primarily due to increases in regulatory**
6 **consulting/legal and IT support contracts,**

7

8 **Please:**

9

10 **(a) list all of them individually,**

11

12 **(b) for each describe the services provided, and**

13

14 **(c) classify them as recurring or one-time, and**

15

16 **(d) provide a justification for the classification made in subpart (c) of this request.**

17

18 **Response IR-69:**

19

20 **(a) Please refer to the table below.**

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Corporate Group	Other (in Thousands of \$)	Reference
Executive Management	\$ 19.0	Appendix C, pages 3-4. Includes all non-labour accounts except 042 Employee Benefits.
Corporate Office of Secretary and General Counsel	435.0	Appendix C, pages 5-6. Includes all non-labour accounts except 042 Employee Benefits, 043 Insurance and 057 Corp. Support Transfer.
Corporate Finance	\$ (632.0)	Appendix C, pages 7-8. Includes all non-labour accounts except 042 Employee Benefits and 057 Corp. Support Transfer.
Investor Relations, Communications and Public Affairs	393.0	Appendix C, pages 9-10. Includes all non-labour accounts except 042 Employee Benefits and 057 Corp. Support Transfer.
Corporate Human Resources (including Safety)	281.0	Appendix C, pages 11-12. Includes all non-labour accounts except 042 Employee Benefits and 057 Corp. Support Transfer.
Facilities and Procurement	128.0	Appendix C, pages 13-15. Includes all non-labour accounts except 042 Employee Benefits, 013 Contracts, 046 Energy Use, 050 Rent, 051 Gen Cost Recovery, 061 Write Offs, and 091 Tax Assessment.
Information Technology	\$ 816.0	Appendix C, pages 16-17. Includes all non-labour accounts except 042 Employee Benefits.
Regulatory Affairs	\$ 227.0	Appendix C, pages 18-19. Includes all non-labour accounts except 042 Employee Benefits.
Total	\$ 1,667.0	

Figures extracted from 2012 GRA DE-03-DE-04 Appendix C Pages 1-19 under heading '2012 Fct. Vs. 2009 Compliance Restated'

1
2
3
4
5
6
7

- (b) Please refer to Appendix C of the Application, pages 3-19.
- (c) All costs included as 'other costs' are recurring.
- (d) Please refer to Appendix C of the Application, pages 3-19.

REDACTED

1 **Request IR-70:**

2
3 **Please explain the following conflict related to the quantity of domestic coal under contract**
4 **from [REDACTED]:**

5
6 **The 4th quarter 2010 and 1st quarter 2011 NSPI FAM reports show that the quantity of coal**
7 **under contract from [REDACTED]**
8 **However, the GRA filing, DE-03, page 31 of 161 shows that the contract from [REDACTED]**
9 **[REDACTED]. Why the difference between [REDACTED] tonnes?**

10
11 **Response IR-70:**

12
13 There are two contracts with [REDACTED]. One is for the supply of [REDACTED]
14 [REDACTED], and one is for the supply of [REDACTED]
15 [REDACTED]. The [REDACTED] tonnes in the GRA Filing, DE-03, page 31 of 161, equates [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED].

19
20 The GRA Filing, DE-03, page 31 of 161 also shows the second, [REDACTED]
21 [REDACTED]
22 [REDACTED]. The Q4 2010 and Q1 2011 NSPI FAM reports
23 also show these contracts. NSPI reached verbal agreement with [REDACTED]
24 [REDACTED].

25 This is reflected in the “Execution Date” column on page 7 in the Q4 report. The quantity in the
26 Q4 report is shown as being under contract, while the intent in the Q4 Report, was to show the
27 [REDACTED], as being open, reflecting the fact that [REDACTED]
28 [REDACTED]. The GRA Filing, DE-03, page 31 of 161, correctly shows the [REDACTED]
29 [REDACTED] as “open”.

REDACTED

1 **Request IR-71:**

2

3 **Please explain the portfolio status sheets on both OE-01E, Attachment 1, page 1 of 1 and on**

4 **DE-03-DE-04, page 31 of 161:**

5

6 **(a) Do the numbers associated with coal contracts reflect the base quantities of coal**
7 **under contract, or do they reflect base quantities plus or minus optional quantities?**

8

9 **(b) If these coal contract numbers do reflect the inclusion of any optional quantities,**
10 **please specify for each contract both the base quantity as well as any optional**
11 **quantity included.**

12

13 **Response IR-71:**

14

15 **The response to this request is confidential.**

REDACTED

1 **Request IR-72:**

2

3 **Please provide the 2012 solid fuel inventory graph, similar to the type of graph provided in**
4 **the NSPI quarterly reports, page 9.**

5

6 Response IR-72:

7

8 The response to this request is confidential.

REDACTED

1 **Request IR-73:**
2

3 **With reference to OE-01K, Attachment 1, page 1 of 1, the forecasts for prices of**
4 **uncommitted solid fuel, please update these forecasts as appropriate using more current**
5 **data. In addition, please explain the following:**
6

7 **For Low Sulphur Coal**
8

9 (a) **In the forecast portion of the calculation, please explain [REDACTED].**
10

11 (b) **In the supplier bids portion of the calculation, please explain why this section,**
12 **normally given a weighting of [REDACTED], has been given a weighting of [REDACTED]. If there is**
13 **some problem with the bids listed from [REDACTED], please explain.**
14

15 (c) **In the forward price strip section of the calculation, please identify each of the [REDACTED]**
16 **price numbers used, i.e., is the [REDACTED], or something else?**
17

18 (d) **Please explain, and demonstrate, the calculations involved in calculation of the Basis**
19 **Differential. Show how the calculation complies with the FAM POA, Appendix B.**
20

21 (e) **Please identify the version of FAM POA, Appendix B being used, and if the May 20,**
22 **2011 version is not being used, please explain why this version is not being used, and**
23 **then if there is not a valid reason for using the May 20th version, please correct all**
24 **of the forecast material in OE-01K to use the May 20th version.**
25

26 **For Petcoke**
27

28 (f) **Why is [REDACTED] of the forecast based on [REDACTED] data?**
29

REDACTED

1 **(g) What are the two dollar numbers under supplier bids, and why have these numbers**
2 **not been used, nor supplier names been provided?**

3
4 Response IR-73:

5
6 NSPI follows the agreed upon FAM forecasting methodology and timelines and therefore will be
7 developing new fuel price forecasts for open positions with an effective date of June 30, 2011.
8 This information will be filed in the normal course as part of the FAM requirements, and will
9 also be filed in this 2012 GRA proceeding. The UARB and interveners will thereby have the
10 most current fuel forecast available at the time of the hearing.

11
12 (a) [REDACTED] stands for [REDACTED] as published in [REDACTED]
13 [REDACTED].

14
15 (b) The bids shown from [REDACTED] were received [REDACTED], and were the most
16 recent supplier bids for Low Sulphur coal, as of the start of the Fuel Forecast
17 Development which was December 31, 2010. The FAM POA, Fuel Forecasting
18 Methodology, Appendix B, 'Fuel Forecast', 'Low Sulphur Coal', Part b.,¹ requires that
19 supplier bids used in the forecast be received within 60 days of the start of NSPI's Fuel
20 Forecast Development. The Methodology goes on to prescribe that if recent coal bids are
21 not available at the time of the forecast, then the weighting normally applied to the
22 supplier bids be allocated instead to the forward price strips, for a total weighting of 80
23 percent. [REDACTED]

24 [REDACTED]
25 [REDACTED].

¹ Fuel Adjustment Mechanism (FAM) Plan of Administration (POA), Appendix B, page 5, August 13, 2010.

REDACTED

1 (c) The [REDACTED] in the forward price strip portion of the open price calculation for Low
2 Sulphur coal, were obtained from [REDACTED], and are [REDACTED]
3 [REDACTED] for the year 2012. The [REDACTED] were published [REDACTED] of the start of
4 NSPI's Fuel Forecast Development, as prescribed by the FAM POA, Fuel Forecasting
5 Methodology, Appendix B, 'Fuel Forecast', 'Low Sulphur Coal', Part c.² The [REDACTED]
6 [REDACTED] were obtained from the weekly [REDACTED]
7 [REDACTED]
8 [REDACTED].

9
10 (d) The calculation of the basis differential for the open price calculation, used [REDACTED]
11 [REDACTED] received by NSPI, and the [REDACTED] at the time of the bids for the
12 relevant period, as prescribed in the FAM Fuel Forecasting Methodology. The following
13 shows the calculation:

14
15 From the FAM POA, Fuel Forecasting Methodology, Appendix B, 'Fuel Forecast', 'Low
16 Sulphur Coal', Part c.³: "The basis differential shall be calculated using [REDACTED]
17 [REDACTED] received by NSPI and the [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]."

21
22 [REDACTED]
23 [REDACTED]:

- 24
25 • [REDACTED]
26 • [REDACTED]
27

² *Ibid*, page 6.

³ *Ibid*.

REDACTED

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27

[REDACTED]

[REDACTED]:

- [REDACTED]
- [REDACTED]:
- [REDACTED]

The basis differential calculation was based on [REDACTED]. Upon reconsideration, the basis differential from [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED].

(e) The start of the fuel forecast development was December 31, 2010. The August 13, 2010 version of the FAM Fuel Forecasting Methodology was followed, which was the current version at the time of the fuel forecast development. The revised Plan of Administration submitted to the UARB on May 20th has yet to be approved by the Board. Should the revisions be approved by the end of June, it will be used in the reforecast with the effective date of June 30, 2011.

(f) [REDACTED] [REDACTED]. The FAM POA, Fuel Forecasting Methodology, Appendix B, 'Fuel Forecast', 'Petroleum Coke'⁴ prescribes

⁴ *Ibid*, pg 8.

REDACTED

1 that bids used in the forecast be received [REDACTED] of NSPI's Fuel
2 Forecast Development. The Methodology goes on to prescribe that if [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED],
6 for a total weighting of 100 percent. [REDACTED]
7 [REDACTED].
8
9 (g) Please refer to IR-73(f).

REDACTED

1 **Request IR-74:**

2

3 **With reference to DE-03 – DE-04, page 31 of 161, [REDACTED] of the requirements for [REDACTED]**
4 **[REDACTED] are open for the year 2012. Please explain the strategy/philosophy for having this**
5 **position.**

6

7 **Response IR-74:**

8

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]. The open price of petroleum coke in the 2012 forecast is 28 percent higher
12 than that in the 2011 BCF, reflecting the notable market escalation of petroleum coke since 2009.

13 NSPI is taking steps in 2011 to test alternate fuels for [REDACTED], to be ready for [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED].

REDACTED

1 **Request IR-75:**

2

3 **With reference to DE-03 – DE-04, on page 33 of 161, [REDACTED] is listed as a supplier of**
4 **petroleum coke, but this supplier is not listed on page 31 of this document. Please explain.**

5

6 Response IR-75:

7

8 The response to this request is confidential.

REDACTED

1 **Request IR-76:**

2

3 **With reference to DE-03 - DE - 04, on page 32 of 161, line 15 it is stated that there are [REDACTED]**
4 **medium term contracts, but the chart on the following page shows [REDACTED] contracts. Please**
5 **explain.**

6

7 Response IR-76:

8

9 The contract with [REDACTED] was not signed until early 2011. Once signed, it
10 represents a [REDACTED] medium term contract. In [REDACTED]
11 [REDACTED]. The inclusion of the contract in Figure 2.8 on page 33 of DE-03-DE-
12 04, along with the footnote indicating when the contract was signed, is intended to explain that at
13 the time of the Fuel Forecast Development of December 31, 2010, this medium term contract
14 was not yet formally in place.

REDACTED

1 **Request IR-77:**

2
3 **GRA OE-01K provides a forecast price for petcoke for 2012 as [REDACTED], in USD. Please**
4 **show by complete calculations how this price translates into the petcoke prices shown on**
5 **OE-01H for Pt. Aconi. In addition, please explain the following as related to petcoke prices**
6 **for 2012:**

7
8 **(a) Is the price forecast from OE-01K an FOB loadport price, or a price delivered to**
9 **Nova Scotia, or something else?**

10
11 **(b) Explain price forecasting rationale, considering that you have stated in DE-03, page**
12 **34, line 2 that most petcoke is purchased on a delivered basis with the supplier**
13 **responsible for freight.**

14
15 **(c) Show specifically how the price of [REDACTED] from page 35 of DE-03 relates to any of the**
16 **numbers for Pt. Aconi on OE-01H.**

17
18 **Response IR-77:**

19
20 (a-b) The open price forecasted for petroleum coke from OE-01K is an FOB load port price in
21 USD, calculated following the FAM POA, Fuel Forecasting Methodology, Appendix B,
22 'Fuel Forecast', 'Petroleum Coke'.¹ Please also refer to Liberty IR-73(f) which describes
23 the calculation of the open price. The calculation must then add transportation to the
24 [REDACTED], for a total delivered price of the open position of petcoke to the International
25 Pier (INP) of CAD [REDACTED].

26

¹ Fuel Adjustment Mechanism (FAM) Plan of Administration (POA), Appendix B, page 8, August 13, 2010.

REDACTED

1 The open position for petroleum coke totals [REDACTED]. In addition to this open
2 portion, the forecast starts the year with [REDACTED] of petroleum coke in inventory at the
3 International Pier, carried over from 2011. The delivered price of this carryover from
4 2011 is [REDACTED]. In summary, the total amount of petroleum coke forecast to be
5 delivered to Pt. Aconi [REDACTED]. The price of this
6 delivered quantity is the weighted average of the open portion ([REDACTED]) and
7 the INP inventory carried over from 2011 ([REDACTED]) for a weighted average
8 price of [REDACTED].
9

10 The final delivered cost of petroleum coke to Pt. Aconi is therefore:
11

12 [REDACTED],
13

14 or [REDACTED] based on a heating value of [REDACTED], as indicated in OE-
15 01H.
16

17 In addition to the forecast price of petroleum coke to be delivered to Pt. Aconi, OE-01H
18 shows the price of the petroleum coke in inventory at Pt. Aconi at the beginning of the
19 year, carried over from 2011. This opening inventory of [REDACTED] has a delivered price
20 of [REDACTED].
21

22 The final weighted average cost of petroleum coke to Pt. Aconi is therefore:
23

24 [REDACTED]
25 [REDACTED]

26 [REDACTED] for the opening inventory at Pt. Aconi, and [REDACTED] for the
27 delivered portion.
28

REDACTED

1 (c) OE-01H shows the FX rate of 1.0089. The price of [REDACTED] from page 35
2 in DE-03 is the result of converting the open price of [REDACTED] to Canadian dollars:
3 [REDACTED]. Please refer to part (a) explaining how the open price of
4 petroleum coke is used in determining the costs for petroleum coke as presented in OE-
5 OH1.

REDACTED

1 **Request IR-78:**

2
3 **GRA OE-01K provides a forecast price for low sulphur coal for 2012 as [REDACTED], in USD.**
4 **Please show by complete calculations how this price translates into the low sulphur coal**
5 **prices shown on OE-01H for [REDACTED]. Show specifically how the price of [REDACTED] from page**
6 **35 of DE-03 relates to any of the numbers for [REDACTED] on OE-01H.**

7
8 **Response IR-78:**

9
10 The forecast price for the open position for Low Sulphur coal is [REDACTED]. The
11 forecast calculation must then add transportation to the [REDACTED], for a total delivered price of
12 the open position for Low Sulphur Coal to [REDACTED] of [REDACTED].
13 The open position for Low Sulphur coal to [REDACTED] totals [REDACTED]. In addition to this open
14 portion, the total amount of contracted Low Sulphur coal scheduled to be received at [REDACTED] in
15 2012 is [REDACTED]. The weighted average delivered price of each of the contracted quantities
16 making up this [REDACTED]. [REDACTED] is also forecast to have Low Sulphur coal
17 inventory on the ground at the start of the year, carried over from 2011. The amount of this
18 starting inventory is [REDACTED] at an average price of [REDACTED]. In summary, the
19 overall weighted average price of Low Sulphur coal available at INP equals:

20
21 [REDACTED]
22 [REDACTED].
23
24 [REDACTED] is forecast to require [REDACTED] of Low Sulphur coal to be delivered in 2012, as
25 shown in OE-01H. The final delivered price of this quantity is therefore:

26
27 [REDACTED], or
28 [REDACTED], as shown in OE-01H.

REDACTED

1 In addition to the forecast price of Low Sulphur coal to be delivered to [REDACTED], OE-01H shows
2 the price of the Low Sulphur coal in inventory at [REDACTED] at the beginning of the year, carried
3 over from 2011. This opening inventory of [REDACTED] has a delivered price of [REDACTED]
4 [REDACTED].

5
6 The final weighted average cost of Low Sulphur coal to [REDACTED] is therefore:

7
8 [REDACTED]

9 [REDACTED]

10 for the opening Inventory at [REDACTED], and [REDACTED] for the delivered portion.

11
12 OE-01H shows the FX rate of 1.0089. The price of [REDACTED] from page 35 in DE-
13 03 is the result of converting the open price of [REDACTED] to Canadian dollars: [REDACTED]
14 [REDACTED]. Please refer to above explaining how the open price of Low Sulphur coal is
15 used in determining the costs for Low Sulphur coal to [REDACTED], as presented in OE-0H1.

NON-CONFIDENTIAL

1 **Request IR-79:**

2

3 **Please refer to NSPI's 2012 General Rate Application, DE-03 - DE-04, page 66 of 161, lines**
4 **4 and 5. Please provide all of the expert reports about NS Power's pension expenses filed**
5 **with the UARB, as referenced.**

6

7 Response IR-79:

8

9 Please refer to RB-02 – RB-16 Attachment 2 for Morneau Sobeco's expert opinion on 2012
10 pension expense. Also, reports filed in the context of General Rate Applications since 2005 are
11 attached.

12

13 Attachment 1 – Studies supporting NS Power's 2005 GRA (P-881) pension expense.

14

15 Attachment 2 - Studies supporting NS Power's 2006 GRA (P-882) pension expense.

16

17 Attachment 3- Studies supporting NS Power's 2007 GRA (P-886) pension expense.

18

19 Attachment 4 - Studies supporting NS Power's 2009 GRA (P-888) pension expense.

2004

NSUARB-P-881

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF: The *Public Utilities Act*, R.S.N.S. 1989, c.380 as amended

IN THE MATTER OF: An Application by Nova Scotia Power Incorporated for Approval of Certain Revisions to its Rates, Charges and Regulations

RESPONSE TO INFORMATION REQUEST

TO: NSPI

FROM: STORA / BOWATER

Question IR-231: Please provide all studies supporting NSPI's 2005 pension expense of \$26.0 million.

Response IR-231: Please refer to Attachment 1 for pension expense supporting information.

DATE FILED: September 2, 2004

SEB IR-231 Attachment 1 Page 1 of 10

NS07

September 1, 2004

CONFIDENTIAL

Ms. Evelyn McKinnon
Nova Scotia Power Incorporated
P.O. Box 910
Halifax, Nova Scotia B3J 2W5

Dear Evelyn:

**Re: Post-Employment Benefits for Employees of Nova Scotia Power Incorporated
("NSPI's Benefit Plans"); Projected Benefit Expense**

As requested, we are writing to document the projected fiscal 2005 expense figure of \$26 million for NSPI's Benefit Plans determined in accordance with Section 3461 of the CICA Handbook ("CICA 3461"). In addition, we are providing expense projections for the period 2006 to 2009 assuming the same Plan terms and actuarial basis.

The rate case submission was based on a projected 2005 expense of \$26 million. This figure was determined in February 2004 based on the December 31, 2003 Plan terms and a forecast of the December 31, 2004 discount rate of 5.75%. The \$26 million represents the expense for all of NSPI's post-retirement benefit plans. For greater certainty, all figures exclude post-retirement benefit plans relating to Bangor Hydro.

For the projections for 2006 to 2009, all actuarial assumptions and methods, plan provisions, and data are the same as those used to determine the \$26 million rate case figure. For reference, Appendix A contains the actuarial assumptions and methods. Appendix B provides an explanation of the process employed to extrapolate the figures from the Accounting Report in order to determine the projected benefit expense figures presented in this letter. Please refer to our December 31, 2003 accounting valuation report for a summary of the data.

2005 Results

In accordance with CICA 3461.050, the discount rate used to determine the accrued benefit obligation should be an interest rate determined by reference to market interest rates at the measurement date. Since we are performing a projection of the pension expense for 2005, an assumption must be made regarding the appropriate discount rates to use to determine the 2005 benefit expense.

DATE FILED: September 2, 2004

SEB IR-231 Attachment 1 Page 2 of 10

Ms. E. McKinnon
September 1, 2004

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We assumed that a discount rate of 5.75% would also be appropriate for a measurement date of December 31, 2004 in determining the fiscal 2005 pension expense of \$26 million. This assumption was based on the yield on long-term AA corporate bonds with a duration of approximately 14 years in effect during the first quarter of 2004. The following table presents the components of fiscal 2005 expense:

Projected Fiscal 2005 Expense (in \$ millions)

	2005
Employer Current Service Cost	\$13.7
Interest Cost	39.9
(Expected Return on Plan Assets)	(40.1)
Amortization of	
• Transitional Obligation / (Asset)	2.3
• Past Service Cost	0.7
• Actuarial Losses / (Gains)	10.0
Total Expense / (Income)	\$26.4

*Under the 5.75% discount rate scenario, it is assumed that the effective date of this change in assumption is December 31, 2004. As noted earlier, the results are presented for all post-retirement benefit plans combined.

Projections 2006 to 2009

The following table shows the projected expense for all post-retirement benefit plans assuming that a) there are no changes in actuarial methods or assumptions, b) there are no Plan changes, and c) there are no actuarial gains or losses between January 1, 2004 and December 31, 2009. The main actuarial assumptions are a discount rate of 5.75% per annum and an asset return assumption of 7.50% per annum.

Projected Benefit Expense 2006 to 2009 (in \$ millions)

	2006	2007	2008	2009
Employer Current Service Cost	\$14.2	\$14.8	\$15.3	\$15.9
Interest Cost	41.3	42.8	44.4	46.2
(Expected Return on Plan Assets)	(41.5)	(42.8)	(44.9)	(48.1)
Amortization of				
• Transitional Obligation / (Asset)	2.3	2.3	2.3	2.3
• Past Service Cost	0.7	0.1	0.1	0.1
• Actuarial Losses / (Gains)	10.3	10.8	10.5	8.9
Total Expense / (Income)	\$27.2	\$27.9	\$27.7	\$25.1

DATE FILED: September 2, 2004

SEB IR-231 Attachment 1 Page 3 of 10

Ms. E. McKinnon
September 1, 2004

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Actuarial Certification

We hereby declare that in our opinion,

- 1) the data on which the valuation is based are sufficient and reliable for the purpose of the valuation; and
- 2) NSPI management have selected the assumptions and they are in accordance with accepted actuarial practice; and
- 3) the methods employed in the valuation are appropriate for the purpose of the valuation.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice. It should also be noted that emerging experience, which differs from the assumptions made, will result in gains or losses which will be revealed in future valuations.

We understand that these figures will be used for purposes of the rate case submission. As noted above, emerging experience including changes in actuarial assumptions and methods, plan changes, and actuarial experience will likely result in actual future expense figures that are different than the projected expense figures presented in this letter.

We trust that the above is satisfactory. Please do not hesitate to contact us if you require any further information.

Yours truly,

Paul Chang, F.S.A., F.C.I.A.
Partner

PC/md
Copy: Darlene Auld

This document has been peer reviewed by _____
Jeff Clark, F.S.A., F.C.I.A.

DATE FILED: September 2, 2004

SEB IR-231 Attachment 1 Page 4 of 10

Appendix A – Actuarial Assumptions and Methods

Actuarial Cost Method

For all active employees, the Accrued Benefit Obligation and the current service cost were calculated using the “projected benefit method pro-rated on service”.

According to this method, the Accrued Benefit Obligation is equal to the actuarial present value of all future benefits (net of any employee cost sharing for OPEBs), taking into account the assumptions described below, multiplied by the ratio of an employee’s service at the valuation date to total service at the retirement date. The current service cost for a period is equal to the actuarial present value of benefits attributed to employees’ services rendered in that period.

To determine the actuarial present value of post-retirement health benefits, the expected true costs were projected into the future in respect of each member applying both age-related utilization rates and the assumed trend (i.e., health care inflation) rates. In addition, each member’s expected contributions (i.e., premium) was projected into the future based on health care inflation. The actuarial present value of NSPI’s portion of the cost of the post-employment health plan is the difference between the actuarial present value of the total cost and the actuarial present value of the member’s contributions.

We did not have sufficient data as at the report date to value the DC component of SERP liabilities. As the liability for this component is not material (and is not expected to be material for many years), no adjustment was made in the expense figures. (It should be noted that the DC component of the Plan has only been in existence for 30 months as at December 31, 2003 and only members with pensionable earnings over \$129,167 would potentially qualify for benefits under the DC SERP during 2003.)

Actuarial Assumptions

The actuarial assumptions used for the valuation are summarized in the following table. All rates and percentages are annualized unless otherwise noted. All assumptions used are management’s best estimates. We understand that the discount rate was based on AA corporate bonds at the valuation date and is based on an average liability duration of 14 years.

Assets

Employee and Acquired pension plan assets are taken at market value from the draft audited financial statements. There are no assets in respect of the other plans.

To determine the expected return on assets, we used a 5 year market-related value of assets and assumed that all cash flows would occur at mid-year. The 5 year market related value of assets smoothes out investment gains and losses on and after January 1, 2000.

DATE FILED: September 2, 2004

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Table A.1 Actuarial Assumptions – Economic Factors

	Expense Calculations
Discount Rate	5.75%
General Inflation	2.50%
YMPE	3.00%
	Under 30: 5.50%
	30 to 34: 5.00%
	35 to 39: 4.50%
Salary Increases	40 to 44: 4.00%
	45 to 49: 3.50%
	50 and above: 3.00%
Increase in maximum Pension in registered plan per year of service	\$1,833 for 2004, \$2,000 for 2005, and \$2,000 indexed starting 2006 at 3.00% per annum
Return on Employee Plan Assets	7.50%
Return on Acquired Plan Assets	7.50%
Extended Health Care Inflation	11.00% for next year (premium increase effective Jan 2005), decreasing in years 2 through 8 by 1% per year with a long-term ultimate rate of 4.00%

DATE FILED: September 2, 2004

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Table A.2 Actuarial Assumptions – Demographic Factors

	Expense Calculations
Mortality	Group Annuity 1983 Table (GAM-1983) Sex Distinct – Post retirement only
Termination	5% per annum up to age 50
Disability Rates	None assumed
Retirement Rates	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award. *Age 58 was used for the valuation of the new post retirement health plan.
Spouse Age Difference	Women 3 years younger.
Health Care Relative Utilization*	Please see table A.3 below
Percentage Married	85% at retirement
Probability for active member to convert to New Post Retirement Health Plan**	Based on Continuous Service at Retirement: Less than 15 years: 0% 15 to 20 year: 20% 20 to 25 years: 30% 25 to 30 years: 40% 30 to 35 years: 70% More than 35 years: 90%
Members Electing Coverage at Retirement	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ***
Coverage Elected at Retirement	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single

* Used to estimate average medical and drug costs at different ages (drug coverage ceases at age 65)

** The conversion is open until March 31, 2004, therefore assumptions had to be made regarding who would convert to the new post retirement health plan and who would remain in the existing post retirement health plan.

*** The data used for the post-employment health care valuation includes only those active members who currently have health coverage – such members represent 90% of all active employees at NSPI – the assumed likelihood that an active employee who currently has coverage and who retires from NSPI takes post-retirement coverage is 85% resulting in an overall take up rate for all employees (with or without current coverage) of 75% ($= .85 \times .9$)

DATE FILED: September 2, 2004

SEB IR-231 Attachment 1 Page 7 of 10

Table A.3 Health Care Relative Utilization Factors

Age	Hospital & EHB	Drug Coverage	Dental Coverage
40	46%	42%	90%
45	53%	56%	88%
50	61%	74%	86%
55	78%	86%	83%
60	100%	100%	81%
64	122%	113%	80%
65	128%	N/A	N/A
70	163%	N/A	N/A
75	239%	N/A	N/A
80	352%	N/A	N/A
85	517%	N/A	N/A

Example: The cost for Hospital and EHB for a 64 year old is 122% of the cost for a 60 year old.

Calculation of Medical Cost

Development of Utilization Factors

Manulife Financial provided claims amounts for hospital & EHB, and drugs for the period from August 1, 2001 to July 31, 2002 by quinquennial age bands. Using the number of members within each age band, we determined the amount of claims per member for each age band. From this we found the relative age based utilization factors for each quinquennial age band. We then extrapolated integer age based utilization factors from the quinquennial results. As there were insufficient post-1991 retirees over age 75 to establish a reliable utilization scale over such age, the utilization scales beyond age 75 were estimated based on industry statistics. We did not have details of the dental claims amount and have used utilization factors which are based on industry statistics.

Existing Post-Retirement health plan - NSPI members

Effective 2003, the annualized premiums for retirees are experience rated amongst retirees only. Previously the actives and retiree premiums were experience rated as a single group, and the same premium was paid by both retirees and actives. The member's portion (50% of total cost) of the annualized premiums charged as at January 1, 2004 (including the 11% increase as at January 1, 2004) for the NSPI Health plan is \$504 for single coverage and \$1,285 for family coverage. The experience report also shows that approximately 85% of claims are related to drugs, with the remaining 15% for hospital and Extended Health Care.

Based on the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total expected claims at each age less member's paid premium) for 2004 at each age:

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Age	Single	Family
50	\$474	\$1,160
55	\$640	\$1,574
60	\$835	\$2,062
65	(\$324)	(\$837)
70	(\$275)	(\$713)
75	(\$167)	(\$444)
80	(\$10)	(\$50)
85	\$222	\$530

Based on the premiums provided by Manulife, we updated the estimated employer cost (as compared to our prior valuation) and we are now assuming that the total cost for family coverage is approximately 2.5 times the single cost. This is based on the ratio of the family to single premium being charged by Manulife and a fully experienced retiree only group. A negative amount means that the retiree's premium exceeds the estimated average claims at that particular age.

New Post-Retirement health plan - NSPI members

Effective January 1, 2004, a new health benefit plan for retirees was introduced. Please refer to Appendix C for details of the new retiree health plan. We understand that this plan will be rated separately from the existing plan and that retirees and actives will be rated as one group within the new plan. As there are currently no retirees under the new plan, we have used the same drug and hospital utilization factors as for the old plan and used industry based utilization factors for the dental benefits.

NSPI provided us with the total annualized premiums charged as at January 1, 2004 for the new NSPI Health plan as \$600 for single coverage and \$1,872 for family coverage, and new Dental plan as \$300 for single coverage and \$668 for family coverage. Based on the premiums provided, and the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total cost less member's premium) for 2004 at each age, based on a 50% cost sharing to be:

Age	Health Single	Health Family*	Dental Single	Dental Family*
50	\$481	\$1,405	\$141	\$308
55	\$617	\$1,813	\$134	\$292
60	\$777	\$2,294	\$127	\$277
64	\$927	\$2,743	\$122	\$264
65**	\$0	\$0	\$0	\$0

* In addition to family coverage, there is "couple coverage", employer health cost for couple is approximately 2.2 times the single health cost shown, employer dental cost for couple is approximately 2 times the single dental cost shown

** No coverage after age 65

DATE FILED: September 2, 2004

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Note that under the new post retirement benefit plan, the actual percentage of the costs paid by the employer varies by the member's years of service at retirement. The costs shown above would need to be adjusted accordingly for members who do not receive 50% cost sharing. (Please contact us if you require such figures)

Pre-1992 Retirees

Since NSPI's liability in respect of former NSPI employees who retired under the PSSP is based on the amount of premium assessed by the Province, we have determined the accrued benefit obligation in respect of these members by determining the present value of premiums. Such premiums are assumed to increase at the health inflation rates, but no age utilization factor is applied. Annualized employer (65% of total) premiums as at January 1, 2004 are as follows:

	Policy 5138	Policy 6000	Policy 6500
Single	\$192	\$643	\$342
Family	\$489	\$1,427	\$685

We assumed that the above premiums for pre-1992 retirees would follow the extended health care inflation assumption set out in table A.1 for future years.

Valuation Allowance

For purposes of estimating the Valuation Allowance required for fiscal 2004, we estimated the December 31, 2004 ABO for the Employee's Pension Plan (DB component only) to be \$561.62 million. This was based on the December 31, 2003 ABO figure of \$537.96 million projected forward with estimated current service cost, interest, less benefit payments. The Employee's Pension Plan assets (DB component only), on a market value basis, projected to December 31, 2004 is estimated to be \$458.10 million.

As a result, the Plan's ABO exceeds the assets as at December 31, 2004 (i.e., the Plan's "adjusted benefit asset" is less than 0 and there is no "expected future benefit" – as those terms are defined in CICA subsections 3461.101) and no Valuation Allowance is projected to be required. A determination based on actual December 31, 2004 ABO and assets will be required to finalize the amount of Valuation Allowance for 2004.

DATE FILED: September 2, 2004

SEB IR-231 Attachment 1 Page 10 of 10

Appendix B – Extrapolation Process

This letter presents results based on extrapolations of the assets and obligations disclosed in the Accounting Report as at December 31, 2003. This extrapolation was performed in accordance with Section 3461 of the CICA Handbook (“CICA 3461”).

In order to determine the projected Fiscal 2005 expense figures we rolled forward the assets and obligations relating to NSPI’s Benefit Plans, as presented in the December 31, 2003 Accounting Report, to December 31, 2004 and beyond. To prepare the extrapolation, we used the same actuarial assumptions as were used in the Accounting Report, other than the discount rate which was adjusted to 5.75%.

As part of the extrapolation process, estimates were required regarding future NSPI contributions and benefit payments from each of NSPI’s Benefit Plans. As these assumptions do not have a significant impact of the projected benefit expense figures (as these cash flow items are expected to remain fairly stable), we assumed both future contributions by NSPI and future benefit payments would remain at the level expected for 2004 (as presented in the Accounting Report as at December 31, 2003). We also assumed that member contributions to the Employee Pension Plan would increase in line with the assumed salary scale.

2006

NSUARB-P-882

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF: The *Public Utilities Act*, R.S.N.S. 1989, c.380 as amended

IN THE MATTER OF: An Application by Nova Scotia Power Incorporated for Approval of Certain Revisions to its Rates, Charges and Regulations

RESPONSE TO INFORMATION REQUEST

TO: NSPI

FROM: PWC

Question IR-23: Reference: NSPI Direct Evidence, Page 104 &105 and Appendix B, Page 1 - Pension Expense

- a) Please provide all studies supporting NSPI's 2005F and 2006F pension expense.
- b) Please provide reconciliations of pension expense for 2004A to 2006F in Appendix B - Page 1 and in Direct Evidence - Pages 104 and 105.
- c) Please provide a breakdown of the increase as it relates to the change in mortality tables and the change in discount rate.
- d) Please elaborate on the update to the mortality table used in determining the pension obligation.
- e) Please file a copy of the letter provided by NSPI's actuary in support of the change in the discount rate change from 5.75% to 5.5%.
- f) Please describe accounting policy related to pension costs.

Response IR-23: a) For the 2005F benefit cost estimate, please refer to page 5 of Attachment 1, "Actuarial Valuation for Accounting Purposes as at December 31, 2004 of the Post-Employment Benefits for Employees of Nova Scotia Power Incorporated" dated March 2005.

The 2006 benefit cost estimate is formally confirmed in Attachment 2, the letter from Morneau Sobeco dated August 29, 2005.

2006

NSUARB-P-882

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF: The *Public Utilities Act*, R.S.N.S. 1989, c.380 as amended

IN THE MATTER OF: An Application by Nova Scotia Power Incorporated for Approval of Certain Revisions to its Rates, Charges and Regulations

RESPONSE TO INFORMATION REQUEST

TO: NSPI

FROM: PWC

Response IR-23: (cont'd)

b)

Reconciliation of Benefit Cost

2004 Actual Benefit Cost	\$21.9M
Exclude impact of Amendment No. 12 ¹	\$ 0.9M
Change in discount rate (6% to 5.75%) based on "AA" corporate bonds	\$ 2.7M
Other factors ²	\$ 0.5M
2005 Compliance Benefit Cost (prior to Amd 12)	\$26.0M
Include impact of Amendment No. 12 ¹	\$(1.9)M
Change in definition of high quality debt instrument used to determine discount rate from AA corporate to A corporate ³	\$(2.7)M
2005 Forecast Benefit Cost	\$21.4M
Change in discount rate (6% to 5.5%) based on "A" corporate bonds	\$ 5.4M
Change in mortality table	\$ 4.5M
Other factors ⁴	\$ 0.4M
2006 Forecast Benefit Cost (per Rate Case)	\$31.7M

1. Excluded in the 2005C Benefit Cost as the amount was unchanged from the amount filed in NSPI's Evidence in the 2005 Rate Case, prior to the introduction of Amendment No. 12 as at July 2004. Amendment had ½ year impact on 2004 expense and full year impact in 2005 and future years.
2. The current service cost and amortization of actuarial gain/loss components of the benefit cost would be higher in 2005F than in fiscal 2004.
3. "AA" corporate bonds were 5.75%; "A" corporate bonds were 6.00% as at December 31, 2004
4. The amortization of actuarial gain/loss component of the benefit cost would be higher in 2006F than in 2005F.

2006

NSUARB-P-882

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF: The *Public Utilities Act*, R.S.N.S. 1989, c.380 as amended

IN THE MATTER OF: An Application by Nova Scotia Power Incorporated for Approval of Certain Revisions to its Rates, Charges and Regulations

RESPONSE TO INFORMATION REQUEST

TO: NSPI

FROM: PWC

Response IR-23: (cont'd)

- c) Based on single "A" Canadian bonds with the same duration as the obligations (14 years) as at May 31, 2005, the most current available at the time NSPI filed the Direct Evidence, the discount rate required under CICA 3461.50 would be 5.50% per annum. The discount rate as at December 31, 2004 was 6.00% per annum.

Assuming the rates in effect as at May 31, 2005 remained in effect until December 31, 2005, (i.e., the discount rate remained at 5.50% per annum) the decrease in the discount rate of 50 basis points results in an increase of approximately \$5.4 million in the projected fiscal 2006 benefit cost.

Additionally, the change in mortality table, from GAM-83 to UP-94 projected forward to the year 2015 using Mortality Projection Scale AA, increases the projected fiscal 2006 benefit cost by approximately \$4.5 million.

- d) Effective February 1, 2005, the Canadian Institute of Actuaries (CIA) implemented an updated standard for determining pension commuted values. One of the changes required by the new CIA standard is the use of an updated mortality table – the 1994 Uninsured Pensioner Mortality Table projected forward to the year 2015 using mortality projection Scale AA (UP-94@2015). Prior to February 1, 2005, the mortality table used to determine pension commuted values was the 1983 Group Annuity Mortality Table (GAM83). The UP-94@2015 reflects improvements in survivorship as compared to the GAM83 table.

2006

NSUARB-P-882

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Response IR-23: (cont'd)

NSPI, in consultation with its Actuary, and coupled with experience losses as a result of pensioners surviving longer than projected by the GAM83 table, decided to adopt the UP-94@2015 mortality table for accounting valuation purposes starting December 31, 2005.

- e) Please refer to part a.
- f) NSPI's Accounting Policy for pensions is attached as Attachment 3.

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*Actuarial Valuation for Accounting Purposes
as at December 31, 2004 of the*

***Post-Employment Benefits for Employees of
Nova Scotia Power Incorporated***

March 2005

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Executive Summary

Purpose

This report presents the results of the actuarial valuation of Nova Scotia Power Incorporated ("NSPI") post-employment benefit plans for accounting purposes as at December 31, 2004. NSPI retained the services of Morneau Sobeco to perform this actuarial valuation.

This report presents the results of our calculations, and was prepared:

- to determine the benefit cost for fiscal 2004 and the Accrued Benefit Obligation for post-employment benefits as at December 31, 2004;
- to estimate the benefit cost to be recognized for financial statement purposes for fiscal 2005; and
- to provide the information and the actuarial opinion required by NSPI's auditor under Section 3461 of the CICA Handbook.

The following post-employment plans are included as part of this report:

Pension: a) Employees' Pension Plan, b) the Acquired Companies Pension Plan, c) Supplementary, Executive and Discretionary pensions, and d) War Service, ERIP 86 and 91 pensions.

Non Pension: a) Post-Retirement Health Benefits, and b) the Long Service Award.

We are not aware of any other post-employment benefit plan sponsored by NSPI.

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Summary of Results

The following table shows the Accrued Benefit Obligation, balances of unamortized amounts and the Accrued Benefit Liability as at December 31, 2004 and January 1, 2004 with respect to the plans providing post-employment benefits for employees of Nova Scotia Power Incorporated ("NSPI"). All figures in thousands.

	December 31, 2004	January 1, 2004
Discount and Inflation Rate end of year	6.00% / 2.50%	6.00% / 2.50%
Market Value of Assets	\$515,958	\$471,260
Accrued Benefit Obligation	671,301	655,236
Surplus (Deficit)	(\$155,342)	(\$183,976)
Aggregate Unamortized Losses (Gains)		
• Transitional	18,074	20,334
• Past Service	(603)	6,992
• Actuarial	186,252	192,763
Accrued Benefit Asset Prior to Accrued Valuation Allowance	\$48,381	\$36,112
(Accrued Valuation Allowance)	0	0
Carrying Amount of Accrued Benefit Asset net of Valuation Allowance	\$48,381	\$36,112

Figures may not add up exactly due to rounding.

A reconciliation of the change in the Accrued Benefit Asset is as follows:

Accrued Benefit Asset as at January 1, 2004	\$36,112
(Benefit cost) Income for 2004	(21,949)
Company Contributions for 2004	34,217
Accrued Benefit Asset as at December 31, 2004	\$48,381
(Accrued Valuation Allowance)*	0
Carrying Amount of Accrued Benefit Asset as at December 31, 2004	\$48,381

Figures may not add up exactly due to rounding.

* As at December 31, 2004, no Valuation Allowance is required

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The following table shows the estimated benefit cost for 2005 as compared to the actual benefit cost for 2004. All figures in thousands.

	2005	2004
Costs Arising in the Period		
Employer Current Service Cost	\$11,669	\$11,950
Interest Cost	39,773	38,664
(Actual Return on Plan Assets) ¹	(38,405)	(37,619)
Amounts Arising from Events in the Period:		
• Past Service Costs / (Gains)	0	(7,283)
• Actuarial Losses / (Gains) on ABO ¹	0	(129)
Future Benefit Costs Before Adjustments	\$13,037	\$5,583
Adjustments to Recognize Long-Term Nature of Costs		
• Transitional Obligation / (Asset)	2,259	2,259
• Current Year Return on Assets ¹	(2,622)	(1,138)
• Past Service Costs / (Gains)	(44)	7,595
• Actuarial Losses / (Gains) other than current year return on assets ¹	8,771	7,648
Total Benefit Cost / (Income) Recognized for the Period	\$21,402	\$21,949

Please note that as a result of the new CICA 3461 disclosure requirements, effective July 1, 2004, the presentation of the benefit cost in this table differs from reports in prior years.

¹ Although the sum of these four items will not change when the benefit cost for 2005 is finalized, the total amount will be re-distributed amongst the items based on the actual experience of the post-retirement benefit plans during 2005.

Changes since the Previous Valuation

The following changes were made to the benefit Plans during 2004:

- Amendment No. 12 to the Employee's pension plan, effective July 1, 2004 for Union members and October 1, 2004 for Non-Union members, amended various plan provisions for existing members and introduced new provisions for members who join after such date. The past service gain resulting from the amendment was determined as at a single date: July 1, 2004. The following is a summary of the significant changes introduced in the amendment for existing members. For a more detailed summary, including the plan terms for plan members hired after the effective date, please refer to the Employee's plan actuarial report for funding purposes as at December 31, 2004:
 - For members who terminate prior to retirement, there will be no indexing of their benefit between the date of termination and the date they commence receipt of their pension.

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- For members who terminate prior to age 55, no bridge benefit will be payable in respect of credited service accrued after the effective date. A bridge benefit will continue to be payable for credited service accrued prior to the effective date.
- For members who terminate prior to age 55 and who choose to commence their pension benefit before age 65:
 - (a) for credited service accrued after the effective date an early retirement reduction of .5% per month will apply for each month that the member's retirement date precedes age 65 or age 55 with 85 points.
 - (b) for credited service accrued prior to the effective date, the prior unreduced retirement provisions of age 55 with 85 points or age 60 with two years service continue to apply.
- It should be noted that the changes do not impact the pension benefit for employees who are members of the Plan on the effective date and who retire from active service.
- Effective January 1, 2004, a new post-retirement health benefit plan was introduced. The conversion period, during which existing active employees were given a one-time choice to remain in the existing plan or transfer to the new plan, closed March 31, 2004. All new employees hired after January 1, 2004 join the new plan. At retirement, employees are eligible to continue coverage based on the plan chosen. Existing retirees as at January 1, 2004 remain in the existing plan. Under the new plan, both health and dental coverage are provided but cease when the retired employee attains age 65. Eligibility and cost sharing for the new plan are based on the employees' service at retirement. Please refer to Appendix C for details.

In the previous valuation, as at December 31, 2003, an actuarial estimate was made to take into account the impact of introducing the new health plan. We have performed a new valuation as at December 31, 2004 with actual conversion data.

We are not aware of any other material changes to the post-retirement plans during 2004. Furthermore, we are not aware of any planned amendments for 2005.

NSPI's management reviewed the accounting methods and assumptions and has made the following revision since the previous valuation as at December 31, 2003:

- The discount rate of 6.00% per annum as at December 31, 2004 is based on the annualized yield of A rated bonds with the same duration as the obligations (14 years) at the valuation date. The prior valuation also used a 6% discount rate; this rate was based on the

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annualized yield on AA rated bonds with the same duration as the obligations at the prior valuation date.

Section 1 – Balance Sheet

Statement of Financial Position

The financial position of each benefit plan providing post-employment benefits is determined by comparing the value of assets available to the actuarial liability (referred to as the Accrued Benefit Obligation or ABO) for the benefits earned up to the valuation date, assuming the benefit plan continues indefinitely. We note that, as is commonly the case in Canada, NSPI has no assets backing up any of its plans providing post-employment benefits other than those in NSPI's registered pension plans.

The following table shows the Accrued Benefit Obligation as at December 31, 2004 for active employees and retirees based on the plan provisions in effect at the date this report was prepared, as summarized in Appendix C. Appendix A provides the actuarial assumptions used and details on the methodology used to determine the Accrued Benefit Obligation for active employees and retirees.

Table 1.1 Balance Sheet as at December 31, 2004 (thousands)

	Employee Plan (DB) Pension	Acquired Plan Pension	Exec and Discretionary Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Assets (MV)	\$475,072	\$40,886	\$0	\$0	\$0	\$0	\$515,958
Accrued Benefit Obligation	555,984	43,896	26,751	13,678	14,898	16,093	671,301
Surplus	(\$80,912)	(\$3,010)	(\$26,751)	(\$13,678)	(\$14,898)	(\$16,093)	(\$155,342)
Unamortized Transitional Losses (Gains)	(6,286)	(3,275)	4,771	4,959	6,527	11,378	18,074
Unamortized Past Service	(1,401)	0	797	0	0	0	(603)
Unamortized Actuarial Losses (Gains)	171,131	15,515	3,498	1,333	879	(6,103)	186,252
Accrued Benefit Asset	\$82,533	\$9,230	(\$17,684)	(\$7,386)	(\$7,493)	(\$10,818)	\$48,381

There is no balance sheet asset or liability in respect of the DC component of the Employee pension plan.

There is no accrued valuation allowance as at December 31, 2004.

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Appendix A summarizes the assumptions used for this valuation, determined by NSPI in accordance with CICA 3461. Detailed figures are presented in Appendix D.

Section 2 – Income Statement

Plan Benefit cost

The net benefit cost of a post-employment plan for a fiscal year is the sum of the following components:

(A) Costs Arising in the Period

- Current service cost;
- Interest cost on liabilities;
- (Actual return on the market value of Plan assets) ¹;
- Past service costs / (gains) ²;
- Actuarial losses / (gains) on liabilities ³;

(B) Adjustments to Recognize Long-Term Nature of Costs

- Amortization of the transitional obligation (asset);
- Impact of deferred recognition on the current year return on Plan assets ¹;
- Impact of deferred recognition on past service costs ²;
- Impact of deferred recognition on actuarial losses / (gains) on liabilities ³;
- Amortization of initial valuation allowance; and
- Current year change in required valuation allowance

Notes:

As a result of changes to CICA 3461 during 2004, a number of expense components shown previously must now be shown separately as two components to derive the benefit cost:

- 1 The sum of these components previously shown as Expected Return on Assets.
- 2 The sum of these components previously shown as Amortization of Past Service Costs.
- 3 The sum of these components previously shown as Amortization of Net Actuarial Loss (Gain).

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Table 2.1 shows the reported benefit cost (in thousands) for fiscal year 2004.

Table 2.1 Benefit cost (Income) for 2004 (thousands)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Costs Arising in the Period							
Current Service Cost	\$10,184 ¹	\$0	\$594	\$0	\$739	\$435	\$11,950
Interest Cost	31,809	2,610	1,560	820	833	1,032	38,664
(Actual Return on Assets)	(35,854)	(1,765)	0	0	0	0	(37,619)
Events in the Period:							
• Past Service Costs / (Gains)	(7,283)	0	0	0	0	0	(7,283)
• Actuarial Losses / (Gains) on ABO	1,007	27	364	(110)	387	(1,804)	(129)
Future Benefit Costs Before Adjustments	(\$138)	\$872	\$2,518	\$710	\$1,959	(\$337)	\$5,583
Adjustments to Recognize Long-Term Nature of Costs							
• Transitional Obligation / (Asset)	(786)	(409)	596	620	816	1,422	2,259
• Current Year Return on Assets ²	640	(1,778)	0	0	0	0	(1,138)
• Past Service Costs ³	7,506	0	89	0	0	0	7,595
• Actuarial Losses / (Gains) on ABO ²	6,453	230	(308)	111	(387)	1,550	7,648
Total Benefit Cost (Income)	\$13,676	(\$1,085)	\$2,895	\$1,441	\$2,388	\$2,634	\$21,949

1 Employee Plan current service cost shown above includes \$9,414 for DB component and \$770 for DC component.

2 Actual return on plan assets, less expected return on plan assets determined on a market related basis.

3 Equal to (1) current year amortization of (gain)/loss subtract (2) (gain)/loss incurred in the current year.

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Table 2.2 shows the development of projected benefit cost (in thousands) for fiscal year 2005.

Table 2.2 *Estimated Benefit Cost (Income) for 2005 (thousands)*

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Costs Arising in the Period							
Current Service Cost	\$9,920 ¹	\$0	\$546	\$0	\$821	\$383	\$11,669
Interest Cost	33,088	2,499	1,568	779	896	943	39,773
(Actual Return on Assets) ²	(35,471)	(2,934)	0	0	0	0	(38,405)
Events in the Period:							
• Past Service Costs / (Gains)	0	0	0	0	0	0	0
• Actuarial Losses / (Gains) on ABO ²	0	0	0	0	0	0	0
Future Benefit Costs Before Adjustments	\$7,537	(\$435)	\$2,114	\$779	\$1,717	\$1,326	\$13,037
Adjustments to Recognize Long-Term Nature of Costs							
• Transitional Obligation / (Asset)	(786)	(409)	596	620	816	1,422	2,259
• Current Year Return on Assets ²	(2,156)	(466)	0	0	0	0	(2,622)
• Past Service Costs	(133)	0	89	0	0	0	(44)
• Actuarial Losses / (Gains) on ABO ²	8,679	460	82	0	0	(449)	8,771
Total Benefit Cost (Income)	\$13,140	(\$850)	\$2,882	\$1,399	\$2,533	\$2,298	\$21,402

1 Employee Plan current service cost shown above includes \$9,095 for DB component and \$825 for DC component.

2 Although the sum of these four items will not change when the benefit cost for 2005 is finalized, the total amount will be re-distributed amongst the items based on the actual experience of the post-retirement benefit plans during 2005.

Please refer to Appendix D for additional details for projected 2005 benefit cost and the sensitivity of the ABO and current service cost to a 25 basis point discount rate change. Appendix D also contains the sensitivity of the ABO as at December 31, 2004 and combined current service and interest cost for 2005 to a 100 basis point change in the health care trend rate.

Aside from applying consistent methodology and assumptions, the calculation of benefit cost for each of NSPI's post-employment plans was determined independently from all other post-employment plans. Detailed benefit cost calculations and details of amortization schedules are presented in Appendix D. The following is a brief explanation of accounting terms.

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As a result of new CICA 3461 accounting disclosure requirements, effective July 1, 2004, the presentation of the benefit cost (previously known as benefit expense) in the tables shown above have changed from previous reports. The new disclosure separates some terms in the benefit cost into two items (one relating to the cost of any event arising in the period and the second the adjustment to arrive at the cost recognized during the period) where one disclosure item was used previously. The following descriptions relate to the prior disclosure and additional comments are provided, where appropriate, to indicate where this item has been split into two components under the new disclosure requirements.

Employer Current Service Cost

The employer current service cost for the year is determined as follows:

- in respect of active members who are at or past the full eligibility date, and in respect of retirees: none, and
- in respect of active members who have not reached the full eligibility date: the portion of the actuarial present value of all future benefits payable by the employer on behalf of the member and his/her dependants which is attributed to the year following the valuation date. The actuarial present value is attributed uniformly over the years from the date of hire to the full eligibility date.

Employer current service costs were computed as at December 31, 2004 using the actuarial assumptions described in Appendix A.

Interest Cost

To calculate the interest cost, interest for one year is credited on the Accrued Benefit Obligation, and interest for one-half of one year is credited on the total current service cost. Pension and claim payments are assumed to be made in the middle of the fiscal year.

Expected Return on Assets

To calculate the expected return on a Plan's assets, investment income for one year is credited based on the 5-year market related value of assets, and investment income for one-half of one year is credited on pension or claim payments, and contributions expected to be made during the fiscal year. In the benefit cost tables shown above, the sum of the actual return on assets and the impact of deferred recognition on the current year return on assets is equal to the expected return on assets.

Amortization of Transitional Obligation

In accordance with the accounting standards, the value of the surplus less any Accrued Benefit Asset at the date of application of the standards is the transitional asset, or if negative, the transitional obligation. Under the prospective approach, this transitional obligation is normally amortized over the average remaining service period ("ARSP") of active employees. For NSPI, the ARSP as at January 1, 2000, the date of adoption of CICA 3461, was 13 years.

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Amortization of Past Service Costs

Past service costs arising from plan amendments are amortized over the ARSP until full eligibility. Under the employee pension plan, the ARSP as at December 31, 2004 was determined to be 10 years. The same ARSP was used for all benefit plans as the membership is materially the same. In the benefit cost tables shown above, the sum of the past service costs arising in the period and the impact of deferred recognition on the past service costs is equal to the amortization of past service costs during the period.

Amortization of Net Actuarial Loss (Gain)

Under the accounting standards, actuarial gains and losses in a year may be combined with the unamortized balance of gains or losses from prior years. As discussed in CICA Section 3461.090, actuarial gains and losses on investments that are not yet reflected in the market related value of assets are not subject to amortization. The amount of unamortized gain or loss (net of the investment gain or loss not yet subject to amortization) that exceeds 10% of the greater of the plan's market related value of assets or Accrued Benefit Obligation is divided by ARSP and recognized in the current year benefit cost. As discussed above, the ARSP as at December 31, 2004 is 10 years. In the benefit cost tables shown above, the sum of the actuarial loss on the ABO arising in the period and the impact of deferred recognition on the actuarial loss on the ABO is equal to the amortization of net actuarial losses during the period.

Amortization of Change in Carrying Amount of Accrued Benefit Asset on Adoption of CICA 3461 ("Initial Valuation Allowance")

In accordance with the accounting standards, the change in the limit on the carrying amount of the Accrued Benefit Asset on adoption of CICA 3461("Initial Valuation Allowance") may be amortized on the same basis as the transitional obligation.

Valuation Allowance

In accordance with CICA 3461, there may be limits on the carrying amount of an Accrued Benefit Asset. Currently, under the Employees' plan, NSPI's Accrued Benefit Asset will, upon full amortization of the Initial Valuation Allowance, be limited to half of the plan surplus.

Our understanding of CICA 3461 is that the difference between

- the Adjusted Benefit Asset (equal to surplus if there are net unamortized losses, or the Accrued Benefit Asset if there are net unamortized gains), and
- the expected future benefit

is equal to the sum of:

- the accrued Valuation Allowance, and

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- the unamortized Initial Valuation Allowance.

Any change in the Valuation Allowance (other than the Initial Valuation Allowance) must be recognized immediately in income. The required Valuation Allowance for 2005 is based on figures projected to the end of 2005. Based on these projections, a Valuation Allowance will not be required; however the necessity of a Valuation Allowance should be reviewed at the time December 31, 2005 disclosure figures are prepared.

The permitted carrying amount of the Accrued Benefit Asset is equal to the Accrued Benefit Asset less the accrued Valuation Allowance.

Section 3 – Actuarial Opinion

The following opinion is with respect to the plans providing post-employment benefits for employees of Nova Scotia Power Incorporated (“NSPI”).

Valuations of the Employee and Acquired Companies pension plans, supplemental and executive benefits, long service award, and post-employment health benefits were performed as at December 31, 2004. Each valuation was based on the plan provisions and data as at December 31, 2004. A valuation of ERIP 86 and 91 and War Service pensions was performed as at December 31, 2003 and extrapolated to December 31, 2004. We are not aware of any other post-employment plans sponsored by NSPI.

We have confirmed with NSPI that since the valuation date, there are neither plan modifications nor any extraordinary changes to the membership that would materially affect the results of the actuarial valuations.

We hereby certify that, in our opinion, as at December 31, 2004:

- a) The post-employment benefits for employees of NSPI are defined benefits for purposes of Section 3461 of the *CICA Handbook*.
- b) Our valuation and extrapolation thereof has been made in accordance with the standards of the Canadian Institute of Actuaries. The financial statement items resulting from our valuation and extrapolation thereof have been determined in accordance with our understanding of Section 3461 of the *CICA Handbook*.
- c) Our valuation thereof was performed using best-estimate assumptions developed by NSPI as at December 31, 2004. These assumptions are described in our valuation report and are summarized in Appendix A.
- d) The total Accrued Benefit Obligation is \$671.301 million and the total market value of assets is \$515.958 million for a deficit of \$155.342 million. The unamortized loss, past service cost and transitional obligations, net of unamortized gains and transitional assets is \$203.723 million. The accrued Valuation Allowance is \$0. The Carrying Amount of the Accrued Benefit Asset is \$48.381 million. (Figures are rounded and may not add up exactly due to rounding.)
- e) The average remaining service period for active members is 10 years. This is also a reasonable proxy of the average expected life expectancy in benefits plans that are comprised primarily of retirees. After application of the 10% corridor, actuarial gains and losses for each benefit plans is amortized over 10 years.

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- f) We have confirmed with NSPI that the plan provisions are up to date as at the date of this report. We are not aware of any events that could have a significant effect on our valuation or on NSPI's financial statements.
- g) Fiscal 2004 benefit cost is \$21.949 million.
- h) Fiscal 2005 benefit cost is estimated to be \$21.402 million.
- i) We are aware that NSPI's auditors may rely on this report for the preparation of NSPI's financial statements.

Furthermore, we hereby declare that in our opinion:

- The data upon which this valuation is based are sufficient and reliable for the purposes of the valuation; and
- NSPI management have selected the assumptions and they are in accordance with accepted actuarial practice; and
- This report has been prepared, and our opinion given, in accordance with generally accepted actuarial practice.

Emerging experience, differing from assumptions will result in gains and losses, which will be revealed in future valuations.

We are available, at your convenience, to provide you with any additional information that you may require.

Respectfully submitted,

Paul Chang, F.S.A., F.C.I.A.

This report has been peer reviewed by _____
Jeff Clark, F.S.A., F.C.I.A.

MORNEAU SOBECO
March 2005

Appendix A – Actuarial Assumptions and Methods

Actuarial Cost Method

For all active employees, the Accrued Benefit Obligation and the current service cost were calculated using the “projected benefit method pro-rated on service”.

According to this method, the Accrued Benefit Obligation is equal to the actuarial present value of all future benefits (net of any employee cost sharing for OPEBs), taking into account the assumptions described below, multiplied by the ratio of an employee’s service at the valuation date to total service at the retirement date. The current service cost for a period is equal to the actuarial present value of benefits attributed to employees’ services rendered in that period.

To determine the actuarial present value of post-retirement health benefits, the expected true costs were projected into the future in respect of each member applying both age-related utilization rates and the assumed trend (i.e., health care inflation) rates. In addition, each member’s expected contributions (i.e., premium) was projected into the future based on health care inflation. The actuarial present value of NSPI’s portion of the cost of the post-employment health plan is the difference between the actuarial present value of the total cost and the actuarial present value of the member’s contributions.

Assets

Employee and Acquired pension plan assets are taken at market value from the draft audited financial statements. There are no assets in respect of the other plans.

To determine the expected return on assets, we used a 5 year market-related value of assets and assumed that all cash flows would occur at mid-year. The 5 year market-related value of assets smoothes out investment gains and losses incurred on and after January 1, 2000.

Actuarial Assumptions

The actuarial assumptions used for the valuation are summarized in the following table. All rates and percentages are annualized unless otherwise noted. All assumptions used are management’s best estimates. The discount rate was based on the annualized yield of A rated bonds at the valuation date with the same duration as the obligations (14 years). The discount rate used for the prior valuation was based on the annualized yield of AA rated bonds with the same duration as the obligations.

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Table A.1 Actuarial Assumptions – Economic Factors

	December 31, 2004 Disclosure and 2005 Benefit cost	December 31, 2003 Disclosure and 2004 Benefit cost
Discount Rate	6.00%	6.00%
General Inflation	2.50%	2.50%
YMPE	3.00%	3.00%
	Under 30: 5.50%	Under 30: 5.50%
	30 to 34: 5.00%	30 to 34: 5.00%
	35 to 39: 4.50%	35 to 39: 4.50%
Salary Increases *	40 to 44: 4.00%	40 to 44: 4.00%
	45 to 49: 3.50%	45 to 49: 3.50%
	50 and above: 3.00%	50 and above: 3.00%
Increase in maximum Pension in registered plan per year of service	\$2,000 for 2005, and \$2,000 indexed starting 2006 at 3.00% per annum	\$1,833 for 2004, \$2,000 for 2005, and \$2,000 indexed starting 2006 at 3.00% per annum
Return on Employee Plan Assets	7.50%	7.50%
Return on Acquired Plan Assets	7.50%	7.50%
Extended Health Care Inflation	10.00% for next year (premium increase effective Jan 2006), decreasing in years 2 through 7 by 1% per year with a long-term ultimate rate of 4.00%	11.00% for next year (premium increase effective Jan 2005), decreasing in years 2 through 8 by 1% per year with a long-term ultimate rate of 4.00%
Dental Inflation	4.00%	4.00%

* During 2004, union plan members received retroactive earnings in respect of 2003 service. This retroactive payment represented, on average, 2.4% of 2004 pensionable earnings. This 2.4% represents a one-time retroactive payment and will not be repeated in future years. In projecting the earnings for unionized members (which are based on 2004 actual earnings), we adjusted the result by a multiple of .976 to "back out" this one time retroactive payment included in the 2004 earnings.

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Table A.2 Actuarial Assumptions – Demographic Factors

	December 31, 2004 Disclosure and 2005 Benefit cost	December 31, 2003 Disclosure and 2004 Benefit cost
Mortality	Group Annuity 1983 Table (GAM-1983) Sex Distinct Post- retirement only	Group Annuity 1983 Table (GAM-1983) Sex Distinct Post- retirement only
Termination	5% per annum up to age 50	5% per annum up to age 50
Disability Rates	None assumed	None assumed
Retirement Rates	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award. *Age 58 was used for the valuation of the new post retirement health plan.	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award. *Age 58 was used for the valuation of the new post retirement health plan.
Spouse Age Difference	Women 3 years younger.	Women 3 years younger.
Health Care Relative Utilization ¹	Please see table A.3 below	Please see table A.3 below
Percentage Married	85% at retirement	85% at retirement
Probability for active member to convert to New Post Retirement Health Plan ²	N/A	Based on Continuous Service at Retirement: Less than 15 years: 0% 15 to 20 year: 20% 20 to 25 years: 30% 25 to 30 years: 40% 30 to 35 years: 70% More than 35 years: 90%
Members Electing Coverage at Retirement	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ³	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ³
Coverage Elected at Retirement	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single

1 Used to estimate average medical and drug costs at different ages (drug coverage ceases at age 65).

2 The conversion was open until March 31, 2004, therefore, because last year's valuation was performed before this date, an assumption was required to estimate which members would convert to the new post-retirement health plan. For the valuation as at December 31, 2004, the actual membership under the new and old post-retirement health plans was known.

3 The data used for the post-employment health care valuation includes only those active members who currently have health coverage – such members represent 90% of all active employees at NSPI – the assumed likelihood that an active employee who currently has coverage and who retires from NSPI takes post-retirement coverage is 85%

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resulting in an overall take up rate for all employees (with or without current coverage) of 75% (approximately equal to $.85 \times .9$).

Table A.3 Health Care Relative Utilization Factors

Age	Hospital & EHB	Drug Coverage	Dental Coverage
40	46%	42%	90%
45	53%	56%	88%
50	61%	74%	86%
55	78%	86%	83%
60	100%	100%	81%
64	122%	113%	80%
65	128%	N/A	N/A
70	163%	N/A	N/A
75	239%	N/A	N/A
80	352%	N/A	N/A
85	517%	N/A	N/A

Example: The cost for Hospital and EHB for a 64 year old is 122% of the cost for a 60 year old.

Calculation of Medical Cost

Development of Utilization Factors

Manulife Financial provided claims amounts for hospital & EHB, and drugs for the period from August 1, 2001 to July 31, 2002 by quinquennial age bands. Using the number of members within each age band, we determined the amount of claims per member for each age band. From this we found the relative age based utilization factors for each quinquennial age band. We then extrapolated integer age based utilization factors from the quinquennial results. As there were insufficient post-1991 retirees over age 75 to establish a reliable utilization scale over such age, the utilization scales beyond age 75 were estimated based on industry statistics. We did not have details of the dental claims amount and have used utilization factors which are based on industry statistics.

Existing Post-Retirement Health Plan - NSPI members

Effective 2003, the annualized premiums for retirees are experience rated amongst retirees only. Previously the actives and retiree premiums were experience rated as a single group, and the same premium was paid by both retirees and actives. The member's portion (50% of total cost) of the annualized premiums charged as at January 1, 2005 (including the 2.8% increase as at January 1, 2005) for the NSPI Health plan is \$557 for single coverage and \$1,395 for family coverage. The experience report also shows that approximately 85% of claims are related to drugs, with the remaining 15% for hospital and extended health care.

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Based on the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total expected claims at each age less member's paid premium) for 2004 at each age:

Age	Single	Family
50	\$537	\$1,341
55	\$722	\$1,804
60	\$940	\$2,348
65	(\$365)	(\$916)
70	(\$312)	(\$783)
75	(\$198)	(\$496)
80	(\$29)	(\$74)
85	\$219	\$545

Based on the premiums provided by Manulife, we updated the estimated employer cost (as compared to our prior valuation). Based on the ratio of the family to the single premium being charged by Manulife, and a fully experienced retiree only group, we continue to assume that the total cost for family coverage is approximately 2.5 times the single cost. A negative amount means that the retiree's premium exceeds the estimated average claims at that particular age.

New Post-Retirement Health Plan - NSPI members

Effective January 1, 2004, a new health benefit plan for retirees was introduced. Please refer to Appendix C for details of the new retiree health plan. We understand that this plan will be rated separately from the existing plan and that retirees and actives will be rated as one group within the new plan. As there are currently an insufficient number of retirees under the new plan, we have used the same drug and hospital utilization factors as for the old plan and used industry based utilization factors for the dental benefits.

NSPI provided us with the total annualized premiums charged as at January 1, 2005 for the new NSPI Health plan as \$629 for single coverage and \$1,927 for family coverage, and new Dental plan as \$304 for single coverage and \$675 for family coverage. Based on the premiums provided, and the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total cost less member's premium) for 2004 at each age, based on a 50% cost sharing to be:

Age	Health Single	Health Family*	Dental Single	Dental Family*
50	\$437	\$1,291	\$146	\$317
55	\$568	\$1,684	\$138	\$301
60	\$723	\$2,150	\$131	\$285
64	\$868	\$2,583	\$125	\$273

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65**	\$0	\$0	\$0	\$0
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* In addition to family coverage, there is "couple coverage", employer health and dental costs for couple coverage is approximately 2 times the single health cost shown.

** No coverage after age 65.

Note that under the new post retirement benefit plan, the actual percentage of the costs paid by the employer varies by the member's years of service at retirement. The costs shown above would need to be adjusted accordingly for members who do not receive 50% cost sharing. (Please contact us if you require such figures)

Pre-1992 Retirees

Since NSPI's liability in respect of former NSPI employees who retired under the PSSP is based on the amount of premium assessed by the Province, we have determined the accrued benefit obligation in respect of these members by determining the present value of premiums. Such premiums are assumed to increase at the health inflation rates, but no age utilization factor is applied. Annualized employer (65% of total) premiums as at January 1, 2005 are as follows:

	Policy 5138	Policy 6000	Policy 6500
Single	\$192	\$643	\$342
Family	\$489	\$1,427	\$685

The premiums as at January 1, 2005 are the same as those as at January 1, 2004.

We assumed that the above premiums for pre-1992 retirees would follow the extended health care inflation assumption set out in table A.1 for future years.

Valuation Allowance

For purposes of estimating the Valuation Allowance required for fiscal 2005, we estimated the December 31, 2005 ABO for the Employee's Pension Plan (DB component only) to be \$580.03 million. This was based on the December 31, 2004 ABO figure of \$555.98 million projected forward with estimated current service cost, interest, less benefit payments. The Employee's Pension Plan assets (DB component only), on a market value basis, projected to December 31, 2005 is estimated to be \$506.32 million.

As a result, the Plan's ABO exceeds the assets as at December 31, 2005 (i.e., the Plan's "adjusted benefit asset" is less than 0 and there is no "expected future benefit" – as those terms are defined in CICA subsections 3461.101) and no Valuation Allowance is projected to be required. A determination based on actual December 31, 2005 ABO and assets will be required to finalize the amount of Valuation Allowance for 2005.

Appendix B – Membership Data

Description of Pension Plan Membership Data

Our valuation of the pension plans as at December 31, 2004 was based on valuation data as at December 31, 2004, with the exception of the War Service and ERIP valuation which was based on valuation data as at December 31, 2003.

We have performed tests to verify reasonableness and internal consistency and are satisfied that the data is sufficient and reliable for the purposes of this valuation. Basic statistics on the Employee and Acquired plan data are shown in the table below:

Table B.1

	Employee Plan (DB)	Acquired Companies	Exec, Discretionary	War Svc, ERIP 1986, ERIP 1991*
Actives (including LTD)				
Number	1,556**	10	38	N/A
Average age	45.8	55.7	47.7	N/A
Average credited service	16.7	3.1	13.6	N/A
Average 2004 earnings	\$55,713	\$62,716	<	N/A
Pensioners (including survivors)				
Number	786	751	324	360
Average age	60.4	74.6	64.5	75.6
Average annual lifetime pension	\$18,676	\$6,065	\$3,798	\$3,836
Average annual bridge (averaged over all pensioners)	\$4,525	\$12	\$914	\$0

* Data as at December 31, 2003.

** Includes 47 LTD members accruing credited service under the Employee Pension Plan and 64 members with accrued benefits to July 1, 2001 who switched to DC.

Some service and earning figures not shown to protect confidentiality.

Pension figures include the January 1, 2005 cost of living adjustment with the exception for the War Service and ERIP pension figures which include cost of living adjustments to January 1, 2004.

Data for the War Service, Executive Plan, Discretionary Plan, and ERIP 1986 and 1991 were provided by NSPI. Please refer to the actuarial reports for funding purposes as at December 31, 2004 for additional data information for the Employees' Pension Plan and the Acquired Companies Pension Plan.

The following tables summarize the key data used in our valuation.

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Table B.2 Employee Plan Active Members

Nearest Age	Credited Service	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 plus	Total
20 to 24	Count	9							9
	Avg Credited	1.0							1.0
	Avg 2004 Earnings	30,182							30,200
25 to 29	Count	55	1						56
	Avg Credited	2.6	< >						2.7
	Avg 2004 Earnings	35,706	< >						35,600
30 to 34	Count	80	24	3	1				108
	Avg Credited	2.5	5.9	13.4	< >				3.7
	Avg 2004 Earnings	46,964	48,303	50,975	< >				47,300
35 to 39	Count	63	34	40	36				173
	Avg Credited	2.9	6.8	13.7	16.5				9.0
	Avg 2004 Earnings	50,310	53,839	58,261	51,352				53,100
40 to 44	Count	57	44	39	93	47			280
	Avg Credited	2.6	6.5	13.8	17.5	22.1			13.0
	Avg 2004 Earnings	56,315	54,657	57,811	61,372	57,492			58,100
45 to 49	Count	44	35	26	64	68	98	4	339
	Avg Credited	2.9	6.6	13.5	17.8	22.8	27.3	30.7	18.3
	Avg 2004 Earnings	59,011	55,340	52,167	56,419	64,283	58,350	57,395	58,500
50 to 54	Count	24	14	15	29	56	119	117	374
	Avg Credited	2.9	6.8	13.0	17.3	22.6	27.9	31.3	24.4
	Avg 2004 Earnings	57,162	44,817	49,377	50,401	55,006	62,197	56,915	57,100
55 to 59	Count	13	5	8	21	23	68	42	180
	Avg Credited	3.0	6.4	13.6	17.5	22.8	27.4	31.9	23.7
	Avg 2004 Earnings	72,768	73,805	51,010	50,388	51,085	57,064	62,433	58,100
60 plus	Count	7	3	1	7	4	11	4	37
	Avg Credited	4.0	7.2	< >	18.0	22.6	26.8	32.5	19.1
	Avg 2004 Earnings	51,645	235,641	< >	40,851	35,258	49,626	40,412	60,400
Total	Count	352	160	132	251	198	296	167	1,556
	Avg Credited	2.7	6.5	13.6	17.4	22.6	27.5	31.5	16.7
	Avg 2004 Earnings	50,100	56,700	55,100	55,800	57,900	59,300	57,900	55,700

Notes:

Some earnings figures hidden to protect confidentiality.

Age is computed at the nearest birthday.

Avg. Credited is the number of years credited for pension plan purposes.

The salary used is the annualized pensionable salary for the year ending December 31, 2004.

Age/Service distribution includes 47 members on LTD and 64 members who switched to the DC component of the Plan in respect of service after July 1, 2001.

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Table B.3 Employees' Plan Pensioners

Nearest Age	Count	Average Annual Pension	Average Annual Bridge	Average Annual Benefit	Total Benefit Payable
Under 25	20	2,306	0	2,306	46,121
25 to 49	13	8,820	515	9,335	121,355
51	4	11,200	1,142	12,341	49,365
52	3	11,315	3,338	14,653	43,958
53	14	22,541	7,218	29,760	416,639
54	10	19,126	6,305	25,431	254,308
55	31	20,864	7,474	28,338	878,477
56	52	21,713	6,838	28,551	1,484,652
57	61	19,694	7,076	26,769	1,632,939
58	70	20,826	7,343	28,169	1,971,813
59	51	22,677	6,927	29,603	1,509,775
60	53	18,270	6,528	24,799	1,314,334
61	42	19,743	6,322	26,065	1,094,741
62	42	19,520	6,351	25,871	1,086,589
63	42	18,967	6,029	24,996	1,049,838
64	37	19,477	5,635	25,112	929,130
65	45	17,219	2,095	19,315	869,154
66	47	18,575	103*	18,678	877,869
67	36	21,436	0	21,436	771,690
68	31	18,479	0	18,479	572,847
69	24	13,441	0	13,441	322,581
70	9	19,452	0	19,452	175,069
71	14	19,511	0	19,511	273,152
72	12	11,967	0	11,967	143,601
73	3	12,499	0	12,499	37,496
74	5	15,401	0	15,401	77,005
75	3	19,328	0	19,328	57,984
76	6	17,520	0	17,520	105,119
77	4	13,858	0	13,858	55,431
78	1	< >	< >	< >	< >
85	1	< >	< >	< >	< >
Average		\$18,734	\$4,466	\$23,201	
Total	786				\$18,235,675

Figures above include January 1, 2005 cost of living adjustment.

* Bridge payable to surviving spouse

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Table B.4 Acquired Plan Pensioners

	PART I					PART II		
	Count	Average Annual Pension	Average Annual Bridge	Average Annual Benefit	Total Benefit Payable	Count	Average Annual Benefit	Total Benefit Payable
50 to 54	4	475		475	1,899	0	0	0
55 to 59	58	1,152		1,152	66,798	18	1,418	25,522
60	16	2,076		2,076	33,212	1	< >	< >
61	12	2,876		2,876	34,514	4	2,102	8,409
62	10	2,831		2,831	28,312	3	5,290	15,870
63	7	3,825		3,825	26,778	1	< >	< >
64	10	3,148	912	4,060	40,599	1	< >	< >
65	7	4,284		4,284	29,987	5	3,879	19,396
66	14	3,689		3,689	51,646	11	4,802	52,825
67	11	3,580		3,580	39,376	5	5,851	29,257
68	13	5,147		5,147	66,909	8	2,927	23,418
69	16	5,628		5,628	90,056	8	3,856	30,846
70	13	3,916		3,916	50,903	4	6,347	25,387
71	20	7,851		7,851	157,021	5	6,818	34,092
72	10	9,081		9,081	90,810	5	4,901	24,506
73	20	8,169		8,169	163,376	8	4,955	39,638
74	21	8,754		8,754	183,825	6	9,608	57,650
75	19	5,852		5,852	111,190	12	4,585	55,020
76	18	9,447		9,447	170,050	12	6,727	80,722
77	26	10,471		10,471	272,246	7	3,786	26,505
78	18	8,784		8,784	158,105	4	7,415	29,658
79	20	8,432		8,432	168,647	10	8,014	80,139
80	12	9,847		9,847	118,168	11	5,633	61,958
81	17	10,765		10,765	183,012	7	7,086	49,603
82	20	11,442		11,442	228,846	5	4,549	22,744
83	12	7,588		7,588	91,057	7	6,001	42,008
84	12	8,145		8,145	97,742	7	5,948	41,634
85	13	9,520		9,520	123,766	10	6,413	64,128
86	15	7,138		7,138	107,076	4	7,183	28,734
87	12	8,163		8,163	97,959	5	4,164	20,818
88	16	7,002		7,002	112,035	1	< >	< >
89	8	6,227		6,227	49,819	5	4,708	23,540
90 to 94	20	6,585		6,585	131,704	13	3,620	47,062
95 and over	13	6,638		6,638	86,290	5	4,367	21,833
AVERAGE		\$6,481	\$17	\$6,499			\$5,048	
TOTAL	533				\$3,463,732	218		\$1,100,466

Figures above include January 1, 2005 cost of living adjustment.

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Table B.5 Exec and Discretionary

Executives and Discretionary					
Nearest Age	Count	Avg. Annual Pension	Avg. Bridge Pension	Avg. Benefit Payable	Total Benefit Payable
< 55	2	1,419	619	2,038	4,077
55	1	< >	< >	< >	< >
56	17	3,791	1,286	5,077	86,303
57	27	3,625	1,349	4,973	134,282
58	40	3,952	1,363	5,316	212,622
59	30	5,815	1,299	7,114	213,407
60	33	3,320	1,272	4,592	151,550
61	24	3,864	1,271	5,135	123,228
62	21	4,201	1,298	5,499	115,475
63	14	4,075	1,265	5,340	74,756
64	11	8,215	1,578	9,793	107,724
65	11	2,680	568	3,248	35,733
66	9	2,978	93	3,072	27,646
67	5	3,518	0	3,518	17,589
68	6	2,728	0	2,728	16,365
69	3	2,262	0	2,262	6,786
70	3	3,096	0	3,096	9,288
71	2	5,202	0	5,202	10,404
72	2	645	0	645	1,291
73	4	1,535	0	1,535	6,142
74	0	0	0	0	0
75	4	4,595	0	4,595	18,381
76	7	3,601	0	3,601	25,210
77	4	1,429	0	1,429	5,717
78	7	2,700	0	2,700	18,900
79	2	758	0	758	1,517
80	4	1,831	0	1,831	7,326
81	6	2,312	0	2,312	13,870
82	7	3,258	0	3,258	22,804
83	3	567	0	567	1,701
84	5	3,512	0	3,512	17,559
85	4	1,311	0	1,311	5,245
> 85	6	4,997	0	4,997	29,981
AVERAGE		\$3,798	\$914	\$4,712	
TOTAL	324				\$1,526,761

Figures above include January 1, 2005 cost of living adjustment.

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Table B.6 War Service and ERIP 1986 and 1991 as at December 31, 2003

War Service				ERIP 1986 and 1991			
Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable	Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable
70	1	< >	< >	61	1	< >	< >
71	0	0	0	62	1	< >	< >
72	7	1,612	11,283	63	1	< >	< >
73	1	< >	< >	64	0	0	0
74	2	2,350	4,700	65	2	3,087	6,174
75	1	< >	< >	66	0	0	0
76	1	< >	< >	67	9	3,829	34,459
77	1	< >	< >	68	21	4,062	85,308
78	8	2,974	23,792	69	14	4,359	61,022
79	6	1,668	10,009	70	18	4,961	89,295
80	12	2,711	32,531	71	17	4,245	72,169
81	5	2,370	11,851	72	28	4,321	120,987
82	7	2,808	19,658	73	36	3,741	134,680
83	10	3,701	37,011	74	20	3,886	77,714
84	9	5,385	48,464	75	22	3,204	70,491
85	7	3,738	26,167	76	23	3,793	87,239
86	11	3,781	41,588	77	11	4,262	46,884
87	3	9,129	27,386	78	13	4,821	62,677
88	4	4,278	17,112	79	11	3,822	42,047
89	2	5,644	11,289	80	9	2,275	20,471
90	1	< >	< >	81	3	1,741	5,222
91	1	< >	< >	82	2	896	1,791
92	1	< >	< >	83	1	< >	< >
93	0	0	0				
94	2	4,217	8,435				
95	0	0	0				
96	1	< >	< >				
Average		\$3,377		Average		\$3,915	
Total	104		\$351,203	Total	263		\$1,029,677

Figures above include indexing as at January 1, 2004. January 1, 2005 is not included in figures shown.

There are no bridge benefits.

Description of Health Plan Membership Data

Employee data for health benefits was provided by NSPI as at December 31, 2004. We have taken the following steps to review the data to ensure sufficiency and reliability:

The data for actives and post 1991 pensioners was compared to the pension valuation data as at December 31, 2004 for reasonableness. Approximately 90% of pension plan active members are enrolled in the health program, and 75% of pension plan retirees are enrolled in the health coverage. This is reasonable since there is an employee cost share component for the coverage.

The data for selected active members and post 1991 pensioners were cross-referenced with the pension plan data and found to be consistent.

We reviewed the data counts and age distributions in respect of pre-1992 retirees for whom NSPI reimburses the Province of Nova Scotia for health benefits, against actual data as at December 31, 2003 and they are consistent.

Table B.7 NSPI Active Members Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	13	6	27.4
30 – 34	21	17	32.7
35 – 39	12	47	37.6
40 – 44	16	86	42.4
45 – 49	13	105	47.5
50 – 54	13	85	52.2
55 – 59	9	44	57.0
60 – 64	1	10	62.2
65 – 69	0	1	65.2
Total	98	401	45.7

Table B.8 NSPI (Post – 91) Pensioners Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage	Average Age Within Age Band
< 50	3	3	46.1
50 – 54	10	25	53.5
55 – 59	46	161	57.8
60 – 64	28	131	62.5
65 – 69	30	87	66.9
70 – 74	9	15	71.9
> 75	2	3	78.3

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Total	128	425	61.4
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Table B.9 NSPI Active Members Enrolled in New Health Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	13	13	11	27.7
30 – 34	15	22	33	32.7
35 – 39	27	13	64	37.4
40 – 44	25	27	100	42.6
45 – 49	22	38	101	47.8
50 – 54	19	99	117	52.2
55 – 59	8	50	21	56.8
60 – 64	3	0	1	62.3
Total	132	262	448	45.6

Table B.10 NSPI Active Members Enrolled in New Dental Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	13	13	12	27.7
30 – 34	15	23	31	32.7
35 – 39	24	14	65	37.4
40 – 44	23	28	104	42.7
45 – 49	21	36	103	47.8
50 – 54	20	94	115	52.2
55 – 59	10	47	21	56.8
60 – 64	3	0	1	62.3
Total	129	255	452	45.5

Table B.11 NSPI (Post – 91) Pensioners Enrolled in New Program*

	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age
Total Health	2	12	4	57.0
Total Dental	2	13	4	57.4

* Assumed that each plan member shared the cost of the plan 50/50 with the employer as the actual cost share was not provided in the data.

Pre-92 Pensioners – Premium Reimbursement to Province of NS

We were provided with the counts of members with single and family coverage enrolled in policies 5138, 6000, and 6500 under Province of NS post retirement health plan for whom NSPI reimburses the Province of NS for a portion of the premiums. We gathered data provided by the

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Province of Nova Scotia as at December 31, 2003 for all of the retirees under policies 5138, 6000 and 6500 with single or family coverage who were still enrolled as at that date. We determined the present value of the future premiums as at December 31, 2004 assuming there was no change in the membership during 2004. We then pro-rated the total present value for each group and coverage type based on the membership counts provided by NSPI as at December 31, 2004.

The following table presents the age distribution based on the membership as at December 31, 2003 and also provides the membership counts as at December 31, 2004:

Table B.12 Distribution of Pre-92 Pensioners based on December 31, 2003 Membership Totals

Age Band	5138 Single	5138 Family	6000 and 6500 Single	6000 and 6500 Family
50 – 54	0	0	0	2
55 – 59	2	2	0	3
60 – 64	2	0	7	1
65 – 69	1	0	17	26
70 – 74	2	0	73	110
75 – 79	4	1	95	102
80 – 84	11	4	71	66
85 – 89	15	7	69	34
90 – 94	6	3	15	3
95 – 99	2	0	5	3
Total	45	17	352	350
Number as at Dec. 31, 2004 (provided by NSPI)	46	14	350	340

Dental

In addition to the employee data for health benefits under the old post-retirement health plan, NSPI provided data for retiree dental benefits. Retiree dental benefits are provided in special circumstances under the old post-retirement health plan, and do not form part of the standard benefits package. (Under the new post retirement benefit plan, dental coverage is provided). There are approximately 34 retirees as at December 31, 2004 who are entitled to dental benefits on a 50/50 cost share under the old post-retirement health plan until they reach age 65. The average age of the 34 retirees is 59.0.

Appendix C – Summary of Plan Provisions

Employees' Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2004 for a summary of plan terms. Effective July 1, 2001, a defined contribution option was offered under the Employee's pension plan. Members who elected to participate in the defined contribution portion of the plan ceased to accrue service under the defined benefit portion of the plan, but retain a defined benefit pension based on final average earnings at termination or retirement in respect of credited service to July 1, 2001.

Acquired Companies Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2004 for a summary of plan terms. Included in the liability is the value of cost of living adjustment and survivor benefits in respect of member's paid up Government of Canada pensions. We note that this is a closed plan and there are no members accruing service.

Executive Supplements, and Discretionary Benefits

NSPI introduced a Supplementary Executive Retirement Plan ("SERP") as at January 1, 2001 to top-up benefits for all members who are capped under the Employees' Pension Plan by the maximum pension limits set out in the *Income Tax Act*. Previously, only certain executives were covered by the SERP. Generally speaking, the SERP has the same terms as the registered Employees' Pension Plan and pays a pension equal to (a) minus (b):

- (a) the pension determined under the Employees' Pension Plan without reference to the *Income Tax Act* limits,
- (b) the pension payable under the Employees' Pension Plan.

The SERP benefits cover both defined benefit and defined contribution amounts that would otherwise exceed *Income Tax Act* limits. For the DC SERP, the word "contribution" would replace the word "pension" in the formula above. In addition, the annual rate of return on the DC SERP balances are deemed to be equal to the annual rate of return on the member's actual Employees' Pension Plan DC account balance.

Certain members in the SERP have a different definition of pensionable earnings than that defined in the Employees' Pension Plan. For such members, this would be used to determine (a) above. There is no pre-funding of SERP benefits. Please refer to the SERP plan document for additional information.

In addition to the SERP, any discretionary benefits granted by NSPI are included in this component. Such benefits are not pre-funded.

War Service, ERIPs of 1986 and 1991

War Service liability is in respect of service granted under the Nova Scotia Public Service Superannuation Plan ("PSSP") to members of Nova Scotia Power Corporation (the predecessor to Nova Scotia Power Incorporated). PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to war service on a pay as you go basis.

The ERIP 1986 and 1991 liability is in respect of certain additional benefits provided to members who retired under the early retirement incentive program (ERIP) offered in 1986 and 1991. The PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to additional service granted under the ERIP on a pay as you go basis.

Long Service Award

Employees who retire from active service on an unreduced pension are eligible for a Long Service Award benefit. This benefit is also paid in the event of death in service. No benefit is payable to employees who terminate prior to retirement, or to those who retire early with a reduced pension. A member's benefit is based on his rate of pay on his retirement date. The benefit amount is 1 week's salary for each year of service, up to a maximum of 26 years of service.

Post-Retirement Health Care Benefits*Existing ("Old") Post-Retirement Health Care Plan*

All NSPI employees who retired between privatization and December 31, 2003 receive benefits under the Old post retirement health care plan. Members who were active as at January 1, 2004 may receive benefits based on either the Old or New Plan depending on a one-time coverage election.

The Old Plan provides retired employees and their spouses (and eligible dependent children, if any) with 100% coverage for all prescription drugs up to age 65, 100% of eligible hospital benefit costs, and 80% of extended health benefits. To be entitled to this post-retirement health benefit, employees must retire from active service and be eligible for an unreduced pension from the NSPI Employee pension plan. Benefits are not provided to those who terminate prior to retirement. It is noted that the Prior Plan documents suggest that spouses and dependents are not eligible for coverage after the death of the member; however, we understand that the practice is to continue to provide coverage, and charge the applicable premium, in any such instance. We have therefore included the cost of lifetime benefits for surviving spouses, in accordance with Company practice.

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The cost of the Prior Plan is shared on a 50-50 basis between the retired employees (and eligible spouses) and the Company. The premium charged is set by the insurance company considering total expected claims in respect of retired members only. The premium does not reduce at age 65, although drug coverage ceases at that time. Premiums differ between employees only in respect of coverage type, i.e., single or family coverage.

New Post-Retirement Health Care Plan

This Plan applies to all employees hired on or after January 1, 2004. However, all active employees as at January 1, 2004 had a one time option to convert to the new Plan.

Compared to the old plan, the new plan adds orthodontic coverage, and caps drug dispensing fees at \$7 per prescription and drug costs to the generic brand cost. Members who enroll in the new plan are entitled to continue with both health and dental coverage after retirement up to age 65 if they meet eligibility requirements:

- The member must have at least 10 years of continuous service with the Company to be eligible for the post-retirement benefit.
- Benefits are not provided to those who terminate prior to retirement.

The cost of the Plan is shared between the employee and the Company, based on the retired member's continuous service at their date of retirement:

Years of Continuous Service at Retirement	Employer Paid Portion
1 – 9	Not eligible to enroll in the Plan
10 – 14	0% paid for by the Employer
15 – 29	50% paid for by the Employer
30 – 34	75% paid for by the Employer
35 +	100% paid for by the Employer

In addition to single and family coverage, the new Plan offers "couple" coverage, whereby any two family members may obtain health and dental coverage. Under the new plan, no coverage is provided after the former employee attains age 65 (even if the spouse is still under age 65).

Post-Retirement Health Benefits for pre privatization retirees

The cost to NSPI of benefits payable in respect of retired NSPC (the predecessor to Nova Scotia Power Incorporated) members who receive a pension from the PSSA is based on the premium assessed by the Province of Nova Scotia.

*Appendix D – Detailed Calculation Sheets
Fiscal 2004 & Projected Fiscal 2005*

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NS07

August 29, 2005

CONFIDENTIAL

Ms. Evelyn McKinnon
Nova Scotia Power Incorporated
P.O. Box 910
Halifax, Nova Scotia B3J 2W5

Dear Evelyn:

**Re: Post-Employment Benefits for Employees of Nova Scotia Power Incorporated
("NSPI's Benefit Plans"); Projected Benefit Cost for Fiscal 2006**

As requested, we are writing to formally document the projected fiscal 2006 benefit cost figure of \$31.7 million for NSPI's Benefit Plans determined in accordance with Section 3461 of the CICA Handbook ("CICA 3461").

For greater certainty, all figures presented in this letter exclude post-retirement benefit plans relating to Bangor Hydro.

2006 Projection

The projection for fiscal 2006 is based on the same actuarial assumptions and methods, plan provisions, and data as those used to estimate fiscal 2005 expense with the following two adjustments:

- Since we are performing a projection of the pension benefit cost for 2006, an assumption must be made regarding the appropriate discount rates to use to determine the 2006 benefit cost. At the time NSPI filed the Direct Evidence, based on the most recent information available and in accordance with CICA 3461.050, a discount rate of 5.50% per annum was appropriate to determine the Accrued Benefit Obligation. This discount rate was based on single "A" Canadian bonds with a duration of 14 years as at May 31, 2005. We assumed this discount rate of 5.50% would also be appropriate for a measurement date of December 31, 2005 in determining the fiscal 2006 pension benefit cost.
- The mortality table used to determine the projected fiscal 2006 benefit cost was the 1994 Uninsured Pensioner Mortality Table projected forward to the year 2015 using mortality Projection Scale AA (UP-94 @ 2015). The 1983 Group Annuity Mortality Table (GAM-83) was used in determining the projected fiscal 2005 benefit cost.

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August 29, 2005

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These changes in assumptions resulted in the significant increase in the projected fiscal 2006 benefit cost figure to \$31.7 million.

The following table presents the components of fiscal 2006 benefit cost:

Projected Fiscal 2006 Benefit Cost (in \$ millions)

	Total
Costs Arising in the Period	
Current Service Cost	\$13.7
Interest Cost	42.0
(Actual Return on Assets)	(40.7)
Events in the Period:	
• Past Service Costs / (Gains)	0
• Actuarial Losses / (Gains) on Accrued Benefit Obligation	0
Future Benefit Costs Before Adjustments	\$15.0
Adjustments to Recognize Long -Term Nature of Costs	
• Transitional Obligation / (Asset)	2.3
• Current Year Return on Assets ¹	(1.7)
• Past Service Costs ²	(0.0)
• Actuarial Losses / (Gains) on Accrued Benefit Obligation ²	16.2
Total Benefit Cost (Income)	\$31.7

Figures may not add up exactly due to rounding.

The results are presented for all post-retirement benefit plans combined.

1. Actual return on plan assets, less expected return on plan assets determined on a market related basis.
2. Equal to current year amortization of (gain)/loss subtract the (gain)/ loss incurred in the current year.

For reference, Appendix A contains a summary of the actuarial assumptions and methods. Appendix B provides an explanation of the process employed to extrapolate the figures from the Accounting Report as at December 31, 2004 in order to determine the projected fiscal 2006 benefit cost figure presented in this letter. Please refer to our Accounting Report as at December 31, 2004 for a summary of the member data and plan terms.

Actuarial Certification

We hereby declare that in our opinion,

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August 29, 2005

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- 1) the data on which the valuation is based are sufficient and reliable for the purpose of the valuation; and
- 2) NSPI management have selected the assumptions and they are in accordance with accepted actuarial practice; and
- 3) the methods employed in the valuation are appropriate for the purpose of the valuation.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice. It should also be noted that emerging experience, which differs from the assumptions made, will result in gains or losses which will be revealed in future valuations.

We understand that this letter may be referenced for purposes of the rate case submission. As noted above, emerging experience including changes in actuarial assumptions and methods, plan changes, and actuarial experience may result in actual fiscal 2006 benefit costs that are different than the projected fiscal 2006 benefit costs presented in this letter.

We trust that the above is satisfactory. Please do not hesitate to contact us if you require any further information.

Yours truly,

Paul Chang, F.S.A., F.C.I.A.
Partner

PC/md
Copy: Darlene Auld

This document has been peer reviewed by _____
Jeff Clark, F.S.A., F.C.I.A.

Appendix A – Actuarial Assumptions and Methods

Actuarial Cost Method

For all active employees, the Accrued Benefit Obligation and the current service cost were calculated using the “projected benefit method pro-rated on service”.

According to this method, the Accrued Benefit Obligation is equal to the actuarial present value of all future benefits (net of any employee cost sharing for OPEBs), taking into account the assumptions described below, multiplied by the ratio of an employee’s service at the valuation date to total service at the retirement date. The current service cost for a period is equal to the actuarial present value of benefits attributed to employees’ services rendered in that period.

To determine the actuarial present value of post-retirement health benefits, the expected true costs were projected into the future in respect of each member applying both age-related utilization rates and the assumed trend (i.e., health care inflation) rates. In addition, each member’s expected contributions (i.e., premium) was projected into the future based on health care inflation. The actuarial present value of NSPI’s portion of the cost of the post-employment health plan is the difference between the actuarial present value of the total cost and the actuarial present value of the member’s contributions.

Assets

Employee and Acquired pension plan assets are taken at market value from the draft audited financial statements. There are no assets in respect of the other plans.

To determine the expected return on assets, we used a 5 year market-related value of assets and assumed that all cash flows would occur at mid-year. The 5 year market-related value of assets smoothes out investment gains and losses incurred on and after January 1, 2000.

Actuarial Assumptions

The actuarial assumptions used for the valuation are summarized in the following table. All rates and percentages are annualized unless otherwise noted. All assumptions used are management’s best estimates. The discount rate was based on the annualized yield of A rated bonds at the valuation date with the same duration as the obligations (14 years).

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Table A.1 Actuarial Assumptions – Economic Factors

Benefit Cost Calculations	
Valuation Date	December 31, 2004 with projection to December 31, 2005
Discount Rate	Projected Fiscal 2006: 5.50%
General Inflation	2.50%
YMPE	3.00%
	Under 30: 5.50%
	30 to 34: 5.00%
	35 to 39: 4.50%
Salary Increases*	40 to 44: 4.00%
	45 to 49: 3.50%
	50 and above: 3.00%
Increase in maximum Pension in registered plan per year of service	\$2,000 for 2005, and \$2,000 indexed starting 2006 at 3.00% per annum
Return on Employee Plan Assets	7.50%
Return on Acquired Plan Assets	7.50%
Extended Health Care Inflation	10.00% for next year (premium increase effective Jan 2006), decreasing in years 2 through 7 by 1% per year with a long-term ultimate rate of 4.00%
Dental Inflation	4.00%

* During 2004, union plan members received retroactive earnings in respect of 2003 service. This retroactive payment represented, on average, 2.4% of 2004 pensionable earnings. This 2.4% represents a one-time retroactive payment and will not be repeated in future years. In projecting the earnings for unionized members (which are based on 2004 actual earnings), we adjusted the result by a multiple of .976 to "back out" this one time retroactive payment included in the 2004 earnings.

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Table A.2 Actuarial Assumptions – Demographic Factors

	Benefit Cost Calculations
Mortality	Fiscal 2006: Uninsured Pensioner Mortality 1994 Table (UP-94) projected to 2015 using Projection Scale AA Sex Distinct Post-retirement only
Termination	5% per annum up to age 50
Disability Rates	None assumed
Retirement Rates	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award. *Age 58 was used for the valuation of the new post retirement health plan.
Spouse Age Difference	Women 3 years younger.
Health Care Relative Utilization ¹	Please see table A.3 below
Percentage Married	85% at retirement
Members Electing Coverage at Retirement	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ²
Coverage Elected at Retirement	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single

¹ Used to estimate average medical and drug costs at different ages (drug coverage ceases at age 65).

² The data used for the post-employment health care valuation includes only those active members who currently have health coverage – such members represent 90% of all active employees at NSPI – the assumed likelihood that an active employee who currently has coverage and who retires from NSPI takes post-retirement coverage is 85% resulting in an overall take up rate for all employees (with or without current coverage) of 75% (approximately equal to .85 x .9).

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Table A.3 Health Care Relative Utilization Factors

Age	Hospital & EHB	Drug Coverage	Dental Coverage
40	46%	42%	90%
45	53%	56%	88%
50	61%	74%	86%
55	78%	86%	83%
60	100%	100%	81%
64	122%	113%	80%
65	128%	N/A	N/A
70	163%	N/A	N/A
75	239%	N/A	N/A
80	352%	N/A	N/A
85	517%	N/A	N/A

Example: The cost for Hospital and EHB for a 64 year old is 122% of the cost for a 60 year old.

Calculation of Medical Cost

Development of Utilization Factors

Manulife Financial provided claims amounts for hospital & EHB, and drugs for the period from August 1, 2001 to July 31, 2002 by quinquennial age bands. Using the number of members within each age band, we determined the amount of claims per member for each age band. From this we found the relative age based utilization factors for each quinquennial age band. We then extrapolated integer age based utilization factors from the quinquennial results. As there were insufficient post-1991 retirees over age 75 to establish a reliable utilization scale over such age, the utilization scales beyond age 75 were estimated based on industry statistics. We did not have details of the dental claims amount and have used utilization factors which are based on industry statistics.

Existing Post-Retirement Health Plan - NSPI members

Effective 2003, the annualized premiums for retirees are experience rated amongst retirees only. Previously the actives and retiree premiums were experience rated as a single group, and the same premium was paid by both retirees and actives. The member's portion (50% of total cost) of the annualized premiums charged as at January 1, 2005 (including the 2.8% increase as at January 1, 2005) for the NSPI Health plan is \$557 for single coverage and \$1,395 for family coverage. The experience report also shows that approximately 85% of claims are related to drugs, with the remaining 15% for hospital and extended health care.

Based on the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total expected claims at each age less member's paid premium) for 2004 at each age:

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Age	Single	Family
50	\$537	\$1,341
55	\$722	\$1,804
60	\$940	\$2,348
65	(\$365)	(\$916)
70	(\$312)	(\$783)
75	(\$198)	(\$496)
80	(\$29)	(\$74)
85	\$219	\$545

Based on the premiums provided by Manulife, we updated the estimated employer cost (as compared to our prior valuation). Based on the ratio of the family to the single premium being charged by Manulife, and a fully experienced retiree only group, we continue to assume that the total cost for family coverage is approximately 2.5 times the single cost. A negative amount means that the retiree's premium exceeds the estimated average claims at that particular age.

New Post-Retirement Health Plan - NSPI members

Effective January 1, 2004, a new health benefit plan for retirees was introduced. Please refer to Appendix C for details of the new retiree health plan. We understand that this plan will be rated separately from the existing plan and that retirees and actives will be rated as one group within the new plan. As there are currently an insufficient number of retirees under the new plan, we have used the same drug and hospital utilization factors as for the old plan and used industry based utilization factors for the dental benefits.

NSPI provided us with the total annualized premiums charged as at January 1, 2005 for the new NSPI Health plan as \$629 for single coverage and \$1,927 for family coverage, and new Dental plan as \$304 for single coverage and \$675 for family coverage. Based on the premiums provided, and the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total cost less member's premium) for 2004 at each age, based on a 50% cost sharing to be:

Age	Health Single	Health Family*	Dental Single	Dental Family*
50	\$437	\$1,291	\$146	\$317
55	\$568	\$1,684	\$138	\$301
60	\$723	\$2,150	\$131	\$285
64	\$868	\$2,583	\$125	\$273
65**	\$0	\$0	\$0	\$0

* In addition to family coverage, there is "couple coverage", employer health and dental costs for couple coverage is approximately 2 times the single health cost shown.

** No coverage after age 65.

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Note that under the new post retirement benefit plan, the actual percentage of the costs paid by the employer varies by the member's years of service at retirement. The costs shown above would need to be adjusted accordingly for members who do not receive 50% cost sharing. (Please contact us if you require such figures)

Pre-1992 Retirees

Since NSPI's liability in respect of former NSPI employees who retired under the PSSP is based on the amount of premium assessed by the Province, we have determined the accrued benefit obligation in respect of these members by determining the present value of premiums. Such premiums are assumed to increase at the health inflation rates, but no age utilization factor is applied. Annualized employer (65% of total) premiums as at January 1, 2005 are as follows:

	Policy 5138	Policy 6000	Policy 6500
Single	\$192	\$643	\$342
Family	\$489	\$1,427	\$685

The premiums as at January 1, 2005 are the same as those as at January 1, 2004.

We assumed that the above premiums for pre-1992 retirees would follow the extended health care inflation assumption set out in table A.1 for future years.

Valuation Allowance

No Valuation Allowance is projected to be required for fiscal 2006. A determination based on actual December 31, 2006 ABO and assets will be required to finalize the amount of Valuation Allowance for 2006.

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Appendix B – Extrapolation Process

This letter presents results based on extrapolations of the assets and obligations disclosed in the Accounting Report as at December 31, 2004. This extrapolation was performed in accordance with Section 3461 of the CICA Handbook (“CICA 3461”).

In order to determine the projected fiscal 2006 benefit cost figures we rolled forward the assets and obligations relating to NSPI’s Benefit Plans, as presented in the December 31, 2004 Accounting Report, to December 31, 2005. To prepare the extrapolation, we used the same actuarial assumptions as were used in the Accounting Report, other than the discount rate which was adjusted to 5.50% per annum and the mortality table which was updated to the 1994 Uninsured Pensioner Mortality Table projected to 2015 using Projection Scale AA.

As part of the extrapolation process, estimates were required regarding future NSPI contributions and benefit payments from each of NSPI’s Benefit Plans. As these assumptions do not have a significant impact of the projected benefit cost figures (as these cash flow items are expected to remain fairly stable), we assumed both future contributions by NSPI and future benefit payments would remain at the level expected for 2005 (as presented in the Accounting Report as at December 31, 2004).

GENERAL ACCOUNTING

PENSION COSTS AND OBLIGATIONS - 2400**GENERAL**

- 01 The Company maintains three contributory defined benefit pension plans that cover substantially all employees.

POLICIES

- 02 Pension costs should be actuarially determined using the projected benefit method prorated on service and management's best assumptions.
- 03 Adjustments arising from plan amendments, experience gains and losses, changes in actuarial assumptions and the difference between the actuarial present value of accrued pension obligations and the market value of pension plan assets should be amortized on a straight-line basis over the expected average remaining service lives of the employees.
- 04 Pension plan assets, valued at year-end market values, and actuarially determined liabilities should be disclosed in the notes to NSPI's financial statements.

PROCEDURES

- 05 Actuarial valuations are performed annually for all three plans. Contributions required to fund any actuarially-determined net liability are remitted and expensed monthly.
- 06 Any difference between pension plan funding and annual pension expense is recorded as a deferred asset or liability and amortized over the employees' expected average remaining service life.
- 07 Pension plan assets are invested by fund managers. Monthly statements are provided by the trustee showing asset market values, investment income, pension benefits, refunds of contributions and plan expenses.
- 08 A Statement of Net Assets and a Statement of Changes in Net Assets for all pension plans are prepared monthly. These statements show pension asset market values, contributions receivable, accounts payable, investment income, changes in market values, contributions received, pension benefits paid, refunds of contributions and plan expenses.

PENSION PLAN FOR EMPLOYEES OF NOVA SCOTIA POWER INC.

- 09 On August 1, 1992, as a result of privatization, the employees of Nova Scotia Power Inc. withdrew from the Province of Nova Scotia Public Service Superannuation Plan and became members of the Pension Plan for Employees of Nova Scotia Power Inc. All employees who were members of the Superannuation Plan automatically became members of the new defined benefit plan with the same credited service as they had under the Superannuation Plan.

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GENERAL ACCOUNTING

PENSION COSTS AND OBLIGATIONS - 2400

- 10 Employee contributions for current service are matched by NSPI through the payroll system and remitted to the trustee for investment by fund managers.
- 11 Administrative expenses are paid by NSPI and reimbursed from the pension fund through requests to the trustee.

PENSION PLANS FOR EMPLOYEES OF CERTAIN ACQUIRED COMPANIES

- 12 NSPI also maintains pension plans covering employee service, indexing and past service liabilities for employees of certain utilities acquired by NSPI. Since the pension plans for employees of acquired companies are closed, current employee contributions are not made and employer matching is not required.
- 13 The expected average remaining service life for the closed group of employees was set by the actuaries at 15 years in 1987.
- 14 Administrative expenses for these plans are paid and expensed by NSPI.

EARLY RETIREMENT COSTS

- 15 In 1993, NSPI implemented a voluntary separation and early retirement program. The costs of \$21.7 million associated with this program were included in the 1993 operating results. Approximately \$15.1 million of this amount related to bridging and additional pension costs. Having already been recognized as expense, this amount reduces the unfunded actuarial liability disclosed in the notes to NSPI's financial statements, and is being funded over the average remaining lives of the employees as determined by actuarial studies.
- 16 In 1995, NSPI underwent a corporate reorganization which resulted in a reduction to the workforce of 276 employees. Employees leaving the Company were provided a severance package based on years of service. To enhance rate stability, the UARB approved NSPI's request to defer and amortize the cost of the severance program, including related pension costs, over a three-year period.¹

¹ Please refer to Section 6930 for a detailed description of the accounting treatment of the costs associated with the 1995 severance program.

2007

NSUARB-P-886

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF: The *Public Utilities Act*, R.S.N.S. 1989, c.380 as amended

IN THE MATTER OF: An Application by Nova Scotia Power Incorporated for Approval of Certain Revisions to its Rates, Charges and Regulations

RESPONSE TO INFORMATION REQUEST

TO: NSPI

FROM: UARB

Question IR-43: Reference Page 89-90, and Appendix B, page 1 of 43

- a. Provide all studies supporting NSPI's 2006F and 2007F pension expense.
- b. Reconcile the values quoted on page 89, line 19 (for 2006C and 2007) with those on page 1 of Appendix B and in Figure 4.21. Include both a description of the differences and the interpretation/meaning of each of the values. For example, what is the process to move from the quoted 2007 pension expense value to the corporate adjustment number of Figure 4.21?
- c. Provide a copy of the letter from NSPI's actuary supporting the appropriate discount rate.
- d. Describe the accounting policy related to pension costs.

Response IR-43:

- a. Please refer to page 5 of Attachment 1 for 2006F benefit cost estimate support. Please refer to Attachment 1 and Attachment 2 for 2007 benefit cost estimate support.
- b. Pension expense is partially recorded in Corporate Adjustments and partially in the individual business units. The portion of expense reflected in a business unit is equal to the Company's matching contribution for the business unit's employees. The difference between the amount recorded in the business units and the total annual pension expense is recorded in Corporate Adjustments. Please see the following table for a breakdown.

2007

NSUARB-P-886

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RESPONSE TO INFORMATION REQUEST

TO: NSPI

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Response IR-43: (cont'd)

(Figures in millions)

	2006C	2007
Pension Expense recorded in Cost Centres	\$ 5.2	\$ 5.2
Pension Expense recorded in Corporate Adjustments	24.6	27.8
Total Corporate Pension Expense	\$29.8	\$33.0

- c. Please refer to Attachment 1.
- d. Please refer to Attachment 1.

DATE FILED: November 20, 2006

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*Actuarial Valuation for Accounting Purposes
as at December 31, 2005 of the
**Post-Employment Benefits for Employees of
Nova Scotia Power Incorporated***

February 2006

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Executive Summary

Purpose

This report presents the results of the actuarial valuation of Nova Scotia Power Incorporated (“NSPI”) post-employment benefit plans for accounting purposes as at December 31, 2005. NSPI retained the services of Morneau Sobeco to perform this actuarial valuation.

This report presents the results of our calculations, and was prepared:

- to determine the benefit cost for fiscal 2005 and the Accrued Benefit Obligation for post-employment benefits as at December 31, 2005;
- to estimate the benefit cost to be recognized for financial statement purposes for fiscal 2006; and
- to provide the information and the actuarial opinion required by NSPI’s auditor under Section 3461 of the CICA Handbook.

The following post-employment plans are included as part of this report:

Pension: a) Employees’ Pension Plan, b) the Acquired Companies Pension Plan, c) Supplementary, Executive and Discretionary pensions, and d) War Service, ERIP 86 and 91 pensions.

Non Pension: a) Post-Retirement Health Benefits, and b) the Long Service Award.

We are not aware of any other post-employment benefit plan sponsored by NSPI.

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Summary of Results

The following table shows the Accrued Benefit Obligation, balances of unamortized amounts and the Accrued Benefit Liability as at December 31, 2005 and December 31, 2004 with respect to the plans providing post-employment benefits for employees of Nova Scotia Power Incorporated ("NSPI"). All figures in thousands.

	December 31, 2005	December 31, 2004
Discount and Inflation Rate end of year	5.25% / 2.50%	6.00% / 2.50%
Market Value of Assets	\$581,172	\$515,958
Accrued Benefit Obligation	812,242	671,301
Surplus (Deficit)	(\$231,070)	(\$155,342)
Aggregate Unamortized Losses (Gains)		
• Transitional	15,815	18,074
• Past Service	(559)	(603)
• Actuarial Experience	272,032	186,252
Accrued Benefit Asset prior to Accrued Valuation Allowance	\$56,219	\$48,381
(Accrued Valuation Allowance)	0	0
Carrying Amount of Accrued Benefit Asset net of Accrued Valuation Allowance	\$56,219	\$48,381

Figures may not add up exactly due to rounding.

A reconciliation of the change in the Accrued Benefit Asset is as follows:

Accrued Benefit Asset as at December 31, 2004	\$48,381
(Benefit Cost) Income for 2005	(22,093)
Company Contributions for 2005	29,931
Accrued Benefit Asset as at December 31, 2005	\$56,219
(Accrued Valuation Allowance)*	0
Carrying Amount of Accrued Benefit Asset as at December 31, 2005	\$56,219

Figures may not add up exactly due to rounding.

* As at December 31, 2005, no Valuation Allowance is required

The following table shows the estimated benefit cost for 2006 as compared to the actual benefit cost for 2005. All figures in thousands.

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	Estimated 2006	Actual 2005
Costs Arising in the Period		
Employer Current Service Cost	\$14,641	\$11,552
Interest Cost	42,239	39,892
(Actual Return on Plan Assets) ¹	(43,325)	(64,016)
Amounts Arising from Events in the Period:		
• Past Service Costs / (Gains)	0	0
• Actuarial Losses / (Gains) on ABO ¹	0	117,540
• Special Termination Benefits Paid	0	691
Future Benefit Costs Before Adjustments	\$13,555	\$105,659
Adjustments to Recognize Long-Term Nature of Costs		
• Transitional Obligation / (Asset)	2,259	2,259
• Current Year Return on Assets ¹	227	22,989
• Past Service Costs / (Gains)	(45)	(45)
• Actuarial Losses / (Gains) other than current year return on assets ¹	19,737	(108,769)
Total Benefit Cost / (Income) Recognized for the Period	\$35,733	\$22,093

Figures may not add up exactly due to rounding.

¹ Although the sum of these four items will not change when the benefit cost for 2006 is finalized, the total amount will be re-distributed amongst the items based on the actual experience of the post-retirement benefit plans during 2006.

Changes since the Previous Valuation

We are not aware of any material changes to the post-retirement plans during 2005.

Furthermore, we are not aware of any planned amendments for 2006.

NSPI's management reviewed the accounting methods and assumptions and has made the following revision since the previous valuation as at December 31, 2004:

- The discount rate of 5.25% per annum as at December 31, 2005 is based on the annualized yield of A rated bonds with the same duration as the obligations (14 years) at the valuation date. The prior valuation used a 6.00% discount rate.
- The mortality table has been updated to the 1994 Uninsured Pensioners Mortality Table projected to 2015 using Projection Scale AA (UP94@2015). The prior valuation used the 1983 Group Annuity Mortality Table (GAM83).
- As a result of the 2005 Federal Budget, the assumed maximum pension permitted by the *Income Tax Act* has been changed to \$2,000 in 2005, \$2,111 in 2006, \$2,222 in 2007, \$2,333 in 2008, \$2,444 in 2009 and \$2,444 indexed thereafter at 3.00% per annum starting in 2010. The prior valuation assumed that the maximum pension of \$2,000 in 2005 would increase at 3.00% per annum starting in 2006.

Section 1 – Balance Sheet

Statement of Financial Position

The financial position of each benefit plan providing post-employment benefits is determined by comparing the value of assets available to the actuarial liability (referred to as the Accrued Benefit Obligation or ABO) for the benefits earned up to the valuation date, assuming the benefit plan continues indefinitely. We note that, as is commonly the case in Canada, NSPI has no assets backing up any of its plans providing post-employment benefits other than those in NSPI's registered pension plans.

The following table shows the Accrued Benefit Obligation as at December 31, 2005 for active employees and retirees based on the plan provisions in effect at the date this report was prepared, as summarized in Appendix C. Appendix A provides the actuarial assumptions used and details on the methodology used to determine the Accrued Benefit Obligation for active employees and retirees.

Table 1.1 Balance Sheet as at December 31, 2005 (thousands)

	Employee Plan (DB) Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Assets (MV)	\$539,980	\$41,192	\$0	\$0	\$0	\$0	\$581,172
Accrued Benefit Obligation	683,536	46,798	32,570	14,549	17,122	17,667	812,242
Surplus	(\$143,556)	(\$5,606)	(\$32,570)	(\$14,549)	(\$17,122)	(\$17,667)	(\$231,070)
Unamortized Transitional Losses (Gains)	(5,500)	(2,866)	4,175	4,339	5,711	9,956	15,815
Unamortized Past Service	(1,267)	0	708	0	0	0	(559)
Unamortized Actuarial Losses (Gains)	242,499	19,533	8,744	2,799	2,713	(4,255)	272,032
Accrued Benefit Asset	\$92,177	\$11,061	(\$18,943)	(\$7,411)	(\$8,699)	(\$11,966)	\$56,219

Figures may not add up exactly due to rounding.

There is no balance sheet asset or liability in respect of the DC component of the Employee pension plan.

There is no accrued valuation allowance as at December 31, 2005.

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Appendix A summarizes the assumptions used for this valuation, determined by NSPI in accordance with CICA 3461. Detailed figures are presented in Appendix D.

Section 2 – Income Statement

Plan Benefit cost

The net benefit cost of a post-employment plan for a fiscal year is the sum of the following components:

(A) Costs Arising in the Period

- Current service cost;
- Interest cost on liabilities;
- (Actual return on the market value of Plan assets) ¹;
- Past service costs / (gains) ²;
- Actuarial losses / (gains) on liabilities ³;
- Other costs such as special termination benefits

(B) Adjustments to Recognize Long-Term Nature of Costs

- Amortization of the transitional obligation (asset);
- Impact of deferred recognition on the current year return on Plan assets ¹;
- Impact of deferred recognition on past service costs ²;
- Impact of deferred recognition on actuarial losses / (gains) on liabilities ³;
- Amortization of initial valuation allowance; and
- Current year change in required valuation allowance

Notes:

As a result of changes to CICA 3461 during 2004, a number of expense components shown previously must now be shown separately as two components to derive the benefit cost:

1 The sum of these components previously shown as Expected Return on Assets.

2 The sum of these components previously shown as Amortization of Past Service Costs.

3 The sum of these components previously shown as Amortization of Net Actuarial Loss (Gain).

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Table 2.1 shows the reported benefit cost (in thousands) for fiscal year 2005.

Table 2.1 Benefit cost (Income) for 2005 (thousands)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post- Ret Health	Total
Costs Arising in the Period							
Current Service Cost	\$9,802 ¹	\$0	\$546	\$0	\$821	\$383	\$11,552
Interest Cost	33,088	2,499	1,687	779	896	943	39,892
(Actual Return on Assets)	(60,201)	(3,815)	0	0	0	0	(64,016)
Events in the Period:							
• Past Service Costs / (Gains)	0	0	0	0	0	0	0
• Actuarial Losses / (Gains) on ABO	102,621	4,893	5,328	1,466	1,834	1,398	117,540
• Special Termination Benefits Paid	0	0	691	0	0	0	691
Future Benefit Costs Before Adjustments	\$85,310	\$3,577	\$8,252	\$2,245	\$3,551	\$2,724	\$105,659
Adjustments to Recognize Long-Term Nature of Costs							
• Transitional Obligation / (Asset)	(786)	(409)	596	620	816	1,422	2,259
• Current Year Return on Assets ²	22,574	415	0	0	0	0	22,989
• Past Service Costs ³	(134)	0	89	0	0	0	(45)
• Actuarial Losses / (Gains) on ABO ³	(93,942)	(4,433)	(5,246)	(1,466)	(1,834)	(1,848)	(108,769)
Total Benefit Cost (Income)	\$13,022	(\$850)	\$3,691	\$1,399	\$2,533	\$2,298	\$22,093

Figures may not add up exactly due to rounding.

¹ Employee Plan current service cost shown above includes \$9,095 for DB component and \$707 for DC component.² Actual return on plan assets, less expected return on plan assets determined on a market related basis.³ Equal to (a) current year amortization of (gain)/loss less (b) (gain)/loss incurred in the current year.

There is no Valuation Allowance required in respect of 2005 reporting.

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Table 2.2 shows the development of projected benefit cost (in thousands) for fiscal year 2006.

Table 2.2 Estimated Benefit Cost (Income) for 2006 (thousands)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post- Ret Health	Total
Costs Arising in the Period							
Current Service Cost	\$12,874 ¹	\$0	\$431	\$0	\$910	\$426	\$14,641
Interest Cost	35,708	2,339	1,669	728	887	908	42,239
(Actual Return on Assets) ²	(40,353)	(2,972)	0	0	0	0	(43,325)
Events in the Period:							
• Past Service Costs / (Gains)	0	0	0	0	0	0	0
• Actuarial Losses / (Gains) on ABO ²	0	0	0	0	0	0	0
• Special Termination Benefits Paid	0	0	0	0	0	0	0
Future Benefit Costs Before Adjustments	\$8,229	(\$633)	\$2,100	\$728	\$1,797	\$1,334	\$13,555
Adjustments to Recognize Long-Term Nature of Costs							
• Transitional Obligation / (Asset)	(786)	(409)	596	620	816	1,422	2,259
• Current Year Return on Assets ²	501	(274)	0	0	0	0	227
• Past Service Costs	(134)	0	89	0	0	0	(45)
• Actuarial Losses / (Gains) on ABO ²	18,083	1,120	549	134	100	(249)	19,737
Total Benefit Cost (Income)	\$25,893	(\$196)	\$3,334	\$1,482	\$2,713	\$2,507	\$35,733

Figures may not add up exactly due to rounding.

1 Employee Plan current service cost shown above includes \$12,204 for DB component and \$670 for DC component.

2 Although the sum of these four items will not change when the benefit cost for 2006 is finalized, the total amount will be re-distributed amongst the items based on the actual experience of the post-retirement benefit plans during 2006.

There is no valuation allowance expected in respect of 2006 reporting.

Please refer to Appendix D for additional details for projected 2006 benefit cost and the sensitivity of the ABO and current service cost to a 25 basis point discount rate change. Appendix D also contains the sensitivity of the ABO as at December 31, 2005 and combined current service and interest cost for 2006 to a 100 basis point change in the health care trend rate.

Aside from applying consistent methodology and assumptions, the calculation of benefit cost for each of NSPI's post-employment plans was determined independently from all other post-

employment plans. Detailed benefit cost calculations and details of amortization schedules are presented in Appendix D. The following is a brief explanation of accounting terms.

As a result of new CICA 3461 accounting disclosure requirements, effective July 1, 2004, the presentation of the benefit cost (previously known as benefit expense) was changed in the December 31, 2004 accounting report. The new disclosure separates some terms in the benefit cost into two items (one relating to the cost of any event arising in the period and the second the adjustment to arrive at the cost recognized during the period) where one disclosure item was used previously. The following descriptions relate to the prior disclosure and additional comments are provided, where appropriate, to indicate where this item has been split into two components under the new disclosure requirements.

Employer Current Service Cost

The employer current service cost for the year is determined as follows:

- in respect of active members who are at or past the full eligibility date, and in respect of retirees: none, and
- in respect of active members who have not reached the full eligibility date: the portion of the actuarial present value of all future benefits payable by the employer on behalf of the member and his/her dependants which is attributed to the year following the valuation date. The actuarial present value is attributed uniformly over the years from the date of hire to the full eligibility date.

Employer current service costs were computed as at December 31, 2005 using the actuarial assumptions described in Appendix A.

Interest Cost

To calculate the interest cost, interest for one year is credited on the Accrued Benefit Obligation, and interest for one-half of one year is credited on the total current service cost. Pension and claim payments are assumed to be made in the middle of the fiscal year.

Expected Return on Assets

To calculate the expected return on a Plan's assets, investment income for one year is credited based on the 5-year market related value of assets, and investment income for one-half of one year is credited on pension or claim payments, and contributions expected to be made during the fiscal year.

In the benefit cost tables shown above, the sum of the actual return on assets and the impact of deferred recognition on the current year return on assets is equal to the expected return on assets.

Amortization of Transitional Obligation

In accordance with the accounting standards, the value of the surplus less any Accrued Benefit Asset at the date of application of the standards is the transitional asset, or if negative, the transitional obligation. Under the prospective approach, this transitional obligation is normally amortized over the average remaining service period ("ARSP") of active employees. For NSPI, the ARSP as at January 1, 2000, the date of adoption of CICA 3461, was 13 years.

Amortization of Past Service Costs

Past service costs arising from plan amendments are amortized over the ARSP until full eligibility. The same ARSP was used for all benefit plans as the membership is materially the same.

In the benefit cost tables shown above, the sum of the past service costs arising in the period and the impact of deferred recognition on the past service costs is equal to the amortization of past service costs during the period.

Amortization of Net Actuarial Loss (Gain)

Under the accounting standards, actuarial gains and losses in a year may be combined with the unamortized balance of gains or losses from prior years. As discussed in CICA Section 3461.090, actuarial gains and losses on investments that are not yet reflected in the market related value of assets are not subject to amortization. The amount of unamortized gain or loss (net of the investment gain or loss not yet subject to amortization) that exceeds 10% of the greater of the plan's market related value of assets or Accrued Benefit Obligation is divided by ARSP and recognized in the current year benefit cost. The ARSP as at December 31, 2005 is 10 years.

In the benefit cost tables shown above, the sum of the actuarial loss on the ABO arising in the period and the impact of deferred recognition on the actuarial loss on the ABO is equal to the amortization of net actuarial losses during the period.

Amortization of Change in Carrying Amount of Accrued Benefit Asset on Adoption of CICA 3461 ("Initial Valuation Allowance")

In accordance with the accounting standards, the change in the limit on the carrying amount of the Accrued Benefit Asset on adoption of CICA 3461 ("Initial Valuation Allowance") may be amortized on the same basis as the transitional obligation.

Valuation Allowance

In accordance with CICA 3461, there may be limits on the carrying amount of an Accrued Benefit Asset. Currently, under the Employees' plan, NSPI's Accrued Benefit Asset will, upon full amortization of the Initial Valuation Allowance, be limited to half of the plan surplus.

Our understanding of CICA 3461 is that the difference between

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- the Adjusted Benefit Asset (equal to surplus if there are net unamortized losses, or the Accrued Benefit Asset if there are net unamortized gains), and
- the expected future benefit

is equal to the sum of:

- the accrued Valuation Allowance, and
- the unamortized Initial Valuation Allowance.

Any change in the Valuation Allowance (other than the Initial Valuation Allowance) must be recognized immediately in income. The required Valuation Allowance for 2006 is based on figures projected to the end of 2006. Based on these projections, a Valuation Allowance will not be required; however the necessity of a Valuation Allowance should be reviewed at the time December 31, 2006 disclosure figures are prepared.

The permitted carrying amount of the Accrued Benefit Asset is equal to the Accrued Benefit Asset less the accrued Valuation Allowance.

Section 3 – Actuarial Opinion

The following opinion is with respect to the plans providing post-employment benefits for employees of Nova Scotia Power Incorporated (“NSPI”).

Valuations of the Employee and Acquired Companies pension plans, supplemental and executive benefits, long service award, and post-employment health benefits were performed as at December 31, 2005. Each valuation was based on the plan provisions and data as at December 31, 2005. A valuation of ERIP 86 and 91 and War Service pensions was performed as at December 31, 2003 and extrapolated to December 31, 2005. We are not aware of any other post-employment plans sponsored by NSPI.

We have confirmed with NSPI that since the valuation date, there are neither plan modifications nor any extraordinary changes to the membership that would materially affect the results of the actuarial valuations.

We hereby certify that, in our opinion, as at December 31, 2005:

- a) The post-employment benefits for employees of NSPI are defined benefits for purposes of Section 3461 of the *CICA Handbook*.
- b) Our valuation and extrapolation thereof has been made in accordance with the standards of the Canadian Institute of Actuaries. The financial statement items resulting from our valuation and extrapolation thereof have been determined in accordance with our understanding of Section 3461 of the *CICA Handbook*.
- c) Our valuation thereof was performed using best-estimate assumptions developed by NSPI as at December 31, 2005. These assumptions are described in our valuation report and are summarized in Appendix A.
- d) The total Accrued Benefit Obligation is \$812.242 million and the total market value of assets is \$581.172 million for a deficit of \$231.070 million. The unamortized loss, past service cost and transitional obligations, net of unamortized gains and transitional assets is \$287.288 million. The accrued Valuation Allowance is \$0. The Carrying Amount of the Accrued Benefit Asset is \$56.219 million. (Figures are rounded and may not add up exactly due to rounding.)
- e) The average remaining service period for active members is 10 years. This is also a reasonable proxy of the average expected life expectancy in benefits plans that are comprised primarily of retirees. After application of the 10% corridor, actuarial gains and losses for each benefit plans is amortized over 10 years.

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- f) We have confirmed with NSPI that the plan provisions are up to date as at the date of this report. We are not aware of any events that could have a significant effect on our valuation or on NSPI's financial statements.
- g) Fiscal 2005 benefit cost is \$22.093 million.
- h) Fiscal 2006 benefit cost is estimated to be \$35.733 million.
- i) We are aware that NSPI's auditors may rely on this report for the preparation of NSPI's financial statements.

Furthermore, we hereby declare that in our opinion:

- The data upon which this valuation is based are sufficient and reliable for the purposes of the valuation; and
- NSPI management have selected the assumptions and they are in accordance with accepted actuarial practice; and
- This report has been prepared, and our opinion given, in accordance with generally accepted actuarial practice.

Emerging experience, differing from assumptions will result in gains and losses, which will be revealed in future valuations.

We are available, at your convenience, to provide you with any additional information that you may require.

Respectfully submitted,

Paul Chang, F.S.A., F.C.I.A.

Michael Delaney, A.S.A.

This report has been peer reviewed by _____
Jeff Clark, F.S.A., F.C.I.A.

MORNEAU SOBECO
February 2006

Appendix A – Actuarial Assumptions and Methods

Actuarial Cost Method

For all active employees, the Accrued Benefit Obligation and the current service cost were calculated using the “projected benefit method pro-rated on service”.

According to this method, the Accrued Benefit Obligation is equal to the actuarial present value of all future benefits (net of any employee cost sharing for OPEBs), taking into account the assumptions described below, multiplied by the ratio of an employee’s service at the valuation date to total service at the retirement date. The current service cost for a period is equal to the actuarial present value of benefits attributed to employees’ services rendered in that period.

To determine the actuarial present value of post-retirement health benefits, the expected true costs were projected into the future in respect of each member applying both age-related utilization rates and the assumed trend (i.e., health care inflation) rates. In addition, each member’s expected contributions (i.e., premium) was projected into the future based on health care inflation. The actuarial present value of NSPI’s portion of the cost of the post-employment health plan is the difference between the actuarial present value of the total cost and the actuarial present value of the member’s contributions.

Assets

Employee and Acquired pension plan assets are taken at market value from the draft audited financial statements. There are no assets in respect of the other plans.

To determine the expected return on assets, we used a 5 year market-related value of assets and assumed that all cash flows would occur at mid-year.

Actuarial Assumptions

The actuarial assumptions used for the valuation are summarized in the following table. All rates and percentages are annualized unless otherwise noted. All assumptions used are management’s best estimates. The discount rate was based on the annualized yield of A rated bonds at the valuation date with the same duration as the obligations (14 years).

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Table A.1 Actuarial Assumptions – Economic Factors

	December 31, 2005 Disclosure and 2006 Benefit Cost	December 31, 2004 Disclosure and 2005 Benefit Cost
Discount Rate	5.25%	6.00%
General Inflation	2.50%	2.50%
YMPE	3.00%	3.00%
Salary Increases*	Under 30: 5.50%	Under 30: 5.50%
	30 to 34: 5.00%	30 to 34: 5.00%
	35 to 39: 4.50%	35 to 39: 4.50%
	40 to 44: 4.00%	40 to 44: 4.00%
	45 to 49: 3.50%	45 to 49: 3.50%
	50 and above: 3.00%	50 and above: 3.00%
Increase in maximum Pension in registered plan per year of service	\$2,111 for 2006, \$2,222 for 2007, \$2,333 for 2008, \$2,444 for 2009 and \$2,444 indexed starting in 2010 at 3.00% per annum	\$2,000 for 2005, and \$2,000 indexed starting 2006 at 3.00% per annum
Return on Employee Plan Assets	7.50%	7.50%
Return on Acquired Plan Assets	7.50%	7.50%
Extended Health Care Inflation	9.00% for next year (premium increase effective Jan 2007), decreasing in years 2 through 6 by 1% per year with a long-term ultimate rate of 4.00%	10.00% for next year (premium increase effective Jan 2006), decreasing in years 2 through 7 by 1% per year with a long-term ultimate rate of 4.00%
Dental Inflation	4.00%	4.00%

* During 2004, union plan members received retroactive earnings in respect of 2003 service. This retroactive payment represented, on average, 2.4% of 2004 pensionable earnings. This 2.4% represents a one-time retroactive payment and will not be repeated in future years. In projecting the earnings for unionized members (which are based on 2004 actual earnings), we adjusted the result by a multiple of 0.976 to "back out" this one time retroactive payment included in the 2004 earnings.

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Table A.2 Actuarial Assumptions – Demographic Factors

	December 31, 2005 Disclosure and 2006 Benefit cost	December 31, 2004 Disclosure and 2005 Benefit cost
Mortality	1994 Uninsured Pensioners Mortality Table projected to 2015 using Projection Scale AA (UP94@2015). Sex Distinct. Post-retirement only	Group Annuity 1983 Table (GAM83) Sex Distinct Post-retirement only
Termination	5% per annum up to age 50	5% per annum up to age 50
Disability Rates	None assumed	None assumed
Retirement Rates	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award. *Age 58 was used for the valuation of the new post- retirement health plan. ³	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award. *Age 58 was used for the valuation of the new post- retirement health plan. ³
Spouse Age Difference	Women 3 years younger.	Women 3 years younger.
Health Care Relative Utilization ¹	Please see table A.3 below	Please see table A.3 below
Percentage Married	85% at retirement	85% at retirement
Members Electing Coverage at Retirement	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ²	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ²
Coverage Elected at Retirement	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single

¹ Used to estimate average medical and drug costs at different ages (drug coverage ceases at age 65).

² The data used for the post-employment health care valuation includes only those active members who currently have health coverage – such members represent 90% of all active employees at NSPI – the assumed likelihood that an active employee who currently has coverage and who retires from NSPI takes post-retirement coverage is 85% resulting in an overall take up rate for all employees (with or without current coverage) of 75% (approximately equal to 0.85 x 0.9).

³ It is advantageous to move to the new health plan only if an employee intends to retire early; therefore we assume such members will retire, on average, at an earlier age.

Table A.3 Health Care Relative Utilization Factors

Age	Hospital & EHB	Drug Coverage	Dental Coverage
40	46%	42%	90%
45	53%	56%	88%
50	61%	74%	86%
55	78%	86%	83%
60	100%	100%	81%
64	122%	113%	80%
65	128%	N/A	N/A
70	163%	N/A	N/A
75	239%	N/A	N/A
80	352%	N/A	N/A
85	517%	N/A	N/A

Example: The cost for Hospital and EHB for a 64 year old is 122% of the cost for a 60 year old.

Calculation of Medical Cost

Development of Utilization Factors

Manulife Financial provided claims amounts for hospital & EHB, and drugs for the period from August 1, 2001 to July 31, 2002 by quinquennial age bands. Using the number of members within each age band, we determined the amount of claims per member for each age band. From this we found the relative age based utilization factors for each quinquennial age band. We then extrapolated integer age based utilization factors from the quinquennial results. As there were insufficient post-1991 retirees over age 75 to establish a reliable utilization scale over such age, the utilization scales beyond age 75 were estimated based on industry statistics. We did not have details of the dental claims amount and have used utilization factors which are based on industry statistics.

Existing Post-Retirement Health Plan - NSPI members

Effective 2003, the annualized premiums for retirees are experience rated amongst retirees only. Previously the actives and retiree premiums were experience rated as a single group, and the same premium was paid by both retirees and actives. The member's portion (50% of total cost) of the annualized premiums charged as at January 1, 2006 (including the 4.4% increase as at January 1, 2006) for the NSPI Health plan is \$581 for single coverage and \$1,456 for family coverage. The experience report also shows that approximately 85% of claims are related to drugs, with the remaining 15% for hospital and extended health care.

Based on the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total expected claims at each age less member's paid premium) for 2006 at each age:

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Age	Single	Family
50	\$605	\$1,511
55	\$805	\$2,010
60	\$1,040	\$2,597
65	(\$389)	(\$974)
70	(\$336)	(\$841)
75	(\$220)	(\$553)
80	(\$51)	(\$130)
85	\$198	\$493

Based on the premiums provided by Manulife, we updated the estimated employer cost (as compared to our prior valuation). Based on the ratio of the family to the single premium being charged by Manulife, and a fully experienced retiree only group, we continue to assume that the total cost for family coverage is approximately 2.5 times the single cost. A negative amount means that the retiree's premium exceeds the estimated average claims at that particular age.

New Post-Retirement Health Plan - NSPI members

Effective January 1, 2004, a new health benefit plan for retirees was introduced. Please refer to Appendix C for details of the new retiree health plan. We understand that this plan will be rated separately from the existing plan and retirees and actives will be rated as one group within the new plan. As there are currently an insufficient number of retirees under the new plan, we have used the same drug and hospital utilization factors as for the old plan and used industry based utilization factors for the dental benefits.

NSPI provided us with the total annualized premiums charged as at January 1, 2006 for the new NSPI Health plan as \$641 for single coverage and \$1,966 for family coverage, and new Dental plan as \$381 for single coverage and \$845 for family coverage. Based on the premiums provided, and the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total cost less member's premium) for 2006 at each age for an employee who will pay 50% of the benefit plan premium in retirement:

Age	Health Single	Health Family*	Dental Single	Dental Family*
50	\$425	\$1,254	\$183	\$400
55	\$555	\$1,645	\$174	\$379
60	\$709	\$2,107	\$165	\$359
64	\$853	\$2,537	\$158	\$344
65**	\$0	\$0	\$0	\$0

* In addition to family coverage, there is "couple coverage", employer health and dental costs for couple coverage is approximately 2 times the single health cost shown.

** No coverage after age 65.

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Note that under the new post-retirement benefit plan, the actual percentage of the costs paid by the employer varies by the member's years of service at retirement. The costs shown above would need to be adjusted accordingly for members who do not receive 50% cost sharing. (Please contact us if you require such figures).

Pre-1992 Retirees

Since NSPI's liability in respect of former NSPI employees who retired under the PSSP is based on the amount of premium assessed by the Province, we have determined the accrued benefit obligation in respect of these members by determining the present value of premiums. Such premiums are assumed to increase at the health inflation rates, but no age utilization factor is applied. Annualized employer (65% of total) premiums as at January 1, 2006 are as follows:

	Policy 5138	Policy 6000	Policy 6500
Single	\$192	\$643	\$342
Family	\$489	\$1,427	\$685

The premiums as at January 1, 2006 are the same as those as at January 1, 2005.

We assumed that the above premiums for pre-1992 retirees would follow the extended health care inflation assumption set out in table A.1 for future years.

Valuation Allowance

For purposes of estimating the Valuation Allowance required for fiscal 2006, we estimated the December 31, 2006 ABO for the Employee's Pension Plan (DB component only) to be \$712.46 million. This was based on the December 31, 2005 ABO figure of \$683.54 million projected forward with estimated current service cost, interest, less benefit payments. The Employee's Pension Plan assets (DB component only), on a market value basis, projected to December 31, 2006 is estimated to be \$576.45 million.

As a result, the Plan's ABO exceeds the assets as at December 31, 2006 (i.e., the Plan's "adjusted benefit asset" is less than 0 and there is no "expected future benefit" – as those terms are defined in CICA subsections 3461.101) and no Valuation Allowance is projected to be required. A determination based on actual December 31, 2006 ABO and assets will be required to finalize the amount of Valuation Allowance for 2006.

Appendix B – Membership Data

Description of Pension Plan Membership Data

Our valuation of the pension plans as at December 31, 2005 was based on valuation data as at December 31, 2005, with the exception of the War Service and ERIP valuation which was based on valuation data as at December 31, 2003.

We have performed tests to verify reasonableness and internal consistency and are satisfied that the data is sufficient and reliable for the purposes of this valuation. Basic statistics on the Employee and Acquired plan data are shown in the table below:

Table B.1

	Employee Plan (DB)	Acquired Companies	Exec, Discretionary	War Svc, ERIP 1986, ERIP 1991*
Actives (including LTD)				
Number	1,501**	9	24	N/A
Average age	46.3	56.6	47.3	N/A
Average credited service	17.2	3.3	13.6	N/A
Average 2005 earnings	\$55,917	\$63,540	< >	N/A
Pensioners (including survivors)				
Number	836	735	325	360
Average age	61.0	75.3	65.4	75.6
Average annual lifetime pension	\$19,258	\$6,133	\$4,802	\$3,836
Average annual bridge (averaged over all pensioners)	\$4,423	\$6	\$883	\$0

* Data as at December 31, 2003.

** Includes 43 LTD members accruing credited service under the Employee Pension Plan and 51 members with accrued benefits to July 1, 2001 who switched to DC.

Some service and earning figures not shown to protect confidentiality.

Pension figures include the January 1, 2006 cost of living adjustment with the exception of the War Service and ERIP pension figures which include cost of living adjustments to January 1, 2004.

Data for the War Service, Executive Plan, Discretionary Plan, and ERIP 1986 and 1991 were provided by NSPI. Please refer to the actuarial reports for funding purposes as at December 31, 2005 for additional data information for the Employees' Pension Plan and the Acquired Companies Pension Plan.

The following tables summarize the key data used in our valuation.

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Table B.2 Employee Plan Active Members

Nearest Age	Credited Service	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 plus	Total
20 to 24	Count	10							10
	Avg Credited	< >							< >
	Avg 2005 Earnings	< >							< >
25 to 29	Count	50	7						57
	Avg Credited	2.8	5.6						3.1
	Avg 2005 Earnings	37,389	38,761						37,558
30 to 34	Count	68	36	2					106
	Avg Credited	2.4	6.1	< >					< >
	Avg 2005 Earnings	49,071	48,426	< >					< >
35 to 39	Count	49	44	17	52	2			164
	Avg Credited	2.7	6.8	13.1	16.4	< >			< >
	Avg 2005 Earnings	50,759	52,536	51,497	57,089	< >			< >
40 to 44	Count	47	49	12	105	52			265
	Avg Credited	2.8	6.8	13.0	17.5	22.3			13.7
	Avg 2005 Earnings	54,623	54,300	53,878	62,073	56,985			57,945
45 to 49	Count	38	40	12	67	57	89	12	315
	Avg Credited	3.0	6.9	13.3	17.7	22.7	27.4	30.4	18.5
	Avg 2005 Earnings	56,491	55,861	51,763	59,287	61,710	63,626	59,831	59,913
50 to 54	Count	22	21	13	31	57	107	137	388
	Avg Credited	3.2	7.0	13.3	17.6	22.7	28.0	31.9	24.7
	Avg 2005 Earnings	66,731	45,821	48,520	50,823	56,053	64,738	57,998	58,516
55 to 59	Count	8	6	4	23	22	57	42	162
	Avg Credited	3.2	6.5	13.9	17.7	23.2	27.8	32.5	24.6
	Avg 2005 Earnings	46,027	69,270	49,223	52,092	52,995	54,069	61,851	55,706
60 plus	Count	4	6		6	5	7	6	34
	Avg Credited	3.3	6.5		17.1	22.3	27.3	32.7	19.2
	Avg 2005 Earnings	32,170	57,434		39,098	38,441	47,507	57,902	46,472
Total	Count	296	209	60	284	195	260	197	1,501
	Avg Credited	2.7	6.7	< >	17.4	< >	27.7	32.0	17.2
	Avg 2005 Earnings	49,660	52,363	< >	57,981	< >	61,555	58,928	55,917

Notes:

Some earnings figures hidden to protect confidentiality.

Age is rounded down to the nearest birthday.

Avg. Credited is the number of years credited for pension plan purposes (rounded down to the nearest integer).

The salary used is the annualized pensionable salary for the year ending December 31, 2005.

Age/Service distribution includes 43 members on LTD and 51 members who switched to the DC component of the Plan in respect of service after July 1, 2001.

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Table B.3 Employees' Plan Pensioners

Nearest Age	Count	Average Annual Pension	Average Annual Bridge	Average Annual Benefit	Total Benefit Payable
Under 25	22	1,886	0	1,886	41,500
25 to 49	13	10,966	553	11,519	149,746
50	3	6,041	2,283	8,324	24,971
51	1	< >	< >	< >	< >
52	4	11,457	1,168	12,625	50,501
53	3	11,575	3,415	14,990	44,969
54	14	23,060	7,385	30,444	426,222
55	19	23,000	7,181	30,182	573,452
56	40	22,085	7,586	29,670	1,186,816
57	61	22,326	7,060	29,386	1,792,546
58	70	21,069	7,238	28,306	1,981,446
59	69	21,485	7,510	28,996	2,000,695
60	54	22,497	6,841	29,338	1,584,236
61	56	18,645	6,724	25,369	1,420,662
62	42	20,198	6,467	26,665	1,119,920
63	41	20,040	6,346	26,386	1,081,820
64	45	18,946	6,072	25,018	1,125,808
65	39	19,155	2,701	21,856	852,387
66	47	17,358	89*	17,447	820,022
67	47	19,003	105*	19,108	898,061
68	35	22,046	0	22,046	771,627
69	31	18,309	0	18,309	567,585
70	23	13,522	0	13,522	311,003
71	10	19,507	0	19,507	195,073
72	13	20,445	0	20,445	265,782
73	12	12,242	0	12,242	146,904
74	3	12,786	0	12,786	38,359
75	5	15,755	0	15,755	78,776
76	3	19,772	0	19,772	59,317
77	6	17,923	0	17,923	107,537
78	4	14,177	0	14,177	56,706
79	1	< >	< >	< >	< >
Average		\$19,258	\$4,423	\$23,680	
Total	836				\$19,796,717

Figures above include January 1, 2006 cost of living adjustment.

* Bridge payable to surviving spouse

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Table B.4 Acquired Plan Pensioners

	PART I				PART II			
	Count	Average Annual Pension	Average Annual Bridge	Average Annual Benefit	Total Benefit Payable	Count	Average Annual Benefit	Total Benefit Payable
50 to 54	3	761		761	2,283	0	0	0
55 to 59	47	920		920	43,224	13	1,284	16,692
60	13	2,023		2,023	26,296	5	1,883	9,417
61	16	2,124		2,124	33,976	2	< >	< >
62	12	2,942		2,942	35,308	4	2,151	8,603
63	10	2,896		2,896	28,963	3	5,412	16,235
64	7	3,913		3,913	27,394	1	< >	< >
65	9	3,121	507	3,628	28,089	1	< >	< >
66	8	4,095		4,095	32,762	4	4,205	16,820
67	14	3,774		3,774	52,834	11	4,913	54,040
68	10	3,868		3,868	38,684	5	5,986	29,930
69	13	5,265		5,265	68,448	8	2,997	23,978
70	15	5,910		5,910	88,651	8	3,954	31,635
71	12	4,242		4,242	50,903	5	5,541	27,703
72	21	7,974		7,974	167,448	5	6,975	34,876
73	10	9,290		9,290	92,899	5	5,015	25,075
74	20	8,034		8,034	160,688	8	5,069	40,550
75	21	8,955		8,955	188,053	8	8,364	66,909
76	18	6,200		6,200	111,604	11	4,859	53,444
77	17	9,565		9,565	162,602	11	6,340	69,742
78	24	11,863		11,863	284,712	6	4,476	26,856
79	17	7,833		7,833	133,158	3	8,277	24,831
80	23	8,121		8,121	186,784	10	8,198	81,982
81	13	11,079		11,079	144,021	10	6,083	60,830
82	17	11,014		11,014	187,238	8	6,545	52,359
83	19	11,988		11,988	227,779	5	4,657	23,287
84	10	6,337		6,337	63,374	7	6,145	43,017
85	11	8,337		8,337	91,710	7	6,085	42,592
86	11	7,777		7,777	85,550	9	6,495	58,458
87	14	7,733		7,733	108,259	4	7,349	29,394
88	12	8,351		8,351	100,211	5	4,268	21,338
89	14	7,395		7,395	103,537	1	< >	< >
90 to 94	26	6,716		6,716	174,620	13	4,110	53,429
95 and over	14	5,577		5,577	78,074	8	4,268	34,148
AVERAGE		\$6,545	\$9	\$6,545			\$5,131	
TOTAL	521				\$3,410,135	214		\$1,097,954

Figures above include January 1, 2006 cost of living adjustment.

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Table B.5 Exec and Discretionary Pensions

Executives and Discretionary					
Nearest Age	Count	Avg. Annual Pension	Avg. Bridge Pension	Avg. Benefit Payable	Total Benefit Payable
< 55	2	< >	< >	< >	< >
55	1	< >	< >	< >	< >
56	2	< >	< >	< >	< >
57	18	3,779	1,290	5,069	91,239
58	27	3,708	1,380	5,088	137,370
59	39	4,058	1,393	5,451	212,594
60	29	6,022	1,325	7,347	213,063
61	33	3,397	1,301	4,698	155,035
62	24	3,953	1,300	5,253	126,062
63	20	4,366	1,323	5,688	113,764
64	15	4,008	1,265	5,273	79,096
65	11	8,226	784	9,011	99,118
66	12	< >	< >	< >	< >
67	9	3,047	95	3,142	28,282
68	5	3,599	0	3,599	17,993
69	6	2,790	0	2,790	16,742
70	3	2,314	0	2,314	6,942
71	3	3,167	0	3,167	9,502
72	2	< >	< >	< >	< >
73	2	< >	< >	< >	< >
74	4	1,571	0	1,571	6,283
75	0	0	0	0	0
76	4	4,701	0	4,701	18,804
77	7	3,684	0	3,684	25,790
78	5	3,711	0	3,711	18,553
79	4	983	0	983	3,933
80	2	< >	< >	< >	< >
81	5	1,780	0	1,780	8,901
82	6	2,365	0	2,365	14,189
83	7	3,333	0	3,333	23,328
84	3	580	0	580	1,740
85	5	3,592	0	3,592	17,962
> 85	10	3,604	0	3,604	36,036
AVERAGE		\$4,802	\$883	\$5,685	
TOTAL	325				\$1,847,500

Figures above include January 1, 2006 cost of living adjustment.

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Table B.6 War Service and ERIP 1986 and 1991 as at December 31, 2003

War Service				ERIP 1986 and 1991			
Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable	Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable
70	1	< >	< >	61	1	< >	< >
71	0	0	0	62	1	< >	< >
72	7	1,612	11,283	63	1	< >	< >
73	1	< >	< >	64	0	0	0
74	2	< >	< >	65	2	< >	< >
75	1	< >	< >	66	0	0	0
76	1	< >	< >	67	9	3,829	34,459
77	1	< >	< >	68	21	4,062	85,308
78	8	2,974	23,792	69	14	4,359	61,022
79	6	1,668	10,009	70	18	4,961	89,295
80	12	2,711	32,531	71	17	4,245	72,169
81	5	2,370	11,851	72	28	4,321	120,987
82	7	2,808	19,658	73	36	3,741	134,680
83	10	3,701	37,011	74	20	3,886	77,714
84	9	5,385	48,464	75	22	3,204	70,491
85	7	3,738	26,167	76	23	3,793	87,239
86	11	3,781	41,588	77	11	4,262	46,884
87	3	9,129	27,386	78	13	4,821	62,677
88	4	4,278	17,112	79	11	3,822	42,047
89	2	< >	< >	80	9	2,275	20,471
90	1	< >	< >	81	3	1,741	5,222
91	1	< >	< >	82	2	< >	< >
92	1	< >	< >	83	1	< >	< >
93	0	0	0				
94	2	< >	< >				
95	0	0	0				
96	1	< >	< >				
Average		\$3,377		Average		\$3,915	
Total	104		\$351,203	Total	263		\$1,029,677

Figures above include indexing as at January 1, 2004. Indexing as at January 1, 2005 and January 1, 2006 is not included in figures shown.

There are no bridge benefits.

Description of Health Plan Membership Data

Employee data for health benefits was provided by NSPI as at December 31, 2005. We have taken the following steps to review the data to ensure sufficiency and reliability:

The data for actives and post 1991 pensioners was compared to the pension valuation data as at December 31, 2005 for reasonableness. Approximately 90% of pension plan active members are enrolled in the health program, and 75% of pension plan retirees are enrolled in the health coverage. This is reasonable since there is an employee cost share component for the coverage.

The data for selected active members and post 1991 pensioners were cross-referenced with the pension plan data and found to be consistent.

We reviewed the data counts and age distributions in respect of pre-1992 retirees for whom NSPI reimburses the Province of Nova Scotia for health benefits, against actual data as at December 31, 2004 and they are consistent.

Table B.7 NSPI Active Members Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	13	6	28.1
30 – 34	15	17	32.9
35 – 39	11	45	37.8
40 – 44	15	79	42.8
45 – 49	14	96	47.6
50 – 54	13	98	52.3
55 – 59	12	51	57.3
60 – 64	3	17	61.9
Total	96	409	46.8

Table B.8 NSPI (Post – 91) Pensioners Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage	Average Age Within Age Band
< 50	2	4	46.9
50 – 54	9	14	53.4
55 – 59	33	145	58.0
60 – 64	45	137	62.3
65 – 69	31	95	67.2
70 – 74	10	18	72.0
75 – 79	3	4	76.7
> 80	1	0	86.0
Total	134	417	62.2

Table B.9 NSPI Active Members Enrolled in New Health Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	14	14	10	27.0
30 – 34	15	15	41	32.9
35 – 39	28	15	63	37.8
40 – 44	23	18	94	42.9
45 – 49	21	39	99	47.8
50 – 54	28	99	112	52.4
55 – 59	8	58	27	57.1
60 – 64	4	2	2	61.2
Total	141	260	448	46.0

Table B.10 NSPI Active Members Enrolled in New Dental Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	13	14	11	27.1
30 – 34	15	21	35	32.8
35 – 39	28	15	65	37.8
40 – 44	21	20	94	42.9
45 – 49	19	39	102	47.7
50 – 54	29	95	111	52.4
55 – 59	10	55	24	57.1
60 – 64	4	2	2	61.2
Total	139	261	444	45.9

Table B.11 NSPI (Post – 91) Pensioners Enrolled in New Program

	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age
Total Health	2	21	11	57.1
Total Dental	2	22	10	57.1

Pre-92 Pensioners – Premium Reimbursement to Province of NS

We were provided with the counts of members with single and family coverage enrolled in policies 5138, 6000, and 6500 under Province of NS post retirement health plan for whom NSPI reimburses the Province of NS for a portion of the premiums. We gathered data provided by the Province of Nova Scotia as at December 31, 2004 for all of the retirees under policies 5138, 6000 and 6500 with single or family coverage who were still enrolled as at that date. We determined the present value of the future premiums as at December 31, 2005 assuming there

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was no change in the membership during 2005. We then pro-rated the total present value for each group and coverage type based on the membership counts provided by NSPI as at December 31, 2005.

The following table presents the age distribution based on the membership as at December 31, 2004 and also provides the membership counts as at December 31, 2005:

Table B.12 Distribution of Pre – 92 Pensioners based on December 31, 2004 Membership Totals

Age Band	5138 Single	5138 Family	6000 and 6500 Single	6000 and 6500 Family
50 – 54	0	0	0	0
55 – 59	2	2	0	4
60 – 64	1	0	6	2
65 – 69	2	0	12	10
70 – 74	2	0	66	95
75 – 79	1	0	90	115
80 – 84	11	4	71	71
85 – 89	14	6	70	35
90 – 94	9	1	21	4
95 – 99	2	0	5	4
Total	44	13	341	340
Number as at Dec. 31, 2005 (provided by NSPI)	45	11	351	319

Dental

In addition to the employee data for health benefits under the old post-retirement health plan, NSPI provided data for retiree dental benefits. Retiree dental benefits are provided in special circumstances under the old post-retirement health plan, and do not form part of the standard benefits package. (Under the new post retirement benefit plan, dental coverage is provided). There are approximately 24 retirees as at December 31, 2005 who are entitled to dental benefits on a 50/50 cost share under the old post-retirement health plan until they reach age 65. The average age of the 24 retirees is 60.9.

Appendix C – Summary of Plan Provisions

Employees' Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2005 for a summary of plan terms. Effective July 1, 2001, a defined contribution option was offered under the Employee's pension plan. Members who elected to participate in the defined contribution portion of the plan ceased to accrue service under the defined benefit portion of the plan, but retain a defined benefit pension based on final average earnings at termination or retirement in respect of credited service to July 1, 2001.

Acquired Companies Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2005 for a summary of plan terms. Included in the liability is the value of cost of living adjustment and survivor benefits in respect of member's paid up Government of Canada pensions. We note that this is a closed plan and there are no members accruing service.

Executive Supplements, and Discretionary Benefits

NSPI introduced a Supplementary Executive Retirement Plan ("SERP") as at January 1, 2001 to top-up benefits for all members who are capped under the Employees' Pension Plan by the maximum pension limits set out in the *Income Tax Act*. Previously, only certain executives were covered by the SERP. Generally speaking, the SERP has the same terms as the registered Employees' Pension Plan and pays a pension equal to (a) minus (b):

- (a) the pension determined under the Employees' Pension Plan without reference to the *Income Tax Act* limits,
- (b) the pension payable under the Employees' Pension Plan.

The SERP benefits cover both defined benefit and defined contribution amounts that would otherwise exceed *Income Tax Act* limits. For the DC SERP, the word "contribution" would replace the word "pension" in the formula above. In addition, the annual rate of return on the DC SERP balances are deemed to be equal to the annual rate of return on the member's actual Employees' Pension Plan DC account balance.

Certain members in the SERP have a different definition of pensionable earnings than that defined in the Employees' Pension Plan. For such members, this would be used to determine (a) above. There is no pre-funding of SERP benefits. Please refer to the SERP plan document for additional information.

In addition to the SERP, any discretionary benefits granted by NSPI are included in this component. Such benefits are not pre-funded.

War Service, ERIPs of 1986 and 1991

War Service liability is in respect of service granted under the Nova Scotia Public Service Superannuation Plan ("PSSP") to members of Nova Scotia Power Corporation (the predecessor to Nova Scotia Power Incorporated). PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to war service on a pay as you go basis.

The ERIP 1986 and 1991 liability is in respect of certain additional benefits provided to members who retired under the early retirement incentive program (ERIP) offered in 1986 and 1991. The PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to additional service granted under the ERIP on a pay as you go basis.

Long Service Award

Employees who retire from active service on an unreduced pension are eligible for a Long Service Award benefit. This benefit is also paid in the event of death in service. No benefit is payable to employees who terminate prior to retirement, or to those who retire early with a reduced pension. A member's benefit is based on his rate of pay on his retirement date. The benefit amount is 1 week's salary for each year of service, up to a maximum of 26 years of service.

Post-Retirement Health Care Benefits*Existing ("Old") Post-Retirement Health Care Plan*

All NSPI employees who retired between privatization and December 31, 2003 receive benefits under the Old post retirement health care plan. Members who were active as at January 1, 2004 may receive benefits based on either the Old or New Plan depending on a one-time coverage election.

The Old Plan provides retired employees and their spouses (and eligible dependent children, if any) with 100% coverage for all prescription drugs up to age 65, 100% of eligible hospital benefit costs, and 80% of extended health benefits. To be entitled to this post-retirement health benefit, employees must retire from active service and be eligible for an unreduced pension from the NSPI Employee's Pension Plan. Benefits are not provided to those who terminate prior to retirement. It is noted that the Prior Plan documents suggest that spouses and dependents are not eligible for coverage after the death of the member; however, we understand that the practice is to continue to provide coverage, and charge the applicable premium, in any such instance. We have therefore included the cost of lifetime benefits for surviving spouses, in accordance with Company practice.

The cost of the Old Plan is shared on a 50-50 basis between the retired employees (and eligible spouses) and the Company. The premium charged is set by the insurance company considering total expected claims in respect of retired members only. The premium does not reduce at age

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65, although drug coverage ceases at that time. Premiums differ between employees only in respect of coverage type, i.e., single or family coverage.

New Post-Retirement Health Care Plan

This Plan applies to all employees hired on or after January 1, 2004. However, all active employees as at January 1, 2004 had a one time option to convert to the New Plan.

Compared to the Old Plan, the New Plan adds orthodontic coverage, and caps drug dispensing fees at \$7 per prescription and drug costs to the generic brand cost. Members who enroll in the New Plan are entitled to continue with both health and dental coverage after retirement up to age 65 if they meet eligibility requirements:

- The member must have at least 10 years of continuous service with the Company to be eligible for the post-retirement benefit.
- Benefits are not provided to those who terminate prior to retirement.

The cost of the New Plan is shared between the employee and the Company, based on the retired member's continuous service at their date of retirement:

Years of Continuous Service at Retirement	Employer Paid Portion
1 – 9	Not eligible to enroll in the Plan
10 – 14	0% paid for by the Employer
15 – 29	50% paid for by the Employer
30 – 34	75% paid for by the Employer
35 +	100% paid for by the Employer

In addition to single and family coverage, the New Plan offers "couple" coverage, whereby any two family members may obtain health and dental coverage. Under the New Plan, no coverage is provided after the former employee attains age 65 (even if the spouse is still under age 65).

Post-Retirement Health Benefits for pre-privatization retirees

The cost to NSPI of benefits payable in respect of retired NSPC (the predecessor to Nova Scotia Power Incorporated) members who receive a pension from the PSSA is based on the premium assessed by the Province of Nova Scotia.

*Appendix D – Detailed Calculation Sheets
Fiscal 2005 & Projected Fiscal 2006*

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS
 January 1, 2006 to December 31, 2006 - Projection for 2006
 All figures in thousands.

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*"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Companies	War Service ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
Sensitivity to 25 basis points decrease - ABO at beg of period	N/A	4.1%	2.0%	3.3%	2.0%	1.9%	2.5%
Sensitivity to 25 basis points decrease - CSC (ER Portion)	N/A	7.6%	N/A	5.3%	N/A	2.4%	3.4%
Sensitivity to 100 basis points change in health trend rates:							
Impact on total of service and interest cost	N/A	N/A	N/A	N/A	N/A	N/A	11.4%
Impact on ABO at end of period	N/A	N/A	N/A	N/A	N/A	N/A	10.0%
Adjustment for change in discount rate	0.0%	0.0%	0	0.0%	0	0.0%	0.0%
1. EXPENSE							
ASSUMED RETURN ON ASSETS							
ASSUMED DISCOUNT RATE AT BEGINNING OF PERIOD	N/A	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
ASSUMED DISCOUNT RATE AT END OF PERIOD	N/A	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%
CURRENT SERVICE COST	\$670	\$12,204	\$0	\$431	\$910	\$426	\$14,641
INTEREST ON ACCRUED BENEFITS	0	35,708	2,339	1,669	887	908	42,239
EXPECTED RETURN ON ASSETS	0	(39,852)	(3,246)	0	0	0	(43,098)
STRAIGHT LINE AMORTIZATION OF:							
- Transitional Obligation (Asset)	0	(786)	(409)	596	816	1,422	2,259
- Past Service Costs	0	(134)	0	89	0	0	(45)
- Actuarial Losses / (Gains)	0	18,083	1,120	549	100	(249)	19,737
- Change in VA on adopting CICA 3461	0	0	0	0	0	0	837
CHANGE IN VALUATION ALLOWANCE	0	(837)	0	0	0	0	(837)
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0
SPECIAL TERMINATION	0	0	0	0	0	0	0
EXPENSE (INCOME)	\$670	\$25,223	(\$196)	\$3,334	\$2,713	\$2,507	\$35,733

2. ACCRUED BENEFIT (ASSET) LIABILITY

OPENING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$0	(\$92,177)	(\$11,061)	\$18,943	\$8,699	\$11,966	(\$56,219)
LESS: ACCRUED VALUATION ALLOWANCE (BOY)	-	-	-	-	-	-	-
OPENING BALANCE (not adjusted for VA)	\$0	(\$92,177)	(\$11,061)	\$18,943	\$8,699	\$11,966	(\$56,219)
EXPENSE (INCOME) (including current year VA)	670	25,223	(196)	3,334	2,713	2,507	35,733
LESS CURRENT YEAR VA (to get unadjusted closing balance)	0	0	0	0	0	0	0
COMPANY CONTRIBUTIONS	(670)	(15,100)	(1,379)	(1,977)	(1,373)	(1,162)	(23,031)
CLOSING BALANCE (not adjusted for VA)	\$0	(\$82,054)	(\$12,636)	\$20,300	\$10,039	\$13,311	(\$43,517)
ACCRUED VALUATION ALLOWANCE (EOY)	-	-	-	-	-	-	\$0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$0	(\$82,054)	(\$12,636)	\$20,300	\$10,039	\$13,311	(\$43,517)

3. RECONCILIATION OF ACCRUED BENEFIT OBLIGATION TO ACCRUED BENEFIT ASSET (LIABILITY)

ACTUAL MARKET VALUE OF ASSETS - EOY	N/A	\$576,445	\$41,035	\$0	\$0	\$0	\$617,480
LESS ACTUAL ACCRUED BENEFIT OBLIGATION - EOY	N/A	712,460	44,629	32,693	17,839	17,839	839,074
SURPLUS (DEFICIT) AT END OF PERIOD - MARKET VALUE	N/A	(\$136,015)	(\$3,594)	(\$32,693)	(\$17,546)	(\$17,839)	(\$221,594)
LESS CLOSING UNAMORTIZED AMOUNTS							
- Unamortized Transitional Obligation (Asset)	N/A	(4,714)	(2,457)	3,579	3,719	4,895	13,556
- Unamortized Past Service	N/A	(1,133)	0	619	0	0	(514)
- Unamortized Actuarial Losses (Gains)	N/A	223,915	18,687	8,195	2,665	2,613	252,069
TOTAL CLOSING UNAMORTIZED AMOUNTS	N/A	\$218,068	\$16,230	\$12,393	\$6,384	\$7,508	\$265,111
CLOSING BALANCE (not adjusted for VA)	\$0	(\$82,053)	(\$12,636)	(\$20,300)	(\$7,523)	(\$10,038)	(\$43,517)
ACCRUED VALUATION ALLOWANCE - EOY	0	0	0	0	0	0	0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT ASSET (LIABILITY) NET OF VA	\$0	(\$82,053)	(\$12,636)	(\$20,300)	(\$7,523)	(\$10,038)	(\$43,517)

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5
January 1, 2006 to December 31, 2006 - Projection for 2006
All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
4. WORKSHEETS								
A. FINANCIAL POSITION OF THE PLAN AT BEGINNING OF PERIOD								
Assets (Market Value)	N/A	\$539,980	\$41,192	\$0	\$0	\$0	\$0	\$581,172
Accrued Benefit Obligations	N/A	683,536	46,798	32,570	14,549	17,122	17,667	812,242
Surplus (Deficit)	\$0	(\$143,556)	(\$5,606)	(\$32,570)	(\$14,549)	(\$17,122)	(\$17,667)	(\$231,070)
B. PLAN COSTS FOR BENEFITS ACCRUING DURING THE PERIOD								
Employee Contributions	N/A	\$4,809	\$0	\$0	\$0	\$0	\$0	\$4,809
Company Normal Cost	670	12,204	0	431	0	910	426	14,641
Cost of Benefits Accruing	\$670	\$17,013	\$0	\$431	\$0	\$910	\$426	\$19,450
C. MARKET-RELATED VALUE OF ASSETS (5 years)								
Annual Adjustment in respect of 2001	\$0	(\$8,261)	(\$947)	\$0	\$0	\$0	\$0	\$0
Annual Adjustment in respect of 2002	0	(12,771)	(1,166)	0	0	0	0	0
Annual Adjustment in respect of 2003	0	5,799	210	0	0	0	0	0
Annual Adjustment in respect of 2004	0	128	(356)	0	0	0	0	0
Annual Adjustment in respect of 2005	0	4,515	83	0	0	0	0	0

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5
 January 1, 2006 to December 31, 2006 - Projection for 2006
 All figures in thousands.

"VA" means Valuation Allowance

4. WORKSHEETS

D. PROJECTIONS TO END OF PERIOD - Market Related Value	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
ASSETS - MRV								
Opening Value	N/A	\$533,299	\$44,848	\$0	\$0	\$0	\$0	\$578,147
Member Contributions	N/A	4,809	0	0	0	0	0	4,809
Company Contributions	N/A	15,100	1,379	1,977	1,370	1,373	1,162	22,361
Interest	N/A	39,852	3,246	0	0	0	0	43,098
Benefit Payouts	N/A	(23,797)	(4,508)	(1,977)	(1,370)	(1,373)	(1,162)	(34,187)
MRV Adjustment for previous asset gain/(losses) (end of year)	N/A	(10,589)	(2,176)	0	0	0	0	(12,765)
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - MRV	N/A	\$558,674	\$42,790	\$0	\$0	\$0	\$0	\$601,464
ACCRUED BENEFIT OBLIGATION								
Opening Value	N/A	\$683,536	\$46,798	\$32,570	\$14,549	\$17,122	\$17,667	\$812,242
Benefit Improvements	N/A	0	0	0	0	0	0	0
Total Normal Cost	N/A	17,013	0	431	0	910	426	18,780
Interest	N/A	35,708	2,339	1,669	728	887	908	42,239
Benefit Payouts	N/A	(23,797)	(4,508)	(1,977)	(1,370)	(1,373)	(1,162)	(34,187)
Curtailments	N/A	0	0	0	0	0	0	0
Experience Loss due to Curtailment	N/A	0	0	0	0	0	0	0
Liabilities Settled	N/A	0	0	0	0	0	0	0
Projected Closing Accrued Benefit Obligation	N/A	\$712,460	\$44,629	\$32,693	\$13,907	\$17,546	\$17,839	\$839,074
Gain (Loss) on Accrued Benefit Obligation arising at end of period	N/A	0	0	0	0	0	0	0
Actual Accrued Benefit Obligation at end of period	N/A	\$712,460	\$44,629	\$32,693	\$13,907	\$17,546	\$17,839	\$839,074
PROJECTED SURPLUS END OF PERIOD (MRV)	\$0	(\$153,786)	(\$1,839)	(\$32,693)	(\$13,907)	(\$17,546)	(\$17,839)	(\$237,610)
ACTUAL SURPLUS END OF PERIOD (MRV)	\$0	(\$153,786)	(\$1,839)	(\$32,693)	(\$13,907)	(\$17,546)	(\$17,839)	(\$237,610)
E. PROJECTIONS TO END OF PERIOD - Market Value								
ASSETS - Market Value								
Opening Value	N/A	\$539,980	\$41,192	\$0	\$0	\$0	\$0	\$581,172
Member Contributions	N/A	4,809	0	0	0	0	0	4,809
Company Contributions	N/A	15,100	1,379	1,977	1,370	1,373	1,162	22,361
Expected Interest	N/A	40,353	2,972	0	0	0	0	43,325
Benefit Payouts	N/A	(23,797)	(4,508)	(1,977)	(1,370)	(1,373)	(1,162)	(34,187)
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - Market Value	N/A	\$576,445	\$41,035	\$0	\$0	\$0	\$0	\$617,480
Gain (Loss) on Market Value of Asset return during period	N/A	0	0	0	0	0	0	0
Actual Market Value of Assets at end of period	N/A	\$576,445	\$41,035	\$0	\$0	\$0	\$0	\$617,480
PROJECTED SURPLUS END OF PERIOD (Market Value)	\$0	(\$136,015)	(\$3,594)	(\$32,693)	(\$13,907)	(\$17,546)	(\$17,839)	(\$221,594)
ACTUAL SURPLUS END OF PERIOD (Market Value)	\$0	(\$136,015)	(\$3,594)	(\$32,693)	(\$13,907)	(\$17,546)	(\$17,839)	(\$221,594)
ASSETS - Gain/Loss Current Year								
Expected Return (based on MRV)	\$0	\$39,852	\$3,246	\$0	\$0	\$0	\$0	\$43,098
Actual Return (MV)	\$0	\$40,353	\$2,972	\$0	\$0	\$0	\$0	\$43,325
Gain (Loss)	\$0	\$501	(\$274)	\$0	\$0	\$0	\$0	\$227
F. RECONCILE VALUATION ALLOWANCE AND UNAMORTIZED (projected to end of period)								
Accrued Benefit (Asset)	\$0	(\$82,054)	(\$12,636)	\$20,300	\$7,523	\$10,039	\$13,311	(\$43,517)
(a) Expected Future Benefit	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(b) Adjusted Benefit Asset (Accrued Asset less aggregate losses)	N/A	(130,994)	N/A	N/A	N/A	N/A	N/A	(130,994)
(c) Valuation Allowance Required EOY (b) - (a)	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(d) Unamortized Valuation Allowance	N/A	837	N/A	N/A	N/A	N/A	N/A	837
(e) Accrued VA EOY	N/A	0	N/A	N/A	N/A	N/A	N/A	0
Addition to VA (c) - (d) - (e)	N/A	0	N/A	N/A	N/A	N/A	N/A	0

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS
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 All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
5. AMORTIZATION SCHEDULE								
AMORTIZATIONS ESTABLISHED AS AT JANUARY 1, 2000								
ARSP as at January 1, 2000	0.00	13.00	13.00	13.00	13.00	13.00	13.00	
TRANSITIONAL OBLIGATION / (ASSET) (Jan 1, 2000)	\$0	(\$10,216)	(\$5,320)	\$8,616	\$7,198	\$10,607	\$18,488	\$29,373
Opening Balance	0	(5,500)	(2,866)	4,175	4,339	5,711	9,956	15,815
Annual Component	0	(786)	(409)	596	620	816	1,422	2,259
Closing Balance	0	(4,714)	(2,457)	3,579	3,719	4,895	8,534	13,556
Remaining Duration as at EOY (years)	0.00	6.00	6.00	6.00	6.00	6.00	6.00	
CHANGE in VA on ADOPTING CICA 3461 (Jan 1, 2000)	N/A	\$10,880	N/A	N/A	N/A	N/A	N/A	\$10,880
Opening Balance	N/A	5,858	N/A	N/A	N/A	N/A	N/A	5,858
Annual Component	N/A	837	N/A	N/A	N/A	N/A	N/A	837
Closing Balance	N/A	5,021	N/A	N/A	N/A	N/A	N/A	5,021
Remaining Duration as at EOY (years)	N/A	6.00	N/A	N/A	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT DECEMBER 31, 2000								
ARSP as at December 31, 2000	0.00	12.00	12.00	12.00	12.00	12.00	12.00	
PAST SERVICE COST / (ASSET) (Dec 31, 2000)	N/A	\$869	N/A	\$503	N/A	N/A	N/A	\$1,372
Opening Balance	N/A	0	N/A	293	N/A	N/A	N/A	293
Annual Component	N/A	0	N/A	42	N/A	N/A	N/A	42
Closing Balance	N/A	0	N/A	251	N/A	N/A	N/A	251
Remaining Duration as at EOY (years)	N/A	0.00	N/A	6.00	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT OCTOBER 31, 2003								
ARSP as at October 31, 2003	N/A	11.00	N/A	11.00	N/A	N/A	N/A	
PAST SERVICE COST / (ASSET) (October 1, 2003)	N/A	\$5,580	N/A	\$521	N/A	N/A	N/A	\$6,101
Opening Balance	N/A	0	N/A	415	N/A	N/A	N/A	415
Annual Component	N/A	0	N/A	47	N/A	N/A	N/A	47
Closing Balance	N/A	0	N/A	368	N/A	N/A	N/A	368
Remaining Duration as at EOY (years)	N/A	0.00	N/A	7.75	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT JULY 1, 2004								
ARSP as at July 1, 2004	N/A	11.00	N/A	N/A	N/A	N/A	N/A	
PAST SERVICE COST / (ASSET) (July 1, 2004)	N/A	(\$7,283)	N/A	N/A	N/A	N/A	N/A	(\$7,283)
Opening Balance	N/A	(1,267)	N/A	N/A	N/A	N/A	N/A	(1,267)
Annual Component (half-year starting July 1)	N/A	(134)	N/A	N/A	N/A	N/A	N/A	(134)
Closing Balance	N/A	(1,133)	N/A	N/A	N/A	N/A	N/A	(1,133)
Remaining Duration as at EOY (years)	N/A	8.50	N/A	N/A	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT DECEMBER 31, 2005								
Updated ARSP as at December 31, 2005	0.00	10.00	10.00	10.00	10.00	10.00	10.00	
AGGREGATE NET ACTUARIAL LOSS / (GAIN) (Dec 31, 2005)	\$0	\$242,499	\$19,533	\$8,744	\$2,799	\$2,713	(\$4,255)	\$272,033
Actuarial loss (gain) not yet included in MRV	0	(6,681)	3,656	0	0	0	0	(3,025)
Amount subject to amortization	0	249,180	15,877	8,744	2,799	2,713	(4,255)	275,058
10% Corridor	0	68,354	4,680	3,257	1,455	1,712	(1,767)	77,691
Opening Balance to Amortize	0	180,826	11,197	5,487	1,344	1,001	(2,488)	197,367
Annual Component	0	18,083	1,120	549	134	100	(249)	19,737
Remaining amount to be amortized	0	224,416	18,413	8,195	2,665	2,613	(4,006)	252,296
Actuarial loss (gain) at end of period on	0	(501)	274	0	0	0	0	(227)
- Asset Return	0	0	0	0	0	0	0	0
- Accrued Benefit Obligation	0	0	0	0	0	0	0	0
Total actuarial loss (gain) not amortized	\$0	\$223,915	\$18,687	\$8,195	\$2,665	\$2,613	(\$4,006)	\$252,069
Total Closing Unamortized Losses (Gains) (excluding VA)	\$0	\$218,068	\$16,230	\$12,393	\$6,384	\$7,508	(\$4,528)	\$265,111

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS
 January 1, 2006 to December 31, 2006 - Projection for 2006
 All figures in thousands.

"VA" means Valuation Allowance

6. BENEFIT COST - NEW DISCLOSURE

COSTS ARISING IN PERIOD	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
	CURRENT SERVICE COST	\$670	\$12,204	\$0	\$431	\$0	\$910	\$426
INTEREST ON ACCRUED BENEFITS	0	35,708	2,339	1,669	728	887	908	42,239
ACTUAL RETURN ON ASSETS	0	(40,353)	(2,972)	0	0	0	0	(45,325)
AMOUNTS ARISING FROM EVENTS IN THE PERIOD:								
- Past Service Costs (Gains)	0	0	0	0	0	0	0	0
- Actuarial Losses / (Gains) on Accrued Benefit Obligation	0	0	0	0	0	0	0	0
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0
FUTURE BENEFIT COSTS BEFORE ADJUSTMENTS	\$670	\$7,559	(\$633)	\$2,100	\$728	\$1,797	\$1,334	\$13,555
ADJUSTMENTS TO RECOGNIZE LONG-TERM NATURE OF COSTS								
IMPACT OF DEFERRED RECOGNITION ON:								
- Transitional Obligation (Asset)	0	(786)	(409)	596	620	816	1,422	2,259
- Current Year Return on Plan Assets**	0	501	(274)	0	0	0	0	227
- Past Service Costs*	0	(134)	0	89	0	0	0	(45)
- Actuarial Loss (Gain) other than the current year return on assets*	0	18,083	1,120	549	134	100	(249)	19,737
VALUATION ALLOWANCE	0	0	0	0	0	0	0	0
BENEFIT COST (INCOME) RECOGNIZED FOR THE PERIOD	\$670	\$25,223	(\$196)	\$3,334	\$1,482	\$2,713	\$2,507	\$35,733

* Equal to (1) current year amortization of (gain)/loss subtract (2) (gain)/ loss incurred in the current year
 ** Actual return on plan assets, less expected return on plan assets determined on a market related basis

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS
January 1, 2005 to December 31, 2005 - FINAL 2005
All figures in thousands.

C:\Documents and Settings\at274\Local Settings\Temporary Internet Files\OLK5\NSPI 2006 Accounting Report Appendix D (FINAL) (2).xls\208

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIIP 1986 and ERIIP 1991	Long Service Award	Post Retirement Employees (ER Only)
Sensitivity to 25 basis points decrease - ABO at beg of period	N/A	3.8%	1.9%	2.0%	2.0%	2.0%	2.4%
Sensitivity to 25 basis points decrease - CSC (ER Portion)	N/A	7.7%	N/A	3.5%	N/A	2.5%	3.3%
Sensitivity to 100 basis points change in health trend rates:							
Impact on total of service and interest cost	N/A	N/A	N/A	N/A	N/A	N/A	10.8%
Impact on ABO at end of period	N/A	N/A	N/A	N/A	N/A	N/A	10.0%

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIIP 1986 and ERIIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
I. EXPENSE								
ASSUMED RETURN ON ASSETS	N/A	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	
ASSUMED DISCOUNT RATE AT BEGINNING OF PERIOD	N/A	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	
ASSUMED DISCOUNT RATE AT END OF PERIOD	N/A	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	
CURRENT SERVICE COST	\$707	\$9,095	\$0	\$546	\$0	\$821	\$383	\$11,552
INTEREST ON ACCRUED BENEFITS	0	33,088	2,499	1,687	779	896	943	39,892
EXPECTED RETURN ON ASSETS	0	(37,627)	(3,400)	0	0	0	0	(41,027)
STRAIGHT LINE AMORTIZATION OF:								
- Transitional Obligation (Asset)	0	(786)	(409)	596	620	816	1,422	2,259
- Past Service Costs	0	(134)	0	89	0	0	0	(45)
- Actuarial Losses / (Gains)	0	8,679	460	82	0	0	(450)	8,771
- Change in VA on adopting CICA 3461	0	837	0	0	0	0	0	837
CHANGE IN VALUATION ALLOWANCE	0	(837)	0	0	0	0	0	(837)
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0	0
SPECIAL TERMINATION BENEFITS	0	0	0	691	0	0	0	691
EXPENSE (INCOME)	\$707	\$12,315	(\$850)	\$3,691	\$1,399	\$2,533	\$2,298	\$22,093

2. ACCRUED BENEFIT (ASSET) LIABILITY

OPENING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$0	(\$82,533)	(\$9,230)	\$17,685	\$7,386	\$7,493	\$10,818	(\$48,381)
LESS: ACCRUED VALUATION ALLOWANCE (BOY)	-	-	-	-	-	-	-	-
OPENING BALANCE (not adjusted for VA)	\$0	(\$82,533)	(\$9,230)	\$17,685	\$7,386	\$7,493	\$10,818	(\$48,381)
EXPENSE (INCOME) (including current year VA)	707	12,315	(850)	3,691	1,399	2,533	2,298	22,093
LESS CURRENT YEAR VA (to get unadjusted closing balance)	0	0	0	0	0	0	0	0
COMPANY CONTRIBUTIONS	(707)	(21,959)	(981)	(2,433)	(1,374)	(1,327)	(1,150)	(29,931)
CLOSING BALANCE (not adjusted for VA)	\$0	(\$92,177)	(\$11,061)	\$18,943	\$7,411	\$8,699	\$11,966	(\$56,219)
ACCRUED VALUATION ALLOWANCE (EOY)	-	-	-	-	-	-	-	\$0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$0	(\$92,177)	(\$11,061)	\$18,943	\$7,411	\$8,699	\$11,966	(\$56,219)

3. RECONCILIATION OF ACCRUED BENEFIT OBLIGATION TO ACCRUED BENEFIT ASSET (LIABILITY)

RECONCILIATION AT END OF PERIOD								
ACTUAL MARKET VALUE OF ASSETS - EOY	N/A	\$539,980	\$41,192	\$0	\$0	\$0	\$0	\$581,172
LESS ACTUAL ACCRUED BENEFIT OBLIGATION - EOY	N/A	683,536	46,798	32,570	14,549	17,122	17,667	812,242
SURPLUS (DEFICIT) AT END OF PERIOD - MARKET VALUE	N/A	(\$143,556)	(\$5,606)	(\$32,570)	(\$14,549)	(\$17,122)	(\$17,667)	(\$231,070)
LESS CLOSING UNAMORTIZED AMOUNTS								
- Unamortized Transitional Obligation (Asset)	N/A	(5,500)	(2,866)	4,175	4,339	5,711	9,956	15,815
- Unamortized Past Service	N/A	(1,267)	708	0	0	0	0	(559)
- Unamortized Actuarial Losses (Gains)	N/A	242,499	19,533	8,744	2,799	2,713	(4,255)	272,032
TOTAL CLOSING UNAMORTIZED AMOUNTS	N/A	\$235,732	\$16,667	\$13,627	\$7,138	\$8,424	\$5,701	\$287,288
CLOSING BALANCE (not adjusted for VA)	\$0	\$92,176	\$11,061	(\$18,943)	(\$7,411)	(\$8,699)	(\$11,966)	\$56,218
ACCRUED VALUATION ALLOWANCE - EOY	0	0	0	0	0	0	0	0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT ASSET (LIABILITY) NET OF VA	\$0	\$92,176	\$11,061	(\$18,943)	(\$7,411)	(\$8,699)	(\$11,966)	\$56,218

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAs
January 1, 2005 to December 31, 2005 - FINAL 2005

All figures in thousands.
"N/A" means Valuation Allowance

4. WORKSHEETS										
D. PROJECTIONS TO END OF PERIOD - Market Related Value										
	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total		
ASSETS - MRV										
Opening Value	N/A	\$503,817	\$47,094	\$0	\$0	\$0	\$0	\$550,911		
Member Contributions	N/A	4,698	0	0	0	0	0	4,698		
Company Contributions	N/A	21,959	981	2,433	1,374	1,327	1,150	29,224		
Interest	N/A	37,627	3,400	0	0	0	0	41,027		
Benefit Payouts	N/A	(21,950)	(4,490)	(2,433)	(1,374)	(1,327)	(1,150)	(32,724)		
MRV Adjustment for previous asset gain/(losses) (end of year)	N/A	(12,852)	(2,137)	0	0	0	0	(14,989)		
Settlement Payout	N/A	0	0	0	0	0	0	0		
Projected Closing Asset Value - MRV	N/A	\$533,299	\$44,848	\$0	\$0	\$0	\$0	\$578,147		
ACCURED BENEFIT OBLIGATION										
Opening Value	N/A	\$555,984	\$43,896	\$26,751	\$13,678	\$14,898	\$16,093	\$671,300		
Benefit Improvements	N/A	0	0	0	0	0	0	0		
Total Normal Cost	N/A	13,793	0	546	0	821	383	15,543		
Interest	N/A	33,088	2,499	1,687	779	896	943	39,892		
Benefit Payouts	N/A	(21,950)	(4,490)	(2,433)	(1,374)	(1,327)	(1,150)	(32,724)		
Curtailments	N/A	0	0	0	0	0	0	0		
Experience Loss due to Curtailment	N/A	0	0	0	0	0	0	0		
Liabilities Settled/Special Termination Benefits	N/A	0	0	691	0	0	0	691		
Projected Closing Accrued Benefit Obligation	N/A	\$580,915	\$41,905	\$27,242	\$13,083	\$15,288	\$16,269	\$694,702		
Gain (Loss) on Accrued Benefit Obligation arising at end of period	N/A	(102,621)	(4,803)	(5,328)	(1,466)	(1,834)	(1,398)	(117,540)		
Actual Accrued Benefit Obligation at end of period	N/A	\$683,536	\$46,798	\$32,570	\$14,549	\$17,122	\$17,667	\$812,242		
PROJECTED SURPLUS END OF PERIOD (MRV)	\$0	(\$47,616)	\$2,943	(\$27,242)	(\$13,083)	(\$15,288)	(\$16,269)	(\$116,554)		
ACTUAL SURPLUS END OF PERIOD (MRV)	\$0	(\$150,237)	(\$1,950)	(\$32,570)	(\$14,549)	(\$17,122)	(\$17,667)	(\$234,095)		
E. PROJECTIONS TO END OF PERIOD - Market Value										
ASSETS - Market Value										
Opening Value	N/A	\$475,072	\$40,886	\$0	\$0	\$0	\$0	\$515,958		
Member Contributions	N/A	4,698	0	0	0	0	0	4,698		
Company Contributions	N/A	21,959	981	2,433	1,374	1,327	1,150	29,224		
Expected Interest	N/A	35,807	2,935	0	0	0	0	38,742		
Benefit Payouts	N/A	(21,950)	(4,490)	(2,433)	(1,374)	(1,327)	(1,150)	(32,724)		
Settlement Payout	N/A	0	0	0	0	0	0	0		
Projected Closing Asset Value - Market Value	N/A	\$515,586	\$40,312	\$0	\$0	\$0	\$0	\$555,898		
Gain (Loss) on Market Value of Asset return during period	N/A	24,394	880	0	0	0	0	25,274		
Actual Market Value of Assets at end of period	N/A	\$539,980	\$41,192	\$0	\$0	\$0	\$0	\$581,172		
PROJECTED SURPLUS END OF PERIOD (Market Value)	\$0	(\$65,329)	(\$1,593)	(\$27,242)	(\$13,083)	(\$15,288)	(\$16,269)	(\$138,804)		
ACTUAL SURPLUS END OF PERIOD (Market Value)	\$0	(\$143,556)	(\$5,606)	(\$32,570)	(\$14,549)	(\$17,122)	(\$17,667)	(\$231,070)		
ASSETS - Gain/Loss Current Year										
Expected Return (based on MRV)	\$0	\$37,627	\$3,400	\$0	\$0	\$0	\$0	\$41,027		
Actual Return (MV)	\$0	\$60,201	\$3,815	\$0	\$0	\$0	\$0	\$64,016		
Gain (Loss)	\$0	\$22,574	\$415	\$0	\$0	\$0	\$0	\$22,989		
F. RECONCILE VALUATION ALLOWANCE AND UNAMORTIZED (projected to end of period)										
Accrued Benefit (Asset)	\$0	(\$92,177)	(\$11,061)	\$18,943	\$7,411	\$8,699	\$11,966	(\$56,219)		
(a) Expected Future Benefit	N/A	0	N/A	N/A	N/A	N/A	N/A	0		
(b) Adjusted Benefit Asset (Accrued Asset less aggregate losses)	N/A	(59,471)	N/A	N/A	N/A	N/A	N/A	(59,471)		
(c) Valuation Allowance Required EOY (b) - (a)	N/A	0	N/A	N/A	N/A	N/A	N/A	0		
(d) Unamortized Valuation Allowance	N/A	837	N/A	N/A	N/A	N/A	N/A	837		
(e) Accrued VA EOY	N/A	0	N/A	N/A	N/A	N/A	N/A	0		
Addition to VA (c) - (d) - (e)	N/A	0	N/A	N/A	N/A	N/A	N/A	0		

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5
 January 1, 2005 to December 31, 2005 - FINAL 2005
 All figures in thousands.

"VA" means Valuation Allowance

6. EXPENSE - NEW DISCLOSURE REQUIREMENTS

COSTS ARISING IN PERIOD	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIIP 1986 and ERIIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
CURRENT SERVICE COST	\$707	\$9,095	\$0	\$546	\$0	\$821	\$383	\$11,552
INTEREST ON ACCRUED BENEFITS	0	33,088	2,499	1,687	779	896	943	39,892
ACTUAL RETURN ON ASSETS	0	(60,201)	(3,815)	0	0	0	0	(64,016)
AMOUNTS ARISING FROM EVENTS IN THE PERIOD:								
- Past Service Costs (Gains)	0	0	0	0	0	0	0	0
- Actuarial Losses / (Gains) on Accrued Benefit Obligation	0	102,621	4,893	5,328	1,466	1,834	1,398	117,540
SETTLEMENTS & CURTALMENTS	0	0	0	0	0	0	0	0
OTHER	0	0	0	691	0	0	0	691
FUTURE BENEFIT COSTS BEFORE ADJUSTMENTS	\$707	\$84,603	\$3,577	\$8,252	\$2,245	\$3,551	\$2,724	\$105,659
ADJUSTMENTS TO RECOGNIZE LONG-TERM NATURE OF COSTS								
IMPACT OF DEFERRED RECOGNITION ON:								
- Transitional Obligation (Asset)	0	(786)	(409)	596	620	816	1,422	2,259
- Current Year Return on Plan Assets**	0	22,574	415	0	0	0	0	22,989
- Past Service Costs*	0	(134)	0	89	0	0	0	(45)
- Actuarial Loss (Gain) other than the current year return on assets*	0	(93,942)	(4,433)	(5,246)	(1,466)	(1,834)	(1,848)	(108,769)
VALUATION ALLOWANCE	0	0	0	0	0	0	0	0
BENEFIT COST (INCOME) RECOGNIZED FOR THE PERIOD	\$707	\$12,315	(\$850)	\$3,691	\$1,399	\$2,533	\$2,298	\$22,093

* Equal to (1) current year amortization of (gain)/loss subtract (2) (gain)/ loss incurred in the current year

** Actual return on plan assets, less expected return on plan assets determined on a market related basis

DATE FILED: November 20, 2006

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Text of e-mail sent by Paul Chang of Morneau Sobeco to Evelyn McKinnon of NSPI on August 31, 2006 at 2.04 pm.

2007	\$33,041
2008	\$31,487
2009	\$28,004
2010	\$25,879
2011	\$23,898

Here is projected expense for 2007 to 2011 assuming no plan changes, 7.25% asset return (actual and assumed for expense calculation purposes) and 5.5% discount rate (in \$000s). Formal disclosure will be provided in letter.

Paul Chang
Morneau Sobeco, Halifax Office
Direct Line (902) 474 3239
General Line 902 429 8013

DATE FILED: November 20, 2006

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NS07

October 31, 2006

CONFIDENTIAL

Ms. Evelyn McKinnon
 Manager Accounting Services
 Nova Scotia Power Incorporated
 P.O. Box 910
 Halifax, NS B3J 2W5

Dear Evelyn:

Re: Post-Employment Benefits for Employees of Nova Scotia Power Incorporated (“NSPI’s Benefit Plans”); Projected 2007 Benefit Cost

Further to recent e-mail correspondence, we are writing to formally document the projected fiscal 2007 benefit cost figure of \$33.041 million for NSPI’s Benefit Plans determined in accordance with Section 3461 of the CICA Handbook (“CICA 3461”). Please refer to Appendix A for details on the components of the benefit cost for each of NSPI’s Benefit Plans.

Please refer to Appendix B for the actuarial assumptions and methods. Appendix C provides an explanation of the process employed to extrapolate the figures from the Accounting Report as at December 31, 2005 on NSPI’s Benefit Plans in order to determine the projected fiscal 2007 benefit cost figures presented in this letter. Please refer to our Accounting Report for a summary of the data.

For the purpose of this projection, all actuarial assumptions and methods, plan provisions, and data are the same as those used to determine the estimated benefit cost for fiscal 2006, except for the following two changes:

- > At the time that this projected benefit cost was prepared, based on July 31, 2006 rates, the discount rate based on the annualized yield of A rated bonds with the same duration as the obligations (14 years) was 5.50% per annum. We assumed that a discount rate of 5.50% would also be appropriate for a measurement date of December 31, 2006. Fiscal 2006 benefit cost is based on a 5.25% per annum discount rate.
- > The asset return assumption is 7.25% per annum for fiscal 2007. Fiscal 2006 benefit cost is based on a 7.50% per annum assumed asset return.

In addition we assumed no actuarial gains or losses between January 1, 2006 and December 31, 2007.

Actuarial Certification

We hereby declare that in our opinion,

- > the data on which the valuation is based are sufficient and reliable for the purpose of the valuation;
and

DATE FILED: November 20, 2006

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Ms. E. McKinnon
October 27, 2006

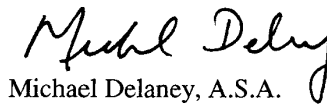
- > NSPI management have selected the assumptions and they are in accordance with accepted actuarial practice; and
- > the methods employed in the valuation are appropriate for the purpose of the valuation.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice. It should also be noted that emerging experience, which differs from the assumptions made, will result in gains or losses which will be revealed in future valuations.

Please do not hesitate to contact us if you require any further information.

Yours truly,


Paul Chang, F.S.A., F.C.I.A.
Partner


Michael Delaney, A.S.A.
Consultant

Appendix A – Details on the Projected 2007 Benefit Cost

Table A.1 Projected 2007 Benefit Cost (in \$ millions)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post- Ret Health	Total
Costs Arising in the Period							
Current Service Cost	12.461 ¹	0	0.424	0	0.920	0.426	14.231
Interest Cost	37.383	2.282	1.694	0.711	0.933	0.935	43.938
(Actual Return on Assets)	(41.598)	(2.862)	0	0	0	0	(44.460)
Events in the Period:							
> Past Service Costs / (Gains)	0	0	0	0	0	0	0
> Actuarial Losses / (Gains) on ABO	0	0	0	0	0	0	0
Future Benefit Costs Before Adjustments	8.246	(0.580)	2.118	0.711	1.853	1.361	13.709
Adjustments to Recognize Long-Term Nature of Costs							
> Transitional Obligation / (Asset)	(0.786)	(0.409)	0.596	0.620	0.816	1.422	2.259
> Current Year Return on Assets	1.288	(0.127)	0	0	0	0	1.161
> Past Service Costs	(0.134)	0	0.089	0	0	0	(0.045)
> Actuarial Losses / (Gains) on ABO	14.501	1.168	0.399	0.103	0.056	(0.270)	15.957
Total Benefit Cost (Income)	23.115	0.052	3.202	1.434	2.725	2.513	33.041

Figures may not add up exactly due to rounding.

1 Employee Plan current service cost shown above includes \$11.750 million for DB component and \$0.711 million for DC component.

There is no valuation allowance expected in respect of 2007 reporting.

Appendix B– Actuarial Assumptions and Methods

Actuarial Cost Method

For all active employees, the Accrued Benefit Obligation and the current service cost were calculated using the “projected benefit method pro-rated on service”.

According to this method, the Accrued Benefit Obligation is equal to the actuarial present value of all future benefits (net of any employee cost sharing for OPEBs), taking into account the assumptions described below, multiplied by the ratio of an employee’s service at the valuation date to total service at the retirement date. The current service cost for a period is equal to the actuarial present value of benefits attributed to employees’ services rendered in that period.

To determine the actuarial present value of post-retirement health benefits, the expected true costs were projected into the future in respect of each member applying both age-related utilization rates and the assumed trend (i.e., health care inflation) rates. In addition, each member’s expected contributions (i.e., premium) was projected into the future based on health care inflation. The actuarial present value of NSPI’s portion of the cost of the post-employment health plan is the difference between the actuarial present value of the total cost and the actuarial present value of the member’s contributions.

Assets

Employee and Acquired pension plan assets are taken at market value from the draft audited financial statements. There are no assets in respect of the other plans.

To determine the expected return on assets, we used a 5 year market-related value of assets and assumed that all cash flows would occur at mid-year.

Actuarial Assumptions

The actuarial assumptions used for the valuation are summarized in the following table. All rates and percentages are annualized unless otherwise noted. All assumptions used are management’s best estimates. The discount rate was based on the annualized yield of A rated bonds at the valuation date with the same duration as the obligations (14 years).

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Table B.1 Actuarial Assumptions – Economic Factors

	2007 Benefit Cost
Valuation Date	ERIP 86 and 91 and War Service: December 31, 2003 All Other NSPI Benefit Plans: December 31, 2005
Discount Rate	5.50%
General Inflation	2.50%
YMPE	3.00%
	Under 30: 5.50%
	30 to 34: 5.00%
	35 to 39: 4.50%
Salary Increases	40 to 44: 4.00%
	45 to 49: 3.50%
	50 and above: 3.00%
Increase in maximum Pension in registered plan per year of service	\$2,111 for 2006, \$2,222 for 2007, \$2,333 for 2008, \$2,444 for 2009 and \$2,444 indexed starting in 2010 at 3.00% per annum
Return on Employee Plan Assets	7.25%
Return on Acquired Plan Assets	7.25%
Extended Health Care Inflation	9.00% for next year (premium increase effective Jan 2007), decreasing in years 2 through 6 by 1% per year with a long-term ultimate rate of 4.00%
Dental Inflation	4.00%

Table B.2 Actuarial Assumptions – Demographic Factors

	2007 Benefit Cost
Mortality	1994 Uninsured Pensioners Mortality Table projected to 2015 using Projection Scale AA (UP94@2015). Sex Distinct. Post-retirement only
Termination	5% per annum up to age 50
Disability Rates	None assumed
Retirement Rates	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award. *Age 58 was used for the valuation of the new post- retirement health plan. ³
Spouse Age Difference	Women 3 years younger.
Health Care Relative Utilization ¹	Please see table A.3 below
Percentage Married	85% at retirement
Members Electing Coverage at Retirement	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ²
Coverage Elected at Retirement	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single

1 Used to estimate average medical and drug costs at different ages (drug coverage ceases at age 65).

2 The data used for the post-employment health care valuation includes only those active members who currently have health coverage – such members represent 90% of all active employees at NSPI – the assumed likelihood that an active employee who currently has coverage and who retires from NSPI takes post-retirement coverage is 85% resulting in an overall take up rate for all employees (with or without current coverage) of 75% (approximately equal to 0.85 x 0.9).

3 It is advantageous to move to the new health plan only if an employee intends to retire early; therefore we assume such members will retire, on average, at an earlier age.

Table B.3 Health Care Relative Utilization Factors

Age	Hospital & EHB	Drug Coverage	Dental Coverage
40	46%	42%	90%
45	53%	56%	88%
50	61%	74%	86%
55	78%	86%	83%
60	100%	100%	81%
64	122%	113%	80%
65	128%	N/A	N/A
70	163%	N/A	N/A
75	239%	N/A	N/A
80	352%	N/A	N/A
85	517%	N/A	N/A

Example: The cost for Hospital and EHB for a 64 year old is 122% of the cost for a 60 year old.

Calculation of Medical Cost

Development of Utilization Factors

Manulife Financial provided claims amounts for hospital & EHB, and drugs for the period from August 1, 2001 to July 31, 2002 by quinquennial age bands. Using the number of members within each age band, we determined the amount of claims per member for each age band. From this we found the relative age based utilization factors for each quinquennial age band. We then extrapolated integer age based utilization factors from the quinquennial results. As there were insufficient post-1991 retirees over age 75 to establish a reliable utilization scale over such age, the utilization scales beyond age 75 were estimated based on industry statistics. We did not have details of the dental claims amount and have used utilization factors which are based on industry statistics.

Existing Post-Retirement health plan - NSPI members

Effective 2003, the annualized premiums for retirees are experience rated amongst retirees only. Previously the actives and retiree premiums were experience rated as a single group, and the same premium was paid by both retirees and actives. The member's portion (50% of total cost) of the annualized premiums charged as at January 1, 2006 (including the 4.4% increase as at January 1, 2006) for the NSPI Health plan is \$581 for single coverage and \$1,456 for family coverage. The experience report also shows that approximately 85% of claims are related to drugs, with the remaining 15% for hospital and extended health care.

Based on the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total expected claims at each age less member's paid premium) for 2006 at each age:

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Age	Single	Family
50	\$605	\$1,511
55	\$805	\$2,010
60	\$1,040	\$2,597
65	(\$389)	(\$974)
70	(\$336)	(\$841)
75	(\$220)	(\$553)
80	(\$51)	(\$130)
85	\$198	\$493

Based on the premiums provided by Manulife, we updated the estimated employer cost (as compared to our prior valuation). Based on the ratio of the family to the single premium being charged by Manulife, and a fully experienced retiree only group, we continue to assume that the total cost for family coverage is approximately 2.5 times the single cost. A negative amount means that the retiree's premium exceeds the estimated average claims at that particular age.

New Post-Retirement health plan - NSPI members

Effective January 1, 2004, a new health benefit plan for retirees was introduced. Please refer to Appendix C for details of the new retiree health plan. We understand that this plan will be rated separately from the existing plan and retirees and actives will be rated as one group within the new plan. As there are currently an insufficient number of retirees under the new plan, we have used the same drug and hospital utilization factors as for the old plan and used industry based utilization factors for the dental benefits.

NSPI provided us with the total annualized premiums charged as at January 1, 2006 for the new NSPI Health plan as \$641 for single coverage and \$1,966 for family coverage, and new Dental plan as \$381 for single coverage and \$845 for family coverage. Based on the premiums provided, and the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total cost less member's premium) for 2006 at each age for an employee who will pay 50% of the benefit plan premium in retirement:

Age	Health Single	Health Family*	Dental Single	Dental Family*
50	\$425	\$1,254	\$183	\$400
55	\$555	\$1,645	\$174	\$379
60	\$709	\$2,107	\$165	\$359
64	\$853	\$2,537	\$158	\$344
65**	\$0	\$0	\$0	\$0

* In addition to family coverage, there is "couple coverage", employer health cost for couple is approximately 2.2 times the single health cost shown, employer dental cost for couple is approximately 2 times the single dental cost shown

** No coverage after age 65

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Note that under the new post-retirement benefit plan, the actual percentage of the costs paid by the employer varies by the member's years of service at retirement. The costs shown above would need to be adjusted accordingly for members who do not receive 50% cost sharing. (Please contact us if you require such figures).

Pre-1992 Retirees

Since NSPI's liability in respect of former NSPI employees who retired under the PSSP is based on the amount of premium assessed by the Province, we have determined the accrued benefit obligation in respect of these members by determining the present value of premiums. Such premiums are assumed to increase at the health inflation rates, but no age utilization factor is applied. Annualized employer (65% of total) premiums as at January 1, 2006 are as follows:

	Policy 5138	Policy 6000	Policy 6500
Single	\$192	\$643	\$342
Family	\$489	\$1,427	\$685

The premiums as at January 1, 2006 are the same as those as at January 1, 2005.

We assumed that the above premiums for pre-1992 retirees would follow the extended health care inflation assumption set out in table A.1 for future years.

Valuation Allowance

For purposes of estimating the Valuation Allowance required for fiscal 2007, we estimated the December 31, 2007 ABO for the Employee's Pension Plan (DB component only) to be \$712.56 million. This was based on the December 31, 2005 ABO figure of \$683.54 million projected forward two years with estimated current service cost, interest, less benefit payments and adjusted for the change in discount rate from 5.25% per annum to 5.50% per annum effective December 31, 2006. The Employee's Pension Plan assets (DB component only), on a market value basis, projected to December 31, 2007 is estimated to be \$612.70 million.

As a result, the Plan's ABO exceeds the assets as at December 31, 2007 (i.e., the Plan's "adjusted benefit asset" is less than 0 and there is no "expected future benefit" – as those terms are defined in CICA subsections 3461.101) and no Valuation Allowance is projected to be required. A determination based on actual December 31, 2007 ABO and assets will be required to finalize the amount of Valuation Allowance for 2007.

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Appendix C – Extrapolation Process

This letter presents results based on extrapolations of the assets and obligations disclosed in the Accounting Report as at December 31, 2005. This extrapolation was performed in accordance with Section 3461 of the CICA Handbook (“CICA 3461”).

In order to determine the projected fiscal 2007 benefit cost figures we rolled forward the assets and obligations relating to NSPI’s Benefit Plans, as presented in the December 31, 2005 Accounting Report. To prepare the extrapolation, we used the same actuarial assumptions as were used in the Accounting Report, other than the discount rate which was adjusted to 5.50% per annum and the return on asset assumption which was changed to 7.25% per annum. Both changes in assumptions were assumed effective December 31, 2006.

For clarity, in projecting the assets from December 31, 2005 to December 31, 2006 we assumed that the actual return was equal to the expected return for this period (i.e., 7.50% per annum).

As part of the extrapolation process, estimates were required regarding future NSPI contributions and benefit payments from each of NSPI’s Benefit Plans. These assumptions do not have a significant impact of the projected benefit cost figures and these cash flow items are expected to remain fairly stable, however the following table presents the assumed cash flow items in respect of fiscal 2007 (all figures are in \$ millions):

Projected Fiscal 2007 Cash Flows (in \$ millions)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post- Ret Health	Total
Company Contributions	16.136 ¹	1.379	2.125	1.418	1.421	1.249	23.728
Employee Contributions	4.809	0	0	0	0	0	4.809
Benefit Payments	25.582	4.508	2.125	1.418	1.421	1.249	36.303

Figures may not add up exactly due to rounding.

1 Includes \$0.711 million in respect of estimated Company contributions to the DC component.

GENERAL ACCOUNTING

EMPLOYEE FUTURE BENEFITS - 2400

GENERAL

- 01 The Company maintains contributory defined-benefit and defined-contribution pension plans that cover substantially all employees, and plans providing non-pension benefits for its retirees.
- 02 The defined-benefit pension plans are based on the years of service and average salary at the time the employee terminates employment and provide annual post-retirement indexing equal to the change in the Consumer Price Index up to a maximum increase of 6% per year.
- 03 Other retirement benefit plans include: unfunded pension arrangements, unfunded long service award and contributory health care plan.
- 04 The measurement date for the assets and obligations of each benefit plan is December 31.

POLICIES

- 05 Pension obligations and obligations associated with non-pension post-retirement benefits such as health benefits to retirees and retirement awards, are actuarially determined using the projected benefit method prorated on service and management's best assumptions. The accrued benefit obligation is valued based on market interest rates at the valuation date.
- 06 Adjustments to the accrued benefit obligation arising from plan amendments are amortized on a straight-line basis over the expected average remaining service period (ARSP) of active employees.
- 07 Pension fund asset values are calculated using market values at year-end. The expected return on pension assets is determined based on market-related values. The market-related values are determined in a rational and systematic manner so as to recognize asset gains and losses over a five-year period.
- 08 For any given year, when NSPI's net actuarial gain (loss), less the actuarial gain (loss) not yet included in the market-related value of plan assets, exceeds 10% of the greater of the accrued benefit obligation and the market-related value of the plan assets, an amount equal to the excess divided by the ARSP is amortized on a straight-line basis.
- 09 On January 1, 2000, NSPI adopted the new accounting standard on employee future benefits using the prospective application method. The transitional obligation (asset) resulting from the initial application is amortized linearly over 13 years, which was the expected ARSP of active employees at the transition date.
- 10 The difference between pension expense and pension funding is recorded as a deferred asset on the balance sheet.

PROCEDURES

DATE FILED: November 20, 2006

GENERAL ACCOUNTING

EMPLOYEE FUTURE BENEFITS - 2400

-
- 11 Actuarial valuations are performed annually for all three plans.
 - 12 Pension expense, as determined in the annual actuarial valuation, is charged to both operating departments and corporate adjustments.
 - 13 Pension funding is paid as determined in an annual actuarial valuation,
 - 14 Pension plan assets are invested by fund managers. Monthly statements are provided by the trustee showing asset market values, investment income, pension benefits, refunds of contributions and plan expenses.
 - 15 A Statement of Net Assets and a Statement of Changes in Net Assets for all pension plans are prepared quarterly. These statements show pension asset market values, contributions receivable, accounts payable, investment income, changes in market values, contributions received, pension benefits paid, refunds of contributions and plan expenses.
 - 16 Employee contributions for current service are matched by NSPI through the payroll system and remitted to the trustee for investment by fund managers.
 - 17 For the defined contribution pension plan, employee and employer contributions are remitted to a pension plan administrator and invested according to instructions provided by the employee.
 - 18 Administrative expenses are paid by NSPI and reimbursed from the pension fund through requests to the trustee.

2009 General Rate Application (NSUARB P-888)
NSPI Responses to Avon Information Requests

NON-CONFIDENTIAL

1 **Request IR-80:**

2

3 **With respect to page 100, DE-03, lines 1 – 5, please provide a copy of any other actuarial**
4 **information and assumptions beyond the Moreau Sobeco report at RB-02 – RB-16,**
5 **Attachment 2, used to support the pension benefit cost.**

6

7 Response IR-80:

8

9 Please refer to Attachment 1 and Attachment 2 for 2007 Actuarial Reports.

Actuarial Valuation for Accounting Purposes
as at December 31, 2007 of the

Post-Employment Benefits for Employees of
Nova Scotia Power Incorporated

February 2008

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Executive Summary

Purpose

This report presents the results of the actuarial valuation of Nova Scotia Power Incorporated ("NSPI") post-employment benefit plans for accounting purposes as at December 31, 2007. NSPI retained the services of Morneau Sobeco to perform this actuarial valuation.

This report presents the results of our calculations, and was prepared:

- > to determine the benefit cost for fiscal 2007 and the Accrued Benefit Obligation for post-employment benefits as at December 31, 2007;
- > to estimate the benefit cost to be recognized for financial statement purposes for fiscal 2008; and
- > to provide the information and the actuarial opinion required by NSPI's auditor under Section 3461 of the CICA Handbook.

The following post-employment plans are included as part of this report:

Pension: a) Employees' Pension Plan, b) the Acquired Companies Pension Plan, c) Supplementary, Executive and Discretionary pensions, and d) War Service, ERIP 86 and 91 pensions.

Non Pension: a) Long Service Award, and b) Post-Retirement Health Benefits which includes the Post-Retirement Life Insurance Plan.

We are not aware of any other post-employment benefit plan sponsored by NSPI.

Summary of Results

The following table shows the Accrued Benefit Obligation, balances of unamortized amounts and the Accrued Benefit Liability as at December 31, 2007 and December 31, 2006 with respect to the plans providing post-employment benefits for employees of Nova Scotia Power Incorporated ("NSPI"). All figures in thousands.

	December 31, 2007	December 31, 2006
Discount and Inflation Rate end of year	5.75% / 2.50%	5.25% / 2.50%
Market Value of Assets	\$640,717	\$656,503
Accrued Benefit Obligation	819,276	842,267
Surplus (Deficit)	(\$178,559)	(\$185,764)
Aggregate Unamortized Losses (Gains)		
> Transitional	11,297	13,556
> Past Service	1,601	1,786
> Actuarial Experience	192,077	213,735
Accrued Benefit Asset prior to Accrued Valuation Allowance	\$26,416	\$43,313
(Accrued Valuation Allowance)	0	0
Carrying Amount of Accrued Benefit Asset net of Accrued Valuation Allowance	\$26,416	\$43,313

Figures may not add up exactly due to rounding.

A reconciliation of the change in the Accrued Benefit Asset is as follows:

Accrued Benefit Asset as at December 31, 2006	\$43,313
(Benefit Cost) Income for 2007	(34,935)
Company Contributions for 2007	18,038
Accrued Benefit Asset as at December 31, 2007	\$26,416
(Accrued Valuation Allowance)*	0
Carrying Amount of Accrued Benefit Asset as at December 31, 2007	\$26,416

Figures may not add up exactly due to rounding.

* As at December 31, 2007, no Valuation Allowance is required

The following table shows the estimated benefit cost for 2008 as compared to the actual benefit cost for 2007. The benefit cost figures shown exclude the costs in respect of employees who have been transferred to Emera on or after January 1, 2007. The figures in respect of the employees transferred to Emera are presented in a separate report. All figures in thousands.

	Estimated 2008	Actual 2007
Costs Arising in the Period		
Employer Current Service Cost	\$12,863	\$14,558
Interest Cost	46,447	43,688
(Actual Return on Plan Assets) ¹	(47,384)	(1,555)
Amounts Arising from Events in the Period:		
> Past Service Costs / (Gains)	0	0
> Actuarial Losses / (Gains) on ABO ¹	0	(45,858)
Future Benefit Costs Before Adjustments	\$11,926	\$10,833
Adjustments to Recognize Long-Term Nature of Costs		
> Transitional Obligation / (Asset)	2,259	2,259
> Current Year Return on Assets ¹	559	(43,061)
> Past Service Costs / (Gains)	185	185
> Actuarial Losses / (Gains) other than current year return on assets ¹	12,070	64,719
Total Benefit Cost / (Income) Recognized for the Period	\$26,999	\$34,935

Figures may not add up exactly due to rounding.

1. Although the sum of these four items will not change when the benefit cost for 2008 is finalized, the total amount will be re-distributed amongst the items based on the actual experience of the post-retirement benefit plans during 2008.

Changes since the Previous Valuation

The following was the only change to the post-retirement plans during fiscal 2007:

- > Effective August 1, 2007 the long service award was closed to all new hires.

We are not aware of any other material changes to the post-retirement plans during 2007.

Furthermore, we are not aware of any planned amendments for 2008.

NSPI's management reviewed the accounting methods and assumptions and has made the following revision since the previous valuation as at December 31, 2006:

- > The discount rate of 5.75% per annum as at December 31, 2007 is based on the annualized yield of A rated bonds with the same duration as the obligations (14 years) at the valuation date. The prior valuation used a 5.25% discount rate.

There were no other changes to the actuarial assumptions since the last valuation.

Section 1 – Balance Sheet

Statement of Financial Position

The financial position of each benefit plan providing post-employment benefits is determined by comparing the value of assets available to the actuarial liability (referred to as the Accrued Benefit Obligation or ABO) for the benefits earned up to the valuation date, assuming the benefit plan continues indefinitely. We note that, as is commonly the case in Canada, NSPI has no assets backing up any of its plans providing post-employment benefits other than those in NSPI's registered pension plans.

The following table shows the Accrued Benefit Obligation as at December 31, 2007 for active employees and retirees based on the plan provisions in effect at the date this report was prepared, as summarized in Appendix C. Appendix A provides the actuarial assumptions used and details on the methodology used to determine the Accrued Benefit Obligation for active employees and retirees.

Table 1.1 Balance Sheet as at December 31, 2007 (thousands)

	Employee Plan (DC) Pension	Employee Plan (DB) Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Assets (MV)	\$0	\$600,462	\$40,255	\$0	\$0	\$0	\$0	\$640,717
Accrued Benefit Obligation	144	693,631	40,624	30,971	13,051	17,295	23,560	819,276
Surplus	(\$144)	(\$93,169)	(\$369)	(\$30,971)	(\$13,051)	(\$17,295)	(\$23,560)	(\$178,559)
Unamortized Transitional Losses (Gains)	0	(3,928)	(2,048)	2,983	3,099	4,079	7,112	11,297
Unamortized Past Service	0	(999)	0	530	0	0	2,070	1,601
Unamortized Actuarial Losses (Gains)	0	165,869	16,136	5,891	2,295	2,719	(833)	192,077
Accrued Benefit Asset	(\$144)	\$67,774	\$13,719	(\$21,567)	(\$7,657)	(\$10,498)	(\$15,211)	\$26,416

Figures may not add up exactly due to rounding.

There is no accrued valuation allowance as at December 31, 2007.

1. Normally there is no balance sheet asset or liability in respect of the DC component of the Employee Pension Plan. However, an ABL has emerged because actual company contributions credited to individual member accounts under the DC Provision in 2007 exceeded the contributions allocated as NSPI contributions to the DC Provision for accounting purposes.

Appendix A summarizes the assumptions used for this valuation, determined by NSPI in accordance with CICA 3461. Detailed figures are presented in Appendix D.

Section 2 – Income Statement

Plan Benefit cost

The net benefit cost of a post-employment plan for a fiscal year is the sum of the following components:

(A) Costs Arising in the Period

- > Current service cost;
- > Interest cost on liabilities;
- > (Actual return on the market value of Plan assets)¹;
- > Past service costs / (gains)²;
- > Actuarial losses / (gains) on liabilities³;
- > Other costs such as special termination benefits

(B) Adjustments to Recognize Long-Term Nature of Costs

- > Amortization of the transitional obligation (asset);
- > Impact of deferred recognition on the current year return on Plan assets¹;
- > Impact of deferred recognition on past service costs²;
- > Impact of deferred recognition on actuarial losses / (gains) on liabilities³;
- > Amortization of initial valuation allowance; and
- > Current year change in required valuation allowance

Notes:

As a result of changes to CICA 3461 during 2004, a number of expense components shown previously must now be shown separately as two components to derive the benefit cost:

- 1. The sum of these components previously shown as Expected Return on Assets.*
- 2. The sum of these components previously shown as Amortization of Past Service Costs.*
- 3. The sum of these components previously shown as Amortization of Net Actuarial Loss (Gain).*

Table 2.1 shows the reported benefit cost (in thousands) for fiscal year 2007.

Table 2.1 Benefit cost (Income) for 2007 (thousands)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Costs Arising in the Period							
Current Service Cost	\$12,801 ¹	\$0	\$249	\$0	\$923	\$585	\$14,558
Interest Cost	37,156	2,222	1,575	692	924	1,119	43,688
(Actual Return on Assets)	(900)	(655)	0	0	0	0	(1,555)
Events in the Period:							
> Past Service Costs / (Gains)	0	0	0	0	0	0	0
> Actuarial Losses / (Gains) on ABO	(43,659)	(1,796)	(1,673)	(192)	(68)	1,530	(45,858)
Future Benefit Costs Before Adjustments	\$5,398	(\$229)	\$151	\$500	\$1,779	\$3,234	\$10,833
Adjustments to Recognize Long-Term Nature of Costs							
> Transitional Obligation / (Asset)	(786)	(409)	596	620	816	1,422	2,259
> Current Year Return on Assets ²	(40,626)	(2,435)	0	0	0	0	(43,061)
> Past Service Costs ³	(134)	0	89	0	0	230	185
> Actuarial Losses / (Gains) on ABO ³	60,602	3,024	2,151	314	179	(1,551)	64,719
Total Benefit Cost (Income)	\$24,454	(\$49)	\$2,987	\$1,434	\$2,774	\$3,335	\$34,935

Figures may not add up exactly due to rounding.

1. Employee Plan current service cost shown above includes both DB and DC components.

2. Actual return on plan assets, less expected return on plan assets determined on a market related basis.

3. Equal to (a) current year amortization of (gain)/loss less (b) (gain)/loss incurred in the current year.

There is no Valuation Allowance required in respect of 2007 reporting.

Table 2.2 shows the development of projected benefit cost (in thousands) for fiscal year 2008.

Table 2.2 Estimated Benefit Cost (Income) for 2008 (thousands)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Costs Arising in the Period							
Current Service Cost	\$11,034 ¹	\$0	\$250	\$0	\$916	\$663	\$12,863
Interest Cost	39,502	2,212	1,735	713	963	1,322	46,447
(Actual Return on Assets) ²	(44,486)	(2,898)	0	0	0	0	(47,384)
Events in the Period:							
> Past Service Costs / (Gains)	0	0	0	0	0	0	0
> Actuarial Losses / (Gains) on ABO ²	0	0	0	0	0	0	0
Future Benefit Costs Before Adjustments	\$6,050	(\$686)	\$1,985	\$713	\$1,879	\$1,985	\$11,926
Adjustments to Recognize Long-Term Nature of Costs							
> Transitional Obligation / (Asset)	(786)	(409)	596	620	816	1,422	2,259
> Current Year Return on Assets ²	671	(112)	0	0	0	0	559
> Past Service Costs	(134)	0	89	0	0	230	185
> Actuarial Losses / (Gains) on ABO ²	10,546	1,047	279	99	99	0	12,070
Total Benefit Cost (Income)	\$16,347	(\$160)	\$2,949	\$1,432	\$2,794	\$3,637	\$26,999

Figures may not add up exactly due to rounding.

1. Employee Plan current service cost shown above includes both DB and DC components.

2. Although the sum of these four items will not change when the benefit cost for 2008 is finalized, the total amount will be re-distributed amongst the items based on the actual experience of the post-retirement benefit plans during 2008.

There is no valuation allowance expected in respect of 2008 reporting.

Please refer to Appendix D for additional details for projected 2008 benefit cost and the sensitivity of the ABO and current service cost to a 25 basis point discount rate change. Appendix D also contains the sensitivity of the ABO as at December 31, 2007 and combined current service and interest cost for 2008 to a 100 basis point change in the health care trend rate.

Aside from applying consistent methodology and assumptions, the calculation of benefit cost for each of NSPI's post-employment plans was determined independently from all other post-employment plans. Detailed benefit cost calculations and details of amortization schedules are presented in Appendix D. The following is a brief explanation of accounting terms.

As a result of new CICA 3461 accounting disclosure requirements, effective July 1, 2004, the presentation of the benefit cost (previously known as benefit expense) was changed in the December 31, 2004 accounting report. The new disclosure separates some terms in the benefit cost into two items (one relating to the cost of any event arising in the period and the second the adjustment to arrive at the cost recognized during the period) where one disclosure item was used previously. The following descriptions relate to the prior disclosure and additional comments are provided, where appropriate, to indicate where this item has been split into two components under the new disclosure requirements.

Employer Current Service Cost

The employer current service cost for the year is determined as follows:

- > in respect of active members who are at or past the full eligibility date, and in respect of retirees: none, and
- > in respect of active members who have not reached the full eligibility date: the portion of the actuarial present value of all future benefits payable by the employer on behalf of the member and his/her dependants which is attributed to the year following the valuation date. The actuarial present value is attributed uniformly over the years from the date of hire to the full eligibility date.

The actuarial methodology and assumptions summarized in Appendix A indicate how employer current service costs were computed for each of fiscal 2007 and 2008.

Interest Cost

To calculate the interest cost, interest for one year is credited on the Accrued Benefit Obligation, and interest for one-half of one year is credited on the total current service cost. Pension and claim payments are assumed to be made in the middle of the fiscal year.

Expected Return on Assets

To calculate the expected return on a Plan's assets, investment income for one year is credited based on the 5-year market related value of assets, and investment income for one-half of one year is credited on pension or claim payments, and contributions expected to be made during the fiscal year.

In the benefit cost tables shown above, the sum of the actual return on assets and the impact of deferred recognition on the current year return on assets is equal to the expected return on assets.

Amortization of Transitional Obligation

In accordance with the accounting standards, the value of the surplus less any Accrued Benefit Asset at the date of application of the standards is the transitional asset, or if negative, the transitional obligation. Under the prospective approach, this transitional obligation is normally amortized over the average remaining service period ("ARSP") of active employees. For NSPI, the ARSP as at January 1, 2000, the date of adoption of CICA 3461, was 13 years.

Amortization of Past Service Costs

Past service costs arising from plan amendments are amortized over the ARSP until full eligibility. The same ARSP was used for all benefit plans as the membership is materially the same.

In the benefit cost tables shown above, the sum of the past service costs arising in the period and the impact of deferred recognition on the past service costs is equal to the amortization of past service costs during the period.

Amortization of Net Actuarial Loss (Gain)

Under the accounting standards, actuarial gains and losses in a year may be combined with the unamortized balance of gains or losses from prior years. As discussed in CICA Section 3461.090, actuarial gains and losses on investments that are not yet reflected in the market related value of assets are not subject to amortization. The amount of unamortized gain or loss (net of the investment gain or loss not yet subject to amortization) that exceeds 10% of the greater of the plan's market related value of assets or Accrued Benefit Obligation is divided by ARSP and recognized in the current year benefit cost. The ARSP as at December 31, 2007 is 10 years.

In the benefit cost tables shown above, the sum of the actuarial loss on the ABO arising in the period and the impact of deferred recognition on the actuarial loss on the ABO is equal to the amortization of net actuarial losses during the period.

Amortization of Change in Carrying Amount of Accrued Benefit Asset on Adoption of CICA 3461 ("Initial Valuation Allowance")

In accordance with the accounting standards, the change in the limit on the carrying amount of the Accrued Benefit Asset on adoption of CICA 3461 ("Initial Valuation Allowance") may be amortized on the same basis as the transitional obligation.

Valuation Allowance

In accordance with CICA 3461, there may be limits on the carrying amount of an Accrued Benefit Asset. Currently, under the Employees' plan, NSPI's Accrued Benefit Asset will, upon full amortization of the Initial Valuation Allowance, be limited to half of the plan surplus.

Our understanding of CICA 3461 is that the difference between

- > the Adjusted Benefit Asset (equal to surplus if there are net unamortized losses, or the Accrued Benefit Asset if there are net unamortized gains), and
- > the expected future benefit

is equal to the sum of:

- > the accrued Valuation Allowance, and
- > the unamortized Initial Valuation Allowance.

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Any change in the Valuation Allowance (other than the Initial Valuation Allowance) must be recognized immediately in income. The required Valuation Allowance for 2008 is based on figures projected to the end of 2008. Based on these projections, a Valuation Allowance will not be required; however the necessity of a Valuation Allowance should be reviewed at the time December 31, 2008 disclosure figures are prepared.

The permitted carrying amount of the Accrued Benefit Asset is equal to the Accrued Benefit Asset less the accrued Valuation Allowance.

Section 3 – Actuarial Opinion

The following opinion is with respect to the plans providing post-employment benefits for employees of Nova Scotia Power Incorporated (“NSPI”).

Valuations of the Employee and Acquired Companies pension plans, supplemental and executive benefits, ERIP 86 and 91 and War Service pensions, long service award, post-employment health benefits, and post-employment life insurance were performed as at December 31, 2007. Each valuation was based on the plan provisions and data as at December 31, 2007. We are not aware of any other post-employment plans sponsored by NSPI.

We have confirmed with NSPI that since the valuation date, there are neither plan modifications nor any extraordinary changes to the membership that would materially affect the results of the actuarial valuations.

We hereby certify that, in our opinion, as at December 31, 2007:

- a) The post-employment benefits for employees of NSPI are defined benefits for purposes of Section 3461 of the *CICA Handbook*.
- b) Our valuation and extrapolation thereof has been made in accordance with the standards of the Canadian Institute of Actuaries. The financial statement items resulting from our valuation and extrapolation thereof have been determined in accordance with our understanding of Section 3461 of the *CICA Handbook*.
- c) Our valuation thereof was performed using best-estimate assumptions developed by NSPI as at December 31, 2007. These assumptions are described in our valuation report and are summarized in Appendix A.
- d) The total Accrued Benefit Obligation is \$819.276 million and the total market value of assets is \$640.717 million for a deficit of \$178.559 million. The unamortized loss, past service cost and transitional obligations, net of unamortized gains and transitional assets is \$204.975 million. The accrued Valuation Allowance is \$0. The Carrying Amount of the Accrued Benefit Asset is \$26.416 million. (Figures are rounded and may not add up exactly due to rounding.)
- e) The average remaining service period for active members is 10 years. This is also a reasonable proxy of the average expected life expectancy in benefits plans that are comprised primarily of retirees. After application of the 10% corridor, actuarial gains and losses for each benefit plans is amortized over 10 years.
- f) We have confirmed with NSPI that the plan provisions are up to date as at the date of this report. We are not aware of any events that could have a significant effect on our valuation or on NSPI’s financial statements.

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- g) Fiscal 2007 benefit cost is \$34.935 million.
- h) Fiscal 2008 benefit cost is estimated to be \$26.999 million.
- i) We are aware that NSPI's auditors may rely on this report for the preparation of NSPI's financial statements.

Furthermore, we hereby declare that in our opinion:

- > The data upon which this valuation is based are sufficient and reliable for the purposes of the valuation; and
- > NSPI management have selected the assumptions and they are in accordance with accepted actuarial practice; and
- > This report has been prepared, and our opinion given, in accordance with generally accepted actuarial practice.


Emerging experience, differing from assumptions will result in gains and losses, which will be revealed in future valuations.

We are available, at your convenience, to provide you with any additional information that you may require.

Respectfully submitted,



Paul Chang, F.S.A., F.C.I.A.



Michael Delaney, A.S.A.

MORNEAU SOBECO
February 15, 2008

Appendix A – Actuarial Assumptions and Methods

Actuarial Cost Method

For all active employees, the Accrued Benefit Obligation and the current service cost were calculated using the “projected benefit method pro-rated on service”.

According to this method, the Accrued Benefit Obligation is equal to the actuarial present value of all future benefits (net of any employee cost sharing for OPEBs), taking into account the assumptions described below, multiplied by the ratio of an employee’s service at the valuation date to total service at the retirement date. The current service cost for a period is equal to the actuarial present value of benefits attributed to employees’ services rendered in that period.

To determine the actuarial present value of post-retirement health benefits, the expected true costs were projected into the future in respect of each member applying both age-related utilization rates and the assumed trend (i.e., health care inflation) rates. In addition, each member’s expected contributions (i.e., premium) was projected into the future based on health care inflation. The actuarial present value of NSPI’s portion of the cost of the post-employment health plan is the difference between the actuarial present value of the total cost and the actuarial present value of the member’s contributions.

Assets

Employee and Acquired pension plan assets are taken at market value from the draft audited financial statements. There are no assets in respect of the other plans.

To determine the expected return on assets, we used a 5 year market-related value of assets and assumed that all cash flows would occur at mid-year.

Actuarial Assumptions

The actuarial assumptions used for the valuation are summarized in the following table. All rates and percentages are annualized unless otherwise noted. All assumptions used are management’s best estimates. The discount rate was based on the annualized yield of A rated bonds at the valuation date with the same duration as the obligations (14 years).

Table A.1 Actuarial Assumptions – Economic Factors

	December 31, 2007 Disclosure and 2008 Benefit Cost	December 31, 2006 Disclosure and 2007 Benefit Cost
Discount Rate	5.75%	5.25%
General Inflation	2.50%	2.50%
YMPE	3.00%	3.00%
	Under 30: 5.50%	Under 30: 5.50%
	30 to 34: 5.00%	30 to 34: 5.00%
	35 to 39: 4.50%	35 to 39: 4.50%
Salary Increases	40 to 44: 4.00%	40 to 44: 4.00%
	45 to 49: 3.50%	45 to 49: 3.50%
	50 and above: 3.00%	50 and above: 3.00%
Increase in maximum Pension in registered plan per year of service	\$2,222 for 2007, \$2,333 for 2008, \$2,444 for 2009 and \$2,444 indexed starting in 2010 at 3.00% per annum	\$2,222 for 2007, \$2,333 for 2008, \$2,444 for 2009 and \$2,444 indexed starting in 2010 at 3.00% per annum
Return on Employee Plan Assets	7.50%	7.50%
Return on Acquired Plan Assets	7.50%	7.50%
Extended Health Care Inflation	7.00% for next year (premium increase effective Jan 2009), decreasing in years 2 through 4 by 1% per year with a long-term ultimate rate of 4.00%	8.00% for next year (premium increase effective Jan 2008), decreasing in years 2 through 5 by 1% per year with a long-term ultimate rate of 4.00%
Dental Inflation	4.00%	4.00%

Table A.2 Actuarial Assumptions – Demographic Factors

	December 31, 2007 Disclosure and 2008 Benefit cost	December 31, 2006 Disclosure and 2007 Benefit cost
Mortality	1994 Uninsured Pensioners Mortality Table projected to 2015 using Projection Scale AA (UP94@2015) Sex Distinct Post-retirement only	1994 Uninsured Pensioners Mortality Table projected to 2015 using Projection Scale AA (UP94@2015) Sex Distinct Post-retirement only
Termination	5% per annum up to age 50	5% per annum up to age 50
Disability Rates	None assumed	None assumed
Retirement Rates	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award *Age 58 was used for the valuation of the new post- retirement health plan and life insurance benefits ³	Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award *Age 58 was used for the valuation of the new post- retirement health plan and life insurance benefits ³
Spouse Age Difference	Women 3 years younger	Women 3 years younger
Health Care Relative Utilization ¹	Please see table A.3 below	Please see table A.3 below
Percentage Married	85% at retirement	85% at retirement
Members Electing Life Insurance Benefits at Retirement	100% for any member who has more than 15 years of service at retirement	100% for any member who has more than 15 years of service at retirement
Members Electing Health Coverage at Retirement	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ²	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ²
Coverage Elected at Retirement	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single

1. Used to estimate average medical and drug costs at different ages (drug coverage ceases at age 65).

2. The data used for the post-employment health care valuation includes only those active members who currently have health coverage – such members represent 90% of all active employees at NSPI – the assumed likelihood that an active employee who currently has coverage and who retires from NSPI takes post-retirement coverage is 85% resulting in an overall take up rate for all employees (with or without current coverage) of 75% (approximately equal to 0.85×0.9).

3. It is advantageous to move to the new health plan only if an employee intends to retire early; therefore we assume such members will retire, on average, at an earlier age.

Table A.3 Health Care Relative Utilization Factors

Age	Hospital & EHB	Drug Coverage	Dental Coverage
40	46%	42%	90%
45	53%	56%	88%
50	61%	74%	86%
55	78%	86%	83%
60	100%	100%	81%
64	122%	113%	80%
65	128%	N/A	N/A
70	163%	N/A	N/A
75	239%	N/A	N/A
80	352%	N/A	N/A
85	517%	N/A	N/A

Example: The cost for Hospital and EHB for a 64 year old is 122% of the cost for a 60 year old.

Calculation of Medical Cost

Development of Utilization Factors

Manulife Financial provided claims amounts for hospital & EHB, and drugs for the period from August 1, 2001 to July 31, 2002 by quinquennial age bands. Using the number of members within each age band, we determined the amount of claims per member for each age band. From this we found the relative age based utilization factors for each quinquennial age band. We then extrapolated integer age based utilization factors from the quinquennial results. As there were insufficient post-1991 retirees over age 75 to establish a reliable utilization scale over such age, the utilization scales beyond age 75 were estimated based on industry statistics. We did not have details of the dental claims amount and have used utilization factors which are based on industry statistics.

Existing Post-Retirement Health Plan - NSPI members

Effective 2003, the annualized premiums for retirees are experience rated amongst retirees only. Previously the actives and retiree premiums were experience rated as a single group, and the same premium was paid by both retirees and actives. The member's portion (50% of total cost) of the annualized premiums charged as at January 1, 2008 (including the approximate 20% increase as at January 1, 2008) for the NSPI Health plan is \$818 for single coverage and \$2,047 for family coverage. The experience report also shows that approximately 85% of claims are related to drugs, with the remaining 15% for hospital and extended health care.

Based on the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total expected claims at each age less member's paid premium) for 2008 at each age:

Age	Single	Family
50	\$987	\$2,465
55	\$1,288	\$3,218
60	\$1,642	\$4,102
65	(\$568)	(\$1,423)
70	(\$499)	(\$1,251)
75	(\$350)	(\$877)
80	(\$130)	(\$328)
85	\$193	\$479

Based on the premiums provided by Manulife, we updated the estimated employer cost (as compared to our prior valuation). Based on the ratio of the family to the single premium being charged by Manulife, and a fully experienced retiree only group, we continue to assume that the total cost for family coverage is approximately 2.5 times the single cost. A negative amount means that the retiree's premium exceeds the estimated average claims at that particular age.

New Post-Retirement Health Plan - NSPI members

Effective January 1, 2004, a new health benefit plan for retirees was introduced. Please refer to Appendix C for details of the new retiree health plan. We understand that this plan will be rated separately from the existing plan and retirees and actives will be rated as one group within the new plan. As there are currently an insufficient number of retirees under the new plan, we have used the same drug and hospital utilization factors as for the old plan. The dental utilization factors were developed based on the experience under the new plan only.

NSPI provided us with the total annualized premiums charged as at January 1, 2008 for the new NSPI Health plan as \$1,034 for single coverage and \$3,169 for family coverage, and new Dental plan as \$381 for single coverage and \$845 for family coverage. This represents a 26% increase in the Health plan premiums and no change in the Dental plan premiums from the premiums charged as at January 1, 2007. Based on the premiums provided, and the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total cost less member's premium) for 2008 at each age for an employee who will pay 50% of the benefit plan premium in retirement:

Age	Health Single	Health Family*	Dental Single	Dental Family*
50	\$694	\$2,050	\$183	\$398
55	\$905	\$2,683	\$173	\$377
60	\$1,155	\$3,431	\$164	\$358
64	\$1,387	\$4,128	\$157	\$342
65**	\$0	\$0	\$0	\$0

* In addition to family coverage, there is "couple coverage", employer health and dental costs for couple coverage is approximately 2 times the single health cost shown.

** No coverage after age 65.

Note that under the new post-retirement benefit plan, the actual percentage of the costs paid by the employer varies by the member's years of service at retirement. The costs shown above would need to be adjusted accordingly for members who do not receive 50% cost sharing. (Please contact us if you require such figures).

Pre-1992 Retirees

Since NSPI's liability in respect of former NSPI employees who retired under the PSSP is based on the amount of premium assessed by the Province, we have determined the accrued benefit obligation in respect of these members by determining the present value of premiums. Such premiums are assumed to increase at the health inflation rates, but no age utilization factor is applied. Annualized employer (65% of total) premiums as at January 1, 2008 (this represents no change from the January 1, 2007 premiums) are as follows:

	Policy 5138	Policy 6000	Policy 6500
Single	\$202	\$675	\$359
Family	\$514	\$1,498	\$720

We assumed that the above premiums for pre-1992 retirees would follow the extended health care inflation assumption set out in table A.1 for future years.

Calculation of Life Insurance Cost

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan. We were not provided with specific data relating to this life insurance coverage however we have compiled membership data as at December 31, 2007 using the data provided by NSPI for the new health plan and earnings provided for the long service award valuation.

We determined the actuarial present value of the true cost of the future post-retirement life insurance for each member. For active employees this value was multiplied by the ratio of their service at the valuation date to total service at their retirement date. The actuarial present value of NSPI's portion of the cost of post-retirement life insurance coverage was determined for each individual based on the plan's cost-sharing formula which uses the employee's expected service at retirement, or the actual cost-sharing percentage as provided by NSPI in the case of the retired members. Please refer to Appendix D for a more detailed description of the provisions of the subsidized post-retirement life insurance.

Valuation Allowance

For purposes of estimating the Valuation Allowance required for fiscal 2008, we estimated the December 31, 2008 ABO for the Employee's Pension Plan (DB component only) to be \$719.84 million. This was based on the December 31, 2007 ABO figure of \$693.631 million projected forward with estimated current service cost, interest, less benefit payments. The Employee's Pension Plan

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assets (DB component only), on a market value basis, projected to December 31, 2008 is estimated to be \$630.33 million.

As a result, the Plan's ABO exceeds the assets as at December 31, 2008 (i.e., the Plan's "adjusted benefit asset" is less than 0 and there is no "expected future benefit" – as those terms are defined in CICA subsections 3461.101) and no Valuation Allowance is projected to be required. A determination based on actual December 31, 2008 ABO and assets will be required to finalize the amount of Valuation Allowance for 2008.

Appendix B – Membership Data

Description of Pension Plan Membership Data

Our valuation of the pension plans as at December 31, 2007 was based on valuation data as at December 31, 2007.

We have performed tests to verify reasonableness and internal consistency and are satisfied that the data is sufficient and reliable for the purposes of this valuation. Basic statistics on the Employee and Acquired plan data are shown in the table below:

Table B.1

	Employee Plan (DB)	Acquired Companies	Exec, Discretionary	War Svc, ERIP 1986, ERIP 1991
Actives (including LTD)				
Number	1,516*	6	20	N/A
Average age	45.7	57.4	49.1	N/A
Average credited service	15.9	3.3	14.5	N/A
Average 2007 earnings	\$58,689	\$70,316	< >	N/A
Pensioners (including survivors)				
Number	972	684	320	333
Average age	62.5	76.2	67.0	78.8
Average annual lifetime pension	\$20,656	\$6,291	\$5,004	\$3,923
Average annual bridge (averaged over all pensioners)	\$4,491	\$0	\$780	\$0

* Includes 54 members on LTD and 41 members who switched to the DC component of the Plan in respect of service after July 1, 2001. Also includes 18 members who have been transferred to Emera on or after January 1, 2007 and whose benefits accrued after the date of transfer will be the sole responsibility of Emera as a participating employer under the Employee Plan. Note that 1 of the 18 Emera employees is a member who switched to DC in 2001.

< > Some earning figures not shown to protect confidentiality.

Pension figures include the January 1, 2008 cost of living adjustment.

Data for the War Service, Executive Plan, Discretionary Plan, and ERIP 1986 and 1991 were provided by NSPI. Please refer to the actuarial reports for funding purposes as at December 31, 2007 for additional data information for the Employees' Pension Plan and the Acquired Companies Pension Plan.

The following tables summarize the key data used in our valuation.

Table B.2 Employee Plan Active Members

Age	Credited Service	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 plus	Total
Under 25	Count	37							37
	Avg Credited	0.7							0.7
	Avg 2007 Earnings	35,344							35,344
25 to 29	Count	57	10						67
	Avg Credited	1.4	6.5						2.2
	Avg 2007 Earnings	42,604	47,362						43,314
30 to 34	Count	81	44						125
	Avg Credited	1.7	6.9						3.5
	Avg 2007 Earnings	50,600	46,878						49,290
35 to 39	Count	85	46	14	28				173
	Avg Credited	1.9	7.5	11.7	17.4				6.7
	Avg 2007 Earnings	53,249	55,226	59,201	60,334				55,403
40 to 44	Count	46	50	11	70	43	4		224
	Avg Credited	2.0	7.5	11.4	17.9	21.6	25.5		12.8
	Avg 2007 Earnings	53,590	60,812	54,404	64,706	65,462	47,771		60,891
45 to 49	Count	36	69	13	46	78	61	6	309
	Avg Credited	2.1	7.5	11.1	18.0	22.0	27.0	30.5	16.5
	Avg 2007 Earnings	52,563	59,300	74,436	66,551	63,728	67,112	59,410	62,893
50 to 54	Count	13	36	7	30	53	85	157	381
	Avg Credited	2.4	7.4	11.5	17.5	22.5	27.7	32.4	25.0
	Avg 2007 Earnings	83,854	59,428	44,019	59,188	59,941	70,949	63,921	64,453
55 to 59	Count	10	14	4	14	22	36	57	157
	Avg Credited	1.4	7.3	12.5	18.1	22.2	27.3	32.9	24.0
	Avg 2007 Earnings	55,083	51,192	53,016	48,065	57,157	56,225	64,723	58,110
60 plus	Count	1	5	1	10	5	9	12	43
	Avg Credited	< >	8.1	< >	18.3	21.8	27.8	32.9	23.1
	Avg 2007 Earnings	< >	50,558	< >	54,365	43,042	44,451	59,422	52,649
Total	Count	366	274	50	198	201	195	232	1,516
	Avg Credited	1.7	7.3	11.5	17.8	22.1	27.4	32.5	15.9
	Avg 2007 Earnings	50,366	55,905	59,590	61,981	61,867	65,332	63,769	58,689

Some earnings figures hidden to protect confidentiality.

Age is rounded down to the nearest birthday.

Avg. Credited is the number of years credited for pension plan purposes (rounded down to the nearest integer).

The salary used is the annualized pensionable salary for the year ending December 31, 2007.

Includes 54 members on LTD and 41 members who switched to the DC component of the Plan in respect of service after July 1, 2001.

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Table B.3 Employees' Plan Pensioners

Nearest Age	Count	Average Annual Pension	Average Annual Bridge	Average Annual Benefit	Total Benefit Payable
Under 25	16	-	1,701	1,701	27,209
25 to 49	10	10,035	1,196	11,231	112,312
50	3	15,476	2,496	17,972	53,915
51	4	12,683	739	13,422	53,686
52	3	6,291	849	7,140	21,420
53	3	15,762	3,321	19,083	57,250
54	5	10,549	1,428	11,977	59,884
55	19	22,954	6,978	29,932	568,710
56	42	28,505	8,617	37,122	1,559,108
57	37	25,234	8,685	33,919	1,255,001
58	53	25,233	8,100	33,333	1,766,641
59	73	23,141	7,179	30,320	2,213,354
60	90	22,731	7,664	30,396	2,735,605
61	81	21,323	7,395	28,718	2,326,170
62	60	23,769	7,183	30,952	1,857,110
63	61	19,686	6,691	26,377	1,608,969
64	41	21,170	6,713	27,884	1,143,224
65	44	18,769	2,469	21,237	934,447
66	47	18,156	111*	18,266	858,520
67	42	19,258	-	19,258	808,839
68	45	18,190	97*	18,286	822,875
69	47	19,523	109*	19,632	922,722
70	35	22,869	-	22,869	800,398
71	33	19,433	-	19,433	641,296
72	23	13,803	-	13,803	317,470
73	9	14,968	-	14,968	134,709
74	13	21,292	-	21,292	276,791
75	12	12,749	-	12,749	152,988
76	3	13,316	-	13,316	39,947
77	5	16,408	-	16,408	82,039
78	3	20,591	-	20,591	61,774
79	6	18,665	-	18,665	111,991
80	3	16,383	-	16,383	49,148
81	1	< >	< >	< >	< >
Average		\$20,656	\$4,491	\$25,147	
Total	972				\$24,442,796

Figures shown above include January 1, 2008 cost of living adjustment.

* Bridge payable to surviving spouse.

< > Some figures not shown to protect confidentiality.

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Table B.4 Acquired Plan Pensioners

PART I				PART II		
Nearest Age	Count	Average Annual Benefit	Total Benefit Payable	Count	Average Annual Benefit	Total Benefit Payable
Less than 55	2	< >	< >	0	-	-
55 to 59	14	813	11,383	9	1,571	14,137
60	16	634	10,150	1	< >	< >
61	21	1,182	24,814	3	623	1,868
62	13	1,995	25,934	5	1,961	9,807
63	17	2,238	38,044	2	< >	< >
64	12	2,940	35,281	4	2,240	8,959
65	11	2,665	29,316	4	5,445	21,782
66	8	3,720	29,759	1	< >	< >
67	9	3,250	29,252	1	< >	< >
68	7	4,241	29,685	4	4,384	17,537
69	14	4,178	58,488	12	4,987	59,842
70	10	4,029	40,286	6	5,767	34,603
71	13	5,483	71,283	8	3,126	25,009
72	15	6,063	90,944	7	3,839	26,876
73	11	4,552	50,074	5	5,778	28,890
74	21	8,304	174,384	5	7,264	36,321
75	11	8,907	97,980	5	4,939	24,695
76	19	8,561	162,653	7	5,785	40,497
77	18	9,753	175,562	8	8,432	67,459
78	17	5,987	101,778	11	5,061	55,675
79	14	11,535	161,486	10	6,691	66,908
80	21	10,924	229,412	5	3,873	19,366
81	18	9,629	173,330	5	8,677	43,386
82	23	8,511	195,760	9	9,293	83,636
83	14	11,256	157,584	9	5,020	45,184
84	16	11,685	186,960	6	5,134	30,803
85 to 89	58	9,429	546,875	24	6,604	158,495
90 to 94	36	7,535	271,266	11	4,222	46,439
95 and over	12	6,141	73,688	6	5,036	30,216
AVERAGE		\$6,696			\$5,261	
TOTAL	491		\$3,287,679	193		\$1,015,397

Figures shown above include January 1, 2008 cost of living adjustment.
 < > Some figures not shown to protect confidentiality.

Table B.5 Exec and Discretionary Pensions

Nearest Age	Count	Avg. Annual Pension	Avg. Bridge Pension	Avg. Benefit	Total Benefit
50 to 54	1	< >	< >	< >	< >
55 to 59	24	4,719	1,159	5,878	141,083
60	26	3,877	1,435	5,312	138,101
61	40	4,553	1,387	5,940	237,595
62	29	6,272	1,380	7,651	221,888
63	33	3,537	1,355	4,893	161,457
64	24	4,116	1,354	5,470	131,284
65	19	3,613	439	4,052	76,987
66	15	4,174	60*	4,234	63,507
67	11	7,201	-	7,201	79,209
68	12	< >	< >	< >	< >
69	9	3,173	99*	3,273	29,453
70	5	3,748	-	3,748	18,739
71	7	2,872	-	2,872	20,101
72	3	2,410	-	2,410	7,229
73	2	< >	< >	< >	< >
74	2	< >	< >	< >	< >
75	2	< >	< >	< >	< >
76	3	1,670	-	1,670	5,010
77	0	-	-	-	-
78	4	4,896	-	4,896	19,583
79	6	4,063	-	4,063	24,376
80	4	1,523	-	1,523	6,091
81	5	3,465	-	3,465	17,327
82	2	< >	< >	< >	< >
83	5	1,854	-	1,854	9,270
84	5	3,046	-	3,046	15,231
85 to 89	18	2,243	-	2,243	40,378
90 to 94	3	4,519	-	4,519	13,558
95 plus	1	< >	< >	< >	< >
AVERAGE		\$5,004	\$780	\$5,784	
TOTAL	320				\$1,850,786

Figures shown above include January 1, 2008 cost of living adjustment.

* Bridge payable to surviving spouse.

< > Some figures not shown to protect confidentiality.

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Table B.6 War Service and ERIP 1986 and 1991 as at December 31, 2007

War Service				ERIP 1986 and 1991			
Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable	Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable
74	1	< >	< >	65	1	< >	< >
76	7	1,746	12,225	66	1	< >	< >
77	1	< >	< >	67	1	< >	< >
78	2	< >	< >	69	3	3,148	9,444
79	3	1,051	3,153	70	1	< >	< >
80	3	1,305	3,914	71	9	4,148	37,335
81	2	< >	< >	72	20	4,331	86,626
82	7	3,036	21,250	73	15	4,366	65,488
83	4	1,347	5,388	74	21	5,015	105,305
84	13	2,826	36,732	75	18	4,647	83,651
85	6	2,984	17,906	76	27	4,531	122,349
86	5	3,109	15,546	77	36	3,857	138,866
87	8	3,417	27,340	78	14	3,556	49,790
88	4	6,337	25,347	79	20	3,630	72,591
89	5	4,156	20,780	80	18	3,756	67,601
90	7	4,538	31,768	81	13	4,143	53,860
91	3	9,891	29,672	82	11	5,389	59,278
92	1	< >	< >	83	9	3,772	33,944
93	1	< >	< >	84	6	2,697	16,184
98	1	< >	< >	85	3	1,886	5,658
100	1	< >	< >	86	1	< >	< >
Average		\$3,330		Average		\$4,127	
Total	85		\$283,009	Total	248		\$1,023,396

Figures shown above include indexing as at January 1, 2008.

There are no bridge benefits.

< > Some figures not shown to protect confidentiality.

Description of Health Plan Membership Data

Employee data for health benefits was provided by NSPI as at December 31, 2007. We have taken the following steps to review the data to ensure sufficiency and reliability:

- > The data for actives and post 1991 pensioners was compared to the pension valuation data as at December 31, 2007 for reasonableness. Approximately 90% of pension plan active members are enrolled in the health program, and 75% of pension plan retirees are enrolled in the health coverage. This is reasonable since there is an employee cost share component for the coverage.
- > The data for selected active members and post 1991 pensioners were cross-referenced with the pension plan data and found to be consistent.
- > We reviewed the data counts and age distributions in respect of pre-1992 retirees for whom NSPI reimburses the Province of Nova Scotia for health benefits, against actual data as at December 31, 2004 and they are consistent.

Table B.7 NSPI Active Members Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	8	7	26.8
30 – 34	11	16	33.1
35 – 39	11	30	37.9
40 – 44	16	65	42.6
45 – 49	15	90	47.6
50 – 54	13	107	52.5
55 – 59	9	44	57.0
60 – 64	4	22	62.0
Total	87	381	47.5

Includes 7 members who have been transferred to Emera on or after January 1, 2007 and have a total of 6 years of service with Emera.

Table B.8 NSPI (Post – 91) Pensioners Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage	Average Age Within Age Band
< 50	0	3	44.6
50 – 54	8	4	52.8
55 – 59	23	97	58.3
60 – 64	55	165	62.2
65 – 69	31	108	67.3
70 – 74	18	37	71.9
75 – 79	7	6	77.2
> 80	2	0	84.3
Total	144	420	62.9

Table B.9 NSPI Active Members Enrolled in New Health Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	65	20	9	25.9
30 – 34	26	23	52	32.4
35 – 39	33	17	83	37.5
40 – 44	24	13	88	42.7
45 – 49	28	39	108	47.3
50 – 54	36	84	118	52.8
55 – 59	9	61	22	57.0
60 – 64	5	8	0	61.6
Total	226	265	480	44.2

Includes 16 members who have been transferred to Emera on or after January 1, 2007 and have a total of 12.5 years of service with Emera.

Table B.10 NSPI Active Members Enrolled in New Dental Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	64	21	10	25.9
30 – 34	24	28	50	32.4
35 – 39	33	18	83	37.5
40 – 44	23	16	87	42.6
45 – 49	28	39	111	47.3
50 – 54	35	78	117	52.8
55 – 59	13	59	19	57.0
60 – 64	5	7	0	61.6
Total	225	266	477	44.1

Includes 16 members who have been transferred to Emera on or after January 1, 2007 and have a total of 12.5 years of service with Emera.

Table B.11 NSPI (Post – 91) Pensioners Enrolled in New Program

	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age
Total Health	9	79	26	58.1
Total Dental	11	79	24	58.1

Pre-92 Pensioners -- Premium Reimbursement to Province of NS

We were provided with the counts of members with single and family coverage enrolled in policies 5138, 6000, and 6500 under Province of NS post retirement health plan for who NSPI reimburses the Province of NS for a portion of the premiums. We gathered data provided by the Province of Nova Scotia as at December 31, 2004 for all of the retirees under policies 5138, 6000 and 6500 with single or family coverage who were still enrolled as at that date. We determined the present value of the future premiums as at December 31, 2007 assuming there was no change in the membership during 2005, 2006 or 2007. We then pro-rated the total present value for each group and coverage type based on the membership counts provided by NSPI as at December 31, 2007.

The following table presents the age distribution based on the membership as at December 31, 2004 and also provides the membership counts as at December 31, 2007:

Table B.12 Distribution of Pre-92 Pensioners based on December 31, 2004 Membership

Age Band	5138 Single	5138 Family	6000 and 6500 Single	6000 and 6500 Family
50 – 54	0	0	0	0
55 – 59	1	2	0	3
60 – 64	2	0	4	3
65 – 69	1	0	13	2
70 – 74	2	0	47	71
75 – 79	2	0	100	131
80 – 84	8	4	71	75
85 – 89	16	6	72	41
90 – 94	10	1	25	10
95 – 99	2	0	9	4
Total	44	13	341	340
Number as at Dec. 31, 2007 (provided by NSPI)	39	10	352	267

Dental

In addition to the employee data for health benefits under the old post-retirement health plan, NSPI provided data for retiree dental benefits. Retiree dental benefits are provided in special circumstances under the old post-retirement health plan, and do not form part of the standard benefits package. (Under the new post retirement benefit plan, dental coverage is provided). There are approximately 22 retirees as at December 31, 2007 who are entitled to dental benefits on a 50/50 cost share under the old post-retirement health plan until they reach age 65. The average age of the 22 retirees is 61.0.

Life Insurance

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan. We were not provided with specific data relating to this life insurance coverage, however we have compiled membership data as at December 31, 2007 using the data provided by NSPI for the new health plan and earnings provided for the long service award valuation. (The previous year's long service award data was used to estimate the life coverage for the retired members.)

The following table summarizes the data as at December 31, 2007 which was used to determine the Accrued Benefit Obligation in respect of the life insurance benefits. Note that active members who are projected to have less than 15 years of service at the assumed retirement age were not included in the valuation because, based on the plan's cost-sharing formula, the post-retirement life insurance premiums would be entirely paid by the retiree.

Table B.13 NSPI Active Members Assumed to have Subsidized Post-Retirement Life Insurance

Age Band	Count	Average Service	Average Projected Coverage at Retirement
Less than 30	94	1.9	461,053
30 – 34	101	3.6	400,545
35 – 39	131	6.9	352,634
40 – 44	122	13.2	311,467
45 – 49	152	19.6	277,500
50 – 54	214	28.5	230,481
55 – 59	82	29.0	191,598
60 – 64	11	24.5	181,909
Total	907	16.3	305,626

Includes 16 members who have been transferred to Emera on or after January 1, 2007 and have a total of 12.5 years of service with Emera.

Table B.14 NSPI Retired Members Assumed to have Subsidized Post-Retirement Life Insurance

Age Band	Count	Average Coverage
Less than 55	3	130,667
55 – 59	85	183,906
60 – 64	25	175,440
Total	113	179,921

Appendix C – Summary of Plan Provisions

Employees' Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2007 for a summary of plan terms. Effective July 1, 2001, a defined contribution option was offered under the Employee's pension plan. Members who elected to participate in the defined contribution portion of the plan ceased to accrue service under the defined benefit portion of the plan, but retain a defined benefit pension based on final average earnings at termination or retirement in respect of credited service to July 1, 2001.

Acquired Companies Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2007 for a summary of plan terms. Included in the liability is the value of cost of living adjustment and survivor benefits in respect of member's paid up Government of Canada pensions. We note that this is a closed plan and there are no members accruing service.

Executive Supplements, and Discretionary Benefits

NSPI introduced a Supplementary Executive Retirement Plan ("SERP") as at January 1, 2001 to top-up benefits for all members who are capped under the Employees' Pension Plan by the maximum pension limits set out in the *Income Tax Act*. Previously, only certain executives were covered by the SERP. Generally speaking, the SERP has the same terms as the registered Employees' Pension Plan and pays a pension equal to (a) minus (b):

- a) the pension determined under the Employees' Pension Plan without reference to the *Income Tax Act* limits,
- b) the pension payable under the Employees' Pension Plan.

The SERP benefits cover both defined benefit and defined contribution amounts that would otherwise exceed *Income Tax Act* limits. For the DC SERP, the word "contribution" would replace the word "pension" in the formula above. In addition, the annual rate of return on the DC SERP balances are deemed to be equal to the annual rate of return on the member's actual Employees' Pension Plan DC account balance.

Certain members in the SERP have a different definition of pensionable earnings than that defined in the Employees' Pension Plan. For such members, this would be used to determine (a) above. There is no pre-funding of SERP benefits. Please refer to the SERP plan document for additional information.

In addition to the SERP, any discretionary benefits granted by NSPI are included in this component. Such benefits are not pre-funded.

War Service, ERIPs of 1986 and 1991

War Service liability is in respect of service granted under the Nova Scotia Public Service Superannuation Plan ("PSSP") to members of Nova Scotia Power Corporation (the predecessor to Nova Scotia Power Incorporated). PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to war service on a pay as you go basis.

The ERIP 1986 and 1991 liability is in respect of certain additional benefits provided to members who retired under the early retirement incentive program (ERIP) offered in 1986 and 1991. The PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to additional service granted under the ERIP on a pay as you go basis.

Long Service Award

Employees who retire from active service on an unreduced pension are eligible for a Long Service Award benefit. This benefit is also paid in the event of death in service. No benefit is payable to employees who terminate prior to retirement, or to those who retire early with a reduced pension. A member's benefit is based on his rate of pay on his retirement date. The benefit amount is 1 week's salary for each year of service, up to a maximum of 26 years of service. Effective August 1, 2007 the long service award is closed to all new hires.

Post-Retirement Health Care Benefits*Existing ("Old") Post-Retirement Health Care Plan*

All NSPI employees who retired between privatization and December 31, 2003 receive benefits under the Old post retirement health care plan. Members who were active as at January 1, 2004 may receive benefits based on either the Old or New Plan depending on a one-time coverage election.

The Old Plan provides retired employees and their spouses (and eligible dependent children, if any) with 100% coverage for all prescription drugs up to age 65, 100% of eligible hospital benefit costs, and 80% of extended health benefits. To be entitled to this post-retirement health benefit, employees must retire from active service and be eligible for an unreduced pension from the NSPI Employee's Pension Plan. Benefits are not provided to those who terminate prior to retirement. It is noted that the Prior Plan documents suggest that spouses and dependents are not eligible for coverage after the death of the member; however, we understand that the practice is to continue to provide coverage, and charge the applicable premium, in any such instance. We have therefore included the cost of lifetime benefits for surviving spouses, in accordance with Company practice.

The cost of the Old Plan is shared on a 50-50 basis between the retired employees (and eligible spouses) and the Company. The premium charged is set by the insurance company considering total expected claims in respect of retired members only. The premium does not reduce at age 65, although drug coverage ceases at that time. Premiums differ between employees only in respect of coverage type, i.e., single or family coverage.

New Post-Retirement Health Care Plan

This Plan applies to all employees hired on or after January 1, 2004. However, all active employees as at January 1, 2004 had a one time option to convert to the New Plan.

Compared to the Old Plan, the New Plan adds orthodontic coverage, and caps drug dispensing fees at \$7 per prescription and drug costs to the generic brand cost. Members who enroll in the New Plan are entitled to continue with both health and dental coverage after retirement up to age 65 if they meet eligibility requirements:

- > The member must have at least 10 years of continuous service with the Company to be eligible for the post-retirement benefit.
- > Benefits are not provided to those who terminate prior to retirement.
- > The cost of the New Plan is shared between the employee and the Company, based on the retired member's continuous service at their date of retirement:

Years of Continuous Service at Retirement	Employer Paid Portion
1 – 9	Not eligible to enroll in the Plan
10 – 14	0% paid for by the Employer
15 – 29	50% paid for by the Employer
30 – 34	75% paid for by the Employer
35 +	100% paid for by the Employer

In addition to single and family coverage, the New Plan offers "couple" coverage, whereby any two family members may obtain health and dental coverage. Under the New Plan, no coverage is provided after the former employee attains age 65 (even if the spouse is still under age 65).

Post-Retirement Health Benefits for pre-privatization retirees

The cost to NSPI of benefits payable in respect of retired NSPC (the predecessor to Nova Scotia Power Incorporated) members who receive a pension from the PSSA is based on the premium assessed by the Province of Nova Scotia.

Subsidized Post-Retirement Life Insurance

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan. The cost-sharing of the life insurance premiums is based on the retired member's continuous service at their date of retirement as shown in the table above for the new post-retirement health care plan.

For non-executives the coverage is equal to 3 times the employee's salary at retirement up to a maximum of \$500,000. For executives the coverage is 5 times salary at retirement up to a maximum of \$1,000,000.

Appendix D – Detailed Calculation Sheets
Fiscal 2007 & Projected Fiscal 2008

Date Filed: July 8, 2008

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5
January 1, 2007 to December 31, 2007
All figures in thousands.

"VA" means Valuation Allowance

Sensitivity to 25 basis points decrease - ABO at beg of period	N/A	4.1%	2.0%	3.3%	2.0%	1.8%	2.5%
Sensitivity to 25 basis points decrease - CSC (ER Portion)	N/A	7.6%	N/A	5.3%	N/A	2.4%	3.4%
Sensitivity to 100 basis points change in health trend rates:							
Impact on total of service and interest cost	N/A	N/A	N/A	N/A	N/A	N/A	11.2%
Impact on ABO at end of period	N/A	N/A	N/A	N/A	N/A	N/A	9.8%

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
1. EXPENSE								
ASSUMED RETURN ON ASSETS	N/A	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	
ASSUMED DISCOUNT RATE AT BEGINNING OF PERIOD	N/A	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	
ASSUMED DISCOUNT RATE AT END OF PERIOD	N/A	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	
CURRENT SERVICE COST	\$797	\$12,004	\$0	\$249	\$0	\$923	\$585	\$14,558
INTEREST ON ACCRUED BENEFITS	0	37,156	2,222	1,575	692	924	1,119	43,688
EXPECTED RETURN ON ASSETS	0	(41,526)	(3,090)	0	0	0	0	(44,616)
STRAIGHT LINE AMORTIZATION OF:								
- Transitional Obligation (Asset)	0	(786)	(409)	596	620	816	1,422	2,259
- Past Service Costs	0	(134)	0	89	0	0	230	185
- Actuarial Losses / (Gains)	0	16,943	1,228	478	122	111	(21)	18,861
- Change in VA on adopting CICA 3461	0	837	0	0	0	0	0	837
CHANGE IN VALUATION ALLOWANCE	0	(837)	0	0	0	0	0	(837)
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0	0
SPECIAL TERMINATION	0	0	0	0	0	0	0	0
EXPENSE (INCOME)	\$797	\$23,657	(\$49)	\$2,987	\$1,434	\$2,774	\$3,335	\$34,935

2. ACCRUED BENEFIT (ASSET) LIABILITY

OPENING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$0	(\$81,950)	(\$12,636)	\$20,415	\$7,537	\$10,049	\$13,272	(\$43,313)
LESS: ACCRUED VALUATION ALLOWANCE (BOY)	0	0	0	0	0	0	0	0
OPENING BALANCE (not adjusted for VA)	\$0	(\$81,950)	(\$12,636)	\$20,415	\$7,537	\$10,049	\$13,272	(\$43,313)
EXPENSE (INCOME) (including current year VA)	797	23,657	(49)	2,987	1,434	2,774	3,335	34,935
LESS CURRENT YEAR VA (to get unadjusted closing balance)	0	0	0	0	0	0	0	0
COMPANY CONTRIBUTIONS	(653)	(9,481)	(1,034)	(1,835)	(1,314)	(2,325)	(1,396)	(18,038)
CLOSING BALANCE (not adjusted for VA)	\$144	(\$67,774)	(\$13,719)	\$21,567	\$7,657	\$10,498	\$15,211	(\$26,416)
ACCRUED VALUATION ALLOWANCE (EOY)	0	0	0	0	0	0	0	0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$144	(\$67,774)	(\$13,719)	\$21,567	\$7,657	\$10,498	\$15,211	(\$26,416)

Note: DC expense for NSPI (and certain affiliated companies) is \$797,000 based on company contributions to the DC Provision. However, only \$652,000 in contributions were allocated to DC Provision. As such, an accrued benefit liability exists under the DC Provision in respect of company contributions allocated elsewhere on the company's balance sheets.

3. RECONCILIATION OF ACCRUED BENEFIT OBLIGATION TO ACCRUED BENEFIT ASSET (LIABILITY)

RECONCILIATION AT END OF PERIOD								
ACTUAL MARKET VALUE OF ASSETS - EOY	N/A	\$600,462	\$40,255	\$0	\$0	\$0	\$0	\$640,717
LESS ACTUAL ACCRUED BENEFIT OBLIGATION - EOY	\$144	693,631	40,624	30,971	13,051	17,295	23,560	819,276
SURPLUS (DEFICIT) AT END OF PERIOD - MARKET VALUE	(\$144)	(\$93,169)	(\$369)	(\$30,971)	(\$13,051)	(\$17,295)	(\$23,560)	(\$178,559)
LESS CLOSING UNAMORTIZED AMOUNTS								
- Unamortized Transitional Obligation (Asset)	N/A	(3,928)	(2,048)	2,983	3,099	4,079	7,112	11,297
- Unamortized Past Service	N/A	(999)	0	530	0	0	2,070	1,601
- Unamortized Actuarial Losses (Gains)	N/A	165,869	16,136	5,891	2,295	2,719	(833)	192,077
TOTAL CLOSING UNAMORTIZED AMOUNTS	N/A	160,942	14,088	9,404	5,394	6,798	8,349	204,975
CLOSING BALANCE (not adjusted for VA)	(\$144)	\$67,773	\$13,719	(\$21,567)	(\$7,657)	(\$10,497)	(\$15,211)	\$26,416
ACCRUED VALUATION ALLOWANCE - EOY	0	0	0	0	0	0	0	0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT ASSET (LIABILITY) NET OF VA	(\$144)	\$67,773	\$13,719	(\$21,567)	(\$7,657)	(\$10,497)	(\$15,211)	\$26,416

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS
January 1, 2007 to December 31, 2007

All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
4. WORKSHEETS								
A. FINANCIAL POSITION OF THE PLAN AT BEGINNING OF PERIOD								
Assets (Market Value)	N/A	\$613,623	\$42,880	\$0	\$0	\$0	\$0	\$656,503
Accrued Benefit Obligations	N/A	711,672	44,512	32,655	13,865	17,841	21,722	842,267
Surplus (Deficit)	\$0	(\$98,049)	(\$1,632)	(\$32,655)	(\$13,865)	(\$17,841)	(\$21,722)	(\$185,764)
B. PLAN COSTS FOR BENEFITS ACCRUING DURING THE PERIOD								
Employee Contributions	N/A	\$4,869	\$0	\$0	\$0	\$0	\$0	\$4,869
Company Normal Cost	797	12,004	0	249	0	923	585	14,558
Cost of Benefits Accruing	\$797	\$16,873	\$0	\$249	\$0	\$923	\$585	\$19,427
C. MARKET-RELATED VALUE OF ASSETS (5 years)								
Annual Adjustment in respect of Year -5	\$0	(\$12,771)	(\$1,166)	\$0	\$0	\$0	\$0	
Annual Adjustment in respect of Year -4	0	5,799	210	0	0	0	0	
Annual Adjustment in respect of Year -3	0	128	(356)	0	0	0	0	
Annual Adjustment in respect of Year -2	0	4,515	83	0	0	0	0	
Annual Adjustment in respect of Year -1	0	7,496	298	0	0	0	0	

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5

January 1, 2007 to December 31, 2007

All figures in thousands.

"VA" means Valuation Allowance

4. WORKSHEETS	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIIP 1986 and ERIIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
D. PROJECTIONS TO END OF PERIOD - Market Related Value								
ASSETS - MRV								
Opening Value	N/A	\$558,875	\$42,870	\$0	\$0	\$0	\$0	\$601,745
Member Contributions	N/A	4,869	0	0	0	0	0	4,869
Company Contributions	N/A	9,481	1,034	1,835	1,314	2,325	1,396	17,385
Interest	N/A	41,526	3,090	0	0	0	0	44,616
Benefit Payouts	N/A	(28,411)	(4,314)	(1,835)	(1,314)	(2,325)	(1,396)	(39,595)
MRV Adjustment for previous asset gain/(losses) (end of year)	N/A	5,167	(930)	0	0	0	0	4,237
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - MRV	N/A	\$591,507	\$41,750	\$0	\$0	\$0	\$0	\$633,256
ACCRUED BENEFIT OBLIGATION								
Opening Value	N/A	\$711,672	\$44,512	\$32,655	\$13,865	\$17,841	\$21,722	\$842,267
Benefit Improvements	N/A	0	0	0	0	0	0	0
Total Normal Cost	N/A	16,873	0	249	0	923	585	18,630
Interest	N/A	37,156	2,222	1,575	692	924	1,119	43,688
Benefit Payouts	N/A	(28,411)	(4,314)	(1,835)	(1,314)	(2,325)	(1,396)	(39,595)
Curtailments	N/A	0	0	0	0	0	0	0
Experience Loss due to Curtailment	N/A	0	0	0	0	0	0	0
Liabilities Settled	N/A	0	0	0	0	0	0	0
Projected Closing Accrued Benefit Obligation	\$144	\$737,290	\$42,420	\$32,644	\$13,243	\$17,363	\$22,030	\$865,134
Gain (Loss) on Accrued Benefit Obligation arising at end of period	\$0	43,659	1,796	1,673	192	68	(1,530)	45,858
Actual Accrued Benefit Obligation at end of period	\$144	\$693,631	\$40,624	\$30,971	\$13,051	\$17,295	\$23,560	\$819,276
PROJECTED SURPLUS END OF PERIOD (MRV)	(\$144)	(\$145,783)	(\$670)	(\$32,644)	(\$13,243)	(\$17,363)	(\$22,030)	(\$231,878)
ACTUAL SURPLUS END OF PERIOD (MRV)	(\$144)	(\$102,124)	\$1,126	(\$30,971)	(\$13,051)	(\$17,295)	(\$23,560)	(\$186,020)
E. PROJECTIONS TO END OF PERIOD - Market Value								
ASSETS - Market Value								
Opening Value	N/A	\$613,623	\$42,880	\$0	\$0	\$0	\$0	\$656,503
Member Contributions	N/A	4,869	0	0	0	0	0	4,869
Company Contributions	N/A	9,481	1,034	1,835	1,314	2,325	1,396	17,385
Expected Interest	N/A	45,494	3,093	0	0	0	0	48,587
Benefit Payouts	N/A	(28,411)	(4,314)	(1,835)	(1,314)	(2,325)	(1,396)	(39,595)
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - Market Value	N/A	\$645,056	\$42,693	\$0	\$0	\$0	\$0	\$687,749
Gain (Loss) on Market Value of Asset return during period	N/A	(44,594)	(2,438)	0	0	0	0	(47,032)
Actual Market Value of Assets at end of period	N/A	\$600,462	\$40,255	\$0	\$0	\$0	\$0	\$640,717
PROJECTED SURPLUS END OF PERIOD (Market Value)	(\$144)	(\$92,234)	\$273	(\$32,644)	(\$13,243)	(\$17,363)	(\$22,030)	(\$177,385)
ACTUAL SURPLUS END OF PERIOD (Market Value)	(\$144)	(\$93,169)	(\$369)	(\$30,971)	(\$13,051)	(\$17,295)	(\$23,560)	(\$178,559)
ASSETS - Gain/Loss Current Year								
Expected Return (based on MRV)	\$0	\$41,526	\$3,090	\$0	\$0	\$0	\$0	\$44,616
Actual Return (MV)	\$0	\$900	\$655	\$0	\$0	\$0	\$0	\$1,555
Gain (Loss)	\$0	(\$40,626)	(\$2,435)	\$0	\$0	\$0	\$0	(\$43,061)
F. RECONCILE VALUATION ALLOWANCE AND UNAMORTIZED (projected to end of period)								
Accrued Benefit (Asset)	\$144	(\$67,774)	(\$13,719)	\$21,567	\$7,657	\$10,498	\$15,211	(\$26,416)
(a) Expected Future Benefit	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(b) Adjusted Benefit Asset (Accrued Asset less aggregate losses)	N/A	(88,050)	N/A	N/A	N/A	N/A	N/A	(88,050)
(c) Valuation Allowance Required EOY (b) - (a)	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(d) Unamortized Valuation Allowance	N/A	837	N/A	N/A	N/A	N/A	N/A	837
(e) Accrued VA EOY	N/A	0	N/A	N/A	N/A	N/A	N/A	0
Addition to VA (c) - (d) - (e)	N/A	0	N/A	N/A	N/A	N/A	N/A	0

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS

January 1, 2007 to December 31, 2007

All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
5. AMORTIZATION SCHEDULE								
AMORTIZATIONS ESTABLISHED AS AT JANUARY 1, 2000								
ARSP as at January 1, 2000	0.00	13.00	13.00	13.00	13.00	13.00	13.00	
TRANSITIONAL OBLIGATION / (ASSET) (Jan 1, 2000)	\$0	(\$10,216)	(\$5,320)	\$8,616	\$7,198	\$10,607	\$18,488	\$29,373
Opening Balance	0	(4,714)	(2,457)	3,579	3,719	4,895	8,534	13,556
Annual Component	0	(786)	(409)	596	620	816	1,422	2,259
Closing Balance	0	(3,928)	(2,048)	2,983	3,099	4,079	7,112	11,297
Remaining Duration as at EOY (years)	0.00	5.00	5.00	5.00	5.00	5.00	5.00	
CHANGE in VA on ADOPTING CICA 3461 (Jan 1, 2000)	N/A	\$10,880	N/A	N/A	N/A	N/A	N/A	\$10,880
Opening Balance	N/A	5,021	N/A	N/A	N/A	N/A	N/A	5,021
Annual Component	N/A	837	N/A	N/A	N/A	N/A	N/A	837
Closing Balance	N/A	4,184	N/A	N/A	N/A	N/A	N/A	4,184
Remaining Duration as at EOY (years)	N/A	5.00	N/A	N/A	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT DECEMBER 31, 2000								
ARSP as at December 31, 2000	0.00	12.00	12.00	12.00	12.00	12.00	12.00	
PAST SERVICE COST / (ASSET) (Dec 31, 2000)	N/A	\$869	N/A	\$503	N/A	N/A	N/A	\$1,372
Opening Balance	N/A	0	N/A	251	N/A	N/A	N/A	251
Annual Component	N/A	0	N/A	42	N/A	N/A	N/A	42
Closing Balance	N/A	0	N/A	209	N/A	N/A	N/A	209
Remaining Duration as at EOY (years)	N/A	0.00	N/A	5.00	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT OCTOBER 31, 2003								
	N/A	11.00	N/A	11.00	N/A	N/A	N/A	
PAST SERVICE COST / (ASSET) (October 1, 2003)	N/A	\$5,580	N/A	\$521	N/A	N/A	N/A	\$6,101
Opening Balance	N/A	0	N/A	368	N/A	N/A	N/A	368
Annual Component	N/A	0	N/A	47	N/A	N/A	N/A	47
Closing Balance	N/A	0	N/A	321	N/A	N/A	N/A	321
Remaining Duration as at EOY (years)	N/A	0.00	N/A	6.75	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT JULY 1, 2004								
ARSP as at July 1, 2004	N/A	11.00	N/A	N/A	N/A	N/A	N/A	
PAST SERVICE COST / (ASSET) (July 1, 2004)	N/A	(\$7,283)	N/A	N/A	N/A	N/A	N/A	(\$7,283)
Opening Balance	N/A	(1,133)	N/A	N/A	N/A	N/A	N/A	(1,133)
Annual Component (half-year starting July 1)	N/A	(134)	N/A	N/A	N/A	N/A	N/A	(134)
Closing Balance	N/A	(999)	N/A	N/A	N/A	N/A	N/A	(999)
Remaining Duration as at EOY (years)	N/A	7.50	N/A	N/A	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT DEC 31, 2006								
ARSP as at Dec 31, 2006	N/A	N/A	N/A	N/A	N/A	N/A	10.00	
PAST SERVICE COST / (ASSET) (Dec 31, 2006)	N/A	N/A	N/A	N/A	N/A	N/A	2300	\$2,300
Opening Balance	N/A	N/A	N/A	N/A	N/A	N/A	2,300	2,300
Annual Component	N/A	N/A	N/A	N/A	N/A	N/A	230	230
Closing Balance	N/A	N/A	N/A	N/A	N/A	N/A	2,070	2,070
Remaining Duration as at EOY (years)	N/A	N/A	N/A	N/A	N/A	N/A	9.00	
AMORTIZATIONS ESTABLISHED AS AT DECEMBER 31, 2006								
Updated ARSP as at December 31, 2006	0.00	10.00	10.00	10.00	10.00	10.00	10.00	
AGGREGATE NET ACTUARIAL LOSS / (GAIN)	\$0	\$185,845	\$16,725	\$8,042	\$2,609	\$2,898	(\$2,384)	\$213,735
Actuarial loss (gain) not yet included in ARSP	0	(\$4,788)	(10)	0	0	0	0	(\$4,798)
Amount subject to amortization	0	240,593	16,735	8,042	2,609	2,898	(2,384)	268,493
10% Corridor	0	71,167	4,451	3,266	1,387	1,784	(2,172)	79,882
Opening Balance to Amortize	0	169,426	12,284	4,777	1,223	1,114	(212)	188,611
Annual Component	0	16,943	1,228	478	122	111	(21)	18,861
Remaining amount to be amortized	0	168,902	15,497	7,564	2,487	2,787	(2,363)	194,874
Actuarial loss (gain) at end of period on								
- Asset Return	0	40,626	2,455	0	0	0	0	43,061
- Accrued Benefit Obligation	0	(43,659)	(1,796)	(1,673)	(192)	(68)	1,530	(45,858)
Total actuarial loss (gain) not amortized	\$0	\$165,869	\$16,136	\$5,891	\$2,295	\$2,719	(\$833)	\$192,077
Total Closing Unamortized Losses (Gains) (excluding VA)	\$0	\$160,942	\$14,088	\$9,404	\$5,394	\$6,798	\$8,349	\$204,975

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS
January 1, 2007 to December 31, 2007

All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
6. EXPENSE - NEW DISCLOSURE REQUIREMENTS								
COSTS ARISING IN PERIOD								
CURRENT SERVICE COST	\$797	\$12,004	\$0	\$249	\$0	\$923	\$585	\$14,558
INTEREST ON ACCRUED BENEFITS	0	37,156	2,222	1,575	692	924	1,119	43,688
ACTUAL RETURN ON ASSETS	0	(900)	(655)	0	0	0	0	(1,555)
AMOUNTS ARISING FROM EVENTS IN THE PERIOD:								
- Past Service Costs (Gains)	0	0	0	0	0	0	0	0
- Actuarial Losses / (Gains) on Accrued Benefit Obligation	0	(43,659)	(1,796)	(1,673)	(192)	(68)	1,530	(45,858)
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0
FUTURE BENEFIT COSTS BEFORE ADJUSTMENTS	\$797	\$4,601	(\$229)	\$151	\$500	\$1,779	\$3,234	\$10,833
ADJUSTMENTS TO RECOGNIZE LONG-TERM NATURE OF COSTS								
IMPACT OF DEFERRED RECOGNITION ON:								
- Transitional Obligation (Asset)	0	(786)	(409)	596	620	816	1,422	2,259
- Current Year Return on Plan Assets**	0	(40,626)	(2,435)	0	0	0	0	(43,061)
- Past Service Costs*	0	(134)	0	89	0	0	230	185
- Actuarial Loss (Gain) other than the current year return on assets*	0	60,602	3,024	2,151	314	179	(1,551)	64,719
VALUATION ALLOWANCE	0	0	0	0	0	0	0	0
BENEFIT COST (INCOME) RECOGNIZED FOR THE PERIOD	\$797	\$23,657	(\$49)	\$2,987	\$1,434	\$2,774	\$3,335	\$34,935

* Equal to (1) current year amortization of (gain)/loss subtract (2) (gain)/ loss incurred in the current year

** Actual return on plan assets, less expected return on plan assets determined on a market related basis

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS
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All figures in thousands.

"VA" means Valuation Allowance

Sensitivity to 25 basis points decrease - ABO at beg of period	N/A	4.1%	2.0%	3.3%	1.8%	3.4%	2.2%
Sensitivity to 25 basis points decrease - CSC (ER Portion)	N/A	7.6%	N/A	5.3%	N/A	3.1%	3.5%
Sensitivity to 100 basis points change in health trend rates:							
Impact on total of service and interest cost	N/A	N/A	N/A	N/A	N/A	N/A	10.4%
Impact on ABO at end of period	N/A	N/A	N/A	N/A	N/A	N/A	8.6%

Adjustment for change in discount rate

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
1. EXPENSE								
<i>ASSUMED RETURN ON ASSETS</i>	N/A	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	
<i>ASSUMED DISCOUNT RATE AT BEGINNING OF PERIOD</i>	N/A	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	
<i>ASSUMED DISCOUNT RATE AT END OF PERIOD</i>	N/A	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	
CURRENT SERVICE COST	\$872	\$10,162	\$0	\$250	\$0	\$916	\$663	\$12,863
INTEREST ON ACCRUED BENEFITS	0	39,502	2,212	1,735	713	963	1,322	46,447
EXPECTED RETURN ON ASSETS	0	(43,815)	(3,010)	0	0	0	0	(46,825)
STRAIGHT LINE AMORTIZATION OF:								
- Transitional Obligation (Asset)	0	(786)	(409)	596	620	816	1,422	2,259
- Past Service Costs	0	(134)	0	89	0	0	230	185
- Actuarial Losses / (Gains)	0	10,546	1,047	279	99	99	0	12,070
- Change in VA on adopting CICA 3461	0	837	0	0	0	0	0	837
CHANGE IN VALUATION ALLOWANCE	0	(837)	0	0	0	0	0	(837)
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0	0
SPECIAL TERMINATION	0	0	0	0	0	0	0	0
EXPENSE (INCOME)	\$872	\$15,475	(\$160)	\$2,949	\$1,432	\$2,794	\$3,637	\$26,999

2. ACCRUED BENEFIT (ASSET) LIABILITY

1078918

OPENING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$144	(\$67,774)	(\$13,719)	\$21,567	\$7,657	\$10,498	\$15,211	(\$26,416)
LESS: ACCRUED VALUATION ALLOWANCE (BOY)	0	0	0	0	0	0	0	0
OPENING BALANCE (not adjusted for VA)	\$144	(\$67,774)	(\$13,719)	\$21,567	\$7,657	\$10,498	\$15,211	(\$26,416)
EXPENSE (INCOME) (including current year VA)	872	15,475	(160)	2,949	1,432	2,794	3,637	26,999
LESS CURRENT YEAR VA (to get unadjusted closing balance)	0	0	0	0	0	0	0	0
COMPANY CONTRIBUTIONS	(1,016)	(8,831)	(1,079)	(1,851)	(1,297)	(2,004)	(1,813)	(17,891)
CLOSING BALANCE (not adjusted for VA)	\$0	(\$61,130)	(\$14,958)	\$22,665	\$7,792	\$11,288	\$17,035	(\$17,308)
ACCRUED VALUATION ALLOWANCE (EOY)	0	0	0	0	0	0	0	0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$0	(\$61,130)	(\$14,958)	\$22,665	\$7,792	\$11,288	\$17,035	(\$17,308)

Note: DC expense for NSPI (and certain affiliated companies) is \$872,000 based on company contributions to the DC Provision. However, \$1,016,000 in contributions were allocated to DC Provision.

This is a correction for fiscal 2007 in which an accrued benefit liability existed under the DC Provision as a result of company contributions allocated elsewhere on the company's balance sheets.

3. RECONCILIATION OF ACCRUED BENEFIT OBLIGATION TO ACCRUED BENEFIT ASSET (LIABILITY)**RECONCILIATION AT END OF PERIOD**

ACTUAL MARKET VALUE OF ASSETS - EOY	N/A	\$630,328	\$39,929	\$0	\$0	\$0	\$0	\$670,257
LESS ACTUAL ACCRUED BENEFIT OBLIGATION - EOY	N/A	734,517	38,533	31,229	12,467	17,884	25,418	860,048
SURPLUS (DEFICIT) AT END OF PERIOD - MARKET VALUE	N/A	(\$104,189)	\$1,396	(\$31,229)	(\$12,467)	(\$17,884)	(\$25,418)	(\$189,791)
LESS CLOSING UNAMORTIZED AMOUNTS								
- Unamortized Transitional Obligation (Asset)	N/A	(3,142)	(1,639)	2,387	2,479	3,263	5,690	9,038
- Unamortized Past Service	N/A	(865)	0	441	0	0	1,840	1,416
- Unamortized Actuarial Losses (Gains)	N/A	169,325	15,201	5,736	2,196	3,334	853	196,645
TOTAL CLOSING UNAMORTIZED AMOUNTS	N/A	165,318	13,562	8,564	4,675	6,597	8,383	207,099
CLOSING BALANCE (not adjusted for VA)	\$0	\$61,129	\$14,958	(\$22,665)	(\$7,792)	(\$11,287)	(\$17,035)	\$17,308
ACCRUED VALUATION ALLOWANCE - EOY	0	0	0	0	0	0	0	0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT ASSET (LIABILITY) NET OF	\$0	\$61,129	\$14,958	(\$22,665)	(\$7,792)	(\$11,287)	(\$17,035)	\$17,308

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5
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All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
4. WORKSHEETS								
A. FINANCIAL POSITION OF THE PLAN AT BEGINNING OF PERIOD								
Assets (Market Value)	N/A	\$600,462	\$40,255	\$0	\$0	\$0	\$0	\$640,717
Accrued Benefit Obligations	144	693,631	40,624	30,971	13,051	17,295	23,560	819,276
Surplus (Deficit)	(\$144)	(\$93,169)	(\$369)	(\$30,971)	(\$13,051)	(\$17,295)	(\$23,560)	(\$178,559)
B. PLAN COSTS FOR BENEFITS ACCRUING DURING THE PERIOD								
Employee Contributions	N/A	\$5,025	\$0	\$0	\$0	\$0	\$0	\$5,025
Company Normal Cost	872	10,162	0	250	0	916	663	12,863
Cost of Benefits Accruing	\$872	\$15,187	\$0	\$250	\$0	\$916	\$663	\$17,888
C. MARKET-RELATED VALUE OF ASSETS (5 years)								
Annual Adjustment in respect of Year -5	\$0	\$5,799	\$210	\$0	\$0	\$0	\$0	
Annual Adjustment in respect of Year -4	0	128	(356)	0	0	0	0	
Annual Adjustment in respect of Year -3	0	4,515	83	0	0	0	0	
Annual Adjustment in respect of Year -2	0	7,496	298	0	0	0	0	
Annual Adjustment in respect of Year -1	0	(8,125)	(487)	0	0	0	0	

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS

January 1, 2008 to December 31, 2008 - Projection for 2008

All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
4. WORKSHEETS								
D. PROJECTIONS TO END OF PERIOD - Market Related Value								
ASSETS - MRV								
Opening Value	N/A	\$591,507	\$41,750	\$0	\$0	\$0	\$0	\$633,256
Member Contributions	N/A	5,025	0	0	0	0	0	5,025
Company Contributions	N/A	8,831	1,079	1,851	1,297	2,004	1,813	16,875
Interest	N/A	43,815	3,010	0	0	0	0	46,825
Benefit Payouts	N/A	(28,476)	(4,303)	(1,851)	(1,297)	(2,004)	(1,813)	(39,744)
MRV Adjustment for previous asset gain/(losses) (end of year)	N/A	9,812	(251)	0	0	0	0	9,561
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - MRV	N/A	\$630,514	\$41,284	\$0	\$0	\$0	\$0	\$671,798
ACCRUED BENEFIT OBLIGATION								
Opening Value	\$144	\$693,631	\$40,624	\$30,971	\$13,051	\$17,295	\$23,560	\$819,276
Benefit Improvements	N/A	0	0	0	0	0	0	0
Total Normal Cost	N/A	15,187	0	250	0	916	663	17,016
Interest	N/A	39,502	2,212	1,735	713	963	1,322	46,447
Benefit Payouts	N/A	(28,476)	(4,303)	(1,851)	(1,297)	(2,004)	(1,813)	(39,744)
Curtailments	N/A	0	0	0	0	0	0	0
Experience Loss due to Curtailment	N/A	0	0	0	0	0	0	0
Liabilities Settled	(144)	0	0	0	0	0	0	(144)
Projected Closing Accrued Benefit Obligation	N/A	\$719,844	\$38,533	\$31,105	\$12,467	\$17,170	\$23,732	\$842,851
Gain (Loss) on Accrued Benefit Obligation arising at end of period	N/A	(14,673)	0	(124)	0	(714)	(1,686)	(17,197)
Actual Accrued Benefit Obligation at end of period	N/A	\$734,517	\$38,533	\$31,229	\$12,467	\$17,884	\$25,418	\$860,048
PROJECTED SURPLUS END OF PERIOD (MRV)	\$0	(\$89,330)	\$2,751	(\$31,105)	(\$12,467)	(\$17,170)	(\$23,732)	(\$171,053)
ACTUAL SURPLUS END OF PERIOD (MRV)	\$0	(\$104,003)	\$2,751	(\$31,229)	(\$12,467)	(\$17,884)	(\$25,418)	(\$188,249)
E. PROJECTIONS TO END OF PERIOD - Market Value								
ASSETS - Market Value								
Opening Value	N/A	\$600,462	\$40,255	\$0	\$0	\$0	\$0	\$640,717
Member Contributions	N/A	5,025	0	0	0	0	0	5,025
Company Contributions	N/A	8,831	1,079	1,851	1,297	2,004	1,813	16,875
Expected Interest	N/A	44,486	2,898	0	0	0	0	47,384
Benefit Payouts	N/A	(28,476)	(4,303)	(1,851)	(1,297)	(2,004)	(1,813)	(39,744)
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - Market Value	N/A	\$630,328	\$39,929	\$0	\$0	\$0	\$0	\$670,257
Gain (Loss) on Market Value of Asset return during period	N/A	0	0	0	0	0	0	0
Actual Market Value of Assets at end of period	N/A	\$630,328	\$39,929	\$0	\$0	\$0	\$0	\$670,257
PROJECTED SURPLUS END OF PERIOD (Market Value)	\$0	(\$89,516)	\$1,396	(\$31,105)	(\$12,467)	(\$17,170)	(\$23,732)	(\$172,594)
ACTUAL SURPLUS END OF PERIOD (Market Value)	\$0	(\$104,189)	\$1,396	(\$31,229)	(\$12,467)	(\$17,884)	(\$25,418)	(\$189,791)
ASSETS - Gain/Loss Current Year								
Expected Return (based on MRV)	\$0	\$43,815	\$3,010	\$0	\$0	\$0	\$0	\$46,825
Actual Return (MV)	\$0	\$44,486	\$2,898	\$0	\$0	\$0	\$0	\$47,384
Gain (Loss)	\$0	\$671	(\$112)	\$0	\$0	\$0	\$0	\$559
F. RECONCILE VALUATION ALLOWANCE AND UNAMORTIZED (projected to end of period)								
Accrued Benefit (Asset)	\$0	(\$61,130)	(\$14,958)	\$22,665	\$7,792	\$11,288	\$17,035	(\$17,308)
(a) Expected Future Benefit	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(b) Adjusted Benefit Asset (Accrued Asset less aggregate losses)	N/A	(86,169)	N/A	N/A	N/A	N/A	N/A	(86,169)
(c) Valuation Allowance Required EOY (b) - (a)	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(d) Unamortized Valuation Allowance	N/A	837	N/A	N/A	N/A	N/A	N/A	837
(e) Accrued VA EOY	N/A	0	N/A	N/A	N/A	N/A	N/A	0
Addition to VA (c) - (d) - (e)	N/A	0	N/A	N/A	N/A	N/A	N/A	0

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS

January 1, 2008 to December 31, 2008 - Projection for 2008

All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
5. AMORTIZATION SCHEDULE								
AMORTIZATIONS ESTABLISHED AS AT JANUARY 1, 2000								
ARSP as at January 1, 2000	0.00	13.00	13.00	13.00	13.00	13.00	13.00	
TRANSITIONAL OBLIGATION / (ASSET) (Jan 1, 2000)	\$0	(\$10,216)	(\$5,320)	\$8,616	\$7,198	\$10,607	\$18,488	\$29,373
Opening Balance	0	(3,928)	(2,048)	2,983	3,099	4,079	7,112	11,297
Annual Component	0	(786)	(409)	596	620	816	1,422	2,259
Closing Balance	0	(3,142)	(1,639)	2,387	2,479	3,263	5,690	9,038
Remaining Duration as at EOY (years)	0.00	4.00	4.00	4.00	4.00	4.00	4.00	
CHANGE in VA on ADOPTING CICA 3461 (Jan 1, 2000)	N/A	\$10,880	N/A	N/A	N/A	N/A	N/A	\$10,880
Opening Balance	N/A	4,184	N/A	N/A	N/A	N/A	N/A	4,184
Annual Component	N/A	837	N/A	N/A	N/A	N/A	N/A	837
Closing Balance	N/A	3,347	N/A	N/A	N/A	N/A	N/A	3,347
Remaining Duration as at EOY (years)	N/A	4.00	N/A	N/A	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT DECEMBER 31, 2000								
ARSP as at December 31, 2000	0.00	12.00	12.00	12.00	12.00	12.00	12.00	
PAST SERVICE COST / (ASSET) (Dec 31, 2000)	N/A	\$869	N/A	\$503	N/A	N/A	N/A	\$1,372
Opening Balance	N/A	0	N/A	209	N/A	N/A	N/A	209
Annual Component	N/A	0	N/A	42	N/A	N/A	N/A	42
Closing Balance	N/A	0	N/A	167	N/A	N/A	N/A	167
Remaining Duration as at EOY (years)	N/A	0.00	N/A	4.00	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT OCTOBER 31, 2003								
	N/A	11.00	N/A	11.00	N/A	N/A	N/A	
PAST SERVICE COST / (ASSET) (October 1, 2003)	N/A	\$5,580	N/A	\$521	N/A	N/A	N/A	\$6,101
Opening Balance	N/A	0	N/A	321	N/A	N/A	N/A	321
Annual Component	N/A	0	N/A	47	N/A	N/A	N/A	47
Closing Balance	N/A	0	N/A	274	N/A	N/A	N/A	274
Remaining Duration as at EOY (years)	N/A	0.00	N/A	5.75	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT JULY 1, 2004								
ARSP as at July 1, 2004	N/A	11.00	N/A	N/A	N/A	N/A	N/A	
PAST SERVICE COST / (ASSET) (July 1, 2004)	N/A	(\$7,283)	N/A	N/A	N/A	N/A	N/A	(\$7,283)
Opening Balance	N/A	(999)	N/A	N/A	N/A	N/A	N/A	(999)
Annual Component (half-year starting July 1)	N/A	(134)	N/A	N/A	N/A	N/A	N/A	(134)
Closing Balance	N/A	(865)	N/A	N/A	N/A	N/A	N/A	(865)
Remaining Duration as at EOY (years)	N/A	6.50	N/A	N/A	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT DEC 31, 2006								
ARSP as at Dec 31, 2006	N/A	N/A	N/A	N/A	N/A	N/A	10.00	
PAST SERVICE COST / (ASSET) (Dec 31, 2006)	N/A	N/A	N/A	N/A	N/A	N/A	2300	\$2,300
Opening Balance	N/A	N/A	N/A	N/A	N/A	N/A	2,070	2,070
Annual Component	N/A	N/A	N/A	N/A	N/A	N/A	230	230
Closing Balance	N/A	N/A	N/A	N/A	N/A	N/A	1,840	1,840
Remaining Duration as at EOY (years)	N/A	N/A	N/A	N/A	N/A	N/A	8.00	
AMORTIZATIONS ESTABLISHED AS AT DECEMBER 31, 2007								
Updated ARSP as at December 31, 2007	0.00	10.00	10.00	10.00	10.00	10.00	10.00	
AGGREGATE NET ACTUARIAL LOSS / (GAIN)	\$0	\$165,869	\$16,136	\$5,891	\$2,295	\$2,719	(\$833)	\$192,077
Actuarial loss (gain) not yet included in MRV	0	(8,955)	1,495	0	0	0	0	(7,461)
Amount subject to amortization	0	174,824	14,641	5,891	2,295	2,719	(833)	199,538
10% Corridor	(14)	69,363	4,175	3,097	1,305	1,730	(2,356)	77,299
Opening Balance to Amortize	0	105,461	10,466	2,794	990	990	0	120,701
Annual Component	0	10,546	1,047	279	99	99	0	12,070
Remaining amount to be amortized	0	155,323	15,089	5,612	2,196	2,620	(833)	180,007
Actuarial loss (gain) at end of period on								
- Asset Return	0	(671)	112	0	0	0	0	(559)
- Accrued Benefit Obligation	0	14,673	0	124	0	714	1,686	17,197
Total actuarial loss (gain) not amortized	\$0	\$169,325	\$15,201	\$5,736	\$2,196	\$3,334	\$853	\$196,645
Total Closing Unamortized Losses (Gains) (excluding VA)	\$0	\$165,318	\$13,562	\$8,564	\$4,675	\$6,597	\$8,383	\$207,099

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NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5

January 1, 2008 to December 31, 2008 - Projection for 2008

All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
6. EXPENSE - NEW DISCLOSURE REQUIREMENTS								
COSTS ARISING IN PERIOD								
CURRENT SERVICE COST	\$872	\$10,162	\$0	\$250	\$0	\$916	\$663	\$12,863
INTEREST ON ACCRUED BENEFITS	0	39,502	2,212	1,735	713	963	1,322	46,447
ACTUAL RETURN ON ASSETS	0	(44,486)	(2,898)	0	0	0	0	(47,384)
AMOUNTS ARISING FROM EVENTS IN THE PERIOD:								
- Past Service Costs (Gains)	0	0	0	0	0	0	0	0
- Actuarial Losses / (Gains) on Accrued Benefit Obligation	0	14,673	0	124	0	714	1,686	17,197
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0
FUTURE BENEFIT COSTS BEFORE ADJUSTMENTS	\$872	\$19,851	(\$686)	\$2,109	\$713	\$2,593	\$3,671	\$29,123
ADJUSTMENTS TO RECOGNIZE LONG-TERM NATURE OF COSTS								
IMPACT OF DEFERRED RECOGNITION ON:								
- Transitional Obligation (Asset)	0	(786)	(409)	596	620	816	1,422	2,259
- Current Year Return on Plan Assets**	0	671	(112)	0	0	0	0	559
- Past Service Costs*	0	(134)	0	89	0	0	230	185
- Actuarial Loss (Gain) other than the current year return on assets*	0	(4,127)	1,047	155	99	(615)	(1,686)	(5,127)
VALUATION ALLOWANCE	0	0	0	0	0	0	0	0
BENEFIT COST (INCOME) RECOGNIZED FOR THE PERIOD	\$872	\$15,475	(\$160)	\$2,949	\$1,432	\$2,794	\$3,637	\$26,999

* Equal to (1) current year amortization of (gain)/loss subtract (2) (gain)/ loss incurred in the current year

** Actual return on plan assets, less expected return on plan assets determined on a market related basis

Appendix B – Membership Data

Description of Pension Plan Membership Data

Our valuation of the pension plans as at December 31, 2007 was based on valuation data as at December 31, 2007.

We have performed tests to verify reasonableness and internal consistency and are satisfied that the data is sufficient and reliable for the purposes of this valuation. Basic statistics on the Employee and Acquired plan data are shown in the table below:

Table B.1

	Employee Plan (DB)	Acquired Companies	Exec, Discretionary	War Svc, ERIP 1986, ERIP 1991
Actives (including LTD)				
Number	1,516*	6	20	N/A
Average age	45.7	57.4	49.1	N/A
Average credited service	15.9	3.3	14.5	N/A
Average 2007 earnings	\$58,689	\$70,316	< >	N/A
Pensioners (including survivors)				
Number	972	684	320	333
Average age	62.5	76.2	67.0	78.8
Average annual lifetime pension	\$20,656	\$6,291	\$5,004	\$3,923
Average annual bridge (averaged over all pensioners)	\$4,491	\$0	\$780	\$0

* Includes 54 members on LTD and 41 members who switched to the DC component of the Plan in respect of service after July 1, 2001. Also includes 18 members who have been transferred to Emera on or after January 1, 2007 and whose benefits accrued after the date of transfer will be the sole responsibility of Emera as a participating employer under the Employee Plan. Note that 1 of the 18 Emera employees is a member who switched to DC in 2001.

< > Some earning figures not shown to protect confidentiality.

Pension figures include the January 1, 2008 cost of living adjustment.

Data for the War Service, Executive Plan, Discretionary Plan, and ERIP 1986 and 1991 were provided by NSPI. Please refer to the actuarial reports for funding purposes as at December 31, 2007 for additional data information for the Employees' Pension Plan and the Acquired Companies Pension Plan.

The following tables summarize the key data used in our valuation.

Table B.2 Employee Plan Active Members

Age	Credited Service	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 plus	Total
Under 25	Count	37							37
	Avg Credited	0.7							0.7
	Avg 2007 Earnings	35,344							35,344
25 to 29	Count	57	10						67
	Avg Credited	1.4	6.5						2.2
	Avg 2007 Earnings	42,604	47,362						43,314
30 to 34	Count	81	44						125
	Avg Credited	1.7	6.9						3.5
	Avg 2007 Earnings	50,600	46,878						49,290
35 to 39	Count	85	46	14	28				173
	Avg Credited	1.9	7.5	11.7	17.4				6.7
	Avg 2007 Earnings	53,249	55,226	59,201	60,334				55,403
40 to 44	Count	46	50	11	70	43	4		224
	Avg Credited	2.0	7.5	11.4	17.9	21.6	25.5		12.8
	Avg 2007 Earnings	53,590	60,812	54,404	64,706	65,462	47,771		60,891
45 to 49	Count	36	69	13	46	78	61	6	309
	Avg Credited	2.1	7.5	11.1	18.0	22.0	27.0	30.5	16.5
	Avg 2007 Earnings	52,563	59,300	74,436	66,551	63,728	67,112	59,410	62,893
50 to 54	Count	13	36	7	30	53	85	157	381
	Avg Credited	2.4	7.4	11.5	17.5	22.5	27.7	32.4	25.0
	Avg 2007 Earnings	83,854	59,428	44,019	59,188	59,941	70,949	63,921	64,453
55 to 59	Count	10	14	4	14	22	36	57	157
	Avg Credited	1.4	7.3	12.5	18.1	22.2	27.3	32.9	24.0
	Avg 2007 Earnings	55,083	51,192	53,016	48,065	57,157	56,225	64,723	58,110
60 plus	Count	1	5	1	10	5	9	12	43
	Avg Credited	< >	8.1	< >	18.3	21.8	27.8	32.9	23.1
	Avg 2007 Earnings	< >	50,558	< >	54,365	43,042	44,451	59,422	52,649
Total	Count	366	274	50	198	201	195	232	1,516
	Avg Credited	1.7	7.3	11.5	17.8	22.1	27.4	32.5	15.9
	Avg 2007 Earnings	50,366	55,905	59,590	61,981	61,867	65,332	63,769	58,689

Some earnings figures hidden to protect confidentiality.

Age is rounded down to the nearest birthday.

Avg. Credited is the number of years credited for pension plan purposes (rounded down to the nearest integer).

The salary used is the annualized pensionable salary for the year ending December 31, 2007.

Includes 54 members on LTD and 41 members who switched to the DC component of the Plan in respect of service after July 1, 2001.

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Table B.3 Employees' Plan Pensioners

Nearest Age	Count	Average Annual Pension	Average Annual Bridge	Average Annual Benefit	Total Benefit Payable
Under 25	16	-	1,701	1,701	27,209
25 to 49	10	10,035	1,196	11,231	112,312
50	3	15,476	2,496	17,972	53,915
51	4	12,683	739	13,422	53,686
52	3	6,291	849	7,140	21,420
53	3	15,762	3,321	19,083	57,250
54	5	10,549	1,428	11,977	59,884
55	19	22,954	6,978	29,932	568,710
56	42	28,505	8,617	37,122	1,559,108
57	37	25,234	8,685	33,919	1,255,001
58	53	25,233	8,100	33,333	1,766,641
59	73	23,141	7,179	30,320	2,213,354
60	90	22,731	7,664	30,396	2,735,605
61	81	21,323	7,395	28,718	2,326,170
62	60	23,769	7,183	30,952	1,857,110
63	61	19,686	6,691	26,377	1,608,969
64	41	21,170	6,713	27,884	1,143,224
65	44	18,769	2,469	21,237	934,447
66	47	18,156	111*	18,266	858,520
67	42	19,258	-	19,258	808,839
68	45	18,190	97*	18,286	822,875
69	47	19,523	109*	19,632	922,722
70	35	22,869	-	22,869	800,398
71	33	19,433	-	19,433	641,296
72	23	13,803	-	13,803	317,470
73	9	14,968	-	14,968	134,709
74	13	21,292	-	21,292	276,791
75	12	12,749	-	12,749	152,988
76	3	13,316	-	13,316	39,947
77	5	16,408	-	16,408	82,039
78	3	20,591	-	20,591	61,774
79	6	18,665	-	18,665	111,991
80	3	16,383	-	16,383	49,148
81	1	< >	< >	< >	< >
Average		\$20,656	\$4,491	\$25,147	
Total	972				\$24,442,796

Figures shown above include January 1, 2008 cost of living adjustment.

* Bridge payable to surviving spouse.

< > Some figures not shown to protect confidentiality.

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Table B.4 Acquired Plan Pensioners

PART I				PART II		
Nearest Age	Count	Average Annual Benefit	Total Benefit Payable	Count	Average Annual Benefit	Total Benefit Payable
Less than 55	2	< >	< >	0	-	-
55 to 59	14	813	11,383	9	1,571	14,137
60	16	634	10,150	1	< >	< >
61	21	1,182	24,814	3	623	1,868
62	13	1,995	25,934	5	1,961	9,807
63	17	2,238	38,044	2	< >	< >
64	12	2,940	35,281	4	2,240	8,959
65	11	2,665	29,316	4	5,445	21,782
66	8	3,720	29,759	1	< >	< >
67	9	3,250	29,252	1	< >	< >
68	7	4,241	29,685	4	4,384	17,537
69	14	4,178	58,488	12	4,987	59,842
70	10	4,029	40,286	6	5,767	34,603
71	13	5,483	71,283	8	3,126	25,009
72	15	6,063	90,944	7	3,839	26,876
73	11	4,552	50,074	5	5,778	28,890
74	21	8,304	174,384	5	7,264	36,321
75	11	8,907	97,980	5	4,939	24,695
76	19	8,561	162,653	7	5,785	40,497
77	18	9,753	175,562	8	8,432	67,459
78	17	5,987	101,778	11	5,061	55,675
79	14	11,535	161,486	10	6,691	66,908
80	21	10,924	229,412	5	3,873	19,366
81	18	9,629	173,330	5	8,677	43,386
82	23	8,511	195,760	9	9,293	83,636
83	14	11,256	157,584	9	5,020	45,184
84	16	11,685	186,960	6	5,134	30,803
85 to 89	58	9,429	546,875	24	6,604	158,495
90 to 94	36	7,535	271,266	11	4,222	46,439
95 and over	12	6,141	73,688	6	5,036	30,216
AVERAGE		\$6,696			\$5,261	
TOTAL	491		\$3,287,679	193		\$1,015,397

Figures shown above include January 1, 2008 cost of living adjustment.
 < > Some figures not shown to protect confidentiality.

Table B.5 Exec and Discretionary Pensions

Nearest Age	Count	Avg. Annual Pension	Avg. Bridge Pension	Avg. Benefit	Total Benefit
50 to 54	1	< >	< >	< >	< >
55 to 59	24	4,719	1,159	5,878	141,083
60	26	3,877	1,435	5,312	138,101
61	40	4,553	1,387	5,940	237,595
62	29	6,272	1,380	7,651	221,888
63	33	3,537	1,355	4,893	161,457
64	24	4,116	1,354	5,470	131,284
65	19	3,613	439	4,052	76,987
66	15	4,174	60*	4,234	63,507
67	11	7,201	-	7,201	79,209
68	12	< >	< >	< >	< >
69	9	3,173	99*	3,273	29,453
70	5	3,748	-	3,748	18,739
71	7	2,872	-	2,872	20,101
72	3	2,410	-	2,410	7,229
73	2	< >	< >	< >	< >
74	2	< >	< >	< >	< >
75	2	< >	< >	< >	< >
76	3	1,670	-	1,670	5,010
77	0	-	-	-	-
78	4	4,896	-	4,896	19,583
79	6	4,063	-	4,063	24,376
80	4	1,523	-	1,523	6,091
81	5	3,465	-	3,465	17,327
82	2	< >	< >	< >	< >
83	5	1,854	-	1,854	9,270
84	5	3,046	-	3,046	15,231
85 to 89	18	2,243	-	2,243	40,378
90 to 94	3	4,519	-	4,519	13,558
95 plus	1	< >	< >	< >	< >
AVERAGE		\$5,004	\$780	\$5,784	
TOTAL	320				\$1,850,786

Figures shown above include January 1, 2008 cost of living adjustment.

* Bridge payable to surviving spouse.

< > Some figures not shown to protect confidentiality.

Date Filed: July 8, 2008

Avon IR-80 Attachment 2 Page 6 of 13

Table B.6 War Service and ERIP 1986 and 1991 as at December 31, 2007

War Service				ERIP 1986 and 1991			
Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable	Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable
74	1	< >	< >	65	1	< >	< >
76	7	1,746	12,225	66	1	< >	< >
77	1	< >	< >	67	1	< >	< >
78	2	< >	< >	69	3	3,148	9,444
79	3	1,051	3,153	70	1	< >	< >
80	3	1,305	3,914	71	9	4,148	37,335
81	2	< >	< >	72	20	4,331	86,626
82	7	3,036	21,250	73	15	4,366	65,488
83	4	1,347	5,388	74	21	5,015	105,305
84	13	2,826	36,732	75	18	4,647	83,651
85	6	2,984	17,906	76	27	4,531	122,349
86	5	3,109	15,546	77	36	3,857	138,866
87	8	3,417	27,340	78	14	3,556	49,790
88	4	6,337	25,347	79	20	3,630	72,591
89	5	4,156	20,780	80	18	3,756	67,601
90	7	4,538	31,768	81	13	4,143	53,860
91	3	9,891	29,672	82	11	5,389	59,278
92	1	< >	< >	83	9	3,772	33,944
93	1	< >	< >	84	6	2,697	16,184
98	1	< >	< >	85	3	1,886	5,658
100	1	< >	< >	86	1	< >	< >
Average		\$3,330		Average		\$4,127	
Total	85		\$283,009	Total	248		\$1,023,396

Figures shown above include indexing as at January 1, 2008.

There are no bridge benefits.

< > Some figures not shown to protect confidentiality.

Description of Health Plan Membership Data

Employee data for health benefits was provided by NSPI as at December 31, 2007. We have taken the following steps to review the data to ensure sufficiency and reliability:

- > The data for actives and post 1991 pensioners was compared to the pension valuation data as at December 31, 2007 for reasonableness. Approximately 90% of pension plan active members are enrolled in the health program, and 75% of pension plan retirees are enrolled in the health coverage. This is reasonable since there is an employee cost share component for the coverage.
- > The data for selected active members and post 1991 pensioners were cross-referenced with the pension plan data and found to be consistent.
- > We reviewed the data counts and age distributions in respect of pre-1992 retirees for whom NSPI reimburses the Province of Nova Scotia for health benefits, against actual data as at December 31, 2004 and they are consistent.

Table B.7 NSPI Active Members Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	8	7	26.8
30 – 34	11	16	33.1
35 – 39	11	30	37.9
40 – 44	16	65	42.6
45 – 49	15	90	47.6
50 – 54	13	107	52.5
55 – 59	9	44	57.0
60 – 64	4	22	62.0
Total	87	381	47.5

Includes 7 members who have been transferred to Emera on or after January 1, 2007 and have a total of 6 years of service with Emera.

Table B.8 NSPI (Post – 91) Pensioners Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage	Average Age Within Age Band
< 50	0	3	44.6
50 – 54	8	4	52.8
55 – 59	23	97	58.3
60 – 64	55	165	62.2
65 – 69	31	108	67.3
70 – 74	18	37	71.9
75 – 79	7	6	77.2
> 80	2	0	84.3
Total	144	420	62.9

Table B.9 NSPI Active Members Enrolled in New Health Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	65	20	9	25.9
30 – 34	26	23	52	32.4
35 – 39	33	17	83	37.5
40 – 44	24	13	88	42.7
45 – 49	28	39	108	47.3
50 – 54	36	84	118	52.8
55 – 59	9	61	22	57.0
60 – 64	5	8	0	61.6
Total	226	265	480	44.2

Includes 16 members who have been transferred to Emera on or after January 1, 2007 and have a total of 12.5 years of service with Emera.

Table B.10 NSPI Active Members Enrolled in New Dental Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age Within Age Band
Less than 30	64	21	10	25.9
30 – 34	24	28	50	32.4
35 – 39	33	18	83	37.5
40 – 44	23	16	87	42.6
45 – 49	28	39	111	47.3
50 – 54	35	78	117	52.8
55 – 59	13	59	19	57.0
60 – 64	5	7	0	61.6
Total	225	266	477	44.1

Includes 16 members who have been transferred to Emera on or after January 1, 2007 and have a total of 12.5 years of service with Emera.

Table B.11 NSPI (Post – 91) Pensioners Enrolled in New Program

	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage	Average Age
Total Health	9	79	26	58.1
Total Dental	11	79	24	58.1

Pre-92 Pensioners – Premium Reimbursement to Province of NS

We were provided with the counts of members with single and family coverage enrolled in policies 5138, 6000, and 6500 under Province of NS post retirement health plan for who NSPI reimburses the Province of NS for a portion of the premiums. We gathered data provided by the Province of Nova Scotia as at December 31, 2004 for all of the retirees under policies 5138, 6000 and 6500 with single or family coverage who were still enrolled as at that date. We determined the present value of the future premiums as at December 31, 2007 assuming there was no change in the membership during 2005, 2006 or 2007. We then pro-rated the total present value for each group and coverage type based on the membership counts provided by NSPI as at December 31, 2007.

The following table presents the age distribution based on the membership as at December 31, 2004 and also provides the membership counts as at December 31, 2007:

Table B.12 Distribution of Pre-92 Pensioners based on December 31, 2004 Membership

Age Band	5138 Single	5138 Family	6000 and 6500 Single	6000 and 6500 Family
50 – 54	0	0	0	0
55 – 59	1	2	0	3
60 – 64	2	0	4	3
65 – 69	1	0	13	2
70 – 74	2	0	47	71
75 – 79	2	0	100	131
80 – 84	8	4	71	75
85 – 89	16	6	72	41
90 – 94	10	1	25	10
95 – 99	2	0	9	4
Total	44	13	341	340
Number as at Dec. 31, 2007 (provided by NSPI)	39	10	352	267

Dental

In addition to the employee data for health benefits under the old post-retirement health plan, NSPI provided data for retiree dental benefits. Retiree dental benefits are provided in special circumstances under the old post-retirement health plan, and do not form part of the standard benefits package. (Under the new post retirement benefit plan, dental coverage is provided). There are approximately 22 retirees as at December 31, 2007 who are entitled to dental benefits on a 50/50 cost share under the old post-retirement health plan until they reach age 65. The average age of the 22 retirees is 61.0.

Life Insurance

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan. We were not provided with specific data relating to this life insurance coverage, however we have compiled membership data as at December 31, 2007 using the data provided by NSPI for the new health plan and earnings provided for the long service award valuation. (The previous year's long service award data was used to estimate the life coverage for the retired members.)

The following table summarizes the data as at December 31, 2007 which was used to determine the Accrued Benefit Obligation in respect of the life insurance benefits. Note that active members who are projected to have less than 15 years of service at the assumed retirement age were not included in the valuation because, based on the plan's cost-sharing formula, the post-retirement life insurance premiums would be entirely paid by the retiree.

Table B.13 NSPI Active Members Assumed to have Subsidized Post-Retirement Life Insurance

Age Band	Count	Average Service	Average Projected Coverage at Retirement
Less than 30	94	1.9	461,053
30 – 34	101	3.6	400,545
35 – 39	131	6.9	352,634
40 – 44	122	13.2	311,467
45 – 49	152	19.6	277,500
50 – 54	214	28.5	230,481
55 – 59	82	29.0	191,598
60 – 64	11	24.5	181,909
Total	907	16.3	305,626

Includes 16 members who have been transferred to Emera on or after January 1, 2007 and have a total of 12.5 years of service with Emera.

Table B.14 NSPI Retired Members Assumed to have Subsidized Post-Retirement Life Insurance

Age Band	Count	Average Coverage
Less than 55	3	130,667
55 – 59	85	183,906
60 – 64	25	175,440
Total	113	179,921

Appendix C – Summary of Plan Provisions

Employees' Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2007 for a summary of plan terms. Effective July 1, 2001, a defined contribution option was offered under the Employee's pension plan. Members who elected to participate in the defined contribution portion of the plan ceased to accrue service under the defined benefit portion of the plan, but retain a defined benefit pension based on final average earnings at termination or retirement in respect of credited service to July 1, 2001.

Acquired Companies Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2007 for a summary of plan terms. Included in the liability is the value of cost of living adjustment and survivor benefits in respect of member's paid up Government of Canada pensions. We note that this is a closed plan and there are no members accruing service.

Executive Supplements, and Discretionary Benefits

NSPI introduced a Supplementary Executive Retirement Plan ("SERP") as at January 1, 2001 to top-up benefits for all members who are capped under the Employees' Pension Plan by the maximum pension limits set out in the *Income Tax Act*. Previously, only certain executives were covered by the SERP. Generally speaking, the SERP has the same terms as the registered Employees' Pension Plan and pays a pension equal to (a) minus (b):

- a) the pension determined under the Employees' Pension Plan without reference to the *Income Tax Act* limits,
- b) the pension payable under the Employees' Pension Plan.

The SERP benefits cover both defined benefit and defined contribution amounts that would otherwise exceed *Income Tax Act* limits. For the DC SERP, the word "contribution" would replace the word "pension" in the formula above. In addition, the annual rate of return on the DC SERP balances are deemed to be equal to the annual rate of return on the member's actual Employees' Pension Plan DC account balance.

Certain members in the SERP have a different definition of pensionable earnings than that defined in the Employees' Pension Plan. For such members, this would be used to determine (a) above. There is no pre-funding of SERP benefits. Please refer to the SERP plan document for additional information.

In addition to the SERP, any discretionary benefits granted by NSPI are included in this component. Such benefits are not pre-funded.

War Service, ERIPs of 1986 and 1991

War Service liability is in respect of service granted under the Nova Scotia Public Service Superannuation Plan ("PSSP") to members of Nova Scotia Power Corporation (the predecessor to Nova Scotia Power Incorporated). PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to war service on a pay as you go basis.

The ERIP 1986 and 1991 liability is in respect of certain additional benefits provided to members who retired under the early retirement incentive program (ERIP) offered in 1986 and 1991. The PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to additional service granted under the ERIP on a pay as you go basis.

Long Service Award

Employees who retire from active service on an unreduced pension are eligible for a Long Service Award benefit. This benefit is also paid in the event of death in service. No benefit is payable to employees who terminate prior to retirement, or to those who retire early with a reduced pension. A member's benefit is based on his rate of pay on his retirement date. The benefit amount is 1 week's salary for each year of service, up to a maximum of 26 years of service. Effective August 1, 2007 the long service award is closed to all new hires.

Post-Retirement Health Care Benefits*Existing ("Old") Post-Retirement Health Care Plan*

All NSPI employees who retired between privatization and December 31, 2003 receive benefits under the Old post retirement health care plan. Members who were active as at January 1, 2004 may receive benefits based on either the Old or New Plan depending on a one-time coverage election.

The Old Plan provides retired employees and their spouses (and eligible dependent children, if any) with 100% coverage for all prescription drugs up to age 65, 100% of eligible hospital benefit costs, and 80% of extended health benefits. To be entitled to this post-retirement health benefit, employees must retire from active service and be eligible for an unreduced pension from the NSPI Employee's Pension Plan. Benefits are not provided to those who terminate prior to retirement. It is noted that the Prior Plan documents suggest that spouses and dependents are not eligible for coverage after the death of the member; however, we understand that the practice is to continue to provide coverage, and charge the applicable premium, in any such instance. We have therefore included the cost of lifetime benefits for surviving spouses, in accordance with Company practice.

The cost of the Old Plan is shared on a 50-50 basis between the retired employees (and eligible spouses) and the Company. The premium charged is set by the insurance company considering total expected claims in respect of retired members only. The premium does not reduce at age 65, although drug coverage ceases at that time. Premiums differ between employees only in respect of coverage type, i.e., single or family coverage.

New Post-Retirement Health Care Plan

This Plan applies to all employees hired on or after January 1, 2004. However, all active employees as at January 1, 2004 had a one time option to convert to the New Plan.

Compared to the Old Plan, the New Plan adds orthodontic coverage, and caps drug dispensing fees at \$7 per prescription and drug costs to the generic brand cost. Members who enroll in the New Plan are entitled to continue with both health and dental coverage after retirement up to age 65 if they meet eligibility requirements:

- > The member must have at least 10 years of continuous service with the Company to be eligible for the post-retirement benefit.
- > Benefits are not provided to those who terminate prior to retirement.
- > The cost of the New Plan is shared between the employee and the Company, based on the retired member's continuous service at their date of retirement:

Years of Continuous Service at Retirement	Employer Paid Portion
1 – 9	Not eligible to enroll in the Plan
10 – 14	0% paid for by the Employer
15 – 29	50% paid for by the Employer
30 – 34	75% paid for by the Employer
35 +	100% paid for by the Employer

In addition to single and family coverage, the New Plan offers "couple" coverage, whereby any two family members may obtain health and dental coverage. Under the New Plan, no coverage is provided after the former employee attains age 65 (even if the spouse is still under age 65).

Post-Retirement Health Benefits for pre-privatization retirees

The cost to NSPI of benefits payable in respect of retired NSPC (the predecessor to Nova Scotia Power Incorporated) members who receive a pension from the PSSA is based on the premium assessed by the Province of Nova Scotia.

Subsidized Post-Retirement Life Insurance

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan. The cost-sharing of the life insurance premiums is based on the retired member's continuous service at their date of retirement as shown in the table above for the new post-retirement health care plan.

For non-executives the coverage is equal to 3 times the employee's salary at retirement up to a maximum of \$500,000. For executives the coverage is 5 times salary at retirement up to a maximum of \$1,000,000.

CONFIDENTIAL (Attachment Only)

1 **Request IR-80:**

2
3 **Please refer to NSPI's 2012 General Rate Application, DE-03 - DE-04, starting on page 69**
4 **of 161, line 24, through page 70, line 5. Please provide all documentation including, but not**
5 **limited to any and all studies, data, documentation, and analyses provided by consultants**
6 **and company personnel to determine the amount of pension expenses and prepaid pension**
7 **assets included in the Company's proposed revenue requirement for 2012, and as forecast**
8 **for the years 2013-2016.**

9
10 Response IR-80:

11
12 Please refer to Confidential Attachment 1 and to the Application, RB-02 – RB-16, Attachment 2
13 for details on the data, methods and assumptions used to determine the projected pension
14 expense for 2012-2016.

15
16 Please refer to Confidential Attachment 2 for documentation on how the discount rate of 5.50
17 percent per annum was determined as at December 31, 2010. Please refer to Confidential
18 Attachment 3 for a retirement age study performed in 2008 indicating that the average retirement
19 age is 58.

20
21 Please refer to Attachment 4, Attachment 5, and Attachment 6 for the Morneau Shepell 2008,
22 2009, and 2010 surveys of economic assumptions (of assumptions used in the years from 2007 to
23 2009). These surveys were reviewed with Morneau Shepell to assist management in determining
24 their best estimate assumptions for pension accounting purposes.



2010 Survey of Economic Assumptions
in Accounting for Pensions and Other
Post-Retirement Benefits

Highlights of our annual survey results

SPECIAL REPORT

MORNEAU
SOBECO



In this report, Morneau Sobeco is pleased to provide information on the assumptions being used by approximately 100 Canadian public companies in accounting for the costs of their defined benefit plans. This information is based on audited financial statements as at December 31, 2009. This is the tenth year that the survey has been produced.

Accounting for publicly accountable enterprises (PAE) will move to International Financial Reporting Standards (IFRS) for fiscal years beginning on or after January 1, 2011. We have included a special section later in this survey with some insights as to the expected transition impact based on this year's survey results. That section also covers some of the key changes proposed in a recent IASB exposure draft on IAS19 (employee benefits).

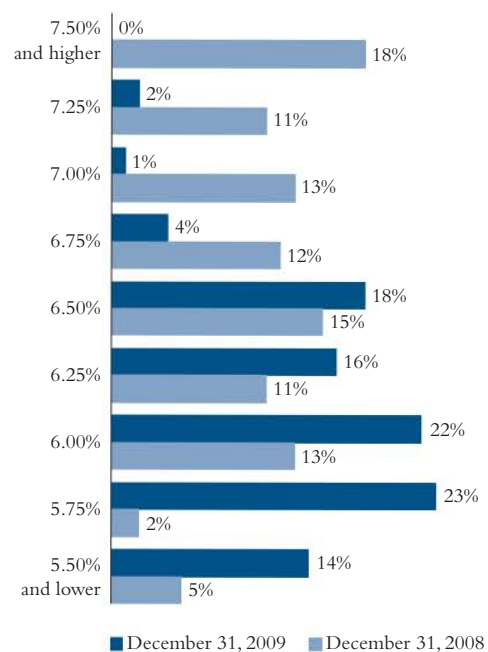
Discount Rate for Pension Plans

The financial crisis that prevailed during last year's survey led to a significant increase in corporate bond yields which affected the discount rates used in determining pension costs for accounting purposes (see the Appendix for a description of "discount rate"). Conditions have returned to normal more or less and as a result, the discount rates used for accounting purposes this year have declined significantly compared to last year. The range in discount rates has also narrowed slightly.

The following chart summarizes the discount rates used in the valuation of defined benefit pension plans. The median discount rate was 6.00% as at

December 31, 2009 compared to 6.75% a year earlier. About 79% of the companies used a discount rate between 5.75% and 6.5%.

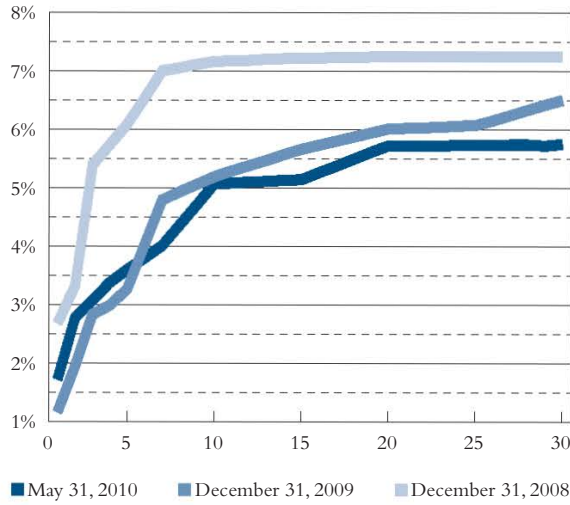
Discount Rate / Pension Plans



Roughly 90% of companies reduced their discount rate in 2009 with the typical reduction being 50 to 100 basis points.

Over time, the yields on high quality long term corporate bonds may vary considerably. The discount rate should be expected to vary in a similar fashion. For illustration, the graph below compares the yield curves as at December 31 for the years 2008, 2009, and May 2010.

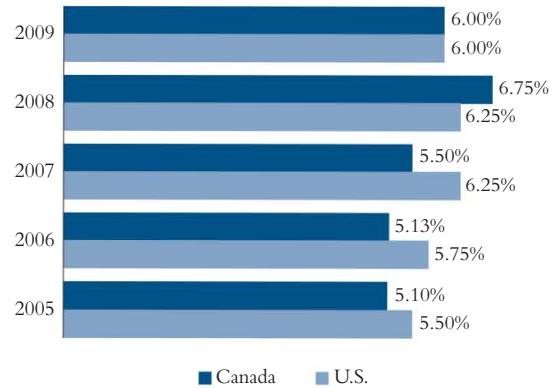
High-Quality Corporate Bonds



If the yield curve were to remain at the May 2010 levels until the end of the year, we would expect discount rates at December 31, 2010 to be about 50 basis points lower on average than those used at December 31, 2009.

The following chart compares the median discount rates in our survey to those from a U.S. survey¹. We see that the rates in Canada this year are similar to the estimated U.S. rates.

Median Discount Rate by Country



Discount Rate for Non-Pension Benefits

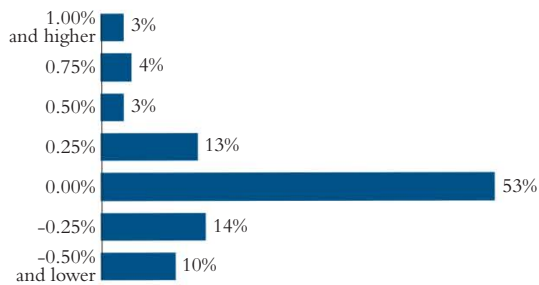
The duration of non-pension post-employment benefits is often significantly different from that for pensions. For example, the duration of the accrued benefit obligation (ABO) for a retiree medical plan is often higher than that for pensions. As a result, the choice of discount rate for the valuation of post-employment benefits can be different in theory than it is for pensions. (See the Appendix on selecting the discount rate for more on this.) While some companies use different rates for the different types of plans, many companies elect to use a single blended rate, or else they simply use the rate for the most material plan.

¹ Source : *Survey of Economic Assumptions used for SFAS No. 87 and SFAS No. 106 Purposes*, prepared by Deloitte & Touche Human Capital Advisory Services (U.S.). (Estimate for 2009)

The median rate used as at December 31, 2009, for non-pension benefits is 6.0%, which is identical to the median rate used for pensions.

The following chart shows the difference between the discount rate used in the valuation of non-pension benefits and that used for pension plans. (A positive value indicates a higher rate for non-pension benefits than for pensions and vice versa.)

*Difference in Discount Rates
(Non-Pension Benefits vs. Pensions)*



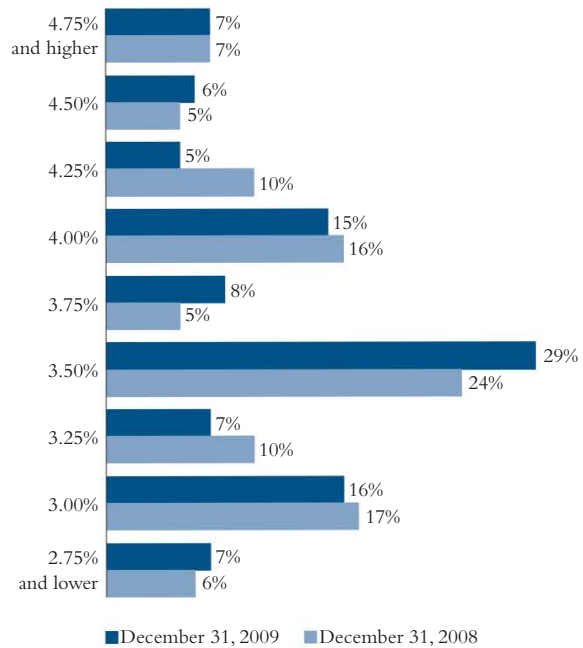
While in most cases companies have used the same discount rate for pensions and non-pension benefits, 23% used a higher discount rate for non-pension benefits (compared to 24% in our previous survey).

Rate of Compensation Increase

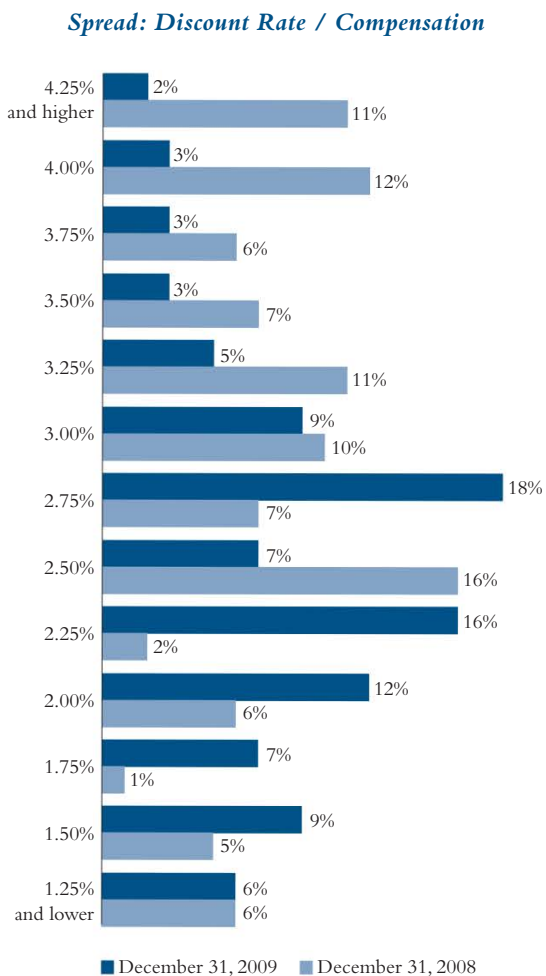
Plans that provide pay-related benefits are required to make an assumption about the rate of compensation increases. CICA 3461 indicates that it should reflect “future changes attributed to general price levels, productivity, seniority, promotion, and other factors.”

The median compensation increase assumption as at December 31, 2009, was 3.5%, identical to last year’s median, with 75% of companies using rates between 3.0% and 4.0%. Given how low this assumption is in some cases, it is quite likely that some companies are not properly reflecting the impact of individual job progression in their disclosed assumption.

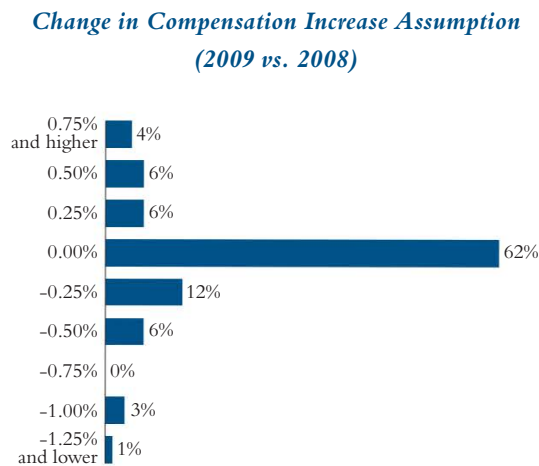
Rate of Compensation Increase



The following graph shows the spread between the discount rate and the rate of compensation increase. The spread generally has a significant impact on the ABO for defined benefit pension plans. The median spread is 2.4% as at December 31, 2009, which is about 60 basis points lower than last year. The decrease in the spread will result in higher ABO.

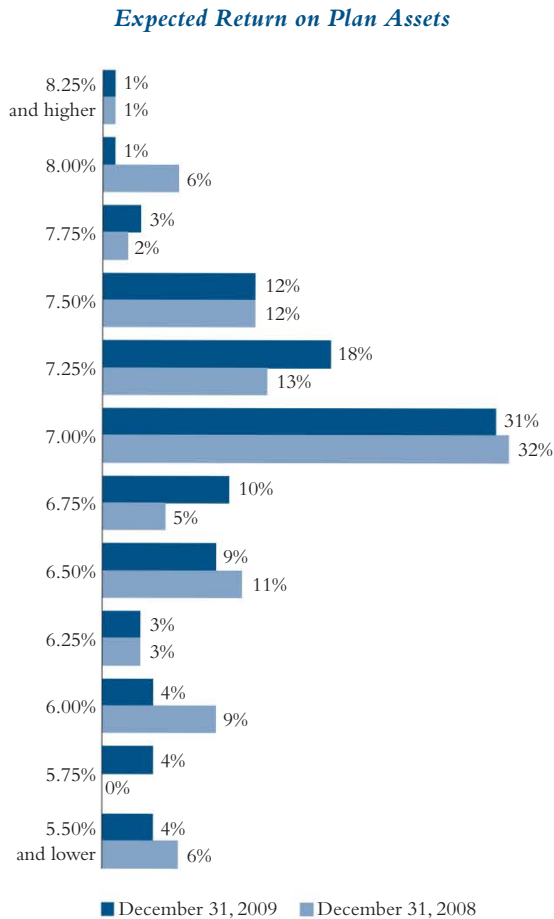


Our survey shows that 38% of companies changed the rate of compensation increase assumption by at least 0.25% (up or down) at December 31, 2009. There is some debate over how frequently this assumption should be changed. In the “Supplement to the Employee Future Benefits Implementation Guide” the CICA states that the requirement to be internally consistent applies to all assumptions except for the discount rate. Assumptions other than the discount rate should be based on a long-term view and should be revised only when a significant change in expected long-term economic conditions occurs.



Expected Long-Term Return on Plan Assets

CICA 3461 specifies that the expected rate of return on plan assets should reflect a long-term view. The following chart shows the return assumption disclosed at the end of 2009 versus 2008.

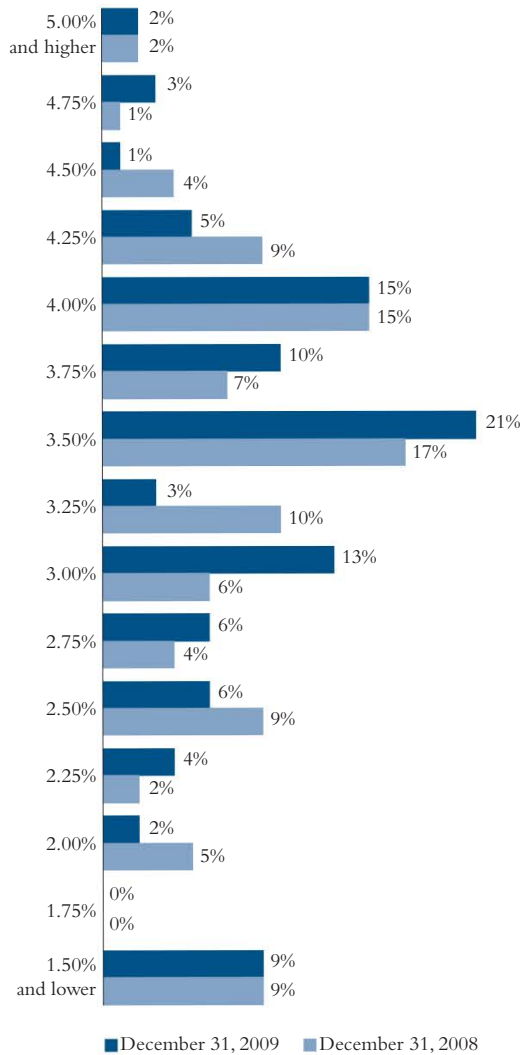


The median expected long-term rate of return on plan assets is 7.0%, the same as in the December 31, 2008 survey. The distribution of rates was very nearly the same at December 31, 2009 as it was at December 31, 2008 with 61% (57% in 2008) of the companies having used rates between 7.0% and 7.5%. In recent years, there has been a very slow but steady decline in this assumption.

For virtually all pension plans, the actual return earned in 2009 was much higher than the assumed long-term rate of return on assets. The actual median return for diversified pension funds was 17.9% in 2009 according to the *Performance Universe of Pension Managers' Pooled Funds* produced by Morneau Sobeco.

The following graph shows the spread between the expected return on plan assets and the rate of compensation increase. The median spread was 3.5% as at December 31, 2009, identical to last year's median. It is expected that this spread will be fairly stable from one year to the next.

Spread: Expected return on plan assets / Compensation

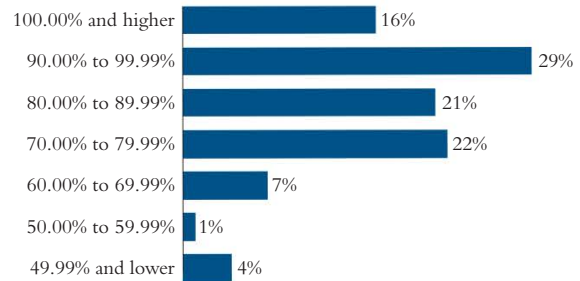


Our survey results show that about 27% of companies reduced the spread by at least 0.25% as at December 31, 2009.

Pension Plans Financial Situation and Financial Assumptions

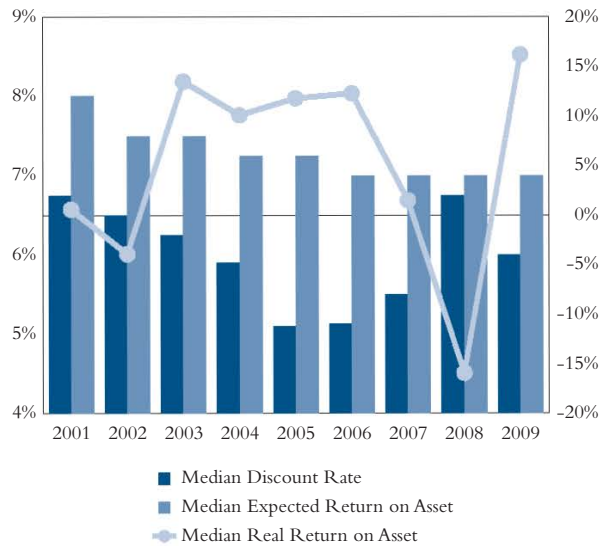
The companies in our survey show an 88% overall ratio of pension assets to ABO for accounting purposes. This result may be viewed as a little understated since it includes some non-registered plans for which no funding is legally enforced under Canadian regulatory environment. The ratio is highly influenced by the actual return on plan assets, the discount rate assumption and special contributions made to cover pension plan deficits. The distribution of companies based on their overall ratio at December 31, 2009 is shown in the following table.

Pension plans ratio of asset value to accounting ABO (distribution of companies)



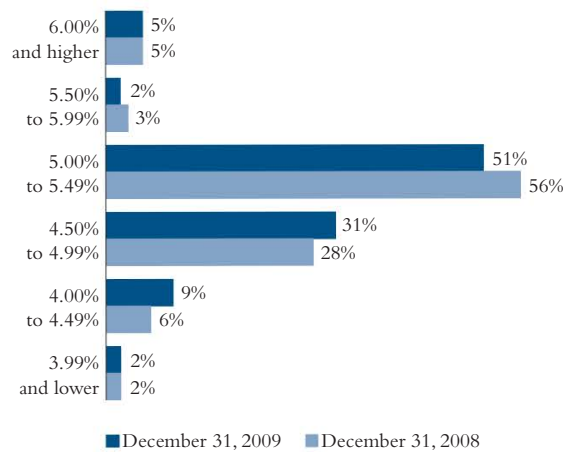
As mentioned, the ratio is highly influenced by return on assets and discount rate, for which we have summarized historical data.

Key financial assumptions and actual return on assets



The following charts show the December 31, 2009 medical cost trend assumption compared to December 31, 2008. About 82% of companies used an ultimate trend rate between 4.5% and 5.5%. The median is unchanged at 5.0%.

Ultimate Medical Cost Trend



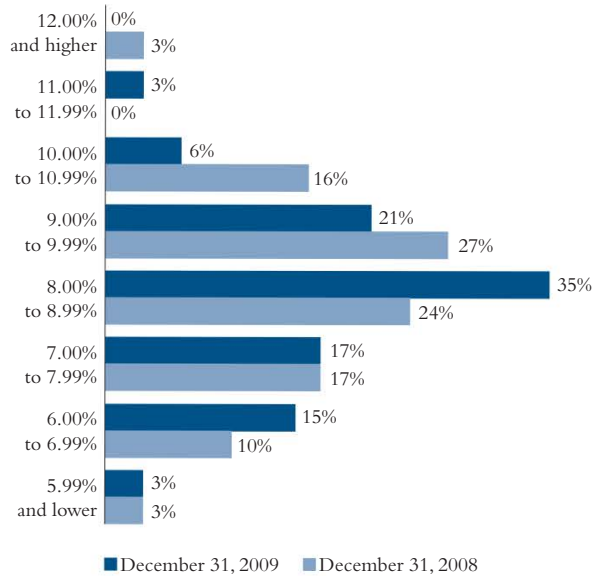
Medical Cost Trend

Where retiree medical coverage is offered, a key assumption in the valuation of the ABO is the rate of future medical cost increases. CICA 3461 provides guidance on factors that companies should consider in selecting this assumption.

Often, medical costs are assumed to increase at a higher rate in the short term, declining in steps to an ultimate rate over a period of several years.

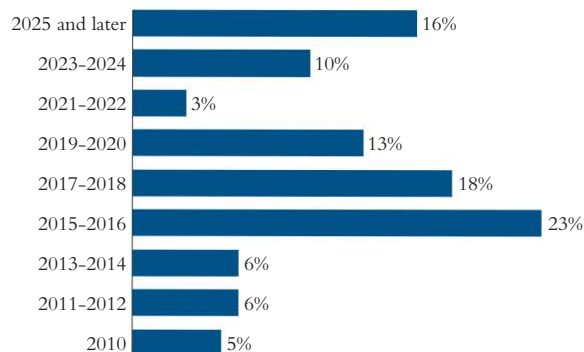
The median assumption for the short-term medical cost trend rate was 8.0%, which is about 50 basis points lower than last year. There has been a continuing decrease in the number of companies using an assumption of 10% or higher, with just 9% of the companies now in this category compared with 19%, 28%, 36%, 45% and 50% respectively in the previous 5 years. 35% of companies used an assumption of less than 8%.

Short-Term Medical Cost Trend



The median year in which the medical cost increase rate reaches the ultimate rate is 2018.

*Ultimate Medical Cost Trend
(year in which ultimate rate is attained)*



Asset and Obligation Measurement Date

CICA 3461 requires that the employee future benefits be measured at fiscal year end or at a date up to three months prior to that date. All companies in our survey have a December 31 fiscal year end and 86% of them used December 31 as their measurement date. Among the other 14%, a September 30 date is used most often.

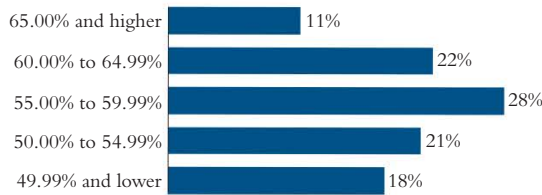
It should be noted that IFRS does not permit early measurement dates. As such, adjustment to accounting process for companies that are using early measurement will be needed once IFRS is fully implemented in 2011 (including comparative results at January 1st, 2010).

Pension Plan Asset Allocation

The allocation of pension fund assets between equities, fixed income and other assets must be disclosed. Additional categories may be added if it helps to improve the reader's understanding of the investment risks faced by the fund.

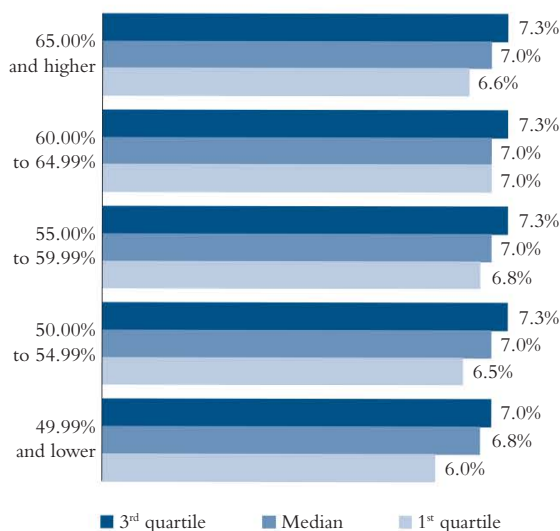
The average asset allocation as at December 31, 2009, was 59% in equities, 37% in fixed income and 4% in other assets. The distribution of the proportion of funds invested in equities is shown below:

**Company Distribution
by Pension Plan Equity Weighting**



Since the expected long-term return on assets assumption is based in part on asset allocation, we have compared the assumption to the equity weighting. Theoretically, a pension plan holding a higher proportion of its assets in equities should have a higher expected rate of return on assets than a pension plan with a lower equity allocation. The results from our survey, in the graph below, indicate that this is generally true.

**Long-Term Rate of Return Assumption
for Varying Levels of Equity**

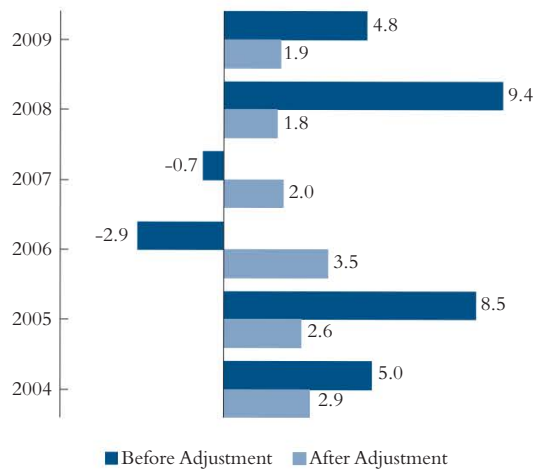


**Pension Expense Before
and After Adjustment**

This 2010 survey presents results for companies with a total of \$114 billion in pension assets. The following graph shows the difference between the pension expense before and after adjustment for each year since 2004 in aggregate for all companies in our survey. The expense after adjustment represents the actual expense found in the financial statements. The expense before adjustment is the notional expense one would experience in a full mark-to-market accounting environment (i.e. one in which there is immediate recognition of all changes in assets and ABO). In 2009, the total recognized expense amounted to \$1.9 billion (i.e. expense after adjustment). In the absence of any amortization, the expense before adjustment would have been \$4.8 billion.

In 2008, losses on assets mostly exceeded the gains on ABO from increasing discount rate. As for this year, gains occurred on plan assets but more important losses were suffered on ABO from decreasing discount rate. Therefore, the impact of this year's adjustments was generally to defer the actuarial loss, and to reduce the pension expense.

*Pension Expense (Income) Before/After Adjustment
(in billions of dollars)*



The “pension expense before adjustment” illustrates the expense volatility that would be experienced if the accounting rules for employee future benefits were changed to require full mark-to-market accounting without amortizations.

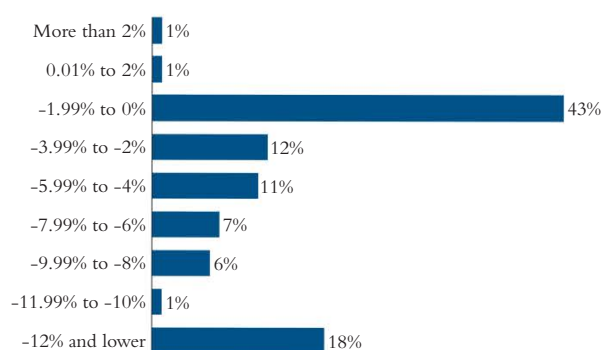
Imminent Transition to International Accounting Standards

As mentioned earlier, accounting for Canadian publicly accountable enterprises will move to International Accounting Standards. For many employers, the transition to international accounting will initially lead to full recognition on the balance sheet of the financial position of the pension plans and non-pension employee future benefits. To the extent that this position differs from the current accrued benefit liability at transition date, an adjustment to the shareholders’ equity will also be required, net of any deferred taxes. Comparative figures will be required at January 1st, 2010 for most companies. As such, for illustration purposes, we have estimated what the impact of transition to IFRS would be, including both pension and non-pension benefits, using this year results. Since the effective tax rate will vary by company, our results are shown on a pre-tax basis.

Based on the companies in our survey, the proposed changes would reduce shareholders’ equity by \$19.3 billion, on a pre-tax basis. The median reduction represents about 2.5% of shareholders’ equity.

Depending on a company's financial situation and the relative size that their pension and benefit plans represent relative to the rest of their operation, the impact may be significantly different. The following table illustrates the distribution of companies based on expected impact relative to shareholders' equity.

IFRS estimated transition impact relative to shareholders' equity (distribution of companies)



The ultimate impact may also vary widely due to asset ceiling considerations under IAS19 and IFRIC14. This is an important issue of international accounting standards. The asset ceiling may further increase the impact illustrated above on shareholders' equity.

Note that in April 2010, the IASB published an exposure draft on proposed changes to IAS19. Comments are being solicited until September 6, 2010 and the final document is expected by June 30, 2011. First application is likely to be in 2013 which will entail a second transition in only a few years for Canadian PAEs. In brief, the proposed changes will mainly lead to:

- > no more deferral of gains and losses and past service costs;
- > increased volatility in the statement of financial position through other comprehensive income;
- > different presentation of pension and benefit plans expense components (operating, financing, remeasurements);
- > more comprehensive disclosure requirements (mostly related to risks).

You can consult the May 2010 edition of *News & Views* on our Web site to get a more detailed view of the proposed changes.

Appendix – Selecting the Discount Rate

In general, the ABO is highly sensitive to the discount rate assumption. For example, a 25 basis point decrease in the discount rate can increase the ABO by as much as 5%, which would in turn increase the annual expense.

CICA 3461 provides general guidance for the selection of the discount rate assumption. The discount rate should be determined by reference to market interest rates on high-quality debt instruments or to the interest rate at which the ABO could be settled. However, the precise methodology for computing this rate is not prescribed.

Since Canadian standards are similar to those of the United States, standard practice is to consider guidance provided by the Securities and Exchange Commission (“SEC”). The SEC has determined that the discount rate should reflect the yield of a portfolio of high quality fixed income instruments (rated as AA or better by Moody’s) that have the same duration as the plan’s ABO.

Information on high quality Canadian corporate bonds (rated AA or higher) is generally available from independent sources, and can serve as a starting point in the determination of the discount rate.

For More Information

This survey is intended to provide information regarding the assumptions disclosed by a wide range of companies and, as such, can provide an indication of trends. The assumptions used for your own employee benefit plans will depend on a number of factors.

For more information, speak to your Morneau Sobeco consultant.



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Morneau Sobeco Income Fund is the largest Canadian-owned firm providing human resource consulting and outsourcing services. Through Morneau Sobeco and Shepell•fgi, the firm delivers solutions to assist employers in managing the financial security, health and productivity of their employees. With over 2,300 employees in offices across North America, Morneau Sobeco Income Fund offers its services to organizations that are situated in Canada, in the United States and around the globe.



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2009 Survey of Economic Assumptions
in Accounting for Pensions and Other
Post-Retirement Benefits

Highlights of our annual survey results

SPECIAL REPORT

MORNEAU
SOBECO



Introduction

In this report, Morneau Sobeco has compiled information on the assumptions being used by approximately 100 Canadian public companies in accounting for the costs of their defined benefit plans. This information is based on audited financial statements as at December 31, 2008. This is the ninth year that the survey has been produced.

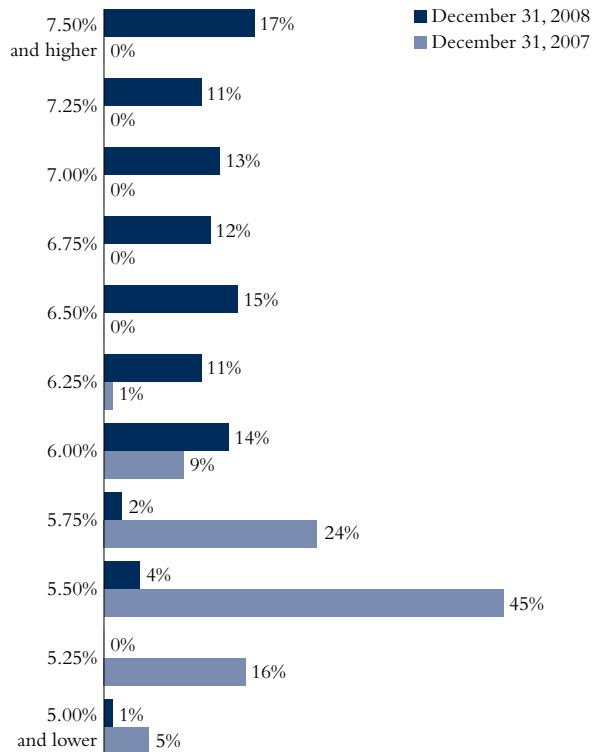
Accounting for publicly accountable entities (PAE) will move to International Financial Reporting Standards (IFRS) for fiscal years beginning on or after January 1, 2011. As IFRS requires comparative results in financial statements, we can expect that figures will be needed by January 1, 2010 under the new standard. For details, please refer to our Vision newsletter dated May, 2009. We have included a special section later in this survey with some insights as to the impact if transition had occurred on December 31, 2008.

Discount Rate for Pension Plans

The ongoing credit crisis has led to a significant increase in the corporate bond yields which has affected the discount rates to be used in determining pension costs for accounting purposes (see the Appendix for a description of “discount rate”). Most of the change has occurred since October 2008 and still prevails as of May 2009. As a result, the range in discount rates used for accounting purposes is greater than it has been in past surveys.

The following chart summarizes the discount rates used in the valuation of defined benefit pension plans. The median discount rate was 6.75% as at December 31, 2008 compared to 5.50% a year earlier. About 65% of the companies used a discount rate between 6.0% and 7.0%.

Discount Rate / Pension Plans

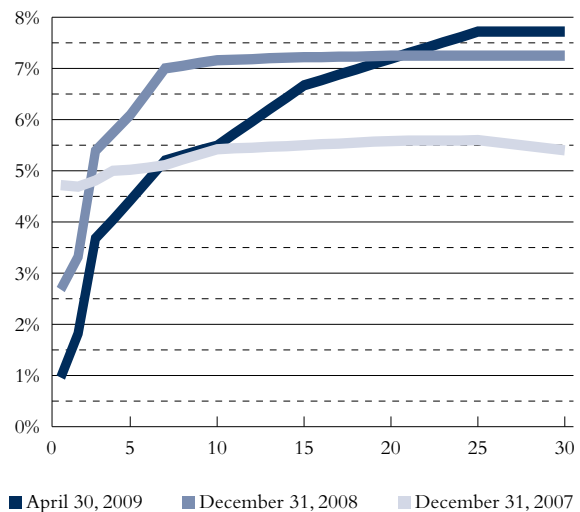


Roughly 90% of companies increased their discount rate in 2008 with the typical increase being 100 to 200 basis points.

Over time, the yields on high quality long term corporate bonds may vary considerably. The discount rate should be expected to vary in a similar fashion. For illustration, the graph below compares the yield curves as at December 31 for the years 2007, 2008, and April 2009.

In recent years, the yield curves had been fairly “flat” – particularly for durations of 10 years or more. Consequently, discount rates have been concentrated within a narrower range. Since 2008, yield curves have started sloping upward as illustrated by the April 30, 2009 curve.

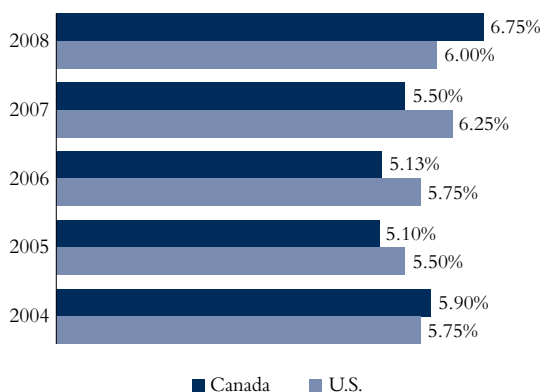
High-Quality Corporate Bonds



If the yield curve were to remain at the April 2009 levels until the end of the year, we would expect discount rates at December 31, 2009 to be about 25 basis points higher on average than those used at December 31, 2008.

The following chart compares the median discount rates in our survey to the median discount rates from a U.S. survey¹. We see that the rates in Canada this year are higher than in the U.S. Since the adoption of CICA 3461, it is only the second time this has occurred (the other year being 2004).

Median Discount Rate by Country

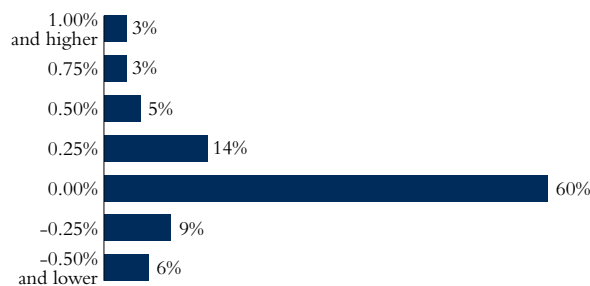


the choice of discount rate for the valuation of post-employment benefits can be different in theory than it is for pensions. (See the Appendix on selecting the discount rate for more on this.) While some companies use different rates for the different types of plans, many companies elect to use a single blended rate, or else they simply use the rate for the most material plan.

The median rate used as at December 31, 2008, for non-pension benefits was 6.78%, which is 3 basis points higher than the median rate used for pensions.

The following chart shows the difference between the discount rate used in the valuation of non-pension benefits and that used for pension plans. (A positive value indicates a higher rate for non-pension benefits than for pensions and vice versa.)

*Difference in Discount Rates
(Non-Pension Benefits vs. Pensions)*



Discount Rate for Non-Pension Benefits

The duration of non-pension post-employment benefits is often significantly different from that for pensions. For example, the duration of the accrued benefit obligation (ABO) for a retiree medical plan is often higher than that for pensions. As a result,

¹ Source : *Survey of Economic Assumptions used for SFAS No. 87 and SFAS No. 106 Purposes*, prepared by Deloitte & Touche Human Capital Advisory Services (U.S.). (Estimates for 2008)

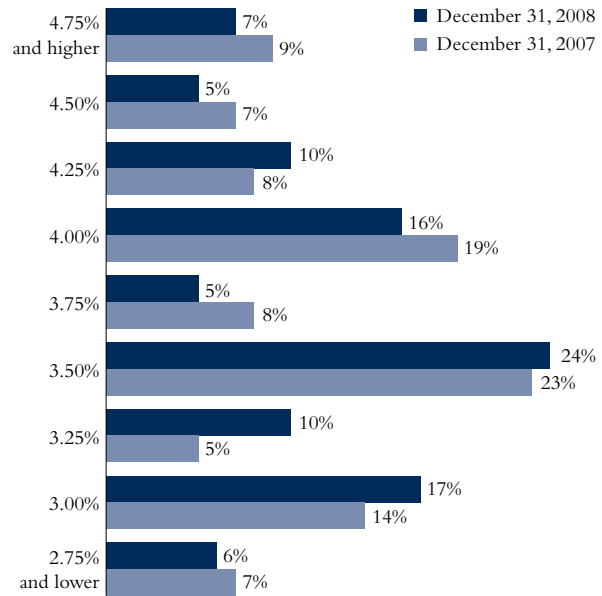
While in most cases companies have used the same discount rate for pensions and non-pension benefits, 24% used a higher discount rate for non-pension benefits (compared to 16% in our previous survey).

Rate of Compensation Increase

Plans that provide pay-related benefits are required to make an assumption about the rate of compensation increases. CICA 3461 indicates that it should reflect “future changes attributed to general price levels, productivity, seniority, promotion, and other factors.”

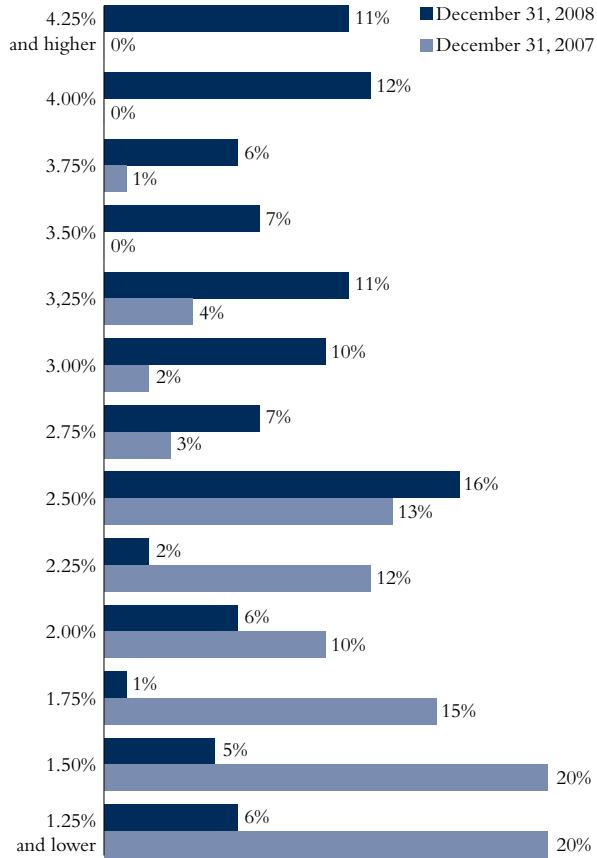
The median compensation increase assumption as at December 31, 2008, was 3.5%, 20 basis points lower than last year’s median, with 72% of companies using rates between 3.0% and 4.0%. Given how low this assumption is in most cases, it is quite likely that many companies are not properly reflecting the impact of individual job progression in their assumption.

Rate of Compensation Increase



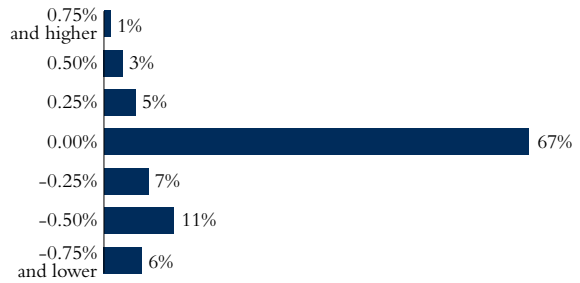
The following graph shows the spread between the discount rate and the rate of compensation increase. The spread generally has a significant impact on the ABO for defined benefit pension plans. The median spread is 3.0% as at December 31, 2008, which is about 120 basis points higher than last year. The sharp increase in the spread results in a substantially lower ABO.

Spread: Discount Rate / Compensation



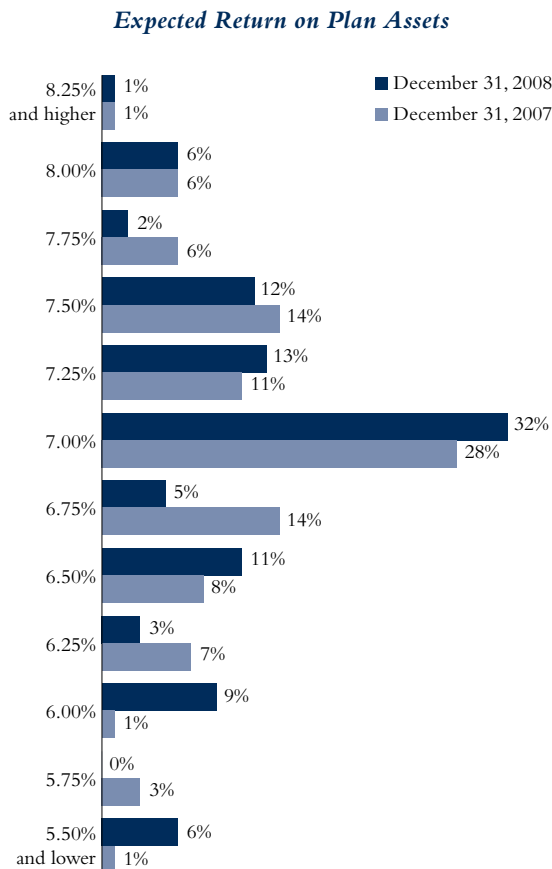
Our survey shows that 33% of companies changed the rate of compensation increase assumption by at least 0.25% (up or down) at December 31, 2008. There is some debate over how frequently this assumption should be changed. In the “Supplement to the Employee Future Benefits Implementation Guide” the CICA states that the requirement to be internally consistent applies to all assumptions except for the discount rate. Assumptions other than the discount rate should be based on a long-term view and should be revised only when a significant change in expected long-term economic conditions occurs.

Change in Compensation Increase Assumption (2008 vs. 2007)



Expected Long-Term Return on Plan Assets

CICA 3461 specifies that the expected rate of return on plan assets should reflect a long-term view. The following chart shows the return assumption disclosed at the end of 2008 versus 2007.

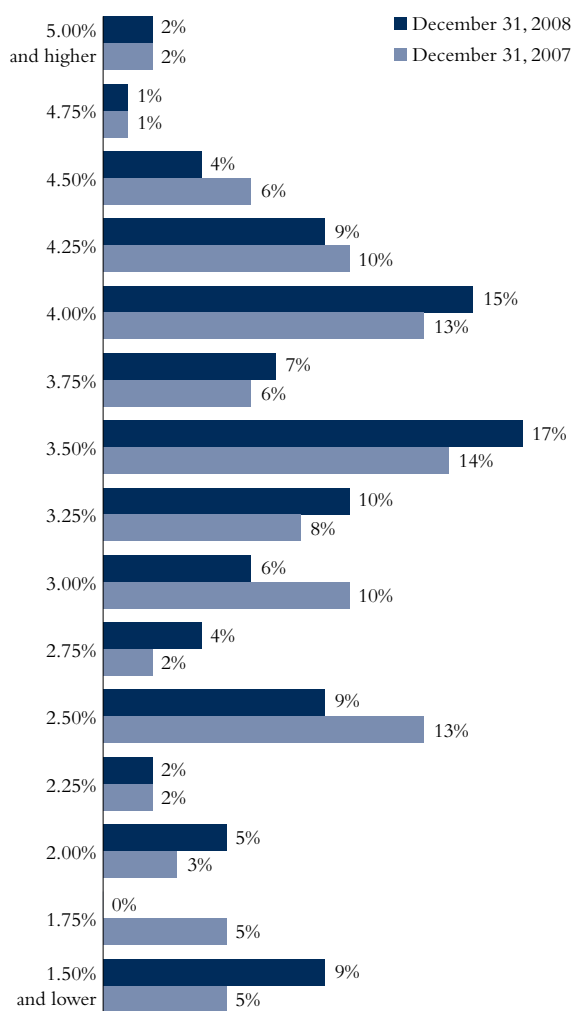


The median expected long-term rate of return on plan assets is 7.0%, the same as in the December 31, 2007 survey. The distribution of rates was very nearly the same at December 31, 2008 as it was at December 31, 2007 with 57% (53% in 2007) of the companies having used rates between 7.0% and 7.5%. In recent years, there has been a slow but steady decline in this assumption.

For virtually all pension plans, the actual return earned in 2008 was much lower than the assumed long-term rate of return on assets. The actual median return for diversified pension funds was -16.5% in 2008 according to the *Performance Universe of Pension Managers' Pooled Funds* produced by Morneau Sobeco.

The following graph shows the spread between the expected return on plan assets and the rate of compensation increase. The median spread was 3.5% as at December 31, 2008, identical to last year's median. It is expected that this spread will be fairly stable from one year to the next.

Spread: Expected return on plan assets / Compensation



Our survey results show that about 26% of companies reduced the spread by at least 0.25% as at December 31, 2008.

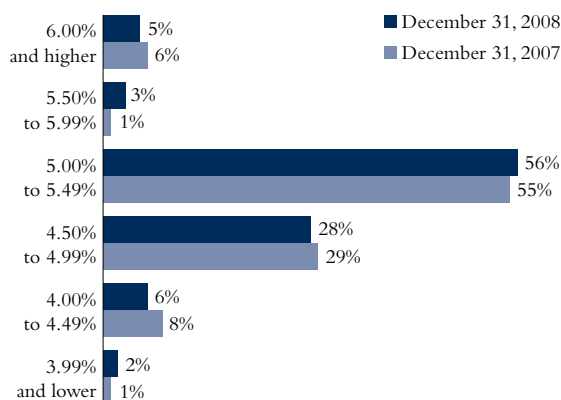
Medical Cost Trend

Where retiree medical coverage is offered, a key assumption in the valuation of the ABO is the rate of future medical cost increases. CICA 3461 provides guidance on factors that companies should consider in selecting this assumption.

Often, medical costs are assumed to increase at a higher rate in the short term, declining in steps to an ultimate rate over a period of several years.

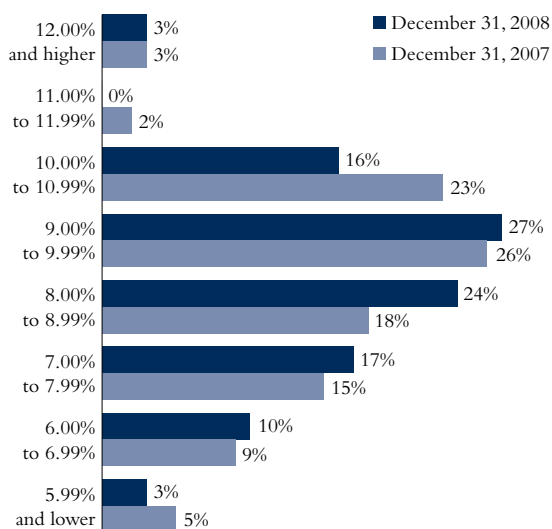
The following charts show the December 31, 2008 medical cost trend assumption compared to December 31, 2007. About 87% of companies used an ultimate trend rate between 4.5% and 5.5%. The median is unchanged at 5.0%.

Ultimate Medical Cost Trend



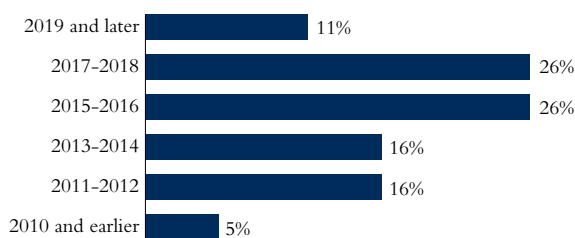
The median assumption for the short-term medical cost trend rate was 8.5%, about 50 basis points lower than last year. There has been a continuing decrease in the number of companies using an assumption of 10% or higher, with just 19% of the companies now in this category compared with 28% last year, 36% the year before, 45% three years ago and 50% four years ago. 30% of companies used an assumption of less than 8%.

Short-Term Medical Cost Trend



The median year in which the medical cost increase rate reaches the ultimate rate is 2015.

*Ultimate Medical Cost Trend
(year in which ultimate rate is attained)*



Asset and Obligation Measurement Date

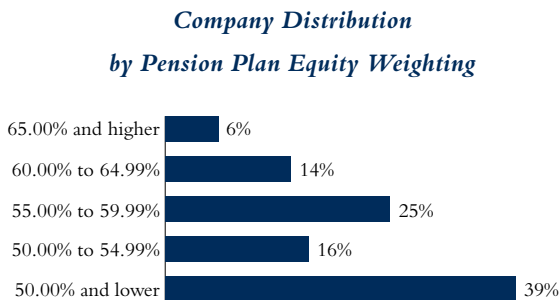
CICA 3461 requires that the employee future benefits be measured at fiscal year end or at a date up to three months prior to that date. All companies in our survey have a December 31 fiscal year end and 83% of them used December 31 as their measurement date. Among the other 17%, a September 30 date is used most often.

It should be noted that IFRS will no longer permit early measurement dates once the new standard is fully implemented in 2011.

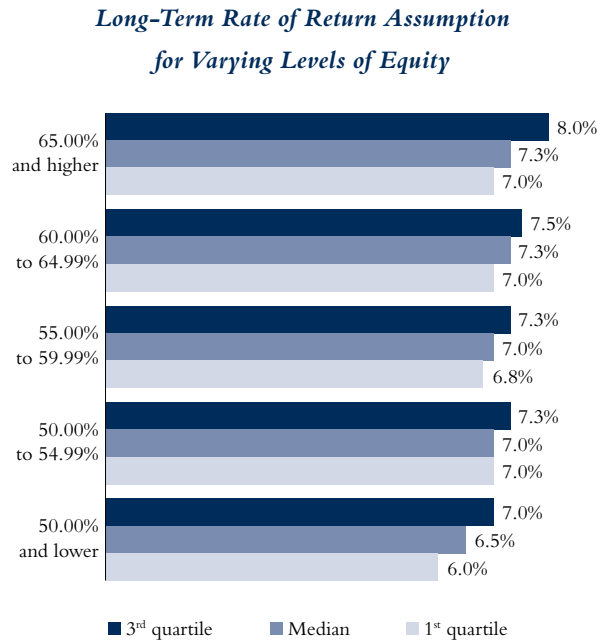
Pension Plan Asset Allocation

The allocation of pension fund assets between equities, fixed income and other assets must be disclosed. Additional categories may be added if it helps to improve the reader’s understanding of the investment risks faced by the fund.

The average asset allocation as at December 31, 2008, was 52% in equities, 42% in fixed income and 6% in other assets. The distribution of the proportion of funds invested in equities is shown below:



Since the expected long-term return on assets assumption is based in part on asset allocation, we have compared the assumption to the equity weighting. Theoretically, a pension plan holding a higher proportion of its assets in equities should have a higher expected rate of return on assets than a pension plan with a lower equity allocation. The results from our survey, in the graph below, indicate that this is generally true.



Pension Expense Before and After Adjustment

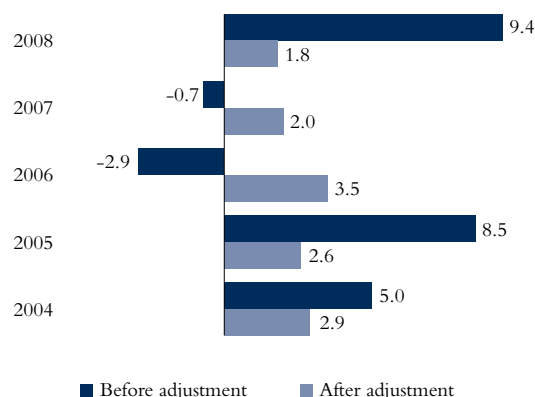
This 2009 survey presents results for companies with a total of \$112 billion in pension assets. The following graph shows the difference between the pension expense before and after adjustment for each year since 2003 in aggregate for all companies in our survey. The expense after adjustment represents the actual expense found in the financial statements. The expense before adjustment is the notional expense one would experience in a full mark-to-market accounting environment (i.e. one in which there is immediate recognition of all changes in assets and ABO). In 2008, the total recognized expense amounted to \$1.8 billion (i.e. expense after adjustment). In the absence of any amortization, the expense before adjustment would have been \$9.4 billion, mostly due to the significant losses on plan assets. This notional expense may become reality by 2013 if the International Accounting Standards Board proceeds with proposed changes to IFRS.

From 2003 to 2005, the difference between the pension expense before and after adjustment was mainly due to the declining discount rates that increased the ABO, and this generally outweighed the impact of the investment gains that were experienced. In 2006, the discount rate remained

relatively stable, while investment returns generally produced gains versus the assumption.

In 2007, the discount rate increased, outweighing the negative impact of poor investment returns. This year, losses on assets mostly exceeded the gains on ABO from increasing discount rate. Therefore, the impact of this year's adjustments was generally to defer the actuarial loss, and to reduce the pension expense.

Pension Expense (Income) Before/After Adjustment
(in billions of dollars)



The “pension expense before adjustment” illustrates the expense volatility that would be experienced if the accounting rules for employee future benefits were changed to require mark-to-market accounting without amortizations.

Upcoming Transition to the International Accounting Standards

As mentioned earlier, accounting for Canadian publicly accountable entities will move to International Accounting Standards. For many employers, the transition to international accounting will initially lead to full recognition on the balance sheet of the financial position of the pension plans and non-pension employee future benefits. To the extent that this position differs from the current accrued benefit liability at transition date, an adjustment to the shareholders' equity will also be required, net of any deferred taxes. For illustration purposes, we have considered what the impact would be, including both pension and non-pension benefits, if these changes had been in effect as at December 31, 2008. Since the effective tax rate will vary by company, our results are shown on a pre-tax basis.

Based on the companies in our survey, the proposed changes would have reduced shareholders' equity by \$16.5 billion, on a pre-tax basis.

The ultimate impact of these changes will depend largely on investment performance in 2009, as well as on any changes to the discount rate until December 31, 2009. The impact may vary significantly, even for relatively modest discount rate changes or investment gains or losses.

Appendix – Selecting the Discount Rate

In general, the ABO is highly sensitive to the discount rate assumption. For example, a 25 basis point decrease in the discount rate can increase the ABO by as much as 5%, which would in turn increase the annual expense in subsequent years.

CICA 3461 provides general guidance for the selection of the discount rate assumption. The discount rate should be determined by reference to market interest rates on high-quality debt instruments or to the interest rate at which the ABO could be settled. However, the precise methodology for computing this rate is not prescribed.

Since Canadian standards are similar to those of the United States, standard practice is to consider guidance provided by the Securities and Exchange Commission ("SEC"). The SEC has determined that the discount rate should reflect the yield of a portfolio of high quality fixed income instruments (rated as AA or better by Moody's), which has the same duration as the plan's ABO.

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For More Information

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2008 Survey of Economic Assumptions
in Accounting for Pensions and Other
Post-Retirement Benefits

Highlights of our annual survey results

SPECIAL REPORT

MORNEAU
SOBECO

Introduction

Section 3461 of the Canadian Institute of Chartered Accountants Handbook (CICA 3461) requires that the management of a company sponsoring a defined benefit plan measure the plan's accrued benefit obligation (ABO) and annual expense using assumptions that individually reflect best estimates and are "internally consistent with each other."

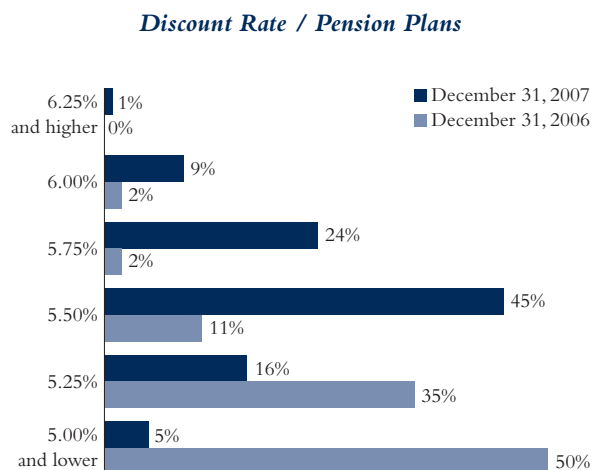
In this report, Morneau Sobeco has compiled information on approximately 100 Canadian public companies in their most recent audited financial statements as at December 31, 2007. This is the eighth year that this survey has been produced.

The CICA announced recently that accounting for publicly accountable enterprises (PAE) will move to International Accounting Standard (IAS) for fiscal years beginning on or after January 1, 2011. For pension and benefits, CICA 3461 will be changed for consistency with IAS19. As international accounting requires comparative results in financial statements, we can expect that figures will be needed by January 1, 2010 under IAS19 standards. Based upon the current international standard that applies to first-time adoption, we can assume that for most employers, transition will require a "fresh-start" approach. Therefore, the financial situation of plans will flow onto the balance sheet at transition and shareholders' equity will be impacted as well.

We have included a special section later in this survey with some insights as to the impact if transition had occurred on December 31, 2007.

Discount Rate for Pension Plans

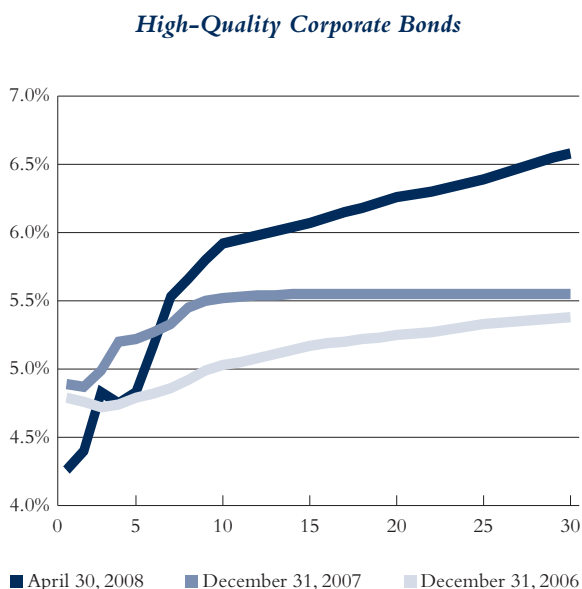
The following chart summarizes the discount rates used in the valuation of defined benefit pension plans (see the Appendix for a description of "discount rate"). The median discount rate was 5.50% as at December 31, 2007, compared to 5.13% as at December 31, 2006. About 85% of the companies used a discount rate between 5.25% and 5.75%. These results are consistent with CICA 3461 requirements for a typical defined benefit pension plan.



Roughly 80% of companies increased their discount rate in 2007 with the typical increase being 25 to 50 basis points.

Over time, the yields on high quality long term corporate bonds may vary considerably. The discount rate should be expected to vary in a similar fashion. For illustration, the graph below compares the yield curves as at December 31, 2006, December 31, 2007, and April 30, 2008.

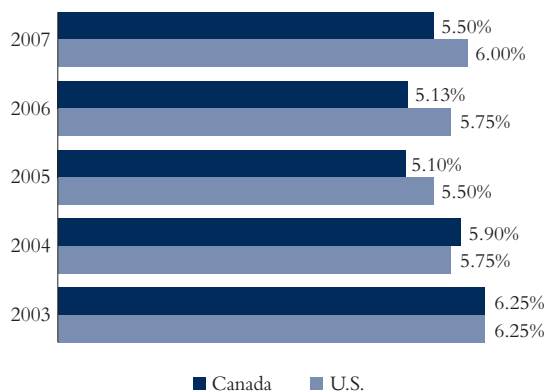
In recent years, the yield curves have been fairly “flat” – particularly for durations of 10 years or more. Consequently, discount rates have been concentrated within a narrower range. In the first few months of 2008, we have observed yield curves that have been much more of the upward sloping shape as illustrated by the April 30, 2008 curve.



If the yield curve were to remain at the April 2008 levels until the end of the year, we would expect discount rates at December 31, 2008 to be about 50 basis points on average higher than as at December 31, 2007.

The following chart compares the median discount rates in our survey to the median discount rates from a U.S. survey¹. We see that the rates in Canada this year are once again lower than in the U.S. Since the adoption of CICA 3461, rates in Canada were higher than the U.S. rates only once, in 2004.

Median Discount Rate by Country



¹ Source : Survey of Economic Assumptions used for SFAS No. 87 and SFAS No. 106 Purposes, prepared by Deloitte & Touche Human Capital Advisory Services (U.S.). (Estimates for 2007)

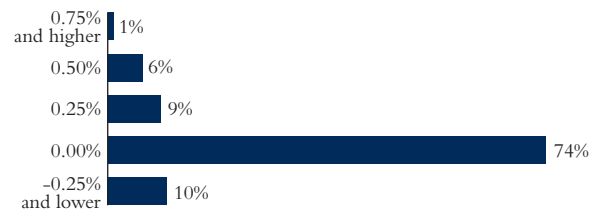
Discount Rate for Non-Pension Benefits

Because the duration of non-pension benefits is often significantly different from that for pensions, some companies may choose to use a different discount rate in their valuation of post-employment benefits. (See the Appendix on selecting the discount rate for more on this.) For example, the duration of the ABO for a retiree medical plan is often higher than the duration of a pension ABO for the same population resulting in slightly higher discount rates for benefits ABO as compared with pension when the yield curve slopes upward. However, many companies elect to use a single blended rate, or simply the rate for the most material plan, for all benefits.

The median rate used as at December 31, 2007, for non-pension benefits was 5.58%, which is 8 basis points higher than the median rate used for pensions.

The following chart shows the difference between the discount rate used in the valuation of non-pension benefits and the discount rate used for pension plans. (A positive value indicates a higher rate for non-pension benefits than for pension and vice versa.)

*Difference in Discount Rates
(Non-Pension Benefits vs. Pensions)*



While in most cases companies have used the same discount rate for pensions and non-pension future benefits, 16% used a higher discount rate assumption for non-pension employee future benefits (compared to 23% in our previous survey).

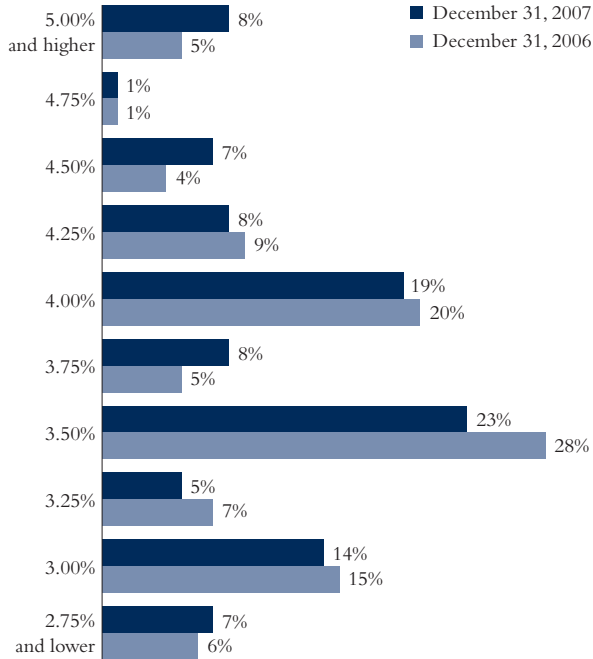
Rate of Compensation Increase

Plans that provide pay-related benefits are required to make an assumption about the rate of compensation increases. CICA 3461 indicates that it should reflect “future changes attributed to general price levels, productivity, seniority, promotion, and other factors.”

The median compensation increase assumption as at December 31, 2007, was 3.7%, 20 basis points higher than last year’s median, with 69% of companies using rates between 3.0% and 4.0%.

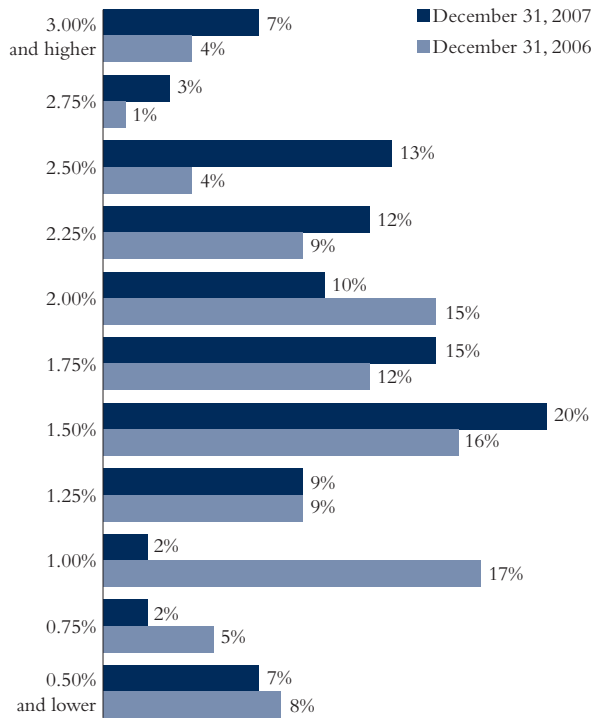


Rate of Compensation Increase



About 66% of companies used a spread of between 1.25% and 2.25%. Only 10% of companies used a spread that was 2.75% or higher.

Spread: Discount Rate / Compensation

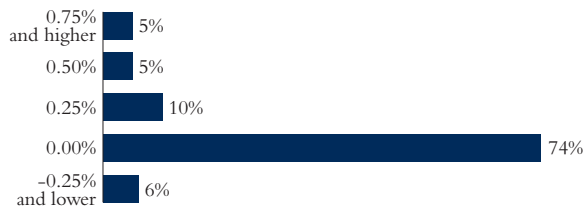


The following graph shows the spread between the discount rate and the rate of compensation increase. The spread between these two assumptions generally has a significant impact on the ABO for defined benefit pension plans. The median spread was 1.8% as at December 31, 2007, about 30 basis points higher than last year. This increase in the spread is consistent with the observed increase in the median discount rate.



There is some debate among practitioners and management regarding the frequency of changes in the rate of compensation increase assumption. The CICA provides additional guidance on this issue, in the “Supplement to the Employee Future Benefits Implementation Guide” in which it states that the requirement to be internally consistent applies to all assumptions except for the discount rate. Assumptions other than the discount rate should be based on a long-term view and should be revised only with a significant change in expected long-term economic conditions. Our survey results show that 26% of companies changed the rate of compensation increase assumption by at least 0.25% (up or down) as at December 31, 2007.

**Change in Compensation Increase Assumption
(2007 vs. 2006)**

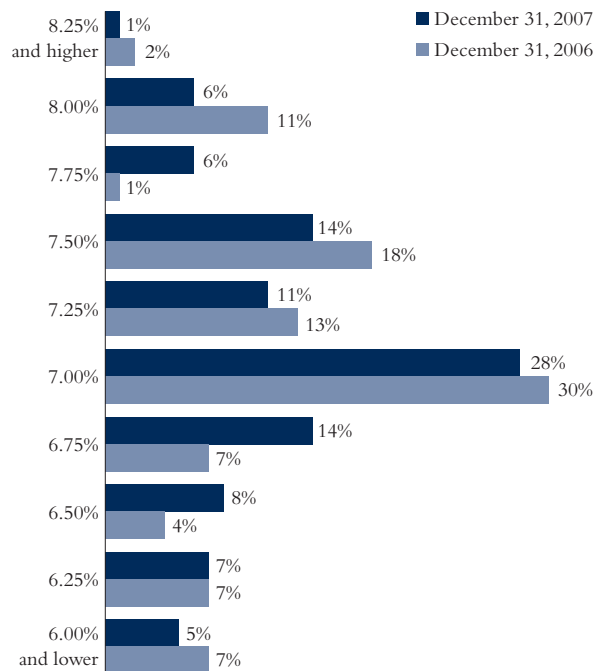


Expected Long-Term Return on Plan Assets

CICA 3461 specifies that the expected rate of return on plan assets should reflect a long-term view.

The following chart shows the assumptions disclosed as at December 31, 2007, and as at December 31, 2006.

Expected Return on Plan Assets

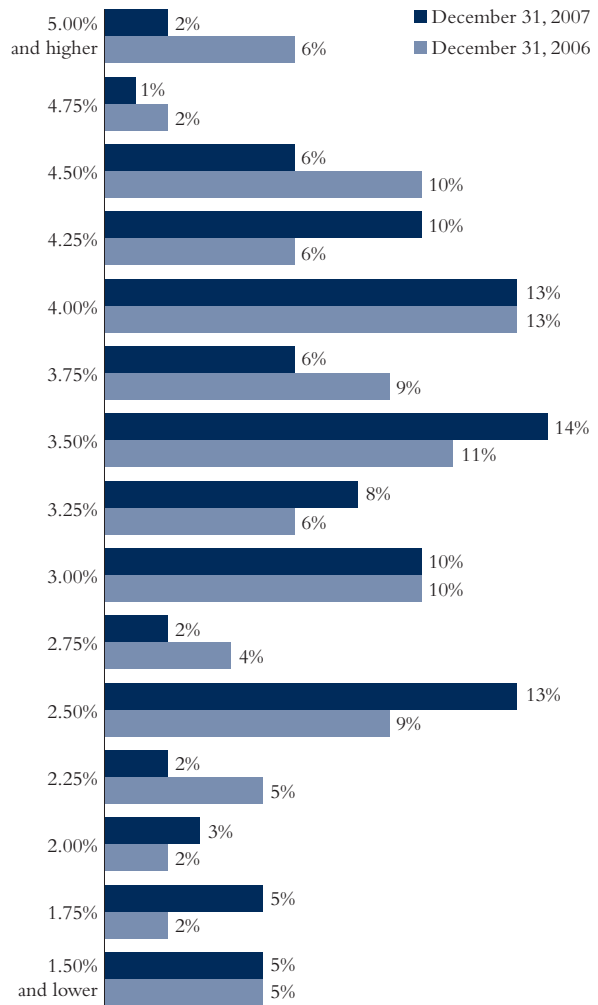


The median expected long-term rate of return on plan assets is 7.0%, which is identical to the December 31, 2006 survey. The distribution of rates was slightly different as at December 31, 2007 with 53% (61% in 2006) of the companies having used rates between 7.0% and 7.5% inclusively, 13% (14% in 2006) having used rates higher than 7.5%, and 34% (25% in 2006) having used rates lower than 7.0%.

For most pension plans, actual return earned in 2007 was significantly lower than the long-term rate of return on assets assumption. The actual median return for diversified pension funds was 2.1% in 2007 according to the Performance Universe of Pension Managers' Pooled Funds produced by Morneau Sobeco.

The following graph shows the spread between the expected return on plan assets and the rate of compensation increase, two assumptions established with a long-term view. Those assumptions are described in the accounting standards as independent from discount rate changes. Therefore, the spread between these two assumptions should generally stay constant unless there is a change in the long term fundamentals underlying the assumptions. The median spread was 3.5% as at December 31, 2007, identical to last year.

Spread: Expected return on plan assets / Compensation



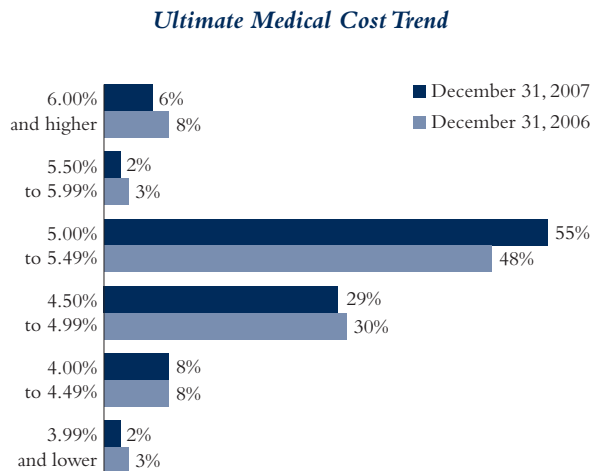
Our survey results show that about 34% of companies reduced the spread by at least 0.25% as at December 31, 2007.

Medical Cost Trend

Where retiree medical coverage is offered, a key assumption in the valuation of the ABO is the rate of future medical cost increases. CICA 3461 provides guidance on factors that companies should consider in selecting this assumption.

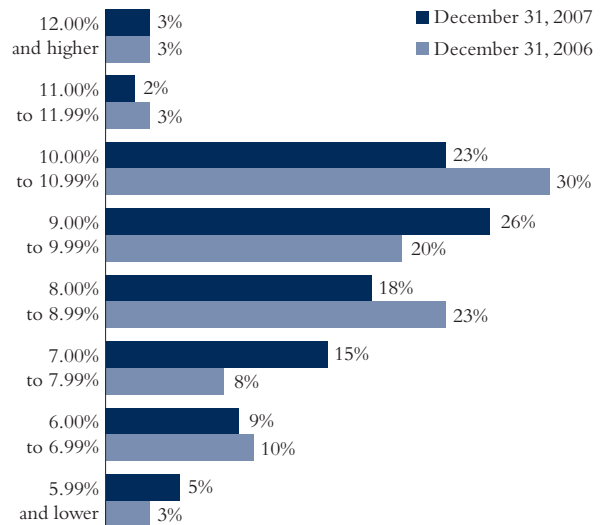
Often, medical costs are assumed to increase at a higher rate in the short term, gradually declining to an ultimate rate over a period of several years.

The following charts show the December 31, 2007 medical cost trend assumptions compared to the December 31, 2006 assumptions. About 84% of companies used an ultimate trend rate between 4.5% and 5.5%. The median is unchanged at 5.0%.



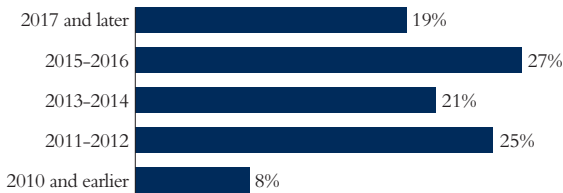
The median assumption for the short-term medical cost trend rate was 9.0%, identical to last year. There has been a continuing decrease in the number of companies using an assumption of 10% or higher, with 28% of the companies now in this category compared with 36% of companies last year, 45% the year before and 50% three years ago. 29% of companies used an assumption of less than 8%. These ratios are consistent with the lower trends experienced by group benefit plans over the last few years.

Short-Term Medical Cost Trend



The median year in which the medical cost increase rate reaches the ultimate rate is 2013, same as last year.

*Ultimate Medical Cost Trend
(year in which ultimate rate is attained)*



Asset and Obligation Measurement Date

CICA 3461 requires that the employee future benefits be measured at fiscal year end or at a date up to three months prior to that date. All companies in our survey have a December 31 fiscal year end; 77% of them used December 31 as their measurement date. Among the other 23%, a September 30 date is used most often, at 11%.

It should be noted that once the upcoming transition to the International Accounting Standards applies, early measurement dates will no longer be permitted, and measurement will, therefore, be required to be made as of the fiscal year end. Companies who have been using an early measurement date will reflect the change at transition. More critically, these companies will have to adjust their planning to ensure that they will be able to measure these results at the year end and still meet their financial reporting deadlines.

Pension Plan Asset Allocation

The allocation of pension fund assets among the following asset classes must be disclosed: equities, fixed income and other assets. Additional categories may be added if it helps to improve the reader's understanding of the investment risks faced by the fund.

The average asset allocation as at December 31, 2007, was 56% in equities, 39% in fixed income and 5% in other assets. The distribution of the proportion of funds invested in equities is shown below:

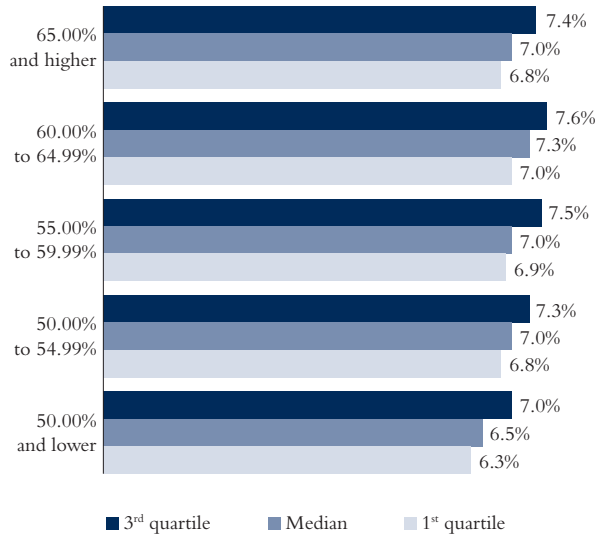
*Company Distribution
by Pension Plan Equity Weighting*



Since the expected long-term return on assets assumption is based in part on asset allocation, we have compared the assumption to the equity weighting. Theoretically, a pension plan holding a higher proportion of its assets in equities should have a higher expected rate of return on assets assumption than a pension plan with a smaller equity allocation.

The results from our survey, in the graph below, indicate that this appears to be true, with the possible exception of the highest equity weighting.

*Long-Term Rate of Return Assumption
for Varying Levels of Equity*



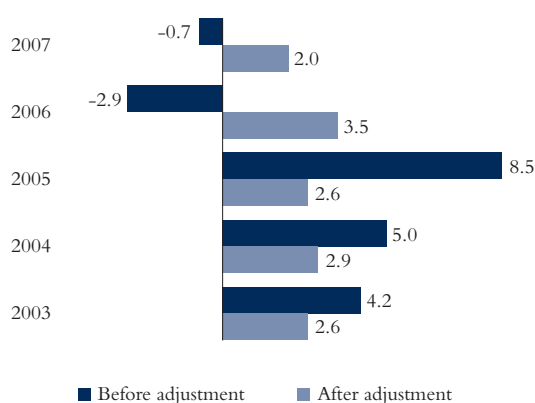
Pension Expense Before and After Adjustment

This 2008 survey presents results for companies with a total of \$128 billion in pension assets. The following graph shows the difference between the pension expense before and after adjustment for each year since 2003 in aggregate for all companies in our survey. The expense after adjustment represents the actual expense found in the financial statements. The expense before adjustment is the “fictional” expense that would prevail in a full marked-to-market accounting environment that would require immediate recognition of all changes in asset and ABO during the year. We found that, in 2007, the total recognized expense amounted to \$2.0 billion (i.e. expense after adjustment). In the absence of any amortization mechanisms, the expense before adjustment would have been an income (i.e. a negative expense) of \$0.7 billion.

From 2003 to 2005, the difference between the pension expense before and after adjustment was mainly due to the declining discount rates that increased the ABO, and generally outweighed the impact of the investment gains that were experienced. In 2006, the discount rate remained relatively stable, while investment returns generally produced gains versus the assumption.

This year, the discount rate increased, outweighing the negative impact of investment returns that generally produced losses versus the assumption. Therefore, the impact of the adjustments for this year was generally to defer the actuarial gain, and to increase the pension expense.

Pension Expense (Income) Before/After Adjustment
(in billions of dollars)



The “pension expense before adjustment” illustrates the expense volatility that would be experienced if the accounting rules for employee future benefits were changed to require mark-to-market accounting without amortizations. This is shown by the sharp contrast between 2005, 2006 and 2007 results.

Upcoming Transition to the International Accounting Standards

As mentioned earlier, accounting for Canadian publicly accountable enterprises will move to International Accounting Standards. In early 2008, the IASB introduced a discussion paper on proposed amendments to IAS19. If adopted, these amendments, combined with the transition to international accounting, will eventually lead to full recognition on the balance sheet of the financial position of the pension plans and non-pension employee future benefits (both on and after transition). To the extent that this position differs from the current accrued benefit liability at transition date, an adjustment to the shareholders’ equity will also be required, net of any deferred taxes. For illustration purposes, we have considered what the impact would be, including both pension and non-pension benefits, if these changes had been in effect as at December 31, 2007. Since the effective tax rate will vary by company, our results are shown on a pre-tax basis.

Based on the companies in our survey, the proposed changes would have reduced shareholders' equity by \$9.6 billion, on a pre-tax basis.

The ultimate impact of these changes will depend largely on investment performance until transition date, as well as on any changes to the discount rate. The impact may vary significantly, even for relatively modest discount rate changes or investment gains or losses.

Appendix – Selecting the Discount Rate

In general, the ABO is most sensitive to the discount rate assumption. For example, a 25 basis point decrease in the discount rate can often increase the ABO by as much as 5%. This increase would in turn increase the annual expense in subsequent years.

CICA 3461 provides general guidance for the selection of the discount rate assumption. It should be determined by reference to market interest rates on high-quality debt instruments or to the interest rate at which the ABO could be settled. However, the precise methodology for computing this rate is not prescribed.

Since Canadian standards are similar to those of the United States, standard practice is to consider guidance provided by the Securities and Exchange Commission ("SEC"). The SEC has determined that the discount rate should reflect the yield of a portfolio of high quality fixed income instruments (rated as AA or better by Moody's), which has the same duration as the plan's ABO. The duration of a plan's ABO is determined based on certain demographic characteristics such as average age, average service or proportion of retirees, and consequently it should be expected that plans with similar demographics would use similar discount rates.

Information on high quality Canadian corporate bonds (rated AA or higher) is generally available from independent sources, and can serve as a starting point in the determination of the discount rate.

For More Information

This survey is intended to provide information regarding the assumptions disclosed by a wide range of companies and, as such, can provide an indication of trends. The assumptions used for your own employee benefit plans will depend on a number of factors. For more information, speak to your Morneau Sobeco consultant



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REDACTED

Request IR-81:

Please refer to NSPI's 2012 General Rate Application, DE-03 - DE-04, starting on page 69 of 161, line 24 through page 70, line 5. Please provide all documentation including, but not limited to any and all studies, data, documentation, and analyses provided by consultants and company personnel to determine the amounts of the Company's actual pension expenses and average prepaid pension assets for each of the years 2009-2011.

Response IR-81:

The 2009C pension expense of \$29.3 million is based on the Morneau Shepell (formerly Morneau Sobeco) letter dated Feb. 19, 2008. Please refer to Attachment 1.

Details on the actual 2009 and 2010 pension expense of \$14.8 million and \$26.2 million, as well as the estimated 2011 pension expense of [REDACTED] can be found in the Accounting Valuation reports as at December 31, 2009 and December 31, 2010. The 2011 pension expense of [REDACTED] is based on new information since the GRA was prepared. NSPI's 2011 pension expense forecast of [REDACTED] at the time the GRA was prepared was based on the view at that time. Please refer to Attachment 2, Confidential Attachment 3 and Liberty IR-80 Attachment 1.

The average prepaid pension asset value for the years 2009, 2010 and 2011 are as follows:

Amount in \$M	2009	2010	[REDACTED]
Prepaid Asset at Start of Year	16.1	33.4	[REDACTED]
Prepaid Asset at End of Year	33.4	47.3	[REDACTED]
Average* Prepaid During the Year	24.8	40.4	[REDACTED]

* Based on average of start and end of year values

2012 General Rate Application (NSUARB P-892)
NSPI Responses to Liberty Information Requests

REDACTED

1
2 ** Restated at start of 2011 (relative to end of 2010) due to transition from Canadian to US GAAP. Under US
3 GAAP, this represents the net amount recognized on the balance sheet equal to the funded status less Accumulated
4 Other Comprehensive Income.

5
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]. Figures presented
9 reflect whole numbers which may cause \$0.1M in rounding differences on some line items.

10
11 Please refer to Attachment 2 and Liberty IR-80 Attachment 1 for supporting documentation for
12 these figures in Appendix D.



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NS07

February 19, 2008

CONFIDENTIAL

Ms. Kerry Jennex, CMA
Manager, Capital and Accounting Services
Nova Scotia Power Incorporated
P.O. Box 910
Halifax, NS B3J 2W5

Dear Kerry:

Re: Post-Employment Benefits for Employees of Nova Scotia Power Incorporated (“NSPI’s Benefit Plans”) - Projected 2009 Benefit Cost Under CICA 3461

We are writing to formally document the projected fiscal 2009 benefit cost figure of \$29.3 million for NSPI’s Benefit Plans determined in accordance with Section 3461 of the CICA Handbook (“CICA 3461”). Please refer to Appendix A for details on the components of the benefit cost for each of NSPI’s Benefit Plans.

Please refer to Appendix B for the actuarial assumptions and methods. Appendix C provides an explanation of the process employed to extrapolate the figures from the Valuation Report for Accounting Purposes as at December 31, 2007 (“Accounting Report”) on NSPI’s Benefit Plans in order to determine the projected fiscal 2009 benefit cost figures presented in this letter. Please refer to our Accounting Report for a summary of the data.

For the purpose of this projection, all actuarial assumptions and methods, plan provisions, and data are the same as those used to determine the estimated benefit cost for fiscal 2008, except for the following two changes:

- > The return on asset assumption was changed to 7.25% per year in fiscal 2009. The return on asset assumption was 7.50% per year in fiscal 2008.
- > The assumed retirement age was reduced by one year, to age 58, effective December 31, 2008. The assumed retirement age used in the Accounting Report was age 59.

In addition we assumed no actuarial experience gains or losses between January 1, 2008 and December 31, 2009.

Ms. K Jennex
February 19, 2008

Actuarial Certification

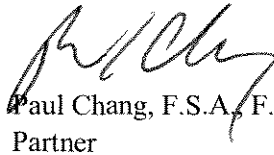
We hereby declare that in our opinion,

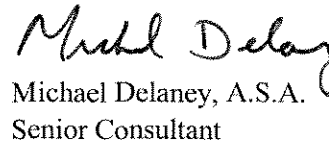
- > the data on which the valuation is based are sufficient and reliable for the purpose of the valuation;
and
- > NSPI management have selected the assumptions and they are in accordance with accepted actuarial practice; and
- > the methods employed in the valuation are appropriate for the purpose of the valuation.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice. It should also be noted that emerging experience, which differs from the assumptions made, will result in gains or losses which will be revealed in future valuations.

Please do not hesitate to contact us if you require any further information.

Yours truly,


Paul Chang, F.S.A., F.C.I.A.
Partner


Michael Delaney, A.S.A.
Senior Consultant

Appendix A – Details on the Projected 2009 Benefit Cost

Table A.1 Projected 2009 Benefit Cost (in \$ millions)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post- Ret Health	Total
Costs Arising in the Period							
Current Service Cost	11.9 ¹	0.0	0.3	0.0	0.9	0.8	13.8
Interest Cost	41.8	2.1	1.7	0.7	1.0	1.4	48.7
(Actual Return on Assets)	(45.1)	(2.8)	0.0	0.0	0.0	0.0	(47.9)
Events in the Period:							
> Past Service Costs / (Gains)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
> Actuarial Losses / (Gains) on ABO	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Future Benefit Costs Before Adjustments	8.6	(0.7)	2.0	0.7	1.9	2.2	14.7
Adjustments to Recognize Long-Term Nature of Costs							
> Transitional Obligation / (Asset)	(0.8)	(0.4)	0.6	0.6	0.8	1.4	2.3
> Current Year Return on Assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
> Past Service Costs	(0.1)	0.0	0.1	0.0	0.0	0.2	0.2
> Actuarial Losses / (Gains) on ABO	10.6	1.1	0.3	0.1	0.2	0.0	12.3
Total Benefit Cost (Income)	18.3	(0.1)	3.0	1.4	2.9	3.8	29.3

Figures may not add up exactly due to rounding.

¹ Employee Plan current service cost shown above include both DB and DC component.

There is no valuation allowance expected in respect of 2009 reporting.

Appendix B– Actuarial Assumptions and Methods

Actuarial Cost Method

For all active employees, the Accrued Benefit Obligation and the current service cost were calculated using the “projected benefit method pro-rated on service”.

According to this method, the Accrued Benefit Obligation is equal to the actuarial present value of all future benefits (net of any employee cost sharing for OPEBs), taking into account the assumptions described below, multiplied by the ratio of an employee’s service at the valuation date to total service at the retirement date. The current service cost for a period is equal to the actuarial present value of benefits attributed to employees’ services rendered in that period.

To determine the actuarial present value of post-retirement health benefits, the expected true costs were projected into the future in respect of each member applying both age-related utilization rates and the assumed trend (i.e., health care inflation) rates. In addition, each member’s expected contributions (i.e., premium) was projected into the future based on health care inflation. The actuarial present value of NSPI’s portion of the cost of the post-employment health plan is the difference between the actuarial present value of the total cost and the actuarial present value of the member’s contributions.

Assets

Employee and Acquired pension plan assets are taken at market value from the draft audited financial statements. There are no assets in respect of the other plans.

To determine the expected return on assets, we used a 5 year market-related value of assets and assumed that all cash flows would occur at mid-year.

Actuarial Assumptions

The actuarial assumptions used for the valuation are summarized in the following table. All rates and percentages are annualized unless otherwise noted. All assumptions used are management’s best estimates. The discount rate was based on the annualized yield of A rated bonds at the valuation date with the same duration as the obligations (14 years).

Table A.1 Actuarial Assumptions – Economic Factors

	2009 Benefit Cost
Valuation Date	December 31, 2007
Discount Rate	5.75%
General Inflation	2.50%
YMPE	3.00%
	Under 30: 5.50%
	30 to 34: 5.00%
	35 to 39: 4.50%
Salary Increases	40 to 44: 4.00%
	45 to 49: 3.50%
	50 and above: 3.00%
Increase in maximum Pension in registered plan per year of service	\$2,222 for 2007, \$2,333 for 2008, \$2,444 for 2009 and \$2,444 indexed starting in 2010 at 3.00% per year
Return on Employee Plan Assets	Fiscal 2008: 7.50% Fiscal 2009: 7.25%
Return on Acquired Plan Assets	Fiscal 2008: 7.50% Fiscal 2009: 7.25%
Extended Health Care Inflation	7.00% for next year (premium increase effective Jan 2009), decreasing in years 2 through 4 by 1% per year with a long-term ultimate rate of 4.00%
Dental Inflation	4.00%

Table A.2 Actuarial Assumptions – Demographic Factors

	2009 Benefit Cost
Mortality	1994 Uninsured Pensioners Mortality Table projected to 2015 using Projection Scale AA (UP94@2015) Sex Distinct. Post-retirement only
Termination	5% per year up to age 50
Disability Rates	None assumed
Retirement Rates	Fiscal 2008: Age 59*, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 59 would be eligible for the long service award *Age 58 was used for the valuation of the new post- retirement health plan and life insurance benefits ³ Fiscal 2009: Ages above reduced by 1 year.
Spouse Age Difference	Women 3 years younger
Health Care Relative Utilization ¹	Please see table A.3 below
Percentage Married	85% at retirement
Members Electing Life Insurance Benefits at Retirement	100% for any member who has more than 15 years of service at retirement
Members Electing Health Coverage at Retirement	For members who currently have coverage: 100% for members with 35 or more years of service, 85% for all other members ²
Coverage Elected at Retirement	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single

1. Used to estimate average medical and drug costs at different ages (drug coverage ceases at age 65).

2. The data used for the post-employment health care valuation includes only those active members who currently have health coverage – such members represent 90% of all active employees at NSPI – the assumed likelihood that an active employee who currently has coverage and who retires from NSPI takes post-retirement coverage is 85% resulting in an overall take up rate for all employees (with or without current coverage) of 75% (approximately equal to 0.85×0.9).

3. It is advantageous to move to the new health plan only if an employee intends to retire early; therefore we assume such members will retire, on average, at an earlier age.

Table A.3 Health Care Relative Utilization Factors

Age	Hospital & EHB	Drug Coverage	Dental Coverage
40	46%	42%	90%
45	53%	56%	88%
50	61%	74%	86%
55	78%	86%	83%
60	100%	100%	81%
64	122%	113%	80%
65	128%	N/A	N/A
70	163%	N/A	N/A
75	239%	N/A	N/A
80	352%	N/A	N/A
85	517%	N/A	N/A

Example: The cost for Hospital and EHB for a 64 year old is 122% of the cost for a 60 year old.

Calculation of Medical Cost

Development of Utilization Factors

Manulife Financial provided claims amounts for hospital & EHB, and drugs for the period from August 1, 2001 to July 31, 2002 by quinquennial age bands. Using the number of members within each age band, we determined the amount of claims per member for each age band. From this we found the relative age based utilization factors for each quinquennial age band. We then extrapolated integer age based utilization factors from the quinquennial results. As there were insufficient post-1991 retirees over age 75 to establish a reliable utilization scale over such age, the utilization scales beyond age 75 were estimated based on industry statistics. We did not have details of the dental claims amount and have used utilization factors which are based on industry statistics.

Existing Post-Retirement Health Plan - NSPI members

Effective 2003, the annualized premiums for retirees are experience rated amongst retirees only. Previously the actives and retiree premiums were experience rated as a single group, and the same premium was paid by both retirees and activeS. The member's portion (50% of total cost) of the annualized premiums charged as at January 1, 2008 (including the approximate 20% increase as at January 1, 2008) for the NSPI Health plan is \$818 for single coverage and \$2,047 for family coverage. The experience report also shows that approximately 85% of claims are related to drugs, with the remaining 15% for hospital and extended health care.

Based on the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total expected claims at each age less member's paid premium) for 2008 at each age:

Age	Single	Family
50	\$987	\$2,465
55	\$1,288	\$3,218
60	\$1,642	\$4,102
65	(\$568)	(\$1,423)
70	(\$499)	(\$1,251)
75	(\$350)	(\$877)
80	(\$130)	(\$328)
85	\$193	\$479

Based on the premiums provided by Manulife, we updated the estimated employer cost (as compared to our prior valuation). Based on the ratio of the family to the single premium being charged by Manulife, and a fully experienced retiree only group, we continue to assume that the total cost for family coverage is approximately 2.5 times the single cost. A negative amount means that the retiree's premium exceeds the estimated average claims at that particular age.

New Post-Retirement Health Plan - NSPI members

Effective January 1, 2004, a new health benefit plan for retirees was introduced. Please refer to Appendix C for details of the new retiree health plan. We understand that this plan will be rated separately from the existing plan and retirees and actives will be rated as one group within the new plan. As there are currently an insufficient number of retirees under the new plan, we have used the same drug and hospital utilization factors as for the old plan. The dental utilization factors were developed based on the experience under the new plan only.

NSPI provided us with the total annualized premiums charged as at January 1, 2008 for the new NSPI Health plan as \$1,034 for single coverage and \$3,169 for family coverage, and new Dental plan as \$381 for single coverage and \$845 for family coverage. This represents a 26% increase in the Health plan premiums and no change in the Dental plan premiums from the premiums charged as at January 1, 2007. Based on the premiums provided, and the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total cost less member's premium) for 2008 at each age for an employee who will pay 50% of the benefit plan premium in retirement:

Age	Health Single	Health Family*	Dental Single	Dental Family*
50	\$694	\$2,050	\$183	\$398
55	\$905	\$2,683	\$173	\$377
60	\$1,155	\$3,431	\$164	\$358
64	\$1,387	\$4,128	\$157	\$342
65**	\$0	\$0	\$0	\$0

* In addition to family coverage, there is "couple coverage", employer health and dental costs for couple coverage is approximately 2 times the single health cost shown.

** No coverage after age 65.

Note that under the new post-retirement benefit plan, the actual percentage of the costs paid by the employer varies by the member's years of service at retirement. The costs shown above would need to be adjusted accordingly for members who do not receive 50% cost sharing. (Please contact us if you require such figures).

Pre-1992 Retirees

Since NSPI's liability in respect of former NSPI employees who retired under the PSSP is based on the amount of premium assessed by the Province, we have determined the accrued benefit obligation in respect of these members by determining the present value of premiums. Such premiums are assumed to increase at the health inflation rates, but no age utilization factor is applied. Annualized employer (65% of total) premiums as at January 1, 2008 (this represents no change from the January 1, 2007 premiums) are as follows:

	Policy 5138	Policy 6000	Policy 6500
Single	\$202	\$675	\$359
Family	\$514	\$1,498	\$720

We assumed that the above premiums for pre-1992 retirees would follow the extended health care inflation assumption set out in table A.1 for future years.

Calculation of Life Insurance Cost

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan. We were not provided with specific data relating to this life insurance coverage however we have compiled membership data as at December 31, 2007 using the data provided by NSPI for the new health plan and earnings provided for the long service award valuation.

We determined the actuarial present value of the true cost of the future post-retirement life insurance for each member. For active employees this value was multiplied by the ratio of their service at the valuation date to total service at their retirement date. The actuarial present value of NSPI's portion of the cost of post-retirement life insurance coverage was determined for each individual based on the plan's cost-sharing formula which uses the employee's expected service at retirement, or the actual cost-sharing percentage as provided by NSPI in the case of the retired members. Please refer to Appendix D for a more detailed description of the provisions of the subsidized post-retirement life insurance.

Valuation Allowance

For purposes of estimating the Valuation Allowance required for fiscal 2009, we estimated the December 31, 2009 ABO for the Employee's Pension Plan (DB component only) to be \$761.8 million. This was based on the December 31, 2007 ABO figure of \$693.6 million projected forward with estimated current service cost, interest, less benefit payments. The Employee's Pension Plan assets (DB component only), on a market value basis, projected to December 31, 2009 is estimated to be \$658.9 million.

As a result, the Plan's ABO exceeds the assets as at December 31, 2009 (i.e., the Plan's "adjusted benefit asset" is less than 0 and there is no "expected future benefit" -- as those terms are defined in CICA subsections 3461.101) and no Valuation Allowance is projected to be required. A determination based on actual December 31, 2009 ABO and assets will be required to finalize the amount of Valuation Allowance for 2009.

Appendix C – Extrapolation Process

This letter presents results based on extrapolations of the assets and obligations disclosed in the Accounting Report as at December 31, 2007. This extrapolation was performed in accordance with Section 3461 of the CICA Handbook (“CICA 3461”).

In order to determine the projected fiscal 2009 benefit cost figures we rolled forward the assets and obligations relating to NSPI’s Benefit Plans, as presented in the Accounting Report. To prepare the extrapolation, we used the same actuarial assumptions as were used in the Accounting Report, other than the following:

- > The return on asset assumption was changed to 7.25% per year in fiscal 2009. The return on asset assumption was 7.50% per year in fiscal 2008.
- > The assumed retirement age was reduced by one year, to age 58, effective December 31, 2008. The assumed retirement age used in the Accounting Report was age 59.

For clarity, in projecting the assets from December 31, 2007 to December 31, 2009 we assumed that the actual return was equal to the expected return for this period (i.e., 7.25% per year for fiscal 2008 and 7.50% per year for fiscal 2009).

We would note that since we are performing a projection of the benefit cost, an assumption must be made regarding the appropriate discount rate. In accordance with CICA 3461.050, NSPI’s policy of determining the discount rate based on single “A” Canadian bonds, and the 14 year duration of NSPI’s Benefit Plans, the discount rate is 5.75% per year as at December 31, 2007. We assumed that this discount rate of 5.75% would also be appropriate to project the benefit cost over the entire projection period. A discount rate of 5.75% per year was used in the Accounting Report to determine the estimated 2008 benefit cost.

As part of the extrapolation process, estimates were required regarding future NSPI contributions and benefit payments from each of NSPI’s Benefit Plans. These assumptions do not have a significant impact of the projected benefit cost figures and these cash flow items are expected to remain fairly stable, however the following table presents the assumed cash flow items in respect of fiscal 2009 (all figures are in \$ millions):

Projected Fiscal 2009 Cash Flows (in \$ millions)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Company Contributions	9.8 ¹	1.1	2.0	1.3	2.1	1.9	18.3
Employee Contributions	5.1	0.0	0.0	0.0	0.0	0.0	5.1
Benefit Payments	30.6	4.5	2.0	1.3	2.1	1.9	42.5

Figures may not add up exactly due to rounding.

1. Includes estimated Company contributions to both the DB and DC components.

Actuarial Valuation for Accounting Purposes
as at December 31, 2009 of the

Post-Employment Benefits for Employees of
Nova Scotia Power Incorporated

January 2010

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Executive Summary

Purpose

This report presents the results of the actuarial valuation of Nova Scotia Power Incorporated (“NSPI”) post-employment benefit plans for accounting purposes as at December 31, 2009. NSPI retained the services of Morneau Sobeco to perform this actuarial valuation.

This report presents the results of our calculations, and was prepared:

- > to determine the benefit cost for fiscal 2009 and the Accrued Benefit Obligation for post-employment benefits as at December 31, 2009;
- > to estimate the benefit cost to be recognized for financial statement purposes for fiscal 2010; and
- > to provide the information and the actuarial opinion required by NSPI’s auditor under Section 3461 of the CICA Handbook.

The following post-employment plans are included as part of this report:

Pension: a) Employees’ Pension Plan (both defined contribution and defined benefit), b) the Acquired Companies Pension Plan, c) Supplementary, Executive and Discretionary pensions, and d) War Service, ERIP 86 and 91 pensions.

Non Pension: a) Long Service Award, and b) Post-Retirement Health Benefits including the Post-Retirement Life Insurance Plan.

We are not aware of any other post-employment benefit plan sponsored by NSPI.

This report deals strictly with the figures reported under CICA Section 3461. This report does not address or provide figures related to any potential change in the way NSPI accounts for their pension and post employment benefits as a result of changes to Canadian GAAP for publically traded entities effective January 1, 2011.

Summary of Results

The following table shows the Accrued Benefit Obligation, balances of unamortized amounts and the Accrued Benefit Liability as at December 31, 2009 and December 31, 2008 with respect to the plans providing post-employment benefits for employees of Nova Scotia Power Incorporated (“NSPI”). All figures in thousands.

	December 31, 2009	December 31, 2008
Discount and Inflation Rate end of year	6.50% / 2.50%	7.50% / 2.50%
Market Value of Assets	\$592,063	\$508,817
Accrued Benefit Obligation	821,510	703,204
Surplus (Deficit)	(\$229,447)	(\$194,387)
Aggregate Unamortized Losses (Gains)		
> Transitional	6,779	9,038
> Past Service	1,231	1,416
> Actuarial Experience	254,855	200,065
Accrued Benefit Asset prior to Accrued Valuation Allowance	\$33,417	\$16,132
(Accrued Valuation Allowance)	0	0
Carrying Amount of Accrued Benefit Asset net of Accrued Valuation Allowance	\$33,417	\$16,132

Figures may not add up exactly due to rounding.

A reconciliation of the change in the Accrued Benefit Asset is as follows:

Accrued Benefit Asset as at December 31, 2008	\$16,132
(Benefit Cost) Income for 2009	(14,767)
Company Contributions for 2009	32,052
Accrued Benefit Asset as at December 31, 2009	33,417
(Accrued Valuation Allowance)*	0
Carrying Amount of Accrued Benefit Asset as at December 31, 2009	33,417

Figures may not add up exactly due to rounding.

* As at December 31, 2009, no Valuation Allowance is required

The following table shows the estimated benefit cost for 2010 as compared to the actual benefit cost for 2009. The benefit cost figures shown exclude the costs in respect of service after January 1, 2007 for employees who have been transferred to Emera Inc. The figures in respect of Emera Inc. are presented in a separate report. All figures in thousands.

	Estimated 2010	Actual 2009
Costs Arising in the Period		
Employer Current Service Cost	\$11,592	\$8,805
Interest Cost	52,419	51,549
(Actual Return on Plan Assets) ¹	(42,791)	(89,170)
Amounts Arising from Events in the Period:		
> Past Service Costs / (Gains)	0	0
> Actuarial Losses / (Gains) on ABO ¹	0	95,928
Future Benefit Costs Before Adjustments	\$21,220	\$67,112
Adjustments to Recognize Long-Term Nature of Costs		
> Transitional Obligation / (Asset)	2,259	2,259
> Current Year Return on Assets ¹	(6,712)	40,771
> Past Service Costs / (Gains)	185	185
> Actuarial Losses / (Gains) other than current year return on assets ¹	9,297	(95,560)
Total Benefit Cost / (Income) Recognized for the Period	\$26,249	\$14,767

Figures may not add up exactly due to rounding.

1. Although the sum of these four items will not change when the benefit cost for 2010 is finalized, the total amount will be re-distributed amongst the items based on the actual experience of the post-retirement benefit plans during 2010.

Changes since the Previous Valuation

We are not aware of any material changes to the post-retirement plans during 2009. Furthermore, we are not aware of any planned material changes for 2010.

NSPI's management reviewed the accounting methods and assumptions and has made the following revision since the previous valuation as at December 31, 2008:

- > The discount rate of 6.50% per annum as at December 31, 2009 is based on the annualized yield of high quality bonds (A or AA) with the same duration as the obligations (14 years duration based on 6.50% discount rate) at the valuation date. The prior valuation used a 7.5% discount rate and the duration was 12 years.
- > The mortality table was changed from the 1994 Uninsured Pensioners Mortality Table projected to 2015 to the 1994 Uninsured Pensioners Mortality Table projected to 2020.

There were no other changes to the actuarial assumptions since the last valuation.

Section 1 – Balance Sheet

Statement of Financial Position

The financial position of each benefit plan providing post-employment benefits is determined by comparing the value of assets available to the actuarial liability (referred to as the Accrued Benefit Obligation or ABO) for the benefits earned up to the valuation date, assuming the benefit plan continues indefinitely. We note that, as is commonly the case in Canada, NSPI has no assets backing up any of its plans providing post-employment benefits other than those in NSPI's registered pension plans.

The following table shows the Accrued Benefit Obligation as at December 31, 2009 for active employees and retirees based on the plan provisions in effect at the date this report was prepared, as summarized in Appendix C. Appendix A provides the actuarial assumptions used and details on the methodology used to determine the Accrued Benefit Obligation for active employees and retirees.

Table 1.1 Balance Sheet as at December 31, 2009 (thousands)

	Employee Plan (DC) Pension	Employee Plan (DB) Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Assets (Market)	N/A	\$558,829	\$33,234	\$0	\$0	\$0	\$0	\$592,063
Accrued Benefit Obligation	N/A	707,874	34,602	31,390	11,281	16,445	19,918	821,510
Surplus (Shortfall)	N/A	(\$149,045)	(\$1,368)	(\$31,390)	(\$11,281)	(\$16,445)	(\$19,918)	(\$229,447)
Unamortized Transitional Losses (Gains)	N/A	(2,356)	(1,230)	1,791	1,859	2,447	4,268	6,779
Unamortized Past Service	N/A	(731)	0	352	0	0	1,610	1,231
Unamortized Actuarial Losses (Gains)	N/A	230,014	19,008	6,512	1,509	2,529	(4,717)	254,855
Accrued Benefit Asset	N/A	\$77,883	\$16,410	\$(22,735)	\$(7,914)	\$(11,470)	\$(18,757)	\$33,417

Figures may not add up exactly due to rounding.

There is no accrued valuation allowance as at December 31, 2009.

Appendix A summarizes the assumptions used for this valuation, determined by NSPI in accordance with CICA 3461. Detailed figures are presented in Appendix D.

Section 2 – Income Statement

Plan Benefit Cost

The net benefit cost of a post-employment plan for a fiscal year is the sum of the following components:

(A) Costs Arising in the Period

- > Current service cost;
- > Interest cost on liabilities;
- > (Actual return on the market value of Plan assets) ¹;
- > Past service costs / (gains) ²;
- > Actuarial losses / (gains) on liabilities ³;
- > Other costs such as special termination benefits

(B) Adjustments to Recognize Long-Term Nature of Costs

- > Amortization of the transitional obligation (asset);
- > Impact of deferred recognition on the current year return on Plan assets ¹;
- > Impact of deferred recognition on past service costs ²;
- > Impact of deferred recognition on actuarial losses / (gains) on liabilities ³;
- > Amortization of initial valuation allowance; and
- > Current year change in required valuation allowance

Notes:

As a result of changes to CICA 3461 during 2004, a number of expense components shown previously must now be shown separately as two components to derive the benefit cost:

- 1. The sum of these components previously shown as Expected Return on Assets.*
- 2. The sum of these components previously shown as Amortization of Past Service Costs.*
- 3. The sum of these components previously shown as Amortization of Net Actuarial Loss (Gain).*

Table 2.1 shows the reported benefit cost (in thousands) for fiscal year 2009.

Table 2.1 Benefit Cost (Income) for 2009 (thousands)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Costs Arising in the Period							
Current Service Cost	\$7,263 ¹	\$0	\$197	\$0	\$798	\$547	\$8,805
Interest Cost	43,945	2,433	1,794	778	1,126	1,473	51,549
(Actual Return on Assets) ²	(83,932)	(5,238)	0	0	0	0	(89,170)
Events in the Period:							
> Past Service Costs / (Gains)	0	0	0	0	0	0	0
> Actuarial Losses / (Gains) on ABO	87,232	1,819	5,603	777	1,064	-566	95,928
Future Benefit Costs Before Adjustments	\$54,507	(\$986)	\$7,594	\$1,555	\$2,988	\$1,454	\$67,112
Adjustments to Recognize Long-Term Nature of Costs							
> Transitional Obligation / (Asset)	(786)	(409)	596	620	816	1,422	2,259
> Current Year Return on Assets ³	38,419	2,352	0	0	0	0	40,771
> Past Service Costs ⁴	(134)	0	89	0	0	230	185
> Actuarial Losses / (Gains) on ABO ⁴	(87,232)	(1,185)	(5,603)	(777)	(1,064)	300	(95,560)
Total Benefit Cost (Income)	\$4,775	(\$228)	\$2,676	\$1,398	\$2,740	\$3,406	\$14,767

Figures may not add up exactly due to rounding.

1. Employee Plan current service cost shown above includes both DB and DC components.

2. A positive figure represents a negative return for the year. Conversely, a negative figure denotes a positive return for the year.

3. Actual return on plan assets, less expected return on plan assets determined on a market related basis.

4. Equal to (a) current year amortization of (gain)/loss less (b) (gain)/loss incurred in the current year.

There is no Valuation Allowance required in respect of 2009 reporting.

Table 2.2 shows the development of projected benefit cost (in thousands) for fiscal year 2010.

Table 2.2 Estimated Benefit Cost (Income) for 2010 (thousands)

	Employee Plan Pension	Acquired Plan Pension	SERP, Exec Pension	War Svc, ERIP 86 and 91 Pension	Long Service Award	Post-Ret Health	Total
Costs Arising in the Period							
Current Service Cost	\$9,953 ¹	\$0	\$208	\$0	\$855	\$576	\$11,592
Interest Cost	45,376	2,121	1,959	693	1,019	1,251	52,419
(Actual Return on Assets) ²	(40,469)	(2,322)	0	0	0	0	(42,791)
Events in the Period:							
> Past Service Costs / (Gains)	0	0	0	0	0	0	0
> Actuarial Losses / (Gains) on ABO ²	0	0	0	0	0	0	0
Future Benefit Costs Before Adjustments	\$14,860	(\$201)	\$2,167	\$693	\$1,874	\$1,827	\$21,220
Adjustments to Recognize Long-Term Nature of Costs							
> Transitional Obligation / (Asset)	(786)	(409)	596	620	816	1,422	2,259
> Current Year Return on Assets ²	(6,298)	(414)	0	0	0	0	(6,712)
> Past Service Costs	(134)	0	89	0	0	230	185
> Actuarial Losses / (Gains) on ABO ²	8,040	1,045	375	42	98	(303)	9,297
Total Benefit Cost (Income)	\$15,682	\$21	\$3,227	\$1,355	\$2,788	\$3,176	\$26,249

Figures may not add up exactly due to rounding.

1. Employee Plan current service cost shown above includes both DB and DC components.

2. Although the sum of these four items will not change when the benefit cost for 2010 is finalized, the total amount will be re-distributed amongst the items based on the actual experience of the post-retirement benefit plans during 2010.

There is no valuation allowance expected in respect of 2010 reporting.

Please refer to Appendix D for additional details for projected 2010 benefit cost and the sensitivity of the ABO and current service cost to a 25 basis point discount rate change.

The following table shows the sensitivity of the ABO as at December 31, 2010 and combined current service and interest cost for 2010 to a 100 basis point change in the health care trend rate.

	Increase	Decrease
Current service cost and interest cost	164	(138)
Accrued benefit obligation, December 31, 2010	1,611	(1,360)

Aside from applying consistent methodology and assumptions, the calculation of benefit cost for each of NSPI's post-employment plans was determined independently from all other post-employment plans. Detailed benefit cost calculations and details of amortization schedules are presented in Appendix D. The following is a brief explanation of accounting terms.

As a result of new CICA 3461 accounting disclosure requirements, effective July 1, 2004, the presentation of the benefit cost (previously known as benefit expense) was changed in the December 31, 2004 accounting report. The new disclosure separates some terms in the benefit cost into two items (one relating to the cost of any event arising in the period and the second the adjustment to arrive at the cost recognized during the period) where one disclosure item was used previously. The following descriptions relate to the prior disclosure and additional comments are provided, where appropriate, to indicate where this item has been split into two components under the new disclosure requirements.

Employer Current Service Cost

The employer current service cost for the year is determined as follows:

- > in respect of active members who are at or past the full eligibility date, and in respect of retirees: none, and
- > in respect of active members who have not reached the full eligibility date: the portion of the actuarial present value of all future benefits payable by the employer on behalf of the member and his/her dependants which is attributed to the year following the valuation date. The actuarial present value is attributed uniformly over the years from the date of hire to the full eligibility date.

The actuarial methodology and assumptions summarized in Appendix A indicate how employer current service costs were computed for each of fiscal 2009 and 2010.

Interest Cost

To calculate the interest cost, interest for one year is credited on the Accrued Benefit Obligation, and interest for one-half of one year is credited on the total current service cost. Pension and claim payments are assumed to be made in the middle of the fiscal year.

Expected Return on Assets

To calculate the expected return on a Plan's assets, investment income for one year is credited based on the 5-year market related value of assets, and investment income for one-half of one year is credited on pension or claim payments, and contributions expected to be made during the fiscal year.

In the benefit cost tables shown above, the sum of the actual return on assets and the impact of deferred recognition on the current year return on assets is equal to the expected return on assets.

Amortization of Transitional Obligation

In accordance with the accounting standards, the value of the surplus less any Accrued Benefit Asset at the date of application of the standards is the transitional asset, or if negative, the transitional obligation. Under the prospective approach, this transitional obligation is normally amortized over the

average remaining service period (“ARSP”) of active employees. For NSPI, the ARSP as at January 1, 2000, the date of adoption of CICA 3461, was 13 years.

Amortization of Past Service Costs

Past service costs arising from plan amendments are amortized over the ARSP until full eligibility. The same ARSP was used for all benefit plans as the membership is materially the same.

In the benefit cost tables shown above, the sum of the past service costs arising in the period and the impact of deferred recognition on the past service costs is equal to the amortization of past service costs during the period.

Amortization of Net Actuarial Loss (Gain)

Under the accounting standards, actuarial gains and losses in a year may be combined with the unamortized balance of gains or losses from prior years. As discussed in CICA Section 3461.090, actuarial gains and losses on investments that are not yet reflected in the market related value of assets are not subject to amortization. The amount of unamortized gain or loss (net of the investment gain or loss not yet subject to amortization) that exceeds 10% of the greater of the plan’s market related value of assets or Accrued Benefit Obligation is divided by ARSP and recognized in the current year benefit cost. The ARSP as at December 31, 2009 is 9 years.

In the benefit cost tables shown above, the sum of the actuarial loss on the ABO arising in the period and the impact of deferred recognition on the actuarial loss on the ABO is equal to the amortization of net actuarial losses during the period.

Amortization of Change in Carrying Amount of Accrued Benefit Asset on Adoption of CICA 3461 (“Initial Valuation Allowance”)

In accordance with the accounting standards, the change in the limit on the carrying amount of the Accrued Benefit Asset on adoption of CICA 3461 (“Initial Valuation Allowance”) may be amortized on the same basis as the transitional obligation.

Valuation Allowance

In accordance with CICA 3461, there may be limits on the carrying amount of an Accrued Benefit Asset. Currently, under the Employees’ plan, NSPI’s Accrued Benefit Asset will, upon full amortization of the Initial Valuation Allowance, be limited to half of the plan surplus.

Our understanding of CICA 3461 is that the difference between

- > the Adjusted Benefit Asset (equal to surplus if there are net unamortized losses, or the Accrued Benefit Asset if there are net unamortized gains), and
- > the expected future benefit

is equal to the sum of:

- > the accrued Valuation Allowance, and

> the unamortized Initial Valuation Allowance.

Any change in the Valuation Allowance (other than the Initial Valuation Allowance) must be recognized immediately in income. The required Valuation Allowance for 2010 is based on figures projected to the end of 2010. Based on these projections, a Valuation Allowance will not be required; however the necessity of a Valuation Allowance should be reviewed at the time December 31, 2010 disclosure figures are prepared.

The permitted carrying amount of the Accrued Benefit Asset is equal to the Accrued Benefit Asset less the accrued Valuation Allowance.

Changes to Canadian GAAP for Pension Accounting Effective January 1, 2011

This report deals strictly with the figures reported under CICA Section 3461. This report does not address or provide figures related to any potential change in the way NSPI accounts for their pension and post employment benefits as a result of changes to Canadian GAAP for publically traded entities effective January 1, 2011.

Section 3 – Actuarial Opinion

The following opinion is with respect to the plans providing post-employment benefits for employees of Nova Scotia Power Incorporated (“NSPI”).

Valuations of the Employee and Acquired Companies pension plans, supplemental and executive benefits, long service award, and post-employment health benefits including post-employment life insurance were performed as at December 31, 2009. Each valuation was based on the plan provisions and data as at December 31, 2009. A valuation of the ERIP 86 and 91 and War Service pensions was performed as at December 31, 2007 and extrapolated to December 31, 2009. We are not aware of any other post-employment plans sponsored by NSPI.

We have confirmed with NSPI that since the valuation date, there are neither plan modifications nor any extraordinary changes to the membership that would materially affect the results of the actuarial valuations.

We hereby certify that, in our opinion, as at December 31, 2009:

- a) The post-employment benefits for employees of NSPI are defined benefits for purposes of Section 3461 of the *CICA Handbook*.
- b) Our valuation and extrapolation thereof has been made in accordance with the standards of the Canadian Institute of Actuaries. The financial statement items resulting from our valuation and extrapolation thereof have been determined in accordance with our understanding of Section 3461 of the *CICA Handbook*.
- c) Our valuation thereof was performed using best-estimate assumptions developed by NSPI as at December 31, 2009. These assumptions are described in our valuation report and are summarized in Appendix A.
- d) The total Accrued Benefit Obligation is \$821.510 million and the total market value of assets is \$592.063 million for a deficit of \$229.447 million. The unamortized loss, past service cost and transitional obligations, net of unamortized gains and transitional assets is \$262.865 million. The accrued Valuation Allowance is \$0. The Carrying Amount of the Accrued Benefit Asset is \$33.417 million. (Figures are rounded and may not add up exactly due to rounding.)
- e) The average remaining service period for active members is 9 years. This is also a reasonable proxy of the average expected life expectancy in benefits plans that are comprised primarily of retirees. After application of the 10% corridor, actuarial gains and losses (other than those amounts not yet included in the market related value of assets) for each benefit plan is amortized over 9 years.

- f) We have confirmed with NSPI that the plan provisions are up to date as at the date of this report. We are not aware of any events that could have a significant effect on our valuation or on NSPI's financial statements.
- g) Fiscal 2009 benefit cost is \$14.767 million.
- h) Fiscal 2010 benefit cost is estimated to be \$26.249 million.
- i) We are aware that NSPI's auditors may rely on this report for the preparation of NSPI's financial statements.

Furthermore, we hereby declare that in our opinion:

- > The data upon which this valuation is based are sufficient and reliable for the purposes of the valuation; and
- > NSPI management have selected the assumptions and they are in accordance with accepted actuarial practice; and
- > This report has been prepared, and our opinion given, in accordance with generally accepted actuarial practice.

Emerging experience, differing from assumptions will result in gains and losses, which will be revealed in future valuations.

We are available, at your convenience, to provide you with any additional information that you may require.

Respectfully submitted,



Paul Chang, F.C.I.A.

Don Charlton, F.C.I.A.

MORNEAU SOBECO
January 2010

Appendix A – Actuarial Assumptions and Methods

Actuarial Cost Method

For all active employees, the Accrued Benefit Obligation and the current service cost were calculated using the “projected benefit method pro-rated on service”.

According to this method, the Accrued Benefit Obligation is equal to the actuarial present value of all future benefits (net of any employee cost sharing for OPEBs), taking into account the assumptions described below, multiplied by the ratio of an employee’s service at the valuation date to total service at the retirement date. The current service cost for a period is equal to the actuarial present value of benefits attributed to employees’ services rendered in that period.

To determine the actuarial present value of post-retirement health benefits, the expected true costs were projected into the future in respect of each member applying both age-related utilization rates and the assumed trend (i.e., health care inflation) rates. In addition, each member’s expected contributions (i.e., premium) was projected into the future based on health care inflation. The actuarial present value of NSPI’s portion of the cost of the post-employment health plan is the difference between the actuarial present value of the total cost and the actuarial present value of the member’s contributions.

Assets

Employee and Acquired pension plan assets are taken at market value from the draft audited financial statements. There are no assets in respect of the other plans.

To determine the expected return on assets, we used a 5 year market-related value of assets and assumed that all cash flows would occur at mid-year.

Actuarial Assumptions

The actuarial assumptions used for the valuation are summarized in the following table. All rates and percentages are annualized unless otherwise noted. All assumptions used are management’s best estimates. The discount rate was based on high quality bonds (annualized yield of A or AA rated bonds at the valuation date) with the same duration as the obligations (12 years at December 31, 2008 and 14 years at December 31, 2009).

Table A.1 Actuarial Assumptions – Economic Factors

	December 31, 2009 Disclosure and 2010 Benefit Cost	December 31, 2008 Disclosure and 2009 Benefit Cost
Discount Rate	6.50%	7.50%
General Inflation	2.50%	Same
YMPE	3.00%	Same
Salary Increases	Under 30: 5.50%	Same
	30 to 34: 5.00%	
	35 to 39: 4.50%	
	40 to 44: 4.00%	
	45 to 49: 3.50%	
	50 and above: 3.00%	
Increase in maximum Pension in registered plan per year of service	\$2,444 for 2009, \$2,494 for 2010 and indexed starting in 2011 at 3.00% per annum	\$2,333 for 2008, \$2,444 for 2009 and \$2,444 indexed starting in 2010 at 3.00% per annum Same
Return on Employee Plan Assets	7.25%	7.25%
Return on Acquired Plan Assets	7.25%	7.25%
Extended Health Care Inflation	5.00% for next year (premium increase effective Jan 2011), and 4.00% per year thereafter	6.00% for next year (premium increase effective Jan 2010), 5% the following year, and a long-term ultimate rate of 4.00% per year thereafter
Dental Inflation	4.00%	Same

Table A.2 Actuarial Assumptions – Demographic Factors

	December 31, 2009 Disclosure and 2010 Benefit cost	December 31, 2008 Disclosure and 2009 Benefit cost
Mortality	1994 Uninsured Pensioners Mortality Table projected to 2020 using Projection Scale AA (UP94@2020) Sex Distinct Post-retirement only	1994 Uninsured Pensioners Mortality Table projected to 2015 using Projection Scale AA (UP94@2015) Sex Distinct Post-retirement only
Termination	5% per annum up to age 50	Same
Disability Rates	None assumed	Same
Retirement Rates	Age 58, Deferred assumed to retire at age 60, Disabled assumed to retire at age 65 or 35 years of service. It was assumed that all members retiring at age 58 would be eligible for the long service award	Same
Spouse Age Difference	Women 3 years younger	Same
Health Care Relative Utilization ¹	Please see table A.3 below	Same
Percentage Married	85% at retirement	Same
Members Electing Life Insurance Benefits at Retirement	100% for any member who has more than 15 years of service at retirement	Same
Members Electing Health Coverage at Retirement	For members who currently have coverage: For member in the new plan, 100% for members with 35 or more years of service at assumed retirement age, 85% for all other members ²	Same
Coverage Elected at Retirement	Old Plan: 85% Family, 15% Single New Plan: 35% Family, 50% Couple, 15% Single	Same

1. Used to estimate average medical and drug costs at different ages (drug coverage ceases at age 65). As we did not have reliable data to perform a utilization review, we have continued to use the utilization table from our 2002 study.

2. The data used for the post-employment health care valuation includes only those active members who currently have health coverage – such members represent 90% of all active employees at NSPI – the assumed likelihood that an active employee who currently has coverage and who retires from NSPI takes post-retirement coverage is 85% resulting in an overall take up rate for all employees (with or without current coverage) of 75% (approximately equal to 0.85×0.9).

Table A.3 Health Care Relative Utilization Factors

Age	Hospital & EHB	Drug Coverage	Dental Coverage
40	46%	42%	90%
45	53%	56%	88%
50	61%	74%	86%
55	78%	86%	83%
60	100%	100%	81%
64	122%	113%	80%
65	128%	N/A	N/A
70	163%	N/A	N/A
75	239%	N/A	N/A
80	352%	N/A	N/A
85	517%	N/A	N/A

Example: The cost for Hospital and EHB for a 64 year old is 122% of the cost for a 60 year old.

Calculation of Medical Cost

Development of Utilization Factors

We did not have data as at December 31, 2009 to perform a utilization review; therefore, we have continued to rely on the utilization table established from our 2002 study.

Manulife Financial provided claims amounts for hospital & EHB, and drugs for the period from August 1, 2001 to July 31, 2002 by quinquennial age bands. Using the number of members within each age band, we determined the amount of claims per member for each age band. From this we found the relative age based utilization factors for each quinquennial age band. We then extrapolated integer age based utilization factors from the quinquennial results. As there were insufficient post-1991 retirees over age 75 to establish a reliable utilization scale over such age, the utilization scales beyond age 75 were estimated based on industry statistics. We did not have details of the dental claims amount and have used utilization factors which are based on industry statistics.

Existing Post-Retirement Health Plan - NSPI members

Effective 2003, the annualized premiums for retirees are experience rated amongst retirees only. Previously the actives and retiree premiums were experience rated as a single group, and the same premium was paid by both retirees and actives. The member's portion (50% of total cost) of the annualized premiums charged as at January 1, 2010 for the NSPI Health plan is \$818 for single coverage and \$2,047 for family coverage (There was no increase from the January 1, 2009 rates). The experience report also shows that approximately 85% of claims are related to drugs, with the remaining 15% for hospital and extended health care.

Based on the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total expected claims at each age less member's paid premium) for 2010 at each age:

Age	Single	Family
50	\$1,001	\$2,501
55	\$1,305	\$3,259
60	\$1,660	\$4,147
65	(\$578)	(\$1,448)
70	(\$512)	(\$1,282)
75	(\$368)	(\$923)
80	(\$157)	(\$395)
85	\$153	\$380

Based on the ratio of the family to the single premium being charged by Manulife, and a fully experienced retiree only group, we continue to assume that the total cost for family coverage is approximately 2.5 times the single cost. A negative amount means that the retiree's premium exceeds the estimated average claims at that particular age.

New Post-Retirement Health Plan - NSPI members

Effective January 1, 2004, a new health benefit plan for retirees was introduced. Please refer to Appendix C for details of the new retiree health plan. We understand that this plan will be rated separately from the existing plan and retirees and actives will be rated as one group within the new plan. As there are currently an insufficient number of retirees under the new plan, we have used the same drug and hospital utilization factors as for the old plan. The dental utilization factors were developed based on the experience under the new plan only.

NSPI provided us with the total annualized premiums charged as at January 1, 2010 for the new NSPI Health plan as \$1,034 for single coverage and \$3,169 for family coverage, and new Dental plan as \$381 for single coverage and \$845 for family coverage. These are the same as the premiums charged as at January 1, 2009. Based on the premiums provided, and the assumed age-related utilization scale described in Table A.3, we estimated the true employer cost (total cost less member's premium) for 2010 at each age for an employee who will pay 50% of the benefit plan premium in retirement:

Age	Health Single	Health Family*	Dental Single	Dental Family*
50	\$690	\$2,036	\$182	\$397
55	\$899	\$2,665	\$173	\$376
60	\$1,147	\$3,409	\$164	\$357
64	\$1,378	\$4,101	\$157	\$341
65**	\$0	\$0	\$0	\$0

* In addition to family coverage, there is "couple coverage", employer health and dental costs for couple coverage is approximately 2 times the single health cost shown.

** No coverage after age 65.

Note that under the new post-retirement benefit plan, the actual percentage of the costs paid by the employer varies by the member's years of service at retirement. The costs shown above would need to be adjusted accordingly for members who do not receive 50% cost sharing. (Please contact us if you require such figures).

Pre-1992 Retirees

Since NSPI's liability in respect of former NSPI employees who retired under the PSSP is based on the amount of premium assessed by the Province, we have determined the accrued benefit obligation in respect of these members by determining the present value of premiums. Such premiums are assumed to increase at the health inflation rates, but no age utilization factor is applied. Annualized employer (65% of total) premiums as at January 1, 2010 (this represents an approximate 1.7% increase from the January 1, 2009 premiums) are as follows:

	Policy 5138	Policy 6000	Policy 6500
Single	\$221	\$740	\$393
Family	\$563	\$1,643	\$789

We assumed that the above premiums for pre-1992 retirees would follow the extended health care inflation assumption set out in table A.1 for future years.

Calculation of Life Insurance Cost

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan equal to 2 times the salary rate at the time of retirement.

We determined the actuarial present value of the true cost of the future post-retirement life insurance for each member. For active employees this value was multiplied by the ratio of their service at the valuation date to total service at their retirement date. The actuarial present value of NSPI's portion of the cost of post-retirement life insurance coverage was determined for each individual based on the plan's cost-sharing formula which uses the employee's expected service at retirement, or the actual cost-sharing percentage as provided by NSPI in the case of the retired members. Please refer to Appendix D for a more detailed description of the provisions of the subsidized post-retirement life insurance.

Valuation Allowance

For purposes of estimating the Valuation Allowance required for fiscal 2010, we estimated the December 31, 2010 ABO for the Employee's Pension Plan (DB component only) to be \$733.688 million. This was based on the December 31, 2009 ABO figure of \$707.874 million projected forward with estimated current service cost, interest, less benefit payments. The Employee's Pension Plan assets (DB component only), on a market value basis, projected to December 31, 2010 is estimated to be \$598.032 million.

As a result, the Plan's projected ABO exceeds the projected assets as at December 31, 2010 (i.e., the Plan's "adjusted benefit asset" is less than 0 and there is no "expected future benefit" – as those terms are defined in CICA subsections 3461.101) and no Valuation Allowance is projected to be required. A determination based on actual December 31, 2010 ABO and assets will be required to finalize the amount of Valuation Allowance for 2010.

Appendix B – Membership Data

Description of Pension Plan Membership Data

Our valuation of the pension plans as at December 31, 2009 was based on valuation data as at December 31, 2009.

We have performed tests to verify reasonableness and internal consistency and are satisfied that the data is sufficient and reliable for the purposes of this valuation. Basic statistics on the Employee and Acquired plan data are shown in the table below:

Table B.1

	Employee Plan (DB)	Acquired Companies Division 1&2	Exec, Discretionary	War Svc, ERIP 1986, ERIP 1991
Actives (including LTD)				
Number	1,566*	0 / 2	23	N/A
Average age	44.9	<>	48.1	N/A
Average credited service	13.7	<>	15.0	N/A
Average 2009 pensionable earnings ¹	\$62,621	<>	< >	N/A
Pensioners (including survivors)				
Number	1143	456 / 176	314	333
Average age	63.3	76.6 / 77.2	68.4	78.8
Average annual lifetime pension	\$22,132	\$6,734 / \$5,385	\$5,295	\$3,923
Average annual bridge (averaged over all pensioners)	\$4,632	\$0 / \$0	\$605	\$0

¹ During calendar year 2009, there were 27 pay periods rather than the usual 26 pay periods. This anomaly occurs once in approximately every 11 years. For purposes of our valuation, we adjusted the actual amount of pensionable earnings paid for 2009 by a factor of 26/27. The pensionable earnings shown is the adjusted pensionable earnings.

* Includes 46 members on LTD and 38 members who switched to the DC component of the Plan in respect of service after July 1, 2001. Also includes the data for members who have service with Emera on or after January 1, 2007.

< > Some earning figures not shown to protect confidentiality.

Data for the War Service, and ERIP 1986 and 1991 were provided by NSPI as at December 31, 2007.

Pension figures include the January 1, 2010 cost of living adjustment.

Please refer to the actuarial reports for funding purposes as at December 31, 2009 for additional data information for the Employees' Pension Plan and the Acquired Companies Pension Plan.

The following tables summarize the key data used in our valuation.

Table B.2 Employee Plan Active Members

Age	Credited Service	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 plus	Total
Under 25	Count	46							46
	Avg Credited	1.6							1.6
	Avg 2009 Earnings	44,815							44,815
25 to 29	Count	87	3						90
	Avg Credited	1.7	6.0						1.9
	Avg 2009 Earnings	46,850	66,526						47,506
30 to 34	Count	103	34						137
	Avg Credited	1.9	7.6						3.3
	Avg 2009 Earnings	52,751	52,448						52,676
35 to 39	Count	106	53	20	2	1			182
	Avg Credited	2.0	7.8	10.8	17.9	20.3			4.9
	Avg 2009 Earnings	60,922	58,019	58,302	57,026	48,798			59,679
40 to 44	Count	89	37	27	39	33			225
	Avg Credited	2.2	7.9	11.8	18.8	21.5			10.0
	Avg 2009 Earnings	57,835	60,888	62,558	70,694	68,048			62,630
45 to 49	Count	54	42	33	34	83	46		292
	Avg Credited	2.1	7.6	11.5	18.9	22.5	27.0		15.7
	Avg 2009 Earnings	62,856	67,521	63,100	68,766	79,110	70,312		70,038
50 to 54	Count	32	33	29	23	55	65	92	329
	Avg Credited	2.3	8.1	11.4	18.5	22.8	27.7	32.4	21.7
	Avg 2009 Earnings	56,839	62,584	74,602	67,783	67,404	80,872	68,955	69,649
55 to 59	Count	21	19	11	13	28	46	69	207
	Avg Credited	2.1	8.4	11.8	18.3	22.3	27.4	33.2	22.9
	Avg 2009 Earnings	57,968	47,696	50,922	60,919	58,229	64,994	71,430	62,920
60 plus	Count	10	8	3	7	6	5	19	58
	Avg Credited	1.1	8.1	11.0	18.5	22.1	26.6	33.3	19.6
	Avg 2009 Earnings	49,192	58,173	72,331	54,535	55,984	47,490	54,626	54,609
Total	Count	548	229	123	118	206	162	180	1,566
	Avg Credited	2.0	7.8	11.5	18.7	22.4	27.4	32.8	13.7
	Avg 2009 Earnings	54,924	59,316	64,049	67,304	70,554	72,335	68,391	62,621

Some earnings figures hidden to protect confidentiality. Age is rounded down to the nearest birthday.

Avg. Credited is the number of years credited for pension plan purposes.

During calendar year 2009, there were 27 pay periods rather than the usual 26 pay periods. This anomaly occurs once in approximately every 11 years. For purposes of our valuation, we adjusted the actual amount of pensionable earnings paid for 2009 by a factor of 26/27.

The pensionable earnings breakdown is based on the adjusted pensionable earnings.

Includes 46 members on LTD and 38 members who switched to the DC component of the Plan in respect of service after July 1, 2001.

Table B.3 Employees' Plan Pensioners

Nearest Age	Count	Average Annual Pension	Average Annual Bridge	Average Annual Benefit	Total Benefit Payable
Less than 25	17	-	2,321	2,321	39,463
25 to 54	27	11,476	1,449	12,925	348,980
55	18	27,767	8,346	36,113	650,031
56	53	28,487	8,475	36,961	1,958,941
57	47	27,156	8,109	35,266	1,657,497
58	52	30,082	8,754	38,837	2,019,507
59	47	26,262	8,962	35,223	1,655,488
60	72	26,335	8,203	34,538	2,486,754
61	85	23,307	7,231	30,537	2,595,683
62	100	23,553	7,847	31,400	3,140,032
63	86	21,609	7,432	29,041	2,497,501
64	68	24,675	6,927	31,602	2,148,914
65	63	19,879	3,939	23,818	1,500,507
66	43	21,224	-	21,224	912,648
67	47	19,042	118	19,160	900,528
68	48	18,145	-	18,145	870,942
69	43	19,639	114	19,753	849,359
70	43	18,933	-	18,933	814,105
71	44	20,105	-	20,105	884,617
72	33	24,133	-	24,133	796,397
73	31	20,750	-	20,750	643,249
74	21	14,282	-	14,282	299,929
75	9	15,403	-	15,403	138,629
76	14	20,659	-	20,659	289,230
77	12	14,709	-	14,709	176,503
78	2	17,722	-	17,722	35,445
79	5	16,885	-	16,885	84,426
80	1	< >	-	< >	< >
81	7	17,555	-	17,555	122,887
82	3	16,860	-	16,860	50,579
83	2	< >	-	< >	< >
Average		22,132	4,632	26,764	
Grand Total	1143				30,591,616

Figures shown above include January 1, 2010 cost of living adjustment.

* Bridge payable to surviving spouse.

< > Some figures are not shown to protect confidentiality.

Table B.4 Acquired Plan Pensioners

Part I				Part II		
Nearest Age	Count	Average Annual Benefit	Total Benefit Payable	Count	Average Annual Benefit	Total Benefit Payable
Less than 55	1	< >	< >	0	-	-
55 to 59	9	662	5,960	4	2,972	11,886
60	5	789	3,946	1	< >	< >
61	4	1,309	5,237	6	1,670	10,021
62	16	653	10,445	1	< >	< >
63	20	1,246	24,925	3	641	1,922
64	14	2,226	31,164	6	2,007	12,042
65	17	2,303	39,151	1	< >	< >
66	13	2,846	36,998	3	1,882	5,647
67	11	2,743	30,169	4	5,620	22,479
68	6	3,349	20,093	2	< >	< >
69	9	3,345	30,104	1	< >	< >
70	7	4,364	30,549	5	4,028	20,142
71	13	4,541	59,038	11	4,972	54,688
72	10	4,146	41,459	6	5,935	35,610
73	12	5,985	71,824	9	3,661	32,947
74	15	6,239	93,591	8	3,585	28,682
75	12	4,851	58,216	5	5,952	29,759
76	23	8,556	196,785	4	6,351	25,404
77	12	8,679	104,149	4	5,488	21,953
78	19	8,813	167,446	7	5,954	41,675
79	20	9,891	197,816	7	9,706	67,943
80	15	6,518	97,777	11	5,210	57,307
81	14	11,008	154,116	10	6,885	68,855
82	20	12,844	256,887	5	3,998	19,991
83	17	8,152	138,591	6	7,820	46,920
84	19	8,295	157,606	6	10,518	63,106
85	12	10,819	129,828	7	7,559	52,910
86	12	12,100	145,201	5	5,594	27,970
87	20	12,696	253,918	1	< >	< >
88	10	6,360	63,602	4	4,188	16,753
89	6	9,622	57,729	6	6,335	38,012
90	7	11,158	78,104	5	9,250	46,249
91	10	9,464	94,636	4	6,502	26,010
92	3	9,185	27,555	3	5,319	15,957
93	8	7,337	58,697	0	-	-
94	6	3,868	23,211	4	4,477	17,906
95 and over	9	7,975	71,772	1	< >	< >
Average		6,734			5,385	
Total	456		3,070,571	176		947,779

Figures shown above include January 1, 2010 cost of living adjustment.

< > Some figures are not shown to protect confidentiality.

Table B.5 Exec and Discretionary Pensions

Nearest Age	Count	Average Annual Pension	Average Annual Bridge	Average Annual Benefit	Total Benefit Payable
Less than 55	1	< >	-	< >	< >
55 to 59	6	2,042	615	2,657	15,940
60	3	23,445	638	24,083	72,248
61	19	4,561	1,268	5,829	110,750
62	25	3,946	1,474	5,420	135,503
63	39	4,708	1,424	6,132	239,158
64	31	6,095	1,299	7,394	229,205
65	32	3,666	830	4,496	143,864
66	24	4,250	-	4,250	102,003
67	20	3,684	46	3,731	74,616
68	15	4,296	-	4,296	64,434
69	11	7,410	-	7,410	81,514
70	11	31,011	-	31,011	341,118
71	9	3,265	-	3,265	29,389
72	5	3,857	-	3,857	19,284
73	7	2,955	-	2,955	20,686
74	2	< >	-	< >	< >
75	2	< >	-	< >	< >
76	2	< >	-	< >	< >
77	2	707	-	707	1,415
78	3	1,719	-	1,719	5,156
79	1	< >	-	< >	< >
80	4	5,038	-	5,038	20,153
81	5	4,581	-	4,581	22,907
82	5	3,977	-	3,977	19,884
83	4	1,054	-	1,054	4,215
84	1	< >	-	< >	< >
85	5	1,569	-	1,569	7,843
86	2	< >	-	< >	< >
87	7	3,344	-	3,344	23,410
88	2	< >	-	< >	< >
89	3	3,281	-	3,281	9,843
90	3	1,909	-	1,909	5,726
91	0	-	-	-	-
92	0	-	-	-	-
93	2	< >	-	< >	< >
94	0	-	-	-	-
95 and over	1	< >	-	< >	< >
Average		5,295	605	5,900	
Total	314				1,852,548

Figures shown above include January 1, 2010 cost of living adjustment.

* Bridge payable to surviving spouse.

< > Some figures are not shown to protect confidentiality.

Table B.6 War Service and ERIP 1986 and 1991 as at December 31, 2007

War Service				ERIP 1986 and 1991			
Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable	Nearest Age	Count	Avg. Annual Pension	Total Benefit Payable
74	1	< >	< >	65	1	< >	< >
76	7	1,746	12,225	66	1	< >	< >
77	1	< >	< >	67	1	< >	< >
78	2	< >	< >	69	3	3,148	9,444
79	3	1,051	3,153	70	1	< >	< >
80	3	1,305	3,914	71	9	4,148	37,335
81	2	< >	< >	72	20	4,331	86,626
82	7	3,036	21,250	73	15	4,366	65,488
83	4	1,347	5,388	74	21	5,015	105,305
84	13	2,826	36,732	75	18	4,647	83,651
85	6	2,984	17,906	76	27	4,531	122,349
86	5	3,109	15,546	77	36	3,857	138,866
87	8	3,417	27,340	78	14	3,556	49,790
88	4	6,337	25,347	79	20	3,630	72,591
89	5	4,156	20,780	80	18	3,756	67,601
90	7	4,538	31,768	81	13	4,143	53,860
91	3	9,891	29,672	82	11	5,389	59,278
92	1	< >	< >	83	9	3,772	33,944
93	1	< >	< >	84	6	2,697	16,184
98	1	< >	< >	85	3	1,886	5,658
100	1	< >	< >	86	1	< >	< >
Average		\$3,330		Average		\$4,127	
Total	85		\$283,009	Total	248		\$1,023,396

Figures shown above include indexing up to and including January 1, 2008. The January 1, 2009 and January 1, 2010 pension increases are not included in the figures shown.

There are no bridge benefits.

< > Some figures are not shown to protect confidentiality.

Description of Health Plan Membership Data

Employee data for health benefits was provided by NSPI as at December 31, 2009. We have taken the following steps to review the data to ensure sufficiency and reliability:

- > The data for actives and post 1991 pensioners was compared to the pension valuation data as at December 31, 2009 for reasonableness. Approximately 70% of pension plan retirees are enrolled in the health coverage. This is reasonable since there is an employee cost share component for the coverage.
- > The data for selected active members and post 1991 pensioners were cross-referenced with the pension plan data and found to be consistent.
- > We reviewed the data counts and age distributions in respect of pre-1992 retirees for whom NSPI reimburses the Province of Nova Scotia for health benefits against prior year data and they are consistent.

Table B.7 NSPI Active Members Enrolled in Old Health Program

Age Band	Number with Coverage
Less than 30	10
30 – 34	20
35 – 39	37
40 – 44	61
45 – 49	92
50 – 54	117
55 – 59	61
60 – 64	20
Total	418

Includes the data for members who have service with Emera on or after January 1, 2007.

Table B.8 NSPI (Post – 91) Pensioners Enrolled in Old Health Program

Age Band	Number with Single Coverage	Number with Family Coverage
< 50	2	3
50 – 54	5	3
55 – 59	25	60
60 – 64	68	192
65 – 69	39	83
70 – 74	26	44
75 – 79	4	9
> 80	5	2
Total	174	396

Table B.9 NSPI Active Members Enrolled in New Health Program

Age Band	Number with Coverage
Less than 30	160
30 – 34	127
35 – 39	140
40 – 44	147
45 – 49	183
50 – 54	167
55 – 59	98
60 – 64	7
Total	1,029

Includes the data for members who have service with Emera on or after January 1, 2007.

Table B.10 NSPI Active Members Enrolled in New Dental Program

Age Band	Number with Coverage
Less than 30	163
30 – 34	130
35 – 39	138
40 – 44	155
45 – 49	188
50 – 54	168
55 – 59	95
60 – 64	7
Total	1044

Includes the data for members who have service with Emera on or after January 1, 2007.

Table B.11 NSPI (Post – 91) Pensioners Enrolled in New Health Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage
< 50	0	0	1
50 – 54	1	1	1
55 – 59	7	87	26
60 – 64	9	64	9
> 65	0	1	0
Total	17	153	37

Table B.12 NSPI (Post – 91) Pensioners Enrolled in New Dental Program

Age Band	Number with Single Coverage	Number with Couple Coverage	Number with Family Coverage
< 50	0	0	1
50 – 54	1	1	1
55 – 59	7	88	25
60 – 64	9	60	8
Total	17	149	35

Pre-92 Pensioners – Premium Reimbursement to Province of NS

We were provided with the counts of members with single and family coverage enrolled in policies 5138, 6000, and 6500 under Province of NS post retirement health plan for who NSPI reimburses the Province of NS for a portion of the premiums. We gathered data provided by the Province of Nova Scotia as at December 31, 2004 for all of the retirees under policies 5138, 6000 and 6500 with single or family coverage who were still enrolled as at that date. We determined the present value of the future premiums as at December 31, 2009 assuming there was no change in the membership during 2005, 2006, 2007, 2008, and 2009. We then pro-rated the total present value for each group and coverage type based on the membership counts provided by NSPI as at December 31, 2009.

The following table presents the age distribution based on the membership as at December 31, 2004 and also provides the membership counts as at December 31, 2009:

Table B.13 Distribution of Pre-92 Pensioners based on December 31, 2004 Membership

Age Band	5138 Single	5138 Family	6000 and 6500 Single	6000 and 6500 Family
50 – 54	0	0	0	0
55 – 59	1	2	0	3
60 – 64	2	0	4	3
65 – 69	1	0	13	2
70 – 74	2	0	47	71
75 – 79	2	0	100	131
80 – 84	8	4	71	75
85 – 89	16	6	72	41
90 – 94	10	1	25	10
95 – 99	2	0	9	4
Total Dec 31, 2004	44	13	341	340
Total Dec. 31, 2009	28	6	338	232

Dental

In addition to the employee data for health benefits under the old post-retirement health plan, NSPI provided data for retiree dental benefits. Retiree dental benefits are provided in special circumstances under the old post-retirement health plan, and do not form part of the standard benefits package. (Under the new post retirement benefit plan, dental coverage is provided). There are 7 retirees as at December 31, 2009 who are entitled to dental benefits on a 50/50 cost share under the old post-retirement health plan until they reach age 65. The average age of the 7 retirees is 58.5. There is also one dependent eligible for coverage.

Life Insurance

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan.

The following table summarizes the data as at December 31, 2009 which was used to determine the Accrued Benefit Obligation in respect of the life insurance benefits. Note that active members who are projected to have less than 15 years of service at the assumed retirement age (and assumed not to elect coverage) are excluded from the data shown below.

Table B.14 NSPI Active Members Assumed to have Subsidized Post-Retirement Life Insurance

Age Band	Count	Average Service	Average Projected Coverage at Retirement
Less than 30	179	2.3	358,592
30 to 34	156	3.7	285,276
35 to 39	170	5.5	258,041
40 to 44	167	10.2	233,952
45 to 49	169	19.2	228,615
50 to 54	158	27.1	207,589
55 to 59	91	29.6	149,396
60 to 64	6	26.4	122,833
Totals	1,096	21.5	253,098

Includes the data for members who have service with Emera on or after January 1, 2007.

Table B.15 NSPI Retired Members Assumed to have Subsidized Post-Retirement Life Insurance

Age Band	Count	Average Coverage
Less than 55	2	117,000
55 to 59	124	128,629
60 to 64	81	121,765
Totals	207	125,831

Long Service Award

The following table summarizes the data as at December 31, 2009 which was used to determine the Accrued Benefit Obligation in respect of the Long Service Award.

Table B.16 Employees eligible for Long Service Award

Age and Service	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 or more	Total
20 to 24	20						20
Average Service	2.9						2.9
Average Earnings	46,716						46,716
25 to 29	50	12					62
Average Service	3.0	6.9					3.8
Average Earnings	49,464	50,842					49,731
30 to 34	53	49	14				116
Average Service	3.5	7.6	10.8				6.1
Average Earnings	52,900	54,650	44,272				52,598
35 to 39	43	77	41	4	1		166
Average Service	3.4	8.1	11.7	17.2	< >		8.1
Average Earnings	58,021	62,454	55,985	55,438	< >		59,467
40 to 44	36	42	33	48	39	1	199
Average Service	3.5	8.0	12.1	18.7	22.2	< >	13.3
Average Earnings	67,716	64,594	59,629	69,588	64,575	< >	65,415
45 to 49	24	48	37	34	88	58	289
Average Service	3.3	8.1	11.8	19.1	22.7	27.4	17.8
Average Earnings	70,218	66,905	58,418	71,439	72,993	67,741	68,649
50 to 54	18	38	30	18	52	161	317
Average Service	3.7	8.4	11.9	18.7	22.7	31.0	22.9
Average Earnings	59,741	69,356	63,332	66,491	65,311	68,386	66,921
55 to 59	5	17	16	10	28	104	180
Average Service	3.6	8.5	12.0	18.7	22.2	30.9	24.3
Average Earnings	56,678	47,091	49,271	59,449	57,106	65,731	60,565
60 to 65		5	6	6	6	17	40
Average Service		8.0	11.4	18.7	22.1	33.0	22.8
Average Earnings		65,912	57,569	51,642	53,674	46,791	52,558
Total	249	288	177	1,20	214	341	1,389
Average Service	3.3	8.0	11.8	18.8	22.5	30.5	16.3
Average Earnings	56,979	61,760	56,939	67,434	66,867	\$ 66,308	62,682

Includes the data for members who have service with Emera on or after January 1, 2007.

NSPI retains the obligation in respect of all NSPI service.

Appendix C – Summary of Plan Provisions

Employees' Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2009 for a summary of plan terms. Effective July 1, 2001, a defined contribution option was offered under the Employee's pension plan. Members who elected to participate in the defined contribution portion of the plan ceased to accrue service under the defined benefit portion of the plan, but retain a defined benefit pension based on final average earnings at termination or retirement in respect of credited service to July 1, 2001.

Acquired Companies Pension Plan

Please refer to the actuarial report for funding purposes as at December 31, 2009 for a summary of plan terms. Included in the liability is the value of cost of living adjustment and survivor benefits in respect of member's paid up Government of Canada pensions. We note that this is a closed plan and there are no members accruing service.

Executive Supplements, and Discretionary Benefits

NSPI introduced a Supplementary Executive Retirement Plan ("SERP") as at January 1, 2001 to top-up benefits for all members who are capped under the Employees' Pension Plan by the maximum pension limits set out in the *Income Tax Act*. Previously, only certain executives were covered by the SERP. Generally speaking, the SERP has the same terms as the registered Employees' Pension Plan and pays a pension equal to (a) minus (b):

- j) the pension determined under the Employees' Pension Plan without reference to the *Income Tax Act* limits,
- k) the pension payable under the Employees' Pension Plan.

The SERP benefits cover both defined benefit and defined contribution amounts that would otherwise exceed *Income Tax Act* limits. For the DC SERP, the word "contribution" would replace the word "pension" in the formula above. In addition, the annual rate of return on the DC SERP balances are deemed to be equal to the annual rate of return on the member's actual Employees' Pension Plan DC account balance.

Certain members in the SERP have a different definition of pensionable earnings than that defined in the Employees' Pension Plan. For such members, this would be used to determine (a) above. There is no pre-funding of SERP benefits. Please refer to the SERP plan document for additional information.

In addition to the SERP, any discretionary benefits granted by NSPI are included in this component. Such benefits are not pre-funded.

War Service, ERIPs of 1986 and 1991

War Service liability is in respect of service granted under the Nova Scotia Public Service Superannuation Plan (“PSSP”) to members of Nova Scotia Power Corporation (the predecessor to Nova Scotia Power Incorporated). PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to war service on a pay as you go basis.

The ERIP 1986 and 1991 liability is in respect of certain additional benefits provided to members who retired under the early retirement incentive program (ERIP) offered in 1986 and 1991. The PSSP is responsible for paying the total pension benefit to such members. NSPI is responsible for reimbursing PSSP the portion of such benefits attributable to additional service granted under the ERIP on a pay as you go basis.

Long Service Award

Employees who retire from active service on an unreduced pension are eligible for a Long Service Award benefit. This benefit is also paid in the event of death in service. No benefit is payable to employees who terminate prior to retirement, or to those who retire early with a reduced pension. A member’s benefit is based on his rate of pay on his retirement date. The benefit amount is 1 week’s salary for each year of service, up to a maximum of 26 years of service. Effective August 1, 2007 the long service award is closed to all new hires.

Post-Retirement Health Care Benefits

Existing (“Old”) Post-Retirement Health Care Plan

All NSPI employees who retired between privatization and December 31, 2003 receive benefits under the Old post retirement health care plan. Members who were active as at January 1, 2004 may receive benefits based on either the Old or New Plan depending on a one-time coverage election.

The Old Plan provides retired employees and their spouses (and eligible dependent children, if any) with 100% coverage for all prescription drugs up to age 65, 100% of eligible hospital benefit costs, and 80% of extended health benefits. To be entitled to this post-retirement health benefit, employees must retire from active service and be eligible for an unreduced pension from the NSPI Employee’s Pension Plan. Benefits are not provided to those who terminate prior to retirement. It is noted that the Prior Plan documents suggest that spouses and dependents are not eligible for coverage after the death of the member; however, we understand that the practice is to continue to provide coverage, and charge the applicable premium, in any such instance. We have therefore included the cost of lifetime benefits for surviving spouses, in accordance with Company practice.

The cost of the Old Plan is shared on a 50-50 basis between the retired employees (and eligible spouses) and the Company. The premium charged is set by the insurance company considering total expected claims in respect of retired members only. The premium does not reduce at age 65, although drug coverage ceases at that time. Premiums differ between employees only in respect of coverage type, i.e., single or family coverage.

New Post-Retirement Health Care Plan

This Plan applies to all non-union employees hired on or after January 1, 2004. Union employees hired after January 1, 2004 may choose between the new and old plans. All active employees as at January 1, 2004 had a one time option to convert to the New Plan.

Compared to the Old Plan, the New Plan adds orthodontic coverage, and caps drug dispensing fees at \$7 per prescription and drug costs to the generic brand cost. Members who enroll in the New Plan are entitled to continue with both health and dental coverage after retirement up to age 65 if they meet eligibility requirements:

- > The member must have at least 10 years of continuous service with the Company to be eligible for the post-retirement benefit.
- > Benefits are not provided to those who terminate prior to retirement.
- > The cost of the New Plan is shared between the employee and the Company, based on the retired member's continuous service at their date of retirement:

Years of Continuous Service at Retirement	Employer Paid Portion
1 – 9	Not eligible to enroll in the Plan
10 – 14	0% paid for by the Employer
15 – 29	50% paid for by the Employer
30 – 34	75% paid for by the Employer
35 +	100% paid for by the Employer

In addition to single and family coverage, the New Plan offers “couple” coverage, whereby any two family members may obtain health and dental coverage. Under the New Plan, no coverage is provided after the former employee attains age 65 (even if the spouse is still under age 65).

Post-Retirement Health Benefits for pre-privatization retirees

The cost to NSPI of benefits payable in respect of retired NSPC (the predecessor to Nova Scotia Power Incorporated) members who receive a pension from the PSSA is based on the premium assessed by the Province of Nova Scotia.

Subsidized Post-Retirement Life Insurance

NSPI provides subsidized post-retirement life insurance up to age 65 for employees who elect to participate under the new health plan. The cost-sharing of the life insurance premiums is based on the retired member's continuous service at their date of retirement as shown in the table above for the new post-retirement health care plan.

For non-executives the coverage is equal to 2 times the employee's salary at retirement up to a maximum of \$500,000. For executives the coverage is 5 times salary at retirement up to a maximum of \$1,000,000.

Appendix D – Detailed Calculation Sheets Fiscal 2009 & Projected Fiscal 2010

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5
January 1, 2009 to December 31, 2009
All figures in thousands.

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RETAGE SETBACK 1 years

0

"VA" means Valuation Allowance

Sensitivity to 25 basis points decrease - ABO at beg of period

Sensitivity to 25 basis points decrease - CSC (ER Portion)

Sensitivity to 100 basis points change in health trend rates:

Impact on total of service and interest cost

Adjustment for change in discount rate

4.00

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Retirement Employees (ER Only)	Total
1. EXPENSE								
ASSUMED RETURN ON ASSETS	N/A	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	
ASSUMED DISCOUNT RATE AT BEGINNING OF PERIOD	N/A	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	
ASSUMED DISCOUNT RATE AT END OF PERIOD	N/A	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	
CURRENT SERVICE COST	\$1,002	6,261	0	197	0	798	547	8,805
INTEREST ON ACCRUED BENEFITS	0	43,945	2,433	1,794	778	1,126	1,473	51,549
EXPECTED RETURN ON ASSETS	0	(45,513)	(2,886)	0	0	0	0	(48,399)
STRAIGHT LINE AMORTIZATION OF:								
- Transitional Obligation (Asset)	0	(786)	(409)	596	620	816	1,422	2,259
- Past Service Costs	0	(134)	0	89	0	0	230	185
- Actuarial Losses / (Gains)	0	0	634	0	0	0	(266)	368
- Change in VA on adopting CICA 3461	0	837	0	0	0	0	0	837
CHANGE IN VALUATION ALLOWANCE	0	(837)	0	0	0	0	0	(837)
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0	0
SPECIAL TERMINATION	0	0	0	0	0	0	0	0
EXPENSE (INCOME)	\$1,002	\$3,773	(\$228)	\$2,676	\$1,398	\$2,740	\$3,406	\$14,767

2. ACCRUED BENEFIT (ASSET) LIABILITY

OPENING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$0	(\$59,868)	(\$14,958)	\$22,704	\$7,797	\$11,046	\$17,147	-16,132
LESS: ACCRUED VALUATION ALLOWANCE (BOY)	-	-	-	-	-	-	-	-
OPENING BALANCE (not adjusted for VA)	\$0	(\$59,868)	(\$14,958)	\$22,704	\$7,797	\$11,046	\$17,147	(\$16,132)
EXPENSE (INCOME) (including current year VA)	1,002	3,773	-228	2,676	1,398	2,740	3,406	14,767
LESS CURRENT YEAR VA (to get unadjusted closing balance)	0	0	0	0	0	0	0	0
LESS: COMPANY CONTRIBUTIONS	(1,002)	(21,788)	(1,224)	(2,645)	(1,281)	(2,316)	(1,796)	(32,052)
CLOSING BALANCE (not adjusted for VA)	\$0	(\$77,883)	(\$16,410)	\$22,735	\$7,914	\$11,470	\$18,757	(\$33,417)
ACCRUED VALUATION ALLOWANCE (EOY)	-	-	-	-	-	-	-	\$0
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT (ASSET) LIABILITY NET OF VA	\$0	(\$77,883)	(\$16,410)	\$22,735	\$7,914	\$11,470	\$18,757	(\$33,417)

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5
January 1, 2009 to December 31, 2009
All figures in thousands.

"VA" means Valuation Allowance

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIIP 1986 and ERIIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
4. WORKSHEETS								
D. PROJECTIONS TO END OF PERIOD - Market Related Value								
ASSETS - MRV								
Opening Value	N/A	\$629,252	\$41,284	\$0	\$0	\$0	\$0	\$670,536
Member Contributions	N/A	5,233	-	-	-	-	-	5,233
Company Contributions	N/A	21,788	1,224	2,645	1,281	2,316	1,796	31,050
Interest	N/A	45,513	2,886	-	-	-	-	48,399
Benefit Payouts	N/A	(30,000)	(4,169)	(2,645)	(1,281)	(2,316)	(1,796)	(42,207)
MRV Adjustment for previous asset gain/(losses) (end of year)	N/A	(26,091)	(2,281)	-	-	-	-	(28,372)
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - MRV	N/A	\$645,695	\$38,944	\$0	\$0	\$0	\$0	\$684,639
ACCRUED BENEFIT OBLIGATION								
Opening Value	N/A	\$595,203	\$34,519	\$26,441	\$11,008	\$15,773	\$20,260	\$703,204
Benefit Improvements	N/A	0	0	0	0	0	0	0
Total Normal Cost	N/A	11,494	0	197	0	798	547	13,036
Interest	N/A	43,945	2,433	1,794	778	1,126	1,473	51,549
Benefit Payouts	N/A	(30,000)	(4,169)	(2,645)	(1,281)	(2,316)	(1,796)	(42,207)
Curtailments	N/A	0	0	0	0	0	0	0
Experience Loss due to Curtailment	N/A	0	0	0	0	0	0	0
Liabilities Settled	N/A	0	0	0	0	0	0	0
Projected Closing Accrued Benefit Obligation	N/A	\$620,642	\$32,783	\$25,787	\$10,504	\$15,381	\$20,484	\$725,582
Gain (Loss) on Accrued Benefit Obligation arising at end of period	N/A	(87,232)	(1,819)	(5,603)	(777)	(1,064)	566	(95,928)
Actual Accrued Benefit Obligation at end of period	N/A	\$707,874	\$34,602	\$31,390	\$11,281	\$16,445	\$19,918	\$821,510
PROJECTED SURPLUS END OF PERIOD (MRV)								
ACTUAL SURPLUS END OF PERIOD (MRV)	\$0	\$25,053	\$6,161	(\$25,787)	(\$10,504)	(\$15,381)	(\$20,484)	(\$40,943)
	\$0	(\$62,179)	\$4,342	(\$31,390)	(\$11,281)	(\$16,445)	(\$19,918)	(\$136,871)
E. PROJECTIONS TO END OF PERIOD - Market Value								
ASSETS - Market Value								
Opening Value	N/A	\$477,876	\$30,941	\$0	\$0	\$0	\$0	\$508,817
Member Contributions	N/A	5,233	0	0	0	0	0	5,233
Company Contributions	N/A	21,788	1,224	2,645	1,281	2,316	1,796	31,050
Expected Interest	N/A	34,538	2,136	0	0	0	0	36,674
Benefit Payouts	N/A	(30,000)	(4,169)	(2,645)	(1,281)	(2,316)	(1,796)	(42,207)
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - Market Value	N/A	\$509,435	\$30,132	\$0	\$0	\$0	\$0	\$539,567
Gain (Loss) on Market Value of Asset return during period	N/A	49,394	3,102	0	0	0	0	52,496
Actual Market Value of Assets at end of period	N/A	\$558,829	\$33,234	\$0	\$0	\$0	\$0	\$592,063
PROJECTED SURPLUS END OF PERIOD (Market Value)	\$0	(\$111,207)	(\$2,651)	(\$25,787)	(\$10,504)	(\$15,381)	(\$20,484)	(\$186,015)

ACTUAL SURPLUS END OF PERIOD (Market Value)	\$0	(\$149,045)	(\$1,368)	(\$31,390)	(\$11,281)	(\$16,445)	(\$19,918)	(\$229,447)
ASSETS - Gain/Loss Current Year								
Expected Return (based on MRV)	\$0	\$45,513	\$2,886	\$0	\$0	\$0	\$0	\$48,399
Actual Return (MV)	\$0	\$83,932	\$5,238	\$0	\$0	\$0	\$0	\$89,170
Gain (Loss)	\$0	\$38,419	\$2,352	\$0	\$0	\$0	\$0	\$40,771

F. RECONCILE VALUATION ALLOWANCE AND UNAMORTIZED (projected to end of period)	\$0	(\$77,883)	(\$16,410)	\$22,735	\$7,914	\$11,470	\$18,757	(\$33,417)
Accrued Benefit (Asset)	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(a) Expected Future Benefit	N/A	-108,697	N/A	N/A	N/A	N/A	N/A	-108,697
(b) Adjusted Benefit Asset (Accrued Asset less aggregate losses)	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(c) Valuation Allowance Required EOY (b) - (a)	N/A	837	N/A	N/A	N/A	N/A	N/A	837
(d) Unamortized Valuation Allowance	N/A	0	N/A	N/A	N/A	N/A	N/A	0
(e) Accrued VA EOY	N/A	0	N/A	N/A	N/A	N/A	N/A	0
Addition to VA (c) - (d) - (e)	N/A	0	N/A	N/A	N/A	N/A	N/A	0

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5

January 1, 2009 to December 31, 2009

All figures in thousands.

"VA" means Valuation Allowance

5. AMORTIZATION SCHEDULE

AMORTIZATIONS ESTABLISHED AS AT JANUARY 1, 2000	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
ARSP as at January 1, 2000	0.00	13.00	13.00	13.00	13.00	13.00	13.00	
TRANSITIONAL OBLIGATION / (ASSET) (Jan 1, 2000)								
Opening Balance	0	(\$10,216)	(\$5,320)	\$8,616	\$7,198	\$10,607	\$18,488	\$29,373
Annual Component	0	(3,142)	(1,639)	2,387	2,479	3,263	5,690	9,038
Closing Balance	0	(786)	(409)	596	620	816	1,422	2,259
Remaining Duration as at EOY (years)	0.00	(2,356)	(1,230)	1,791	1,859	2,447	4,268	6,779
CHANGE in VA on ADOPTING CICA 3461 (Jan 1, 2000)								
Opening Balance	N/A	\$10,880	N/A	N/A	N/A	N/A	N/A	\$10,880
Annual Component	N/A	3,347	N/A	N/A	N/A	N/A	N/A	3,347
Closing Balance	N/A	837	N/A	N/A	N/A	N/A	N/A	837
Remaining Duration as at EOY (years)	N/A	2,510	N/A	N/A	N/A	N/A	N/A	2,510
AMORTIZATIONS ESTABLISHED AS AT DECEMBER 31, 2000								
ARSP as at December 31, 2000	0.00	12.00	12.00	12.00	12.00	12.00	12.00	
PAST SERVICE COST / (ASSET) (Dec 31, 2000)								
Opening Balance	N/A	\$869	N/A	\$503	N/A	N/A	N/A	\$1,372
Annual Component	N/A	0	N/A	167	N/A	N/A	N/A	167
Closing Balance	N/A	0	N/A	42	N/A	N/A	N/A	42
	N/A	0	N/A	125	N/A	N/A	N/A	125

Remaining Duration as at EOY (years)	N/A	0.00	N/A	3.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AMORTIZATIONS ESTABLISHED AS AT OCTOBER 31, 2003												
PAST SERVICE COST / (ASSET) (October 1, 2003)	N/A	\$5,580	N/A	\$521	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$6,101
Opening Balance	N/A	0	N/A	274	N/A	N/A	N/A	N/A	N/A	N/A	N/A	274
Annual Component	N/A	0	N/A	47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	47
Closing Balance	N/A	0	N/A	227	N/A	N/A	N/A	N/A	N/A	N/A	N/A	227
Remaining Duration as at EOY (years)	N/A	0.00	N/A	4.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT JULY 1, 2004												
ARSP as at July 1, 2004	N/A	11.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PAST SERVICE COST / (ASSET) (July 1, 2004)	N/A	(\$7,283)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(\$7,283)
Opening Balance	N/A	(865)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(865)
Annual Component (half-year starting July 1)	N/A	(134)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(134)
Closing Balance	N/A	(731)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(731)
Remaining Duration as at EOY (years)	N/A	5.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
AMORTIZATIONS ESTABLISHED AS AT DEC 31, 2006												
ARSP as at Dec 31, 2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.00
PAST SERVICE COST / (ASSET) (Dec 31, 2006)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$2,300
Opening Balance	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,840
Annual Component	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	230
Closing Balance	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,610
Remaining Duration as at EOY (years)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.00
AMORTIZATIONS ESTABLISHED AS AT DECEMBER 31, 2008												
Updated ARSP as at December 31, 2008	0.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
AGGREGATE NET ACTUARIAL LOSS / (GAIN)	\$0	\$181,201	\$20,175	\$909	\$732	\$1,465	(\$4,417)	\$200,065				
Actuarial loss (gain) not yet included in MRV	0	151,376	10,343	0	0	0	0	161,719				
Amount subject to amortization	0	29,825	9,832	909	732	1,465	-4,417	38,346				
10% Corridor	0	62,925	4,128	2,644	1,101	1,577	-2,026	70,350				
Opening Balance to Amortize	0	0	5,703	0	0	0	-2,391	3,312				
Annual Component	0	0	634	0	0	0	-266	368				
Remaining amount to be amortized	0	181,201	19,541	909	732	1,465	-4,151	199,697				
Actuarial loss (gain) at end of period on	0	(38,419)	(2,352)	0	0	0	0	(40,771)				
- Asset Return	0	87,232	1,819	5,603	777	1,064	(566)	95,928				
- Accrued Benefit Obligation	0	\$230,014	\$19,008	\$6,512	\$1,509	\$2,529	(\$4,717)	\$254,855				
Total actuarial loss (gain) not amortized	\$0											
Total Closing Unamortized Losses (Gains) (excluding VA)	\$0	\$226,927	\$17,778	\$8,655	\$3,368	\$4,976	\$1,161	\$262,865				

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5

January 1, 2009 to December 31, 2009

All figures in thousands.

"VA" means Valuation Allowance

6. EXPENSE - NEW DISCLOSURE REQUIREMENTS

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
COSTS ARISING IN PERIOD								
CURRENT SERVICE COST	\$1,002	\$6,261	\$0	\$197	\$0	\$798	\$547	\$8,805
INTEREST ON ACCRUED BENEFITS	0	43,945	2,433	1,794	778	1,126	1,473	51,549
ACTUAL RETURN ON ASSETS	0	-83,932	-5,238	0	0	0	0	-89,170
AMOUNTS ARISING FROM EVENTS IN THE PERIOD:								
- Past Service Costs (Gains)	0	0	0	0	0	0	0	0
- Actuarial Losses / (Gains) on Accrued Benefit Obligation	0	87,232	1,819	5,603	777	1,064	-566	95,928
SETTLEMENTS & CURTAILMENTS	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0
FUTURE BENEFIT COSTS BEFORE ADJUSTMENTS	\$1,002	\$53,506	(\$986)	\$7,594	\$1,555	\$2,988	\$1,454	\$67,112
ADJUSTMENTS TO RECOGNIZE LONG-TERM NATURE OF COSTS								
IMPACT OF DEFERRED RECOGNITION ON:								
- Transitional Obligation (Asset)	0	-786	-409	596	620	816	1,422	2,259
- Current Year Return on Plan Assets**	0	38,419	2,352	0	0	0	0	40,771
- Past Service Costs*	0	-134	0	89	0	0	230	185
- Actuarial Loss (Gain) other than the current year return on assets*	0	-87,232	-1,185	-5,603	-777	-1,064	300	-95,560
VALUATION ALLOWANCE	0	0	0	0	0	0	0	0
BENEFIT COST (INCOME) RECOGNIZED FOR THE PERIOD	\$1,002	\$3,773	(\$228)	\$2,676	\$1,398	\$2,740	\$3,406	\$14,767

3. RECONCILIATION OF ACCRUED BENEFIT OBLIGATION TO ACCRUED BENEFIT ASSET (LIABILITY) RECONCILIATION AT END OF PERIOD

ACTUAL MARKET VALUE OF ASSETS - EOY	N/A	\$597,825	\$33,141	\$0	\$0	\$0	\$0	\$0	\$630,966
LESS ACTUAL ACCRUED BENEFIT OBLIGATION - EOY	N/A	733,688	32,783	30,857	10,724	15,922	19,815	843,789	
SURPLUS (DEFICIT) AT END OF PERIOD - MARKET VALUE	N/A	(\$135,862)	\$358	(\$30,857)	(\$10,724)	(\$15,922)	(\$19,815)	(\$212,823)	
LESS CLOSING UNAMORTIZED AMOUNTS									
- Unamortized Transitional Obligation (Asset)	N/A	(1,570)	(821)	1,195	1,239	1,631	2,846	4,520	
- Unamortized Past Service	N/A	(597)	-	263	-	-	1,380	1,046	
- Unamortized Actuarial Losses (Gains)	N/A	228,272	18,377	6,137	1,467	2,431	(4,414)	252,270	
TOTAL CLOSING UNAMORTIZED AMOUNTS	N/A	\$226,105	\$17,556	\$7,595	\$2,706	\$4,062	(\$188)	\$257,836	
CLOSING BALANCE (not adjusted for VA)	\$0	\$90,243	\$17,914	(\$23,262)	(\$8,018)	(\$11,860)	(\$20,003)	\$45,013	
ACCRUED VALUATION ALLOWANCE - EOY	0	0	0	0	0	0	0	0	
CLOSING BALANCE OF CARRYING AMOUNT OF ACCRUED BENEFIT ASSET (LIABILITY) NET OF	\$0	\$90,243	\$17,914	(\$23,262)	(\$8,018)	(\$11,860)	(\$20,003)	\$45,013	

NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVAS
January 1, 2010 to December 31, 2010 - Projection for 2010

All figures in thousands.

"VA" means Valuation Allowance

4. WORKSHEETS

A. FINANCIAL POSITION OF THE PLAN AT BEGINNING OF PERIOD	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service E RIP 1986 and E RIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
Assets (Market Value)	N/A	\$558,829	\$33,234	\$0	\$0	\$0	\$0	\$592,063
Accrued Benefit Obligations	N/A	707,874	34,602	31,390	11,281	16,445	19,918	821,510
Surplus (Deficit)	\$0	(\$149,045)	(\$1,368)	(\$31,390)	(\$11,281)	(\$16,445)	(\$19,918)	(\$229,447)
B. PLAN COSTS FOR BENEFITS ACCRUING DURING THE PERIOD								
Employee Contributions	N/A	\$5,534	\$0	\$0	\$0	\$0	\$0	\$5,534
Company Normal Cost	1,150	8,803	0	208	0	855	576	11,592
Cost of Benefits Accruing	\$1,150	\$14,338	\$0	\$208	\$0	\$855	\$576	\$17,127
C. MARKET-RELATED VALUE OF ASSETS (5 years)								
Annual Adjustment in respect of Year -5	\$0	4,515	83	\$0	\$0	\$0	\$0	\$0
Annual Adjustment in respect of Year -4	0	7,496	298	0	0	0	0	0
Annual Adjustment in respect of Year -3	0	(8,125)	(487)	0	0	0	0	0

Annual Adjustment in respect of Year -2	0	(30,104)	(1,820)	0	0	0	0	0	0
Annual Adjustment in respect of Year -1	0	7,684	470	0	0	0	0	0	0

**NOVA SCOTIA POWER INCORPORATED - CICA 3461 with AVA5
January 1, 2010 to December 31, 2010 - Projection for 2010**

All figures in thousands.

"VA" means Valuation Allowance

4. WORKSHEETS

	Pension Plan for Employees (DC only)	Pension Plan for Employees (DB only)	Pension Plan for Certain Acquired Companies	SERP Exec Supp Discretionary	War Service ERIP 1986 and ERIP 1991	Long Service Award	Post Retirement Employees (ER Only)	Total
D. PROJECTIONS TO END OF PERIOD - Market Related Value								
ASSETS - MRV								
Opening Value	N/A	\$645,695	\$38,944	\$0	\$0	\$0	\$0	\$684,639
Member Contributions	N/A	5,534	-	-	-	-	-	5,534
Company Contributions	N/A	26,900	1,525	2,700	1,250	2,397	1,930	36,702
Interest	N/A	46,760	2,736	-	-	-	-	49,496
Benefit Payouts	N/A	(33,900)	(3,940)	(2,700)	(1,250)	(2,397)	(1,930)	(46,117)
MRV Adjustment for previous asset gain/(losses) (end of year)	N/A	(18,535)	(1,455)	-	-	-	-	(19,990)
Settlement Payout	N/A	0	0	0	0	0	0	0
Projected Closing Asset Value - MRV	N/A	\$672,455	\$37,810	\$0	\$0	\$0	\$0	\$710,265
ACCRUED BENEFIT OBLIGATION								
Opening Value	N/A	\$707,874	\$34,602	\$31,390	\$11,281	\$16,445	\$19,918	\$821,510
Benefit Improvements	N/A	0	0	0	0	0	0	0
Total Normal Cost	N/A	14,338	0	208	0	855	576	15,977
Interest	N/A	45,376	2,121	1,959	693	1,019	1,251	52,419
Benefit Payouts	N/A	(33,900)	(3,940)	(2,700)	(1,250)	(2,397)	(1,930)	(46,117)
Curtailments	N/A	0	0	0	0	0	0	0
Experience Loss due to Curtailment	N/A	0	0	0	0	0	0	0
Liabilities Settled	N/A	0	0	0	0	0	0	0
Projected Closing Accrued Benefit Obligation	N/A	\$733,688	\$32,783	\$30,857	\$10,724	\$15,922	\$19,815	\$843,789
Gain (Loss) on Accrued Benefit Obligation arising at end of period	N/A	0	0	0	0	0	0	0
Actual Accrued Benefit Obligation at end of period	N/A	\$733,688	\$32,783	\$30,857	\$10,724	\$15,922	\$19,815	\$843,789
PROJECTED SURPLUS END OF PERIOD (MRV)								
	\$0	(\$61,233)	\$5,027	(\$30,857)	(\$10,724)	(\$15,922)	(\$19,815)	(\$133,525)
ACTUAL SURPLUS END OF PERIOD (MRV)	\$0	(\$61,233)	\$5,027	(\$30,857)	(\$10,724)	(\$15,922)	(\$19,815)	(\$133,525)
E. PROJECTIONS TO END OF PERIOD - Market Value								
ASSETS - Market Value								
Opening Value	N/A	\$558,829	\$33,234	\$0	\$0	\$0	\$0	\$592,063
Member Contributions	N/A	5,534	0	0	0	0	0	5,534
Company Contributions	N/A	26,900	1,525	2,700	1,250	2,397	1,930	36,702

CONFIDENTIAL (Attachment Only)

1 **Request IR-82:**

2
3 **Please provide a detailed explanation of and any and all documentation showing the actual**
4 **market losses referenced in DE-03 - DE-04, on lines 9-21 of page 70, as well as provide a**
5 **detailed explanation and any and all documentation showing the calculation of the pension**
6 **loss amortization for the years 2009-2016, including the amount in the 2012 rate case**
7 **pension expense.**

8
9 Response IR-82:

10
11 Under both CICA 3461 (used by NSPI up to December 31, 2010) and US GAAP accounting
12 standards codification section 715:

- 13 a) Actuarial gains and losses in a year may be combined with the unamortized
14 balance of gains or losses from prior years. The actuarial gains and losses arise
15 from changes in the Accumulated Benefit Obligation (under US GAAP, the term
16 is Projected Benefit Obligation) due to plan experience, assumption changes, and
17 actual investment earnings different than the assumed rate of return.
- 18 b) As discussed in CICA Section 3461.103 (under US GAAP, 715-30-35-24),
19 actuarial gains and losses on investments that are not yet reflected in the market
20 related value of assets are not subject to amortization. NSPI's accounting policy
21 is to use a market related value of assets with recognition over a 5 year period.
- 22 c) The amount of unamortized gain or loss (net of the investment gain or loss not yet
23 subject to amortization per item (b) above) that exceeds 10% of the greater of the
24 plan's market related value of assets or Accrued Benefit Obligation is divided by
25 the average remaining service period (ARSP) and recognized in the current year's
26 benefit cost.

27
28 Please refer to Attachment 1 for NSPI's Employee Future Benefits Accounting Policy, approved
29 by the UARB.

30
31 The loss on investments for 2008, relative to the assumed return of 7.5%, was \$159.6 million.
32 This actuarial loss is fully included in components A and B for 2009 and to a lesser degree in

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1 component A in each subsequent year, and to a decreasing extent each year in component B up
2 to and including 2013. Please refer to Confidential Attachment 2 for the actual calculations for
3 the years 2009 and 2010, and projection for 2011 to 2016. The amortization amount shown for
4 2011 is in respect of the estimated 2011 pension expense which represents updated information
5 since the GRA was prepared.

6
7 The 2009 and 2010 figures included in Confidential Attachment 2 can also be found in Appendix
8 D of the December 31, 2009 and December 31, 2010 accounting reports. Please refer to Liberty
9 IR-80 Attachment 1 and Liberty IR-81 Attachment 2.

10
11 The figures for 2011 to 2016 were provided by Morneau Shepell (formerly Morneau Sobeco)
12 from the same calculation sheets used to generate the 2012 to 2016 projections. Please refer to
13 the Application, RB-02 – RB-16, Attachment 2.

14
15 The projected amount of the amortization for the 2009C calculations was \$12.3 million. Please
16 refer to Liberty IR-81 Attachment 1. The amount projected for 2012 was \$22.6 million. Of the
17 change of \$10.3 million, \$7.2 million is related to amortization of investment gains and losses.
18 The residual amount of \$3.1 million is related to the change in discount rates to 5.5% at
19 December 31, 2010 and is included as part of the \$3.5 million referenced in DE-03, DE-04, on
20 line 24 of page 70.

GENERAL ACCOUNTING

EMPLOYEE FUTURE BENEFITS - 2400**GENERAL**

- 01 The Company maintains contributory defined-benefit and defined-contribution pension plans that cover substantially all employees, and plans providing non-pension benefits for its retirees.
- 02 The defined-benefit pension plans are based on the years of service and average salary at the time the employee terminates employment and provide annual post-retirement indexing equal to the change in the Consumer Price Index up to a maximum increase of 6% per year.
- 03 Other retirement benefit plans include: unfunded pension arrangements, unfunded long service award and contributory health care plan.
- 04 The measurement date for the assets and obligations of each benefit plan is December 31.

POLICIES

- 05 Pension obligations and obligations associated with non-pension post-retirement benefits such as health benefits to retirees and retirement awards, are actuarially determined using the projected benefit method prorated on service and management's best assumptions. The projected benefit obligation is valued based on market interest rates at the valuation date.
- 06 Adjustments to the projected benefit obligation arising from plan amendments are amortized on a straight-line basis over the expected average remaining service period ("ARSP") of active employees.
- 07 Pension fund asset values are calculated using market values at year-end. The expected return on pension assets is determined based on market-related values. The market-related values are determined in a rational and systematic manner so as to recognize asset gains and losses over a five-year period.
- 08 For any given year, when Nova Scotia Power Inc's ("NSPI"s) net actuarial gain (loss), less the actuarial gain (loss) not yet included in the market-related value of plan assets, exceeds 10% of the greater of the projected benefit obligation and the market-related value of the plan assets, an amount equal to the excess divided by the ARSP is amortized on a straight-line basis.
- 09 On January 1, 2011, NSPI adopted the US accounting standard on employee future benefits retrospectively with restatement.
- 10 Plan surpluses are recognized as assets and plan deficits are recognized as liabilities on the balance sheet. The difference between plan surplus (deficits) and accrued benefit assets (liabilities) is recognized in accumulated other comprehensive income.

PROCEDURES

- 11 Actuarial valuations are performed annually for all plans.
- 12 Pension expense, as determined in the annual actuarial valuation, is charged to both operating departments and corporate adjustments.
- 13 Pension funding for pre-funded plans are paid as determined in an annual actuarial valuation.
- 14 Pension plan assets are invested by fund managers. Monthly statements are provided by the trustee showing asset market values, investment income, pension benefits, refunds of contributions and plan expenses.
- 15 A Statement of Net Assets and a Statement of Changes in Net Assets for all pension plans are prepared quarterly. These statements show pension asset market values, contributions receivable, accounts payable, investment income, changes in market values, contributions received, pension benefits paid, refunds of contributions and plan expenses.
- 16 For the defined benefit pension plan, employee contributions for current service are matched by NSPI through the payroll system and remitted to the trustee for investment by fund managers. Additional employer contributions for current service and/or past service, where required, are also remitted to the trustee for investment by the fund managers.
- 17 For the defined contribution pension plan, employee and employer contributions are remitted to a pension plan administrator and invested according to instructions provided by the employee.
- 18 For the defined benefit pension plan, administrative expenses are paid by NSPI and reimbursed from the pension fund through requests to the trustee.

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1 **Request IR-83:**

2
3 **Please provide the pension discount rate analysis prepared by Morneau Sobeco for the rate**
4 **year of 2012, as referred to in DE-03 – DE-04, on pages 70 and 71, as well as similar**
5 **discount rate analyses for the years 2009-2011 that were used to calculate actual annual**
6 **pension expense.**

7
8 Response IR-83:

9
10 Please refer to Confidential Attachment 1, Confidential Attachment 2 and Liberty IR-080
11 Attachment 2 for tables produced by Morneau Shepell (formerly Morneau Sobeco) that
12 documents the technical calculation of the appropriate pension accounting discount rate based on
13 AA bonds for various durations. The discount rate, based on NSPI's duration of 14 years, at
14 December 31, 2010 was 5.50%. This discount rate will be used for purposes of the 2011 pension
15 expense calculation and was used for purposes of the 2012 calculations. The discount rate used
16 for the actual 2012 pension expense calculation will be based on the December 31, 2011.

17
18 Please refer to Confidential Attachment 1 and Confidential Attachment 2 for tables related to the
19 determination of the discount rate of 6.50% for the 2010 pension expense (based on the
20 December 31, 2009 rate) and 7.50% for the 2009 pension expense (based on the December 31,
21 2008 rate).

22
23 These same tables are referenced by all of Morneau Shepell's clients to determine the
24 appropriate accounting discount rates based on their plan's duration. The average duration for
25 NSPI's plans was 12 years at December 31, 2008 and 14 years at both December 31, 2009 and
26 2010.

NON-CONFIDENTIAL

1 **Request IR-84:**

2
3 **Please refer to NSPI's 2012 General Rate Application, DE-03 – DE-04, page 71 of 161, lines**
4 **8-16. Please provide documentation including, but not limited to any and all studies, data,**
5 **documentation, and analyses provided by consultants and company personnel to determine**
6 **the assumed rate of return on plan assets for the test period, as well as similar asset return**
7 **analyses for the years 2009-2011 that were used to calculate actual annual pension expense.**
8

9 **Response IR-84:**

10
11 The table below shows the results of the Morneau Shepell (formerly Morneau Sobeco) survey of
12 assumed asset returns used to determine pension expense over the most recent 6 survey periods.
13 This survey is based on the information provided by approximately 100 Canadian public
14 companies in their annual information returns. As you can see, there has been a fairly consistent
15 decrease in the assumed rate of return over the period 2004 to 2009 from a median of
16 approximately 7.25 percent in 2004 to approximately 7.00 percent for 2009. Based on financial
17 market expectations at the end of 2009 and during 2010, we anticipate that the asset return
18 assumptions used for 2010 will be similar to those used for 2009.

19

Rate of return for expense calculation						
Fiscal year	6.75% or lower	7% or lower	7.25% or lower	7.5% or lower	7.75% or lower	8% or lower
2004	11%	42%	58%	80%	87%	95%
2005	18%	47%	66%	85%	88%	97%
2006	25%	55%	68%	86%	87%	98%
2007	34%	62%	73%	87%	93%	99%
2008	34%	66%	79%	91%	93%	99%
2009	34%	65%	83%	95%	98%	99%

20
21 Management also reviewed the asset mix (65 percent equity/35 percent fixed income) and the
22 expectations of long-term returns with the pension plan asset management team. In addition, the

NON-CONFIDENTIAL

1 historical rate of return assumptions, industry trends, and Morneau Shepell expectations were
2 discussed with Morneau Shepell. After these discussions, the internal management team decided
3 to change the rate of return assumption from 7.25 percent to 7.00 percent effective with the 2011
4 pension expense calculations.

5

6 Please refer to Attachment 1, Attachment 2 and Attachment 3 for the Morneau Shepell surveys
7 for the assumptions used in the years 2004, 2005 and 2006 (the 2005 to 2007 surveys) and
8 Liberty IR-080 Attachments 4-6 for the Morneau Shepell survey results for the assumptions used
9 in the years 2007, 2008, and 2009 (the 2008 to 2010 surveys).



2005 Economic
Assumptions
CICA Section 3461

Integrating

Highlights of our annual survey results

Design

SPECIAL REPORT

& Delivery

MORNEAU
SOBECO

Introduction

Section 3461 of the Canadian Institute of Chartered Accountants Handbook (CICA 3461) requires that the management of a company sponsoring a defined benefit plan measure the plan's accrued benefit obligation (ABO) and annual expense using assumptions that individually reflect best estimates and are "internally consistent with each other".

Morneau Sobeco has compiled information disclosed by about 100 Canadian public companies in their most recent audited financial statements as at December 31, 2004. This is the fifth year our survey has been produced.

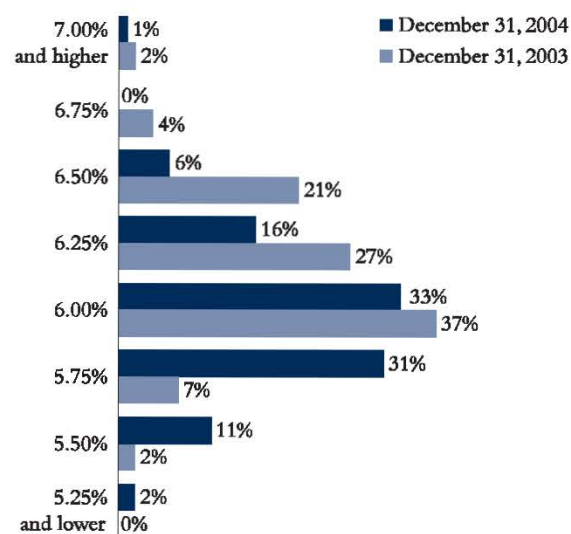
In light of new disclosure requirements of Section 3461, we have added some items to our survey:

- > measurement date of assets and benefit obligation;
- > pension asset allocation;
- > pension expense before and after consideration of long-term nature of employee future benefits.

Discount Rate for Pension Plans

The following chart summarizes the discount rate used for defined benefit pension plan accounting (see the appendix for a description of the discount rate). The median discount rate is 5.90% as at December 31, 2004, compared to 6.25% as at December 31, 2003. About 80% of the companies used a rate between 5.75% and 6.25%. This range is consistent with CICA 3461 recommendations.

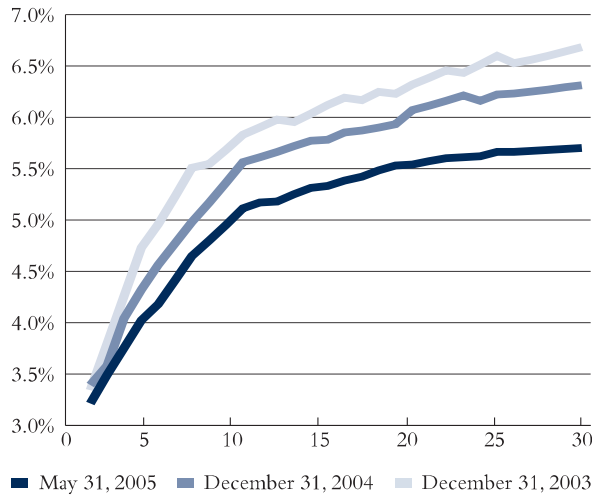
Discount Rate / Pension Plans



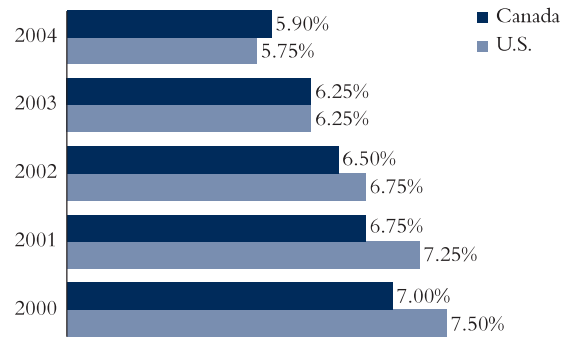
Even though the median discount rate has decreased by 35 basis points, 22% of the companies maintained the same discount rate as last year.

Over time, the yields on high-quality corporate bonds may vary considerably. The discount rate should be expected to vary in a similar fashion. For illustration purposes, we have included the yield curve as at May 31, 2005. It is about 45 basis points lower than the December 31, 2004 rates. The May 31, 2005 rates are at their lowest level since CICA 3461 was adopted.

High-Quality Corporate Bonds



Discount Rate by Country



Discount Rate for Non-Pension Benefits

If the yield curve should remain at the May 2005 level until the end of the year, we could expect the December 31, 2005, discount rate to be about 45 basis points lower than the December 31, 2004, rate.

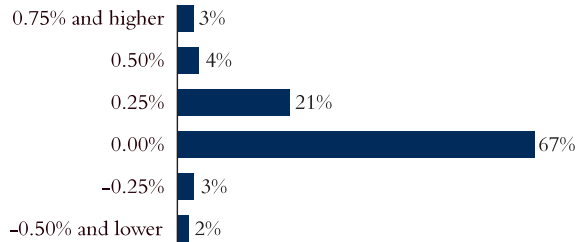
The following chart compares the median discount rates in our survey to the median discount rates from the U.S. survey¹, including discount rates that are expected as at December 31, 2004. We see that the rates in the U.S. have fallen below the Canadian rates as at December 31, 2004, for the first time since adoption of CICA 3461.

Because of the different nature of employee future benefits other than pensions, some companies may choose to use a different discount rate in their valuation of other benefits. The ABO may have a different duration because it applies to a different population, or because of the nature of the benefits offered. For example, the duration of the ABO for a retiree medical plan is often higher than the duration of a pension ABO for the same population.

The following chart shows the difference between the discount rate used in the valuation of employee future benefits other than pensions and the discount rate used for pension plans.

¹ Source: Survey of Economic Assumptions used for SFAS No. 87 and SFAS No. 106 Purposes, prepared by Deloitte & Touche Human Capital Advisory Services (US).

*Difference in Discount Rates
(Post-retirement benefits vs. pensions)*



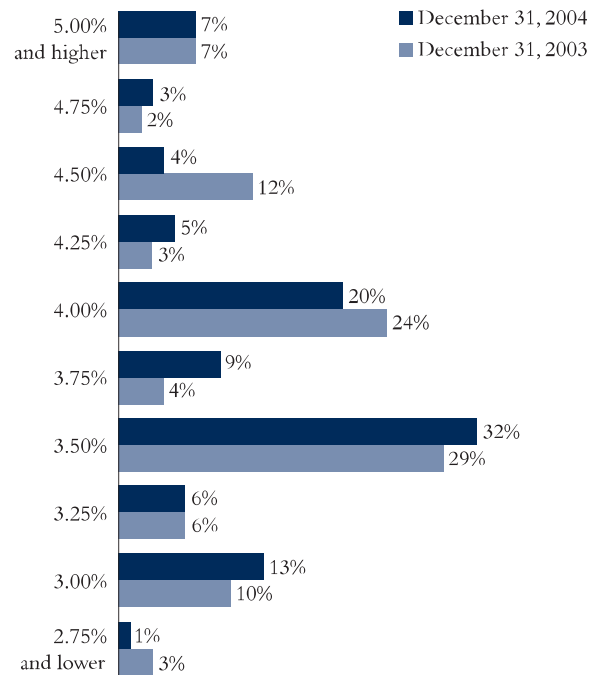
While in most cases management selects identical assumptions for pensions and other employee benefits, 29% use a higher discount rate assumption for employee future benefits (an increase from the 20% of our previous survey).

Rate of Compensation Increase

Plans that provide pay-related benefits are required to make an assumption about the rate of compensation increases. CICA 3461 indicates that it should reflect “future changes attributed to general price levels, productivity, seniority, promotion, and other factors”.

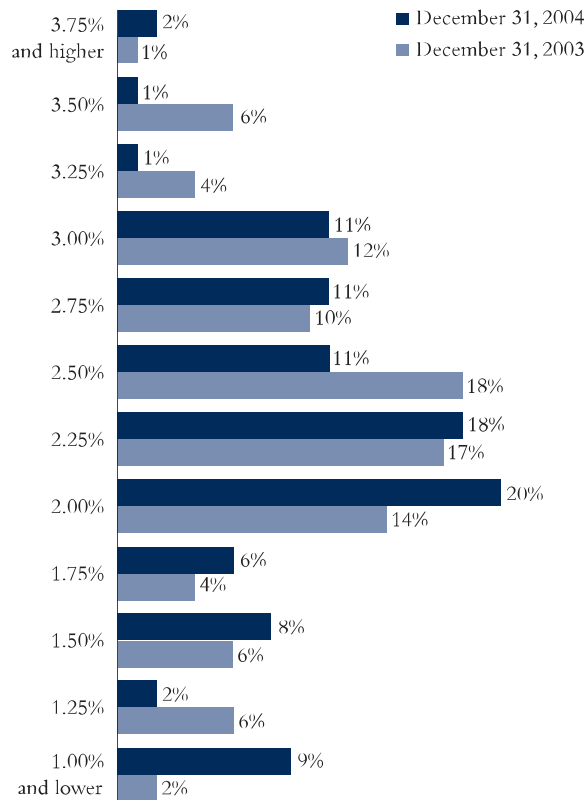
The median compensation increase assumption as at December 31, 2004, was 3.5%, 30 basis points lower than last year. It should be noted that 61% of companies used rates between 3.5% and 4.0%.

Rate of Compensation Increase



The following graph shows the spread between the discount rate and the rate of compensation increase. The spread between these two assumptions generally has an important impact on the ABO calculated for defined benefit pension plans. The median is 2.3% as at December 31, 2004, compared to 2.4% last year.

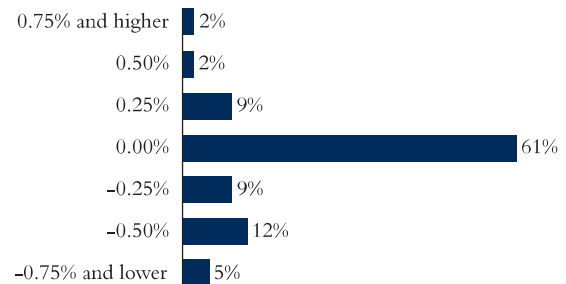
Spread: Discount Rate / Compensation



There is some debate among practitioners and management regarding the frequency of changes in the rate of compensation increase assumption. The standards provide additional guidance on this issue, especially in the CICA “Supplement to the Employee Future Benefits Implementation Guide”. It states that the requirement to be internally consistent applies to all assumptions except for the discount rate. Assumptions other than the discount rate should be based on a long-term view and should be revised only with a significant change in expected long-term economic conditions.

Our survey results show that, while the discount rate has generally declined, 61% of companies have kept the same rate of compensation increase assumption as last year. About 26% of companies adjusted their assumption downward.

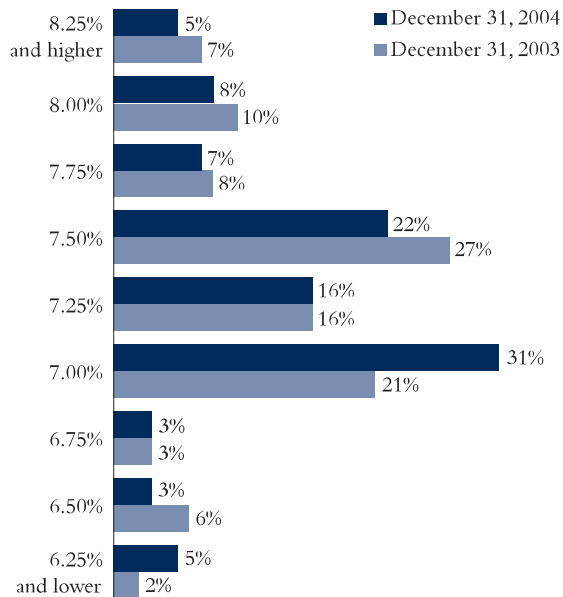
Change in Compensation Increase Assumption (2004 vs. 2003)



Expected Long-Term Return on Plan Assets

CICA 3461 specifies that the assumed rate of return on plan assets should also reflect a long-term view. The following chart shows the assumptions disclosed as at December 31, 2004.

Expected Return on Plan Assets



The median expected long-term rate of return on plan assets is 7.25% which is 25 basis points below the December 31, 2003 survey. About 69% of the companies use rates between 7.0% and 7.5%.

For most plans, actual returns earned in 2004 by pension funds exceeded the assumption for expected long-term return on plan assets. The actual median return for diversified pension funds was 10.2% in 2004 according to the “Performance Universe of Pension Managers’ Pooled Funds” prepared by Morneau Sobeco. Even with this good performance, the decline in discount rate should still increase the pension expense in 2005 in many cases.

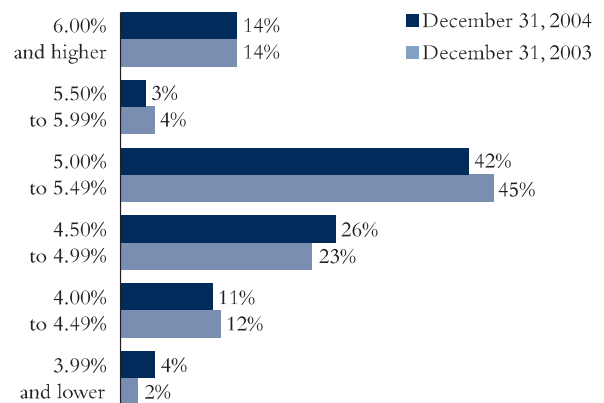
Medical Cost Trend

Where retiree medical coverage is offered, a key assumption in the valuation of the ABO is the rate of future medical cost increases. CICA 3461 provides guidance on factors that companies should consider in selecting this assumption.

Often, medical costs are assumed to increase at a higher rate in the short term. The rate of these increases is then assumed to decline gradually over time to an ultimate level.

The following charts show the December 31, 2004, medical cost trend assumptions compared to the December 31, 2003, assumptions. About 70% of companies used an ultimate trend rate between 4.5% and 5.5%. The median is 5.0%, unchanged from last year’s survey.

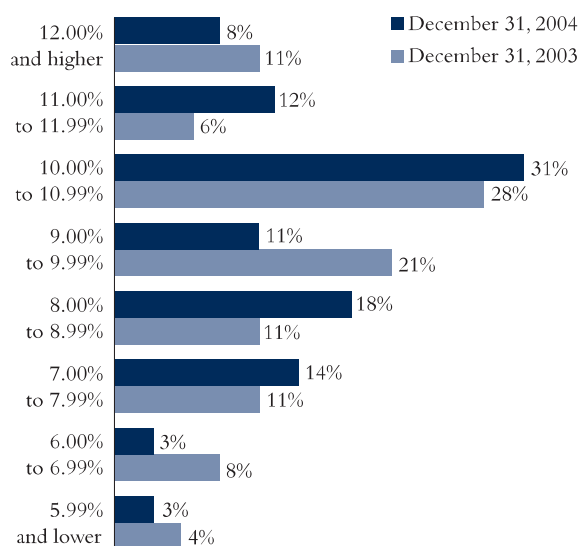
Ultimate Medical Cost Trend



There has been a slight increase in the short-term assumption. The median is 9.9% compared to 9.7%, as at December 31, 2003.

For the third straight year, there has been an increase in the number of companies using an assumption of 10% or higher. In fact, 50% fall in that category. Only 20% of companies have opted for an assumption below 8%.

Short-Term Medical Cost Trend



New CICA 3461 disclosures

This year marks the adoption of new disclosures in companies' financial statements. Our survey was expanded to provide you with additional information on these new disclosures.

ASSET AND OBLIGATION MEASUREMENT DATE

CICA 3461 requires that the employee future benefits be measured at fiscal year end or at a date up to 3 months prior to that date. All companies in our survey have a December 31 fiscal year end; therefore, some companies may use a measurement date as early as September 30.

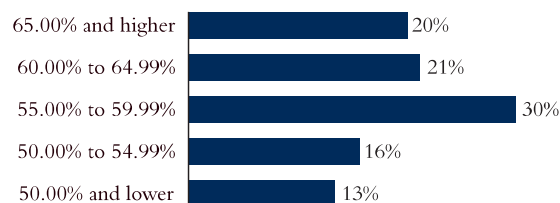
We find that 86% use December 31 as a measurement date. Among the others, September 30 date is used most often at 9%.

PENSION PLAN ASSET ALLOCATION

It is now required that asset allocation be disclosed by the following categories: equity, debt and other assets. Additional categories may be added if it helps the user of the financial statement improve his understanding of the investment risk. We find that almost all companies have elected to show only the minimum allocation categories: equity, debt and other assets (no additional categories were added).

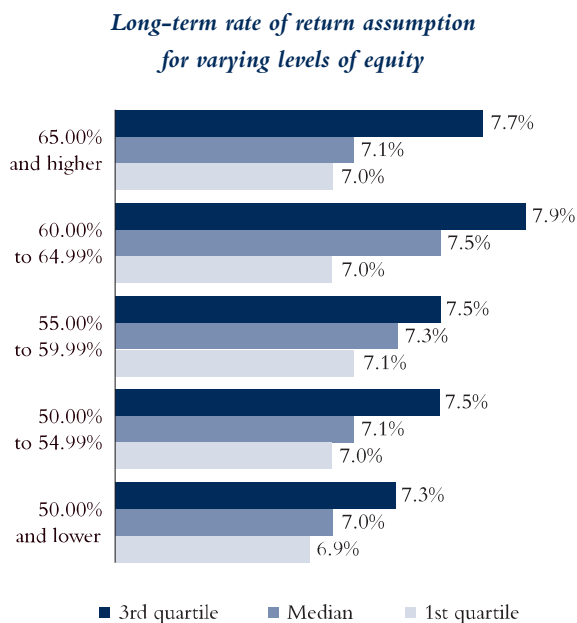
The average asset allocation as at December 31, 2004, is 58% in equity, 38% in debt and 4% in other assets. The actual proportion of equity held by pension plans is shown below:

Company distribution by their pension plans' equity level



Since the assumption for expected long-term return on assets is based on asset allocation and expectations for future growth of these assets, we have compared the rate of return on asset assumptions to the level of equity held by pension plans.

Theoretically, a pension plan holding more equity should have a higher rate of return on asset assumption while a plan with a lower proportion of equity should have a lower assumption. The results from our survey, in the graph below, show that the asset return assumption is similar even with varying levels of equity held. Note that the plans with equity levels between 60% and 65% have a median and third quartile higher than others.



PENSION EXPENSE BEFORE AND AFTER ADJUSTMENT

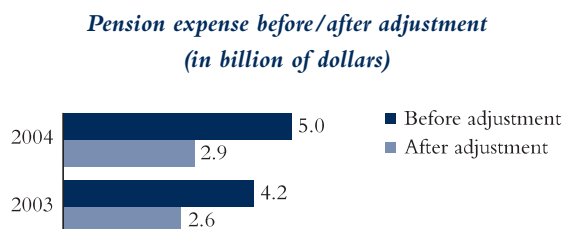
CICA 3461 allows companies to amortize the different gains and losses, past service costs and transitional liability (asset) over future fiscal periods. These amortizations are permitted due to the long-term nature of employee future benefits. With the new disclosures, it is required to differentiate the expense recognized in the income

statement from the expense that would prevail if there were no amortization.

We note that, in our survey, about 75% of companies have presented this information retroactively for 2003 (for comparison purposes). Our analysis is based on those companies. They have funds with pension assets of \$88 billion, about 89% of pension assets of all companies in our survey.

In CICA 3461, we refer to “expense before adjustment” and “expense after adjustment”. The latter represents the company’s recognized expense presented in the income statement. The difference between these two shows the market volatility that is present in defined benefit plans.

The following graph shows the difference between a pension expense before and after adjustment for 2003 and 2004 in aggregate for all companies that provided this information. We find that, in 2004, they have recognized a total of \$2.9 billion in expense, whereas it would have been approximately \$5 billion without any amortization mechanisms. It will be interesting to follow the evolution of these results in future years.



Appendix – Selecting the Discount Rate

In general, the ABO is most sensitive to the discount rate assumption. For example, a 25-basis-point decrease in the discount rate may increase the ABO by 5%. This increase could, in turn, impact the annual expense in subsequent years.

CICA 3461 provides general guidance as to the selection of the discount rate assumption. It should be determined by reference to market interest rates on high-quality debt instruments or to the interest rate at which the ABO could be settled. Although the discount rate is defined in CICA 3461, it does not prescribe a precise methodology for computing this rate.

Since Canadian standards are similar to the United States equivalent, one may look for guidance provided by the Securities and Exchange Commission (“SEC”) staff. The SEC has interpreted that the discount rate should reflect the yield of a portfolio of high-quality fixed-income instruments (rated as AA or better by Moody’s), which has the same duration as the plan’s ABO. Since the duration of the plan’s ABO is affected by certain demographic characteristics such as average age, average service or proportion of retirees, it should be expected that plans with similar demographics would use similar discount rates.

Information on high-quality Canadian corporate bonds (rated AA or more) is generally available and may serve as a starting point in the determination of the discount rate. Sources such as Scotia Capital provide information on high-quality corporate bond yields.

For More Information

This survey is intended to provide information regarding the assumptions disclosed by a wide range of companies and, as such, can provide an indication of trends. The assumptions used for your own employee future benefits plans will depend on a number of factors. For more information, speak to your Morneau Sobeco consultant.



HUMAN RESOURCE CONSULTING AND ADMINISTRATIVE SOLUTIONS

Morneau Sobeco is the industry leader in helping organizations deliver their human resource programs. For more than four decades, we have teamed up with North American companies to help them conceive and implement effective business solutions. The size and diversity of our client base gives our consultants a unique, forward-looking perspective on all compensation, retirement, and employee benefits issues.



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OTTAWA
613.782.2955

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418.529.4536

ST. JOHN'S
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416.445.2700

VANCOUVER
604.642.5200

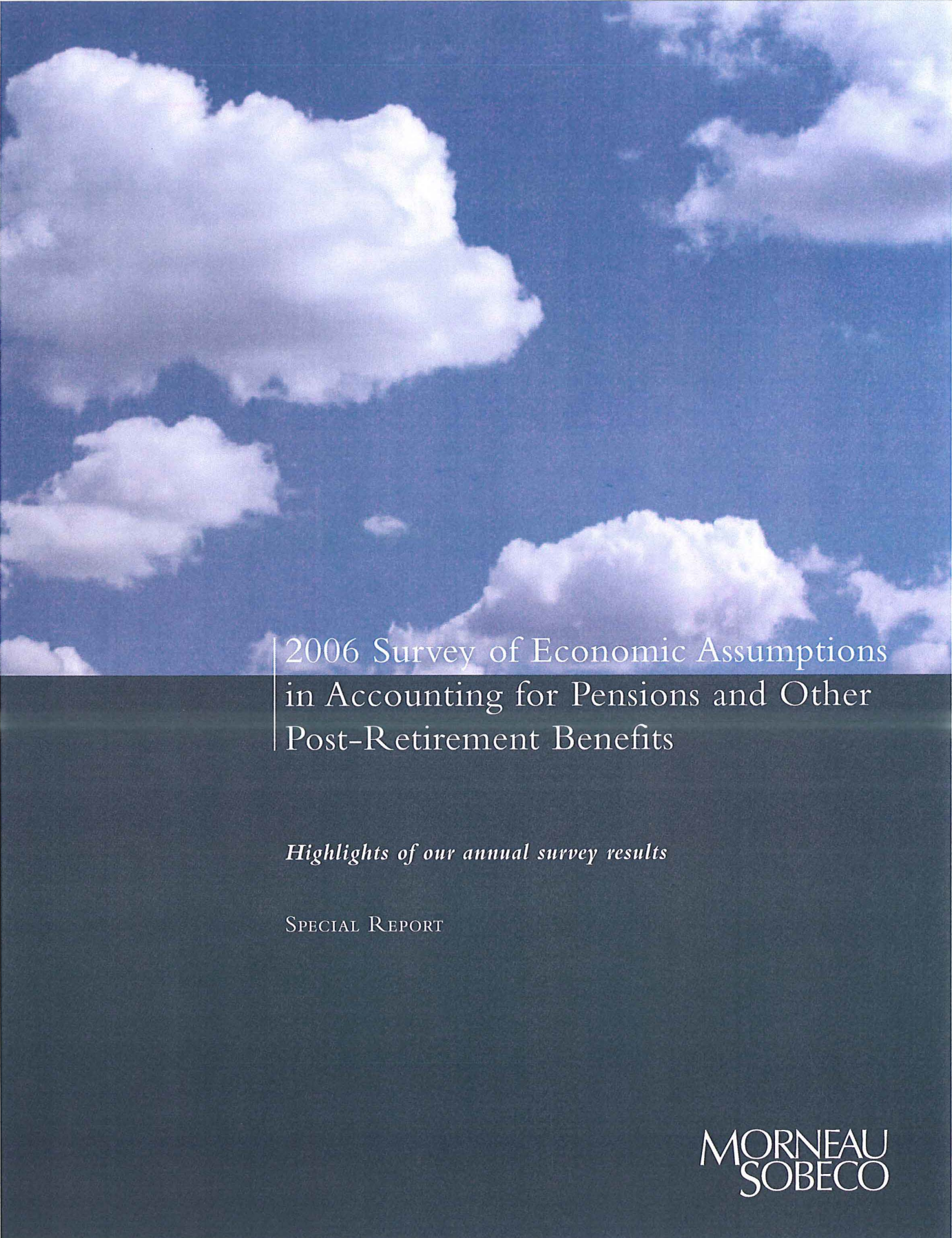
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2006 Survey of Economic Assumptions
in Accounting for Pensions and Other
Post-Retirement Benefits

Highlights of our annual survey results

SPECIAL REPORT

MORNEAU
SOBECO



Introduction

Section 3461 of the Canadian Institute of Chartered Accountants Handbook (CICA 3461) requires that the management of a company sponsoring a defined benefit plan measures the plan's accrued benefit obligation (ABO) and annual expense using assumptions that individually reflect best estimates and are "internally consistent with each other."

Morneau Sobeco has compiled information disclosed by about 100 Canadian public companies in their most recent audited financial statements as at December 31, 2005. This is the sixth year our survey has been produced.

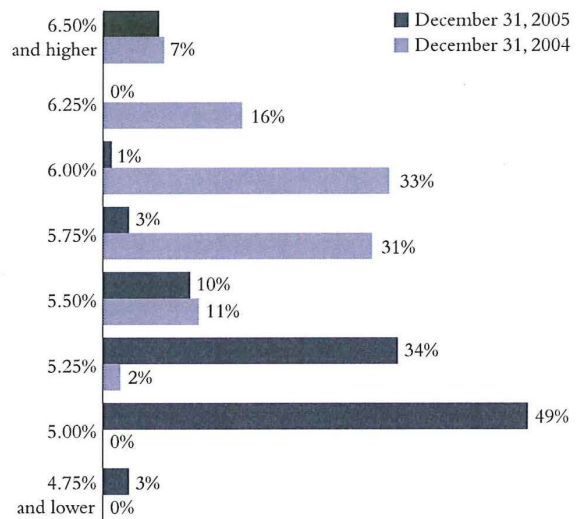
We have added a new item to this year's survey:

- > Year in which the ultimate rate for medical cost trend assumption is reached.

Discount Rate for Pension Plans

The following chart summarizes the discount rate used for defined benefit pension plan accounting (see the appendix for a description of the discount rate). The median discount rate is 5.10% as at December 31, 2005, compared to 5.90% as at December 31, 2004. About 83% of the companies used a rate of 5.00% or 5.25%. This range is consistent with CICA 3461 recommendations.

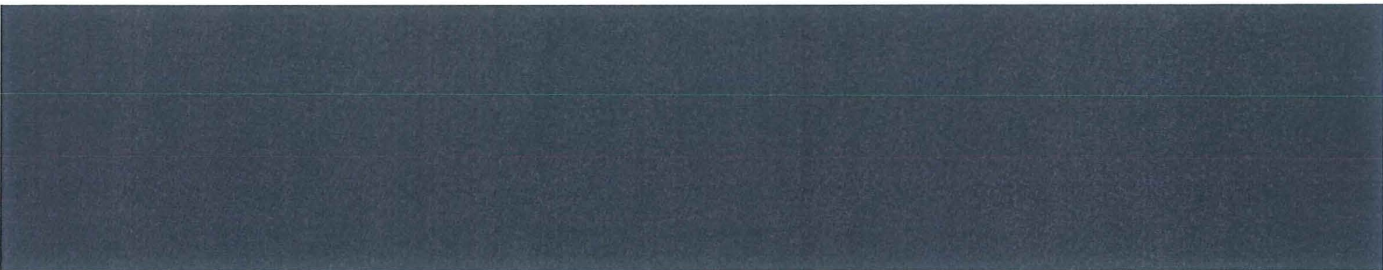
Discount Rate / Pension Plans



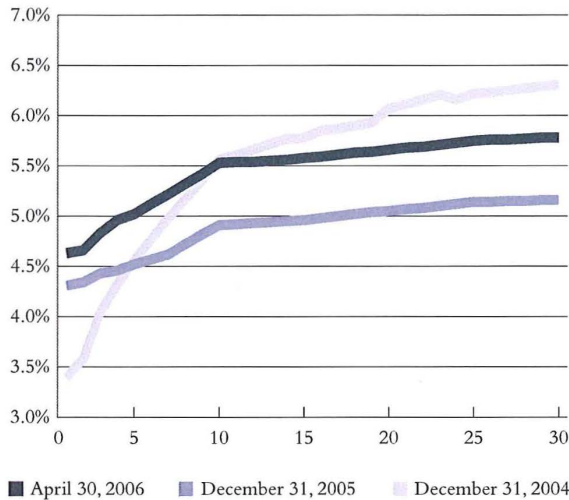
About 95% of the companies have revised their discount rate downward in 2005.

Over time, the yields on high-quality corporate bonds may vary considerably. The discount rate should be expected to vary in a similar fashion. For illustration purposes, we have included the yield curve as at April 30, 2006. It is about 60 basis points higher than the December 31, 2005 rates. The rates have been rising in the first few months of 2006 after reaching their lowest level as at December 31, 2005.

The December 31, 2005 yield curve is fairly "flat" and as a result the discount rates are concentrated within a narrow band.



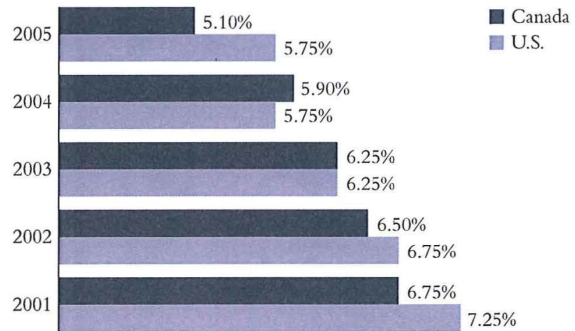
High-Quality Corporate Bonds



If the yield curve were to remain at the April 2006 level until the end of the year, we could expect the December 31, 2006 discount rate to be about 60 basis points higher than the December 31, 2005 rate. It would be the first increase after 6 years of consecutive declines.

The following chart compares the median discount rates in our survey to the median discount rates from a U.S. survey¹. We see that the rates in Canada have once again fallen below the U.S. rates as at December 31, 2005, after being higher for the first time as at December 31, 2004.

Median Discount Rate by Country

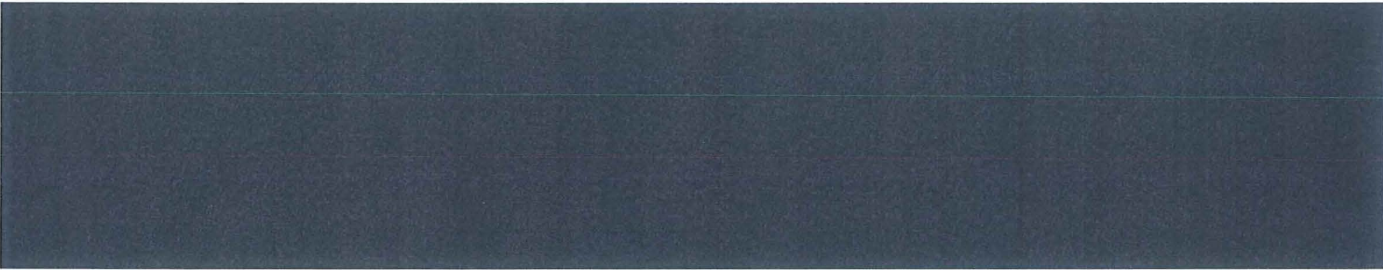


Discount Rate for Non-Pension Benefits

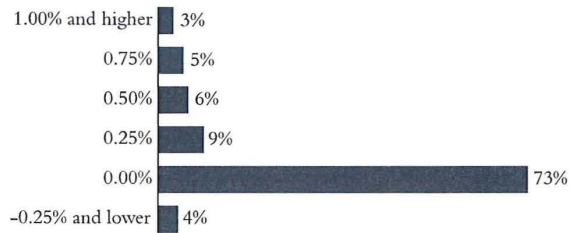
Because of the different nature of employee future benefits other than pensions, some companies may choose to use a different discount rate in their valuation of other benefits. The ABO may have a different duration because it applies to a different population, or because of the nature of the benefits offered. For example, the duration of the ABO for a retiree medical plan is often higher than the duration of a pension ABO for the same population.

The following chart shows the difference between the discount rate used in the valuation of employee future benefits other than pensions and the discount rate used for pension plans.

¹ Source: *Survey of Economic Assumptions used for SFAS No. 87 and SFAS No. 106 Purposes*, prepared by Deloitte & Touche Human Capital Advisory Services (US).



*Difference in Discount Rates
(Post-Retirement Benefits vs. Pensions)*



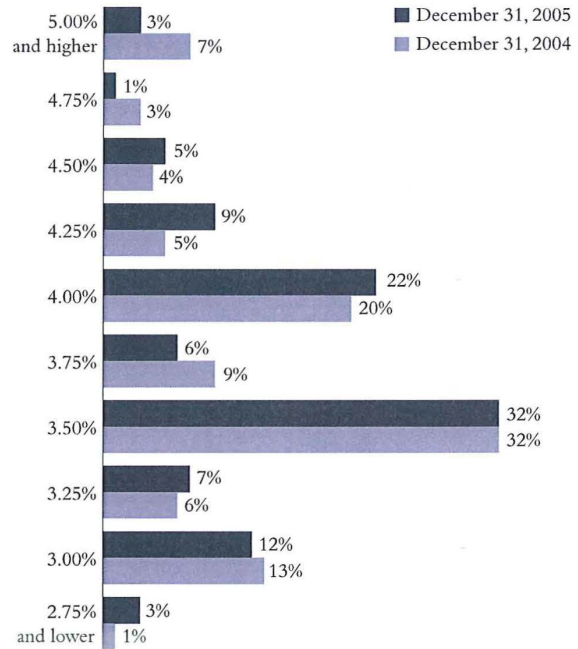
While in most cases management selects identical assumptions for pensions and other employee benefits, 23% use a higher discount rate assumption for employee future benefits (versus 29% in our previous survey).

Rate of Compensation Increase

Plans that provide pay-related benefits are required to make an assumption about the rate of compensation increases. CICA 3461 indicates that it should reflect “future changes attributed to general price levels, productivity, seniority, promotion, and other factors.”

The median compensation increase assumption as at December 31, 2005, was 3.5%, identical to last year’s median. It should be noted that 60% of companies used rates between 3.5% and 4.0%.

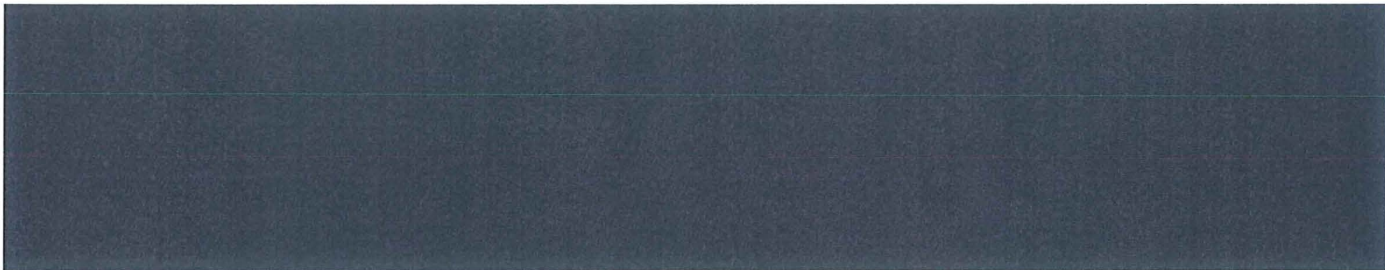
Rate of Compensation Increase



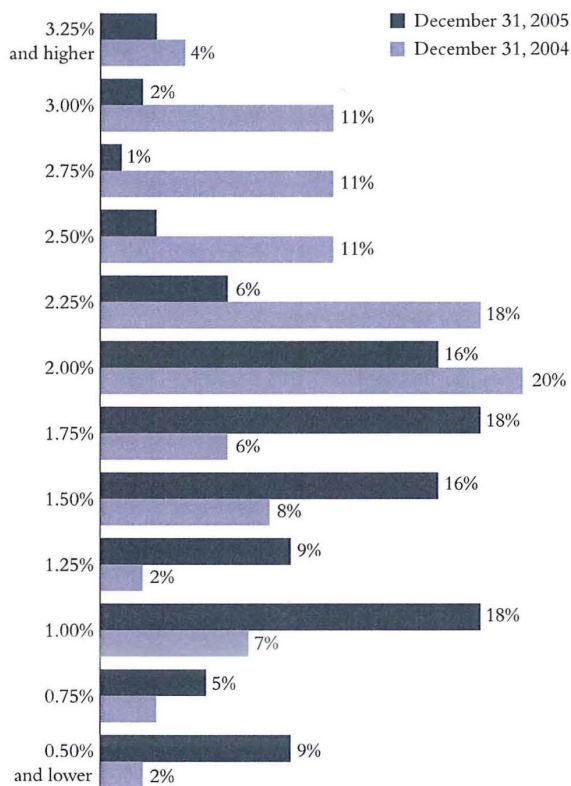
The following graph shows the spread between the discount rate and the rate of compensation increase. The spread between these two assumptions generally has a significant impact on the ABO calculated for defined benefit pension plans. The median is 1.5% as at December 31, 2005, compared to 2.3% in the previous year.

This reduction in the spread is in line with the observed decrease of 0.8% in the median discount rate and should have a measurable impact on the plan ABO.

About 57% of companies have a discount rate vs. compensation spread of 1.5% or less, compared to 19% last year. Also, only 3% of companies have a spread of 2.5% or more.



Spread: Discount Rate / Compensation

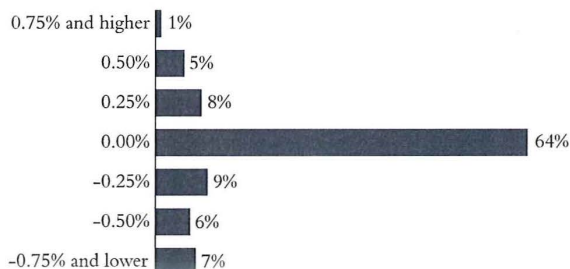


There is some debate among practitioners and management regarding the frequency of changes in the rate of compensation increase assumption. The standards provide additional guidance on this issue, especially in the CICA “Supplement to the Employee Future Benefits Implementation Guide.” It states that the requirement to be internally consistent applies to all assumptions except for the discount rate. Assumptions other than the discount rate

should be based on a long-term view and should be revised only with a significant change in expected long-term economic conditions.

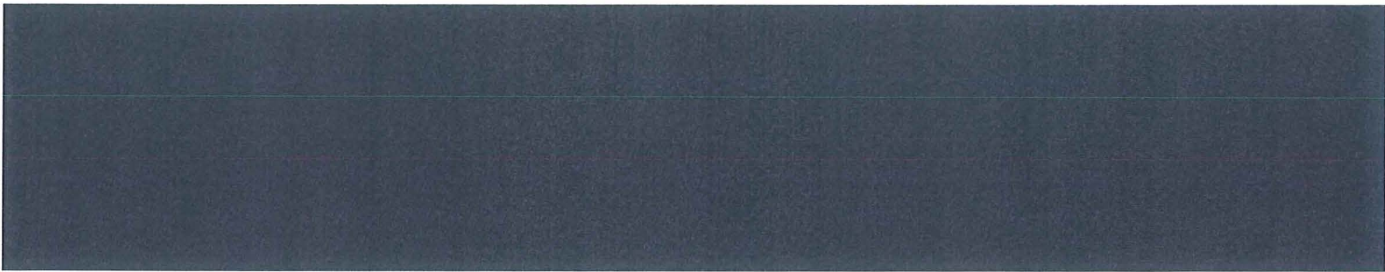
Our survey results show that, while the discount rate has generally declined, 64% of companies have kept the same rate of compensation increase assumption as last year. About 22% of companies adjusted their assumption downward.

Change in Compensation Increase Assumption (2005 vs. 2004)

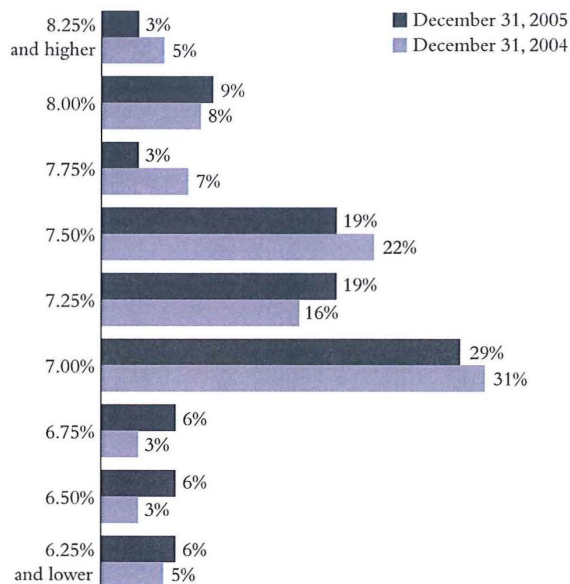


Expected Long-Term Return on Plan Assets

CICA 3461 specifies that the assumed rate of return on plan assets should also reflect a long-term view. The following chart shows the assumptions disclosed as at December 31, 2005 and as at December 31, 2004.



Expected Return on Plan Assets



The median expected long-term rate of return on plan assets is 7.25% which is similar to the December 31, 2004 survey. About 67% of the companies use rates between 7.0% and 7.5% inclusive.

For most plans, actual returns earned in 2005 by pension funds exceeded the accounting assumption. In fact, the actual median return for diversified pension funds was 11.9% in 2005 according to the *Performance Universe of Pension Managers' Pooled Funds* produced by Morneau Sobeco. Even with this good performance, the decline in discount rate outweighs the impact of positive investment results and should increase the pension expense in 2006 in many cases.

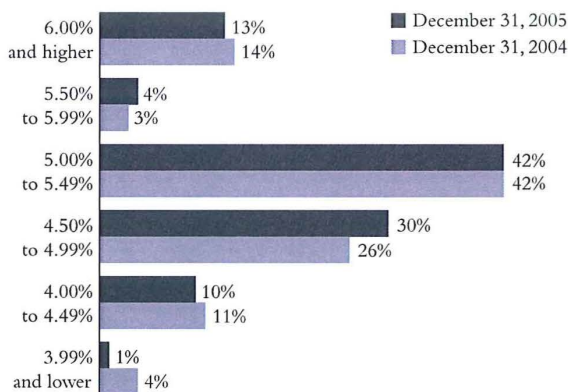
Medical Cost Trend

Where retiree medical coverage is offered, a key assumption in the valuation of the ABO is the rate of future medical cost increases. CICA 3461 provides guidance on factors that companies should consider in selecting this assumption.

Often, medical costs are assumed to increase at a higher rate in the short term. The rate of these increases is then assumed to decline gradually over time to an ultimate level.

The following charts show the December 31, 2005 medical cost trend assumptions compared to the December 31, 2004 assumptions. About 72% of companies used an ultimate trend rate between 4.5% and 5.5%. The median is 5.0%, unchanged from last year's survey.

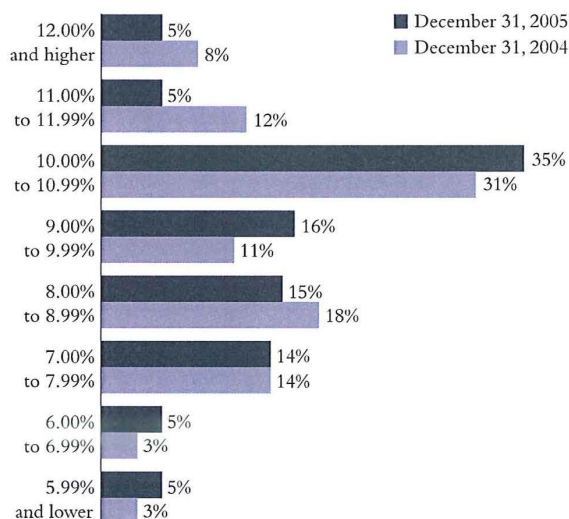
Ultimate Medical Cost Trend



There has been a slight decrease in the short-term assumption. The median is 9.5% compared to 9.9%, as at December 31, 2004. This decrease is consistent with the lower trends experienced by group benefit plans over the last two years.

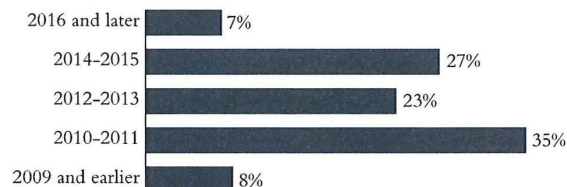
After three straight years of increase, there has been a decrease in the number of companies using an assumption of 10% or higher. In fact, 45% fall in that category compared to 50% last year. About 24% of companies have opted for an assumption below 8%.

Short-Term Medical Cost Trend



This year, we have added to our survey the year in which the medical cost reaches the ultimate rate. The median year is 2012 and the distribution is as follows:

*Ultimate Medical Cost Trend
(year in which ultimate rate is attained)*



Asset and Obligation Measurement Date

CICA 3461 requires that the employee future benefits be measured at fiscal year end or at a date up to three months prior to that date. All companies in our survey have a December 31st fiscal year end; therefore, some companies may use a measurement date as early as September 30th.

We find that 89% use December 31st as a measurement date. Among the others, a September 30th date is used most often at 9%.

Pension Plan Asset Allocation

It is required that asset allocation be disclosed by the following categories: equity, fixed income and other assets. Additional categories may be added if it helps the user of the financial statement improve his understanding of the investment risk.

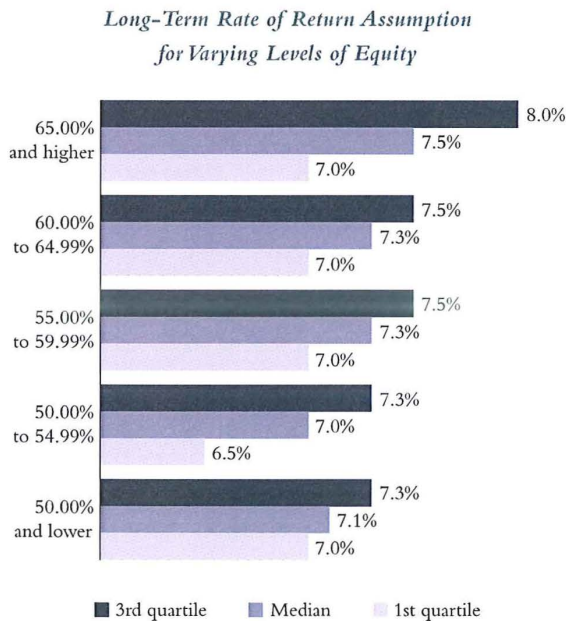
The average asset allocation as at December 31, 2005, is 58% in equities, 38% in fixed income and 4% in other assets. The actual proportion of equities is shown below:

*Company Distribution
by Pension Plan Equity Weighting*



Since the assumption for expected long-term return on assets is based on asset allocation and expectations for future growth of these assets, we have compared the rate of return on asset assumption to the equity weighting.

Theoretically, a pension plan holding a higher percentage of equities should have a higher rate of return on asset assumption. The results from our survey, in the graph below, show that the asset return assumption generally declines with lower levels of equity held.

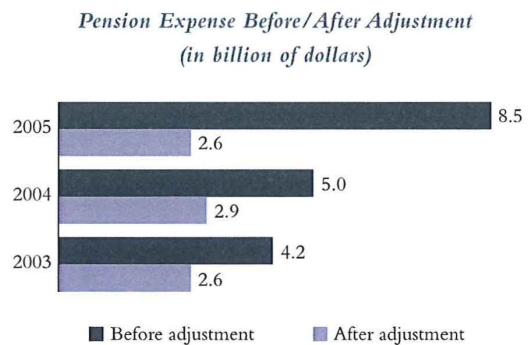


Pension Expense Before and After Adjustment

CICA 3461 allows companies to amortize the different gains and losses, past service costs and transitional liability (asset) over future fiscal periods. These amortizations are permitted due to the long-term nature of employee future benefits. It is required to disclose the difference between the expense recognized in the income statement and the expense that would prevail if there were no amortization.

In CICA 3461, we refer to “expense before adjustment” and “expense after adjustment.” The latter represents the company’s recognized expense presented in the income statement. The difference between these two shows the market volatility that is present in defined benefit plans.

Our 2005 survey is based on companies that have funds with pension assets totaling \$138 billion. The following graph shows the difference between the pension expense before and after adjustment since 2003 in aggregate for all companies in our survey. We find that, in 2005, they have recognized a total of \$2.6 billion in expense, whereas it would have been approximately \$8.5 billion without any amortization mechanisms.



The difference between \$2.6 billion and \$8.5 billion illustrates that, even with good returns on assets in 2005, the drop in the discount rate outweighs the impact of the gains that were realized on the asset side.

Appendix – Selecting the Discount Rate

In general, the ABO is most sensitive to the discount rate assumption. For example, a 25 basis-points decrease in the discount rate may increase the ABO by 5%. This increase could, in turn, impact the annual expense in subsequent years.

CICA 3461 provides general guidance as to the selection of the discount rate assumption. It should be determined by reference to market interest rates on high-quality debt instruments or to the interest rate at which the ABO could be settled. Although the discount rate is defined in CICA 3461, it does not prescribe a precise methodology for computing this rate.

Since Canadian standards are similar to the United States equivalent, one may look for guidance provided by the Securities and Exchange Commission (“SEC”) staff. The SEC has determined that the discount rate should reflect the yield of a portfolio of high-quality fixed-income instruments (rated as AA or better by Moody’s), which has the same duration as the plan’s ABO. Since the duration of the plan’s ABO is affected by certain demographic characteristics such as average age, average service or proportion of retirees, it should be expected that plans with similar demographics would use similar discount rates.

Information on high-quality Canadian corporate bonds (rated AA or more) is generally available and may serve as a starting point in the determination of the discount rate. Sources such as Scotia Capital provide information on high-quality corporate bond yields.

For More Information

This survey is intended to provide information regarding the assumptions disclosed by a wide range of companies and, as such, can provide an indication of trends. The assumptions used for your own employee benefits plans will depend on a number of factors. For more information, speak to your Morneau Sobeco consultant.



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Morneau Sobeco is an industry leader in helping organizations deliver their human resource programs. For more than four decades, we have teamed up with North American companies to help them conceive and implement effective business solutions. The size and diversity of our client base gives our consultants a unique, forward-looking perspective on all compensation, retirement, and employee benefits issues.



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2007 Survey of Economic Assumptions
in Accounting for Pensions and Other
Post-Retirement Benefits

Highlights of our annual survey results

SPECIAL REPORT

MORNEAU
SOBECO

Introduction

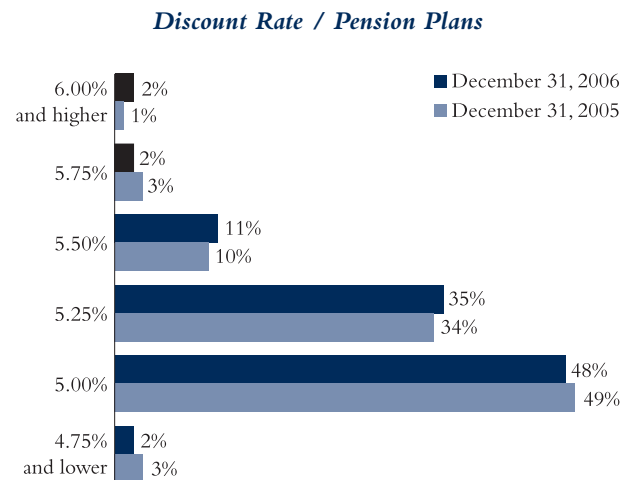
Section 3461 of the Canadian Institute of Chartered Accountants Handbook (CICA 3461) requires that the management of a company sponsoring a defined benefit plan measure the plan's accrued benefit obligation (ABO) and the resultant annual expense using assumptions that individually reflect best estimates and are "internally consistent with each other."

Morneau Sobeco has compiled in this report information disclosed by approximately 100 Canadian public companies in their most recent audited financial statements as at December 31, 2006. This is the seventh year that this survey has been produced.

The CICA published an exposure draft in March 2007 that, once formally adopted, will change accounting requirements for employee future benefits, similarly to the changes adopted by the Financial Accounting Standard Board (FASB) in the United States. The effective date of these changes is expected to be December 31, 2007, for public companies, and likely one year later for other organizations. The Office of the Superintendent of Financial Institutions (OSFI) has recently indicated that it will delay the impact of these changes in the case of adequacy of capital and assets requirements. We have included a special section later in our survey with some insights on the impact of these changes, based on companies' December 31, 2005 and December 31, 2006 financial statements.

Discount Rate for Pension Plans

The following chart summarizes the discount rates used for defined benefit pension plan accounting (see the appendix for a description of the discount rate). The median discount rate was 5.13% as at December 31, 2006, compared to 5.10% as at December 31, 2005. About 83% of the companies used a discount rate between 5.00% and 5.25%. This range is consistent with CICA 3461 requirements for a typical defined benefit pension plan.

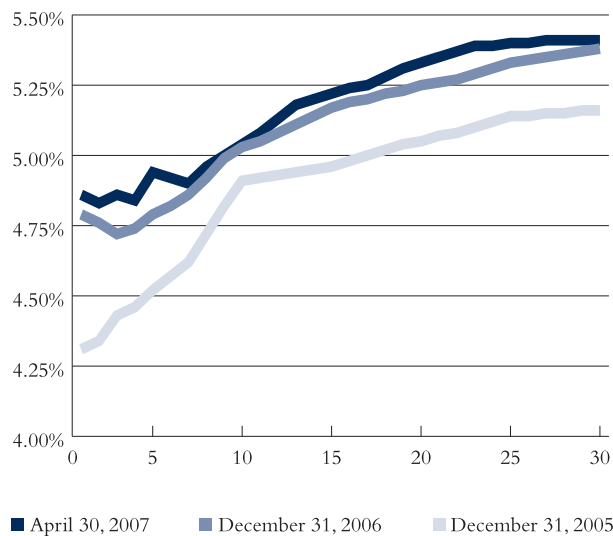


Roughly two-thirds of the companies did not change their discount rate in 2006.

Over time, the yields on high quality long term corporate bonds may vary considerably. The discount rate should be expected to vary in a similar fashion. For illustration purposes, the graph below compares the yield curves as at December 31, 2005, December 31, 2006, and April 30, 2007.

The yield curves at these dates are fairly “flat” – particularly for durations of 10 years or more. Consequently, discount rates have been concentrated within a narrow range over the last couple of years.

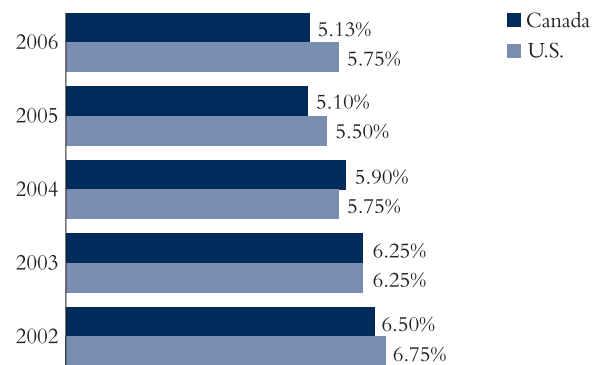
High-Quality Corporate Bonds



If the yield curve remains at the April 2007 levels until the end of the year, we would expect the December 31, 2007, discount rates to be similar to those as at December 31, 2006.

The following chart compares the median discount rates in our survey to the median discount rates from a U.S. survey¹. We see that the rates in Canada this year are once again lower than the U.S. rates. Since the adoption of CICA 3461, the rates in Canada were higher than the U.S. rates only in 2004.

Median Discount Rate by Country



¹ Source: *Survey of Economic Assumptions used for SEAS No. 87 and SEAS No. 106 Purposes*, prepared by Deloitte & Touche Human Capital Advisory Services (US). (Estimate for 2006)

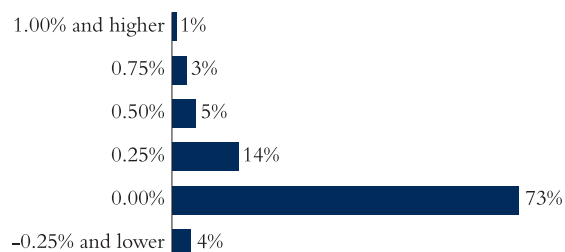
Discount Rate for Non-Pension Benefits

Because the duration of these benefits' ABO is often significantly different from that of the pension ABO, some companies may choose to use a different discount rate in their valuation. (See the Appendix on selecting the discount rate for more on this.) For example, the duration of the ABO for a retiree medical plan is often higher than the duration of a pension ABO for the same population. However, many companies elect to use a single blended rate, or simply the rate for the most material plan, for all benefits.

The median rate used as at December 31, 2006, for these benefits was 5.25%, which is 12 basis points higher than the median pension rate.

The following chart shows the difference between the discount rate used in the valuation of non-pension employee future benefits and the discount rate used for pension plans. (A positive value indicates a higher rate for non-pension benefits than for pension and vice versa.)

*Difference in Discount Rates
(Post-Retirement Benefits vs. Pensions)*



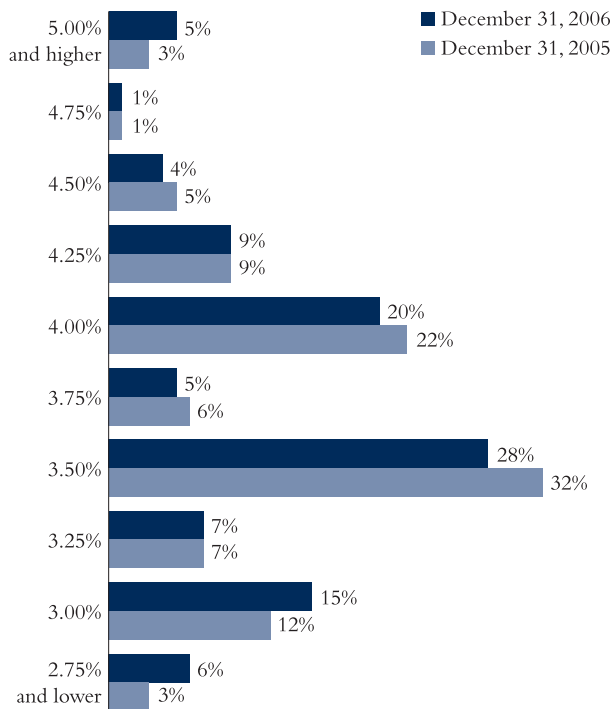
While in most cases companies have used the same discount rate for pensions and non-pension future benefits, 23% used a higher discount rate assumption for non-pension employee future benefits (same as our previous survey).

Rate of Compensation Increase

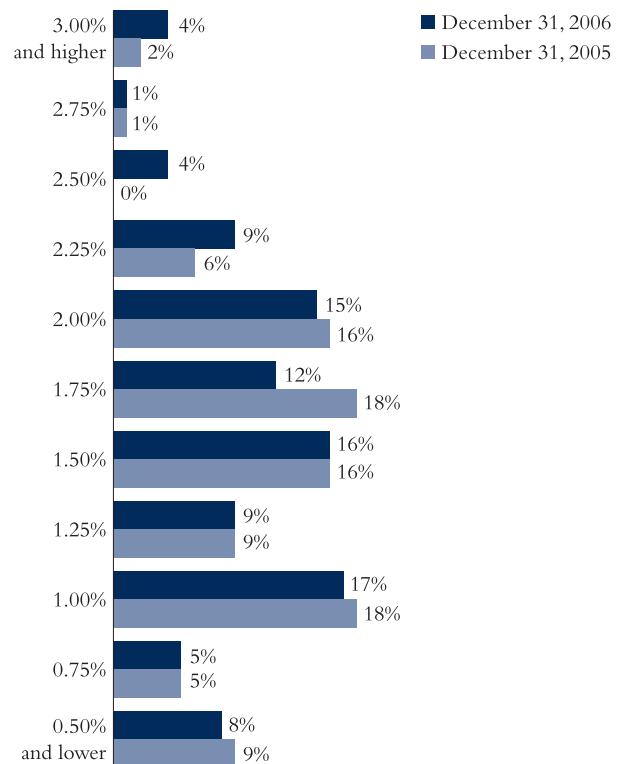
Plans that provide pay-related benefits are required to make an assumption about the rate of compensation increases. CICA 3461 indicates that it should reflect “future changes attributed to general price levels, productivity, seniority, promotion, and other factors.”

The median compensation increase assumption as at December 31, 2006, was 3.5%, identical to last year's median, with 75% of companies using rates between 3.0% and 4.0%.

Rate of Compensation Increase



Spread: Discount Rate / Compensation



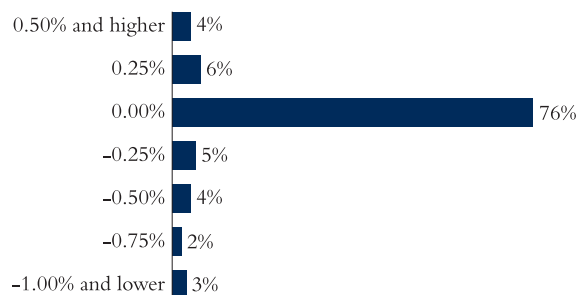
The following graph shows the spread between the discount rate and the rate of compensation increase. The spread between these two assumptions generally has a significant impact on the ABO for defined benefit pension plans. The median spread was 1.5% as at December 31, 2006, unchanged from last year. The stability in the spread is consistent with the observed median discount rate that was almost unchanged.

About 69% of companies used a spread of between 1% and 2%. Only 9% of companies used a spread that was 2.5% or higher.

There is some debate among practitioners and management regarding the frequency of changes in the rate of compensation increase assumption. The CICA provides additional guidance on this issue, in the “Supplement to the Employee Future Benefits Implementation Guide” in which it states that the requirement to be internally consistent applies to all assumptions except for the discount rate. Assumptions other than the discount rate should be based on a long-

term view and should be revised only with a significant change in expected long-term economic conditions. Our survey results show that 24% of companies have changed the rate of compensation increase assumption by at least 0.25% (up or down) as at December 31, 2006.

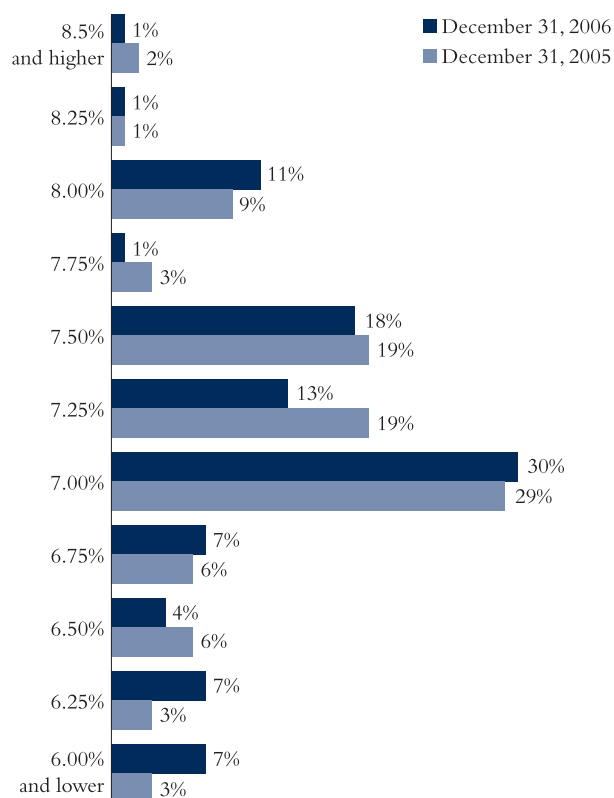
**Change in Compensation Increase Assumption
(2006 vs. 2005)**



Expected Long-Term Return on Plan Assets

CICA 3461 specifies that the expected rate of return on plan assets should reflect a long-term view. The following chart shows the assumptions disclosed as at December 31, 2006, and as at December 31, 2005.

Expected Return on Plan Assets



The median expected long-term rate of return on plan assets is 7.0%, which is 25 basis points lower than the December 31, 2005 survey. The distribution of rates was slightly more spread out as at December 31, 2006, than as at December 31, 2005, with 61% (67% in 2005) of the companies having used rates between 7.0% and 7.5% inclusively, 14% (15% in 2005) having used rates higher than 7.5%, and 25% (18% in 2005) having used rates lower than 7.0%.

For most pension plans, actual returns earned in 2006 significantly exceeded the long-term rate of return on assets assumption. The actual median return for diversified pension funds was 12.7% in 2006 according to the *Performance Universe of Pension Managers' Pooled Funds* produced by Morneau Sobeco. This good investment performance with mostly unchanged discount rates should result in many companies experiencing a decrease in their pension expense in 2007.

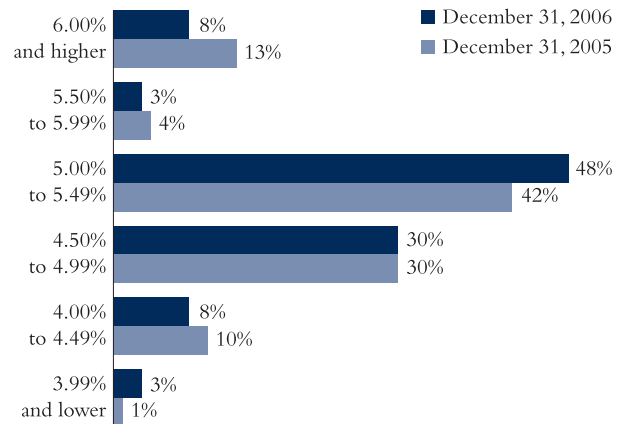
Medical Cost Trend

Where retiree medical coverage is offered, a key assumption in the valuation of the ABO is the rate of future medical cost increases. CICA 3461 provides guidance on factors that companies should consider in selecting this assumption.

Often, medical costs are assumed to increase at a higher rate in the short term, gradually declining to an ultimate rate over a period of several years.

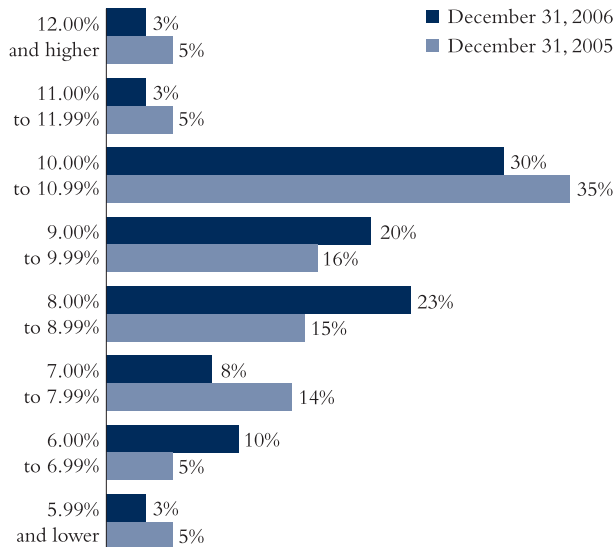
The following charts show the December 31, 2006, medical cost trend assumptions compared to the December 31, 2005, assumptions. About 78% of companies used an ultimate trend rate between 4.5% and 5.5%. The median is unchanged at 5.0%.

Ultimate Medical Cost Trend



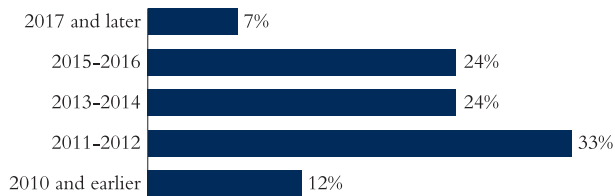
There was a slight decrease in the initial short-term assumption. The median assumption was 9.0% compared to 9.5% as at December 31, 2005. This decrease is consistent with the lower trends experienced by group benefit plans over the last few years. Specifically, there has been a decrease in the number of companies using an assumption of 10% or higher, with 36% of companies in this category, compared with 45% last year and 50% two years ago. 21% of companies used an assumption of less than 8%.

Short-Term Medical Cost Trend



The median year in which the medical cost increase rate reaches the ultimate rate is 2013. As at December 31, 2005, this assumed year was 2012.

**Ultimate Medical Cost Trend
(year in which ultimate rate is attained)**



Asset and Obligation Measurement Date

CICA 3461 requires that the employee future benefits be measured at fiscal year end or at a date up to three months prior to that date. All companies in our survey have a December 31 fiscal year end; therefore, some companies may use a measurement date as early as September 30.

We find that 88% of companies in our survey used December 31 as their measurement date. Among the others, a September 30 date is used most often at 7%.

It should be noted that based on the CICA exposure draft, beginning December 31, 2008, early measurement dates will no longer be permitted, and measurement will, therefore, be required to be as of the fiscal year end. Companies who have been using an early measurement date will need to make an adjustment to reflect the change in their measurement date at that time. (The CICA exposure draft proposes two methods for dealing with this adjustment.) More critically, these companies will have to adjust their planning to ensure that they will be able to measure these results at the year end and still meet their reporting deadlines.

Pension Plan Asset Allocation

The allocation of pension fund assets among the following asset classes must be disclosed: equities, fixed income and other assets. Additional categories may be added if it helps to improve the reader's understanding of the investment risks faced by the fund.

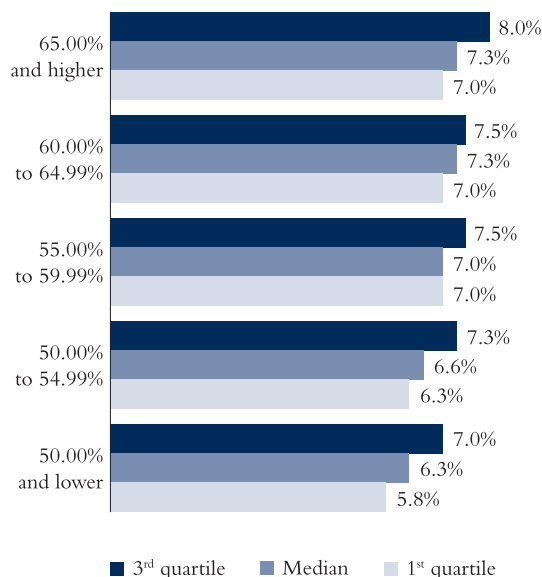
The average asset allocation as at December 31, 2006, was 59% in equities, 37% in fixed income and 4% in other assets. The distribution of the proportion of funds invested in equities is shown below:

**Company Distribution
by Pension Plan Equity Weighting**



Since the expected long-term return on assets assumption is based in part on asset allocation, we have compared the assumption to the equity weighting. Theoretically, a pension plan holding a higher proportion of its assets in equities should have a higher expected rate of return on assets assumption than a pension plan with a smaller equity allocation. The results from our survey, in the graph below, indicate that this appears to be true.

**Long-Term Rate of Return Assumption
for Varying Levels of Equity**

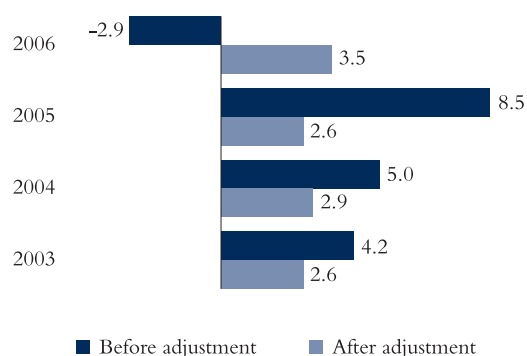


Pension Expense Before and After Adjustment

This 2006 survey presents results for companies with a total of \$155 billion in pension assets. The following graph shows the difference between the pension expense before and after adjustment for each year since 2003, in aggregate for all companies in our survey. We found that, in 2006, the total recognized expense amounted to \$3.5 billion (i.e. expense after adjustment). In the absence of any amortization mechanisms, the expense before adjustment would have been an income (i.e. a negative expense) of \$2.9 billion.

From 2003 to 2005, the difference between the pension expense before and after adjustment was mainly due to the declining discount rates that increased the ABO, and generally outweighed the impact of the investment gains that were experienced. This year, the discount rate remained relatively stable, while investment returns generally produced gains versus the assumption. Therefore, in contrast to prior years, the impact of the adjustments was generally to defer the current investment gains, and to recognize a portion of the losses that were amortized in the past, such that the impact of the adjustments was to significantly increase the pension expense, rather than decrease it.

*Pension Expense (Income) Before/After Adjustment
(in billions of dollars)*



The “pension expense before adjustment” illustrates the expense volatility that would be experienced, if the accounting rules for employee future benefits were changed to require mark-to-market accounting without amortizations. This is shown by the sharp contrast between 2005 and 2006 results.

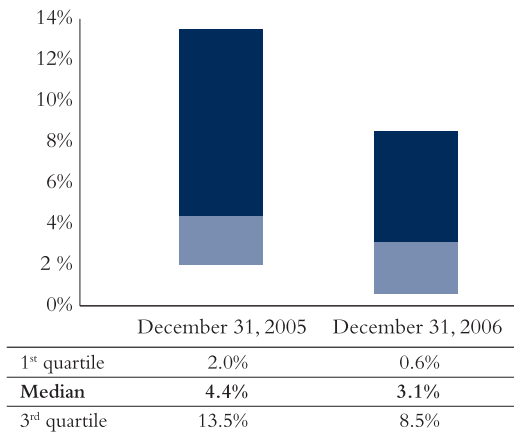
Impact of Proposed Changes to Employee Future Benefits Accounting

Other than the elimination of early measurement dates (discussed earlier), the principal impact of the changes to the accounting rules for employee future benefits, described in the CICA exposure draft, will be on companies’ balance sheets where recognition of the financial position of the pension plans and non-pension employee future benefits will be required. To the extent that this position differs from the current accrued benefit liability, an adjustment to the “accumulated other comprehensive income” (AOCI), a component of the shareholder equity, will also be required, net of any deferred taxes. This change is expected to be required for publicly traded companies for fiscal year ending on or after December 31, 2007. For illustration purposes, we have considered what the impact would be, including both pension and non-pension benefits, if these changes were already in effect as at December 31, 2006. Since the effective tax rate will vary by company, all our results are determined on a pre-tax basis.

Based on the companies in our survey, as at December 31, 2006, the proposed changes would have reduced total AOCI by \$17.4 billion, on a pre-tax basis. The median impact on the shareholder equity would have been a gross reduction of roughly 3.1%. The 1st and 3rd quartile impacts are gross reductions in equity of 0.6% and 8.5% respectively, indicating that the impact varies considerably from one company to another.

We performed a similar analysis as at December 31, 2005. The chart below presents the results for 1st quartile, median and 3rd quartile as at December 31, 2005, and as at December 31, 2006:

Illustration: impact relative to company equity (2005 and 2006)



The decline in the impact reflects the strong investment performance experienced in 2006.

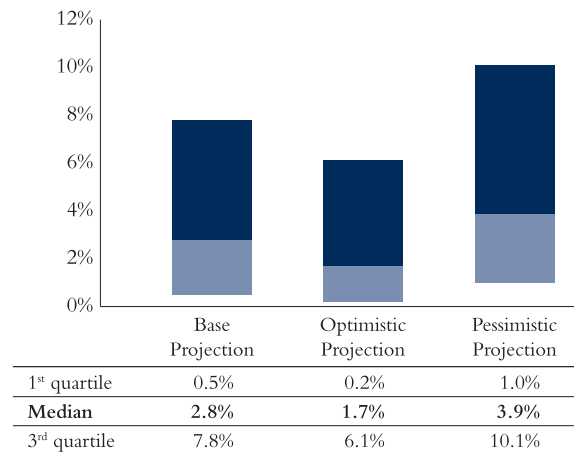
The impact of these changes as at December 31, 2007, will depend largely on investment performance during 2007, as well as on any changes to the discount rate.

We have estimated the potential impact for three scenarios in 2007. Based on historical data, the Optimistic or Pessimistic scenarios each happen about once every 3 years.

- > Base Projection – no significant gains or losses in 2007
- > Optimistic Projection – a 25 basis point increase in the discount rate or 4% investment gains (versus assumptions)
- > Pessimistic Projection – a 25 basis point decrease in the discount rate or 4% investment losses (versus assumptions)

Simulated results are as follows:

Simulated impact relative to company equity (2007)



As can be seen, the impact will vary significantly, even for relatively modest discount rate changes or investment gains or losses. Also, the results are quite varied in each scenario indicating that for some companies the impact will not be a large one, while for others it will be very significant.

Appendix – Selecting the Discount Rate

In general, the ABO is most sensitive to the discount rate assumption. For example, a 25 basis point decrease in the discount rate can often increase the ABO by as much as 5%. This increase would in turn increase the annual expense in subsequent years.

CICA 3461 provides general guidance for the selection of the discount rate assumption. It should be determined by reference to market interest rates on high-quality debt instruments or to the interest rate at which the ABO could be settled. However, the precise methodology for computing this rate is not prescribed.

Since Canadian standards are similar to those of the United States, standard practice is to consider guidance provided by the Securities and Exchange Commission (“SEC”). The SEC has determined that the discount rate should reflect the yield of a portfolio of high quality fixed income instruments (rated as AA or better by Moody’s), which has the same duration as the plan’s ABO. The duration of a plan’s ABO is determined based on certain demographic characteristics such as average age, average service or proportion of retirees, and consequently it should be expected that plans with similar demographics would use similar discount rates.

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REDACTED

Request IR-85:

Please refer to NSPI's 2012 General Rate Application, DE-03 – DE-04, page 114 of 161, figure 7.2, and page 115, lines 22-27. Please provide documentation including, but not limited to any and all studies, data, documentation, and analyses provided by consultants and company personnel to determine the average prepaid pension asset for the 2012 test period, as well as for similar average pension asset amounts for the years 2009-2011.

Response IR-85:

The average prepaid pension asset for any particular year was determined as the average of the prepaid asset at the start and end of the fiscal year.

The actual prepaid pension amounts for 2009, 2010 and 2011, taking into account the transition from Canadian to US GAAP at January 1, 2011 are shown in the table below:

Average Prepaid for:	Amount (\$M)	Inputs
2009	24.8	\$16.1 million at start of year, \$33.4 million at end of year. Please refer to Liberty IR-81 Attachment 2.
2010	40.4	\$33.4 million at start of year, \$47.3 million at end of year under Canadian GAAP. Please refer to Liberty IR-80 Attachment 1.
2011		\$42.8 million at start of year after transition to US GAAP, [REDACTED] at end of year. Please refer to Liberty IR-80 Attachment 1.

The actual average prepaid amounts are different than the amounts shown as the test case amounts in the GRA since the actual figures reflect all assumption changes, actual contributions amounts, the transition to US GAAP, and reflect actual plan experience since the application was prepared.

2012 General Rate Application (NSUARB P-892)
NSPI Responses to Liberty Information Requests

REDACTED

1 The calculation for the 2012 test period of \$58 million [REDACTED]
2 [REDACTED] was based on the following figures:

Item	Amount (\$M)***	Documentation
Prepaid Start of 2011	[REDACTED]	Please refer to Liberty IR-80 Attachment 1.
Less: 2011 Pension Expense	[REDACTED]	Please refer to Liberty IR-81 Attachment 3.*
2011 Company Contribution	[REDACTED]	Please refer to Confidential Attachment 1.
Prepaid Start of 2012	[REDACTED]	Calculated based on above inputs**
Less: 2012 Pension Expense	[REDACTED]	Please refer to the Application, RB-02 – RB-16, Attachment 2
2012 Company Contribution	[REDACTED]	Please refer to Confidential Attachment 2. The estimated contributions were escalated by 2.2%
Prepaid End of 2012	[REDACTED]	Calculated based on above inputs

4
5 * NSPI's forecast of 2011 pension expense at the time the GRA was prepared was [REDACTED]. Please refer to
6 Liberty IR-81 Attachment 3. The forecast for 2011 has since been updated to [REDACTED].

7
8 ** Amount used in calculation excludes the one-time transitional adjustment from Canadian GAAP to US GAAP on
9 January 1, 2011 which reduced the prepaid asset by \$4.5 million. This amount had not yet been finalized when the
10 above figures were determined.

11
12 ***Figures presented reflect rounded amounts which may cause \$0.1M in differences on some line items.

REDACTED

1 **Request IR-86:**

2
3 **Please refer to NSPI's 2012 General Rate Application, DE-03 – DE-04, page 116 of 161,**
4 **lines 2 and 3. Please provide documentation including, but not limited to any and all**
5 **studies, data, documentation, and analyses provided by consultants and company**
6 **personnel related to the amounts of company pension contributions for 2009-2011, and**
7 **forecast for 2012-2016. Please also provide the minimum amount of pension contributions**
8 **required for the same years, as required by relevant pension regulations.**

9
10 **Response IR-86:**

11
12 The term “pension expense” as it is used by NSPI and in the NS Power 2012 General Rate
13 Application refers to the total cost of both pension and post-employment benefits. While there
14 are minimum funding standards for registered pension plans, non-registered pension plans and
15 other post-employment benefit plans are typically funded on a pay-as-you-go basis.

16
17 Please refer to Confidential Attachment 1 for details of the actual NSPI contributions (for all
18 plans including pension and non pension) for 2009 and 2010 as well as the minimum required
19 under pension legislation for the registered pension plans.

20
21 The projected contribution for [REDACTED] is shown on the last page of Appendix D to
22 the December 31, 2010 accounting valuation reports. Please refer to Liberty IR-80 Attachment
23 1. Our actuaries, Morneau Shepell has confirmed that the [REDACTED] is based on the estimated
24 minimum contribution required for 2011. The projected contribution for 2011 of [REDACTED] is
25 based on new information since the GRA was prepared. NSPI's 2011 projected contribution of
26 [REDACTED] at the time of the filing was based on the view at that time.

REDACTED

1 For details on the company contributions used in the forecast for 2012-2016, please refer to the
2 Application, RB-02 – RB-16, Attachment 2 and Liberty IR-085. Morneau Shepell has confirmed
3 that the projected contributions for 2012 to 2016 are based on the minimum amounts required in
4 each of those years assuming that actual plan experience between today and those respective
5 years are the same as the actuarial assumptions.