

WATER QUANTITY SURVEYS
COST SHARING AGREEMENT
CANADA – NEWFOUNDLAND & LABRADOR
ANNUAL REPORT 2002 - 2003

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Administrator for Newfoundland and Labrador

Mr. W. S. Appleby
Administrator for Canada

In accordance with Article XII of the Memorandum of Agreement covering Water Quantity Surveys in the Province of Newfoundland and Labrador, we submit herewith the annual report for fiscal year 2002 - 2003.

Members of the Co-ordinating Committee

H. Khan
Co-ordinator for Newfoundland and Labrador
St. John's, Newfoundland

J. B. Merrick
Co-ordinator for Canada
Bedford, Nova Scotia

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INTRODUCTION

The year ending March 31, 2003 was the twenty eighth in which water quantity surveys in Newfoundland and Labrador were conducted under a Memorandum of Agreement between the Federal and Provincial Governments.

The Agreement establishes the basis on which co-operative water quantity surveys are made. It is administered for Canada by the Director of the Atmospheric Environment Branch (AEB) of Environment Canada and for Newfoundland and Labrador by the Director, Water Resources Division, Department of Environment and Labour.

A Co-ordinating Committee comprising the Manager Environmental Monitoring Division of AEB, and the Manager Surface Water Section, Newfoundland and Labrador Department of Environment and Labour, reports to the Administrators. It is the responsibility of the Co-ordinating Committee to prepare annually, Schedules A and D for approval by the Administrators.

The full Memorandum of Agreement includes four schedules. The annually changing **Schedules A and D** for 2002 - 2003 are attached to this report in Appendices I and II. **Schedules B and C** are primarily administrative in nature. They are provided in previous annual water reports of this series, as well as in the publication entitled Compendium of Practices, Interpretations and Administrative Procedures for the Water Quantity Survey Agreements: dated 1985-07.

Schedule A is a list of water quantity stations operated under the terms of the Agreement and their responsibility classification as federal, federal-provincial or provincial.

Schedule D provides a summary of the 2002 - 2003 annual payment.

Mercury assessment and cleanup was carried out at all gauging stations, in Newfoundland and Labrador, which were at one time equipped with mercury manometer recording instrumentation. Lab results indicated that final samples from five stations on the island did not comply with cleanup specifications. These will require a second visit to ensure compliance. A full report on the program is available for review from Environment Canada.

A new station was installed at Triton Brook in the Gambo area. The request came from the Provincial Department of Forestry and Agrifood to address environmental issues associated with forestry operation in the Triton Brook watershed.

Streamflow and water quality monitoring was reactivated at Voisey's Bay. Three stations were equipped with water level instrumentation, two of which include Hydrolab water quality sensors.

Two other stations are scheduled for activation during the summer of 2003. Logged parameters are transmitted by GOES satellite at three hour intervals. These stations will be added to the 2003-2004 list of stations (schedule A).

The agreement for streamflow monitoring at Voisey's Bay is administered by the Province, through the Canada Newfoundland agreement on water quantity surveys.

Efficiencies obtained through the incremental commercial activity in Newfoundland and Labrador was used to reduce the burden on the partnership to run the network.

WATER QUANTITY SURVEYS

PROVINCE OF NEWFOUNDLAND AND LABRADOR

OPERATIONAL COSTS FOR HYDROMETRIC SURVEYS - ISLAND

2002 - 2003

<u>Budget Item</u>	<u>2002 - 03</u>
Personnel - Basic Pay - 01, 02, 03 (Salaries of hydrometric technical staff including overtime)	195,792
Transportation and Communications	
Travel - 07	21,000
Transportation and Postage - 09	800
Telecommunications - 10, 11	2,025
Professional and Special Services	
Professional Services - 18	0.00
Other Services - 22	4,800
Rentals - 25	23,300
Purchased Repair and Upkeep	
Equipment Purchased and Repairs - 28	16,000
Building and Structures Repairs - 29	4,320
Utilities, Materials and Supplies	
Public Utility Services - 32	2,000
Purchased Materials, Supplies,	
Misc. Goods - 33, 34	25,660
Parts and Consumable Tools - 35	6,400
Other Costs - Data Processing	0
Depreciation of Vehicles (5)	14,677
Depreciation of Field Equipment and Instruments	
TOTAL	316,774

WATER QUANTITY SURVEYS

PROVINCE OF NEWFOUNDLAND AND LABRADOR

OPERATIONAL COSTS FOR HYDROMETRIC SURVEYS
OPERATIONAL COSTS FOR
HYDROMETRIC SURVEYS - LABRADOR

2002 - 2003

<u>Budget Item</u>	<u>2002 - 03</u>
Personnel - Basic Pay - 01, 02, 03 (Salaries of hydrometric technical staff including overtime)	19,995
Transportation and Communications	
Travel - 07	4,111
Transportation and Postage - 09	787
Telecommunications - 10, 11	825
Professional and Special Services	
Professional Services - 18	0
Other Services - 22	0
Rentals - 25	26,000
Purchased Repair and Upkeep	
Equipment Purchased and Repairs - 28	484
Building and Structures Repairs - 29	0
Utilities, Materials and Supplies	
Public Utility Services - 32	0
Purchased Materials, Supplies,	
Misc. Goods - 33, 34	300
Parts and Consumable Tools - 35	4,350
Other Costs - Data Processing	0
Depreciation of Vehicles (5)	1,318
Depreciation of Field Equipment and Instruments	0
TOTAL	58,170

WATER QUANTITY SURVEYS

CALCULATION OF ANNUAL COSTS AND PAYMENTS - 2002 – 2003

HYDROMETRIC NETWORK - ISLAND

Station Category	Stations	Station Units
Federal 1	5	5.0
Federal 4	7	7.0
Federal / Provincial 3	31	31.0
Provincial 1	17*	15.2
Total	60	58.2

Average Cost per Station Unit = $\$316,774.00 / 58.2 = \$5,442.85$

Provincial Share = $\$5,442.85 [(31 \times .5) + 15.2] = \$5,442.85 [30.7] = \$167,095.49$

*Triton Brook included for annual calculations

HYDROMETRIC NETWORK - LABRADOR

Station Category	Stations	Station Units
Federal 2	1	1.0
Federal 4	3	3.0
Provincial 1	1	0.2
Total	5	4.2

Average Cost per Station Unit = $\$58,170.00 / 4.2 = \$13,850$

Provincial Share = $\$13,850 [0.2] = \$2,770.00$

HUMBER BASIN METEOROLOGICAL STATIONS

Station Category	Stations	Station Units
Humber Basin Meteorology	5	1.0

Cost per Station = 20% of Hydrometric station = $\$5,442.85 \times .2 = \$1,088.57$

Provincial Share = $\$1,088.57 \times 5 = \$5,442.85$

Total Provincial Share =	\$175,308.34
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**TABLE 1
WATER QUANTITY SURVEYS
GAUGING STATION DATA FOR 2002 – 2003**

No. of Stations: incl Contrib			Changes during 2002 - 2003		Stn. Designation April 1, 2002			
April 1,2001	April 1, 2002	Change	Added	Discontinued	Fed	F/P	Prov.	Contrib.
90	97	7	8	1	16	31	17	33

**TABLE 2
WATER QUANTITY SURVEYS
COMPARATIVE GAUGING STATION DATA April 1, 1975 - April 1, 2002**

Federal Stations			F/P Stations			Provincial Stations			Total Stations		
Apr 1, 1975	Apr 1,2002	Change	Apr 1, 1975	Apr 1, 2002	Change	Apr 1, 1975	Apr 1, 2002	Change	Apr 1, 1975	Apr 1, 2002	Change
14	16	2	7	31	24	9	17	9	30	64	34

**TABLE 3
WATER QUANTITY SURVEYS
DETAILED GAUGING STATION DATA 2002 – 2003**

F-1	*F-2	F-3	F-4	Total F	FP-1	FP-2	FP-3	Total F/P	P-1	P-2	Total P	Contrib.	Total-All
5	1	0	10	16	0	0	31	31	17	0	17	33	97

**TABLE 4
WATER QUANTITY SURVEYS
SUMMARY OF SCHEDULE D - 2002 - 2003**

(does not include costs for Humber River Meteorological Stations or Sediment Program)

Streamflow & Water Level		Sediment		Total
Operation	Construction	Operation	Construction	
\$172,638.99	0	0	0	\$172,638.99

**TABLE 5
WATER QUANTITY SURVEYS
COMPARISON - SCHEDULED & ACTUAL DOLLAR COSTS FOR 2002 - 2003**

(does not include costs for Humber River Meteorological Stations or Sediment Program)

Salary & Operations		Construction		Total			Amount Payment	Received Minus
Sch. D	Actual Cost	Sch. D	Actual Cost	Sch. D	Actual Cost	Difference	Received	Actual
\$172,638.99	\$169,865.49	0	0	\$172,638.99	\$169,865.49	\$2,773.50	\$172,638.99	\$2,773.50

Newfoundland and Labrador
SUMMARY OF ANNUAL COSTS AND PAYMENTS
1975-76 TO 2002-2003

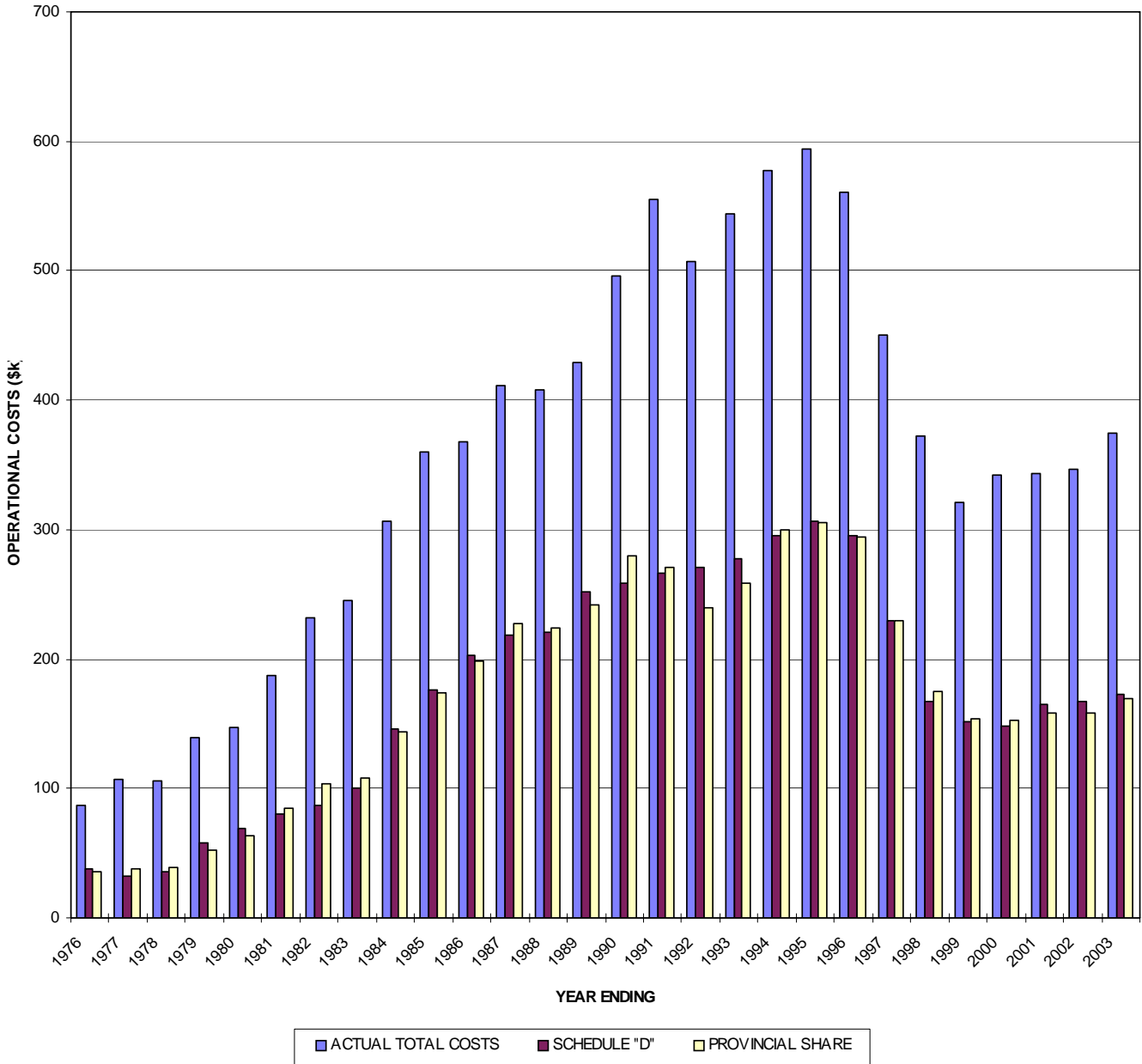
YEAR	SCHEDULE "D" PAYMENTS BY PROVINCE				ACTUAL PROVINCIAL SHARE				+CREDI T -DEBIT
	HYDROMET	SEDIMENT	CONSTR	TOTAL	HYDROMET	SEDIMENT	CONSTR	TOTAL	
1975-76	37,800	-	3,600	41,400	36,238	-	2,177	38,415	2,985
1976-77	32,340	-	12,000	44,340	37,840	-	1,573	39,413	4,927
1977-78	35,520	-	24,480	60,000	38,700	-	13,963	52,663	7,337
1978-79	56,775	1,400	11,825	70,000	51,371	679	26,000	78,050	-8,050
1979-80	68,338	933	25,729	95,000	62,256	896	22,476	85,628	9,372
1980-81	78,639	1,475	6,000	86,114	83,518	1,064	7,703	92,285	-6,171
1981-82	83,523	3,750	14,000	101,273	100,726	3,114	16,560	120,400	-19,127
1982-83	96,542	3,744	55,000	155,286	102,735	5,886	47,224	155,845	-559
1983-84	141,457	4,470	38,000	183,927	136,917	6,906	37,864	181,687	2,240
1984-85	168,244	7,350	52,000	227,594	168,247	5,295	48,662	222,204	5,390
1985-86	195,563	7,650	36,787	240,000	191,580	6,324	39,203	237,107	2,893
1986-87	211,706	6,975	34,641	253,322	222,843	4,413	35,136	262,392	-9,070
1987-88	213,634	6,975	42,000	262,609	220,934	3,597	47,957	272,488	-9,879
1988-89	245,221	6,300	15,000	266,521	237,249	4,683	16,148	258,080	8,441
1989-90	253,392	5,173	30,000	288,567	274,004	5,571	21,264	300,839	-12,272
1990-91	260,691	5,925	-	266,616	266,058	4,809	2,532	273,399	-6,783
1991-92	264,591	6,450	-	271,041	234,222	5,649	-	239,871	31,170
1992-93	273,482	3,825	-	277,307	254,430	4,713	-	259,143	18,164
1993-94	270,983	3,700	21,000	295,683	276,163	3,505	20,496	300,164	-4,481
1994-95	295,500	3,200	-	298,700	288,835	3,220	-	292,055	6,645
1995-96	294,040	1,375	-	295,415	292,860	1,180	-	293,910	1,505
1996-97	229,643	0	-	229,643	229,643	0	-	229,643	0
1997-98	167,169	0	-	167,169	175,042	0	-	175,042	-7,873
1998-99	151,439	0	-	151,439	154,159	0	-	154,159	-2,720
1998-99	Adjustment**			-24,677					-24,677
1999-00	147,934	0	-	147,934	152,829	0	-	152,829	-4,895
2000-01	165,271			165,271	158,561			158,561	6,710
2001-02	166,997			166,997	158,634			158,634	8,363
2002-03	172,639			172,639	169,865			169,865	2,774
								Net total	2,359

NOTES. A positive net total indicates funds owed to the province.

**Credit surplus of 24,677 in account toward cost of Modernization

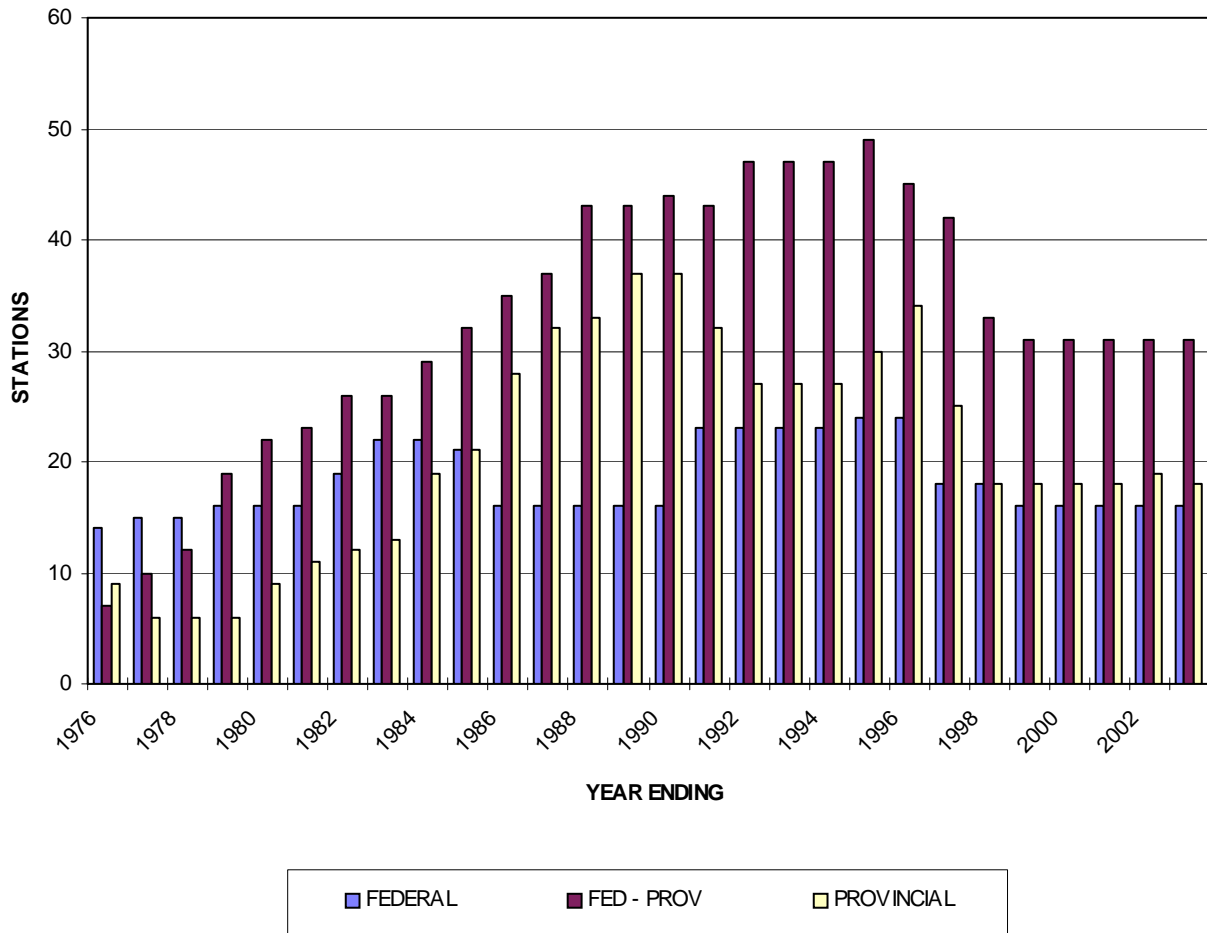
WATER QUANTITY SURVEYS NEWFOUNDLAND & LABRADOR

OPERATIONAL COSTS



WATER QUANTITY SURVEYS NEWFOUNDLAND and LABRADOR

NUMBER OF STATIONS



APPENDIX I

SCHEDULE A

WATER QUANTITY SURVEY STATIONS

FEDERAL 1 FEDERAL DEPARTMENTAL PROGRAMS

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
02ZB001	Isle aux Morts River below Highway Bridge	1962	205	Q R C	DCP LG TYP LRTAP A B E
02YS006	Northwest River at Terra Nova National Park	1994	663	Q R C	DCP LG A
02ZK001	Rocky River near Colinet	1948	285	Q R C	DCP LG TYP MET WQ A B E
02YS003	Southwest Brook at Terra Nova National Park	1967	36.7	Q R C	DCP LG A B E(CARRIER)
02YL001	Upper Humber River near Reidville	1928	2110	Q R C	DCP LG TYP A B E

FEDERAL 2 INTERPROVINCIAL WATERS

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
02XA003	Little Mecatina River above lac Fourmont	1979	4540	Q R C	DCP LG RMT MET WQ A

FEDERAL 4 NATIONAL WATER QUANTITY INVENTORY

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
03QC002	Alexis River near Port Hope Simpson	1978	2310	Q R C	DCP LG RMT MET WQ A
02ZF001	Bay du Nord River at Big Falls	1950	1170	Q R C	DCP LG A B E
03QC001	Eagle River above Falls	1966	10900	Q R C	DCP LG RMT WQ TYP
02YQ001	Gander River at Big Chute	1949	4450	Q R C	DCP LG TYP A B E
02YJ001	Harrys River below Highway Bridge	1968	640	Q R C	DCP WQ LRTAP A B C E
02YL003	Humber River at Humber Village Bridge	1982	7860	Q R C	DCP LG REG A C
02YG001	Main River at Paradise Pool	1986	627	Q R C	DCP LG RMT A E
02YD002	Northeast Brook near Roddickton	1980	200	Q R C	DCP LGA B
02YC001	Torrent River at Bristol's Pool	1959	624	Q R C	DCP LG WQ A B E
03NF001	Ugjoktok River below Harp Lake	1979	7570	Q R C	DCP LG RMT WQ A

[16 F stations]

.FEDERAL-PROVINCIAL 3 REGIONAL WATER QUANTITY INVENTORY

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
02YA002	Bartletts River near St. Anthony	1986	33.6	Q R C	DCP LG A B
02ZH002	Come-by-Chance River near Goobies	1961	43.3	Q R C	DCP LG A B
02ZE004	Conne River at Outlet of Conne Pond	1988	99.5	Q R C	DCP LG MET A
02YO011	Exploits River below Noel Pauls Brook	1985	6300	Q R C	DCPLG REG A E
02ZG001	Garnish River near Garnish	1958	205	Q R C	DCP LG LRTAP A B
02ZC002	Grandy Brook below Top Pond Brook	1982	230	Q R C	DCP LG RMT LRTAP A E
02YO008	Great Rattling Brook above Tote River Confluence	1984	773	Q R C	DCP LG A E
02YE001	Greavett Brook above Portland Creek Pond	1983	95.7	Q R C	DCP LG A E
02ZA002	Highlands River at TCH	1982	72.0	Q R C	DCP LG A B E
02YR003	Indian Bay Brook near Northeast Arm	1981	554	Q R C	DCP LG A B E
02YK002	Lewassechjeech Brook at Little Grand Lake	1952	470	Q R C	DCP LG RMT A E
02YN002	Lloyds River below King George IV Lake	1980	469	Q R C	DCP LG RMT A
02YR001	Middle Brook near Gambo	1959	267	Q R C	DCP LG A B E
02ZK002	Northeast River near Placentia	1979	89.6	Q R C	LG A B
02YO006	Peters River near Botwood	1981	177	Q R C	DCPOGGER A B
02ZH001	Pipers Hole River at Mothers Brook	1952	764	Q R C	DCP LG WQ LRTAP A B
02ZG004	Rattle Brook near Boat Harbour	1981	42.7	Q R C	DCP LG A B
02YL005	Rattler Brook near McIvers	1985	17.0	Q R C	DCP LG A B
02YQ005	Salmon River near Glenwood	1987	80.8	Q R C	DCP LG A E
02ZG003	Salmonier River near Lamaline	1980	115	Q R C	DCP LG A E
02ZM009	Seal Cove Brook near Cappahayden	1979	53.6	Q R C	DCP LG A B
02YK005	Sheffield Brook near TCH	1972	391	Q R C	DCP LG A B E
02ZJ003	Shoal Harbour River near Clarenceville	1985	106	Q R C	DCP LG A B
02ZM016	South River near Holywood	1983	17.3	Q R C	DCP LG A B
02ZJ001	Southern Bay River near Southern Bay	1976	67.4	Q R C	DCP LG A
02YO012	Southwest Brook at Lewisporte	1989	47.7	Q R C	DCP LG A
02YM003	South West Brook near Baie Verte	1980	93.2	Q R C	DCP LG A B
0J02YS005	Terra Nova River at Glovertown	1985	2000	Q R C	DCP LG A E
02YL008	Upper Humber River above Black Brook	1988	471	Q R C	DCP LG RMT MET A E
02ZM018	Virginia River at Pleasantville	1984	10.7	Q R C	LG A
02ZM008	Waterford River at Kilbride	1974	52.7	Q R C	LG A

[31 F/P Stations]

PROVINCIAL 1 PROVINCIAL DEPARTMENTAL PROGRAM

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
02ZL005	Big Brook at Lead Cove	1985	11.2	Q R C	LG A B
03OE010	Big Pond Brook below Big Pond	1993	71.4	Q R C	LG RMT A
02YK008	Boot Brook at Trans-Canada Highway	1985	20.4	Q R C	DCP LG A B
02YL011	Copper Pond Brook near Corner Brook Lake	1994	12.9	Q R C	DCP LG A
02YL009	Corner Brook Lake at lake Outlet	1990		H R C	DCP LG REG MET
02YL007	Deer Lake at Deer Lake	1987		H R C	DCP LG C
02YK010	Grand Lake East of Grand Lake Brook	1988		H R C	DCP LG RMT MET A
02YM004	Indian Brook Diversion above Birchy Lake	1990		Q R C	DCP LG MET A E
02ZM020	Leary Brook at Prince Philip Drive	1985	17.8	Q R C	LG A
02ZK003	Little Barachois River near Placentia	1983	37.2	Q R C	DCP LG A B
02ZK004	Little Salmonier River near North Harbour	1983	104	Q R C	DCP LG A B
02ZM006	Northeast Pond River at Northeast Pond	1953	3.63	Q R C	DCP LG A B
02ZM022	Raymond Brk at Outlet of Bay Bulls Big Pond	1988		Q R C	LG REG A B
02ZJ002	Salmon Cove River near Champneys	1983	73.6	Q R C	DCP LG A B
02ZL004	Shearstown Brook at Shearstown	1983	28.9	Q R C	DCP LG A B
02YL004	South Brook at Pasadena	1983	58.5	Q R C	DCP LG A C E
02ZN002	St. Shotts River near Trepassey	1985	15.5	Q R C	DCP LG A
02YR004	Triton Brook above Gambo Pond	2002	227	QRC	LG A

[17 P stations] (18 since June 2002)

OTHER (Agreement)

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
03OC003	Atikonak River above Panchia Lake	1972	15,100	QRC	DCP LG RMT WQ A N&LH
02YF002	Cat Arm Reservoir near Spillway	1994		HRC	DCP LG RMT A
03OE001	Churchill River above Upper Muskrat Falls	1948	92500	QRC	DCP LG REG RMT WQ A N&LH
03OD007	East Metchin River below highway bridge	1998	1750	QRC	DCP LG RMT WQ A N&LH
02ZC004	Granite Lake	2001		HRC	DCP LG MET RMT E N&LH
02ZD004	Grey River near Grey River	1969	1340	QRC	DCP LG LRTAP MET RMT A E N&LH
03OE003	Minipi River below Minipi Lake	1979	2330	QRC	DCP LG RMT WQ A N&LH
03PB002	Naskaupi River below Naskaupi Lake	1978	4480	QRC	DCP LG RMT WQ A N&LH
03OE011	Pinus River	1998	772	QRC	DCP LG RMT WQ A N&LH
02YN004	Star Brook above Star Lake	2000	276	QRC	DCP LG RMT A E CHI
02ZC003	White Bear River above Big Indian Brook	1996		QRS	DCP LG REG RMT A N&LH

[11 O(A) stations]

OTHER

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
03OA009	Harry River at outlet of Harry lake	2001	QRC	LG RMT A IOCC	
03OA010	Flora Creek below Flora Lake	2001	QRC	LG RMT A IOCC	
03OA011	Luce Brook below Luce Lake	2001	QRC	LG RMT A IOCC	
03OA012	Luce Brook below Tinto Pond	2001	QRC	LG RMT A IOCC	
03OA008	Shabogamo Lake on East side	2001	HRC	LG RMT A IOCC	
03OA007	Shabogamo River below Shabogamo Lake	2001	QRC	DCP LG RMT A IOCC	
03OA005	Wabush Lake at Lake Outlet	1999	QRC	DCP LG RMT A IOCC	
03OA013	White River at outlet of White Lake	2001	QRC	LG RMT A IOCC	

[8 O stations]

CONTRIBUTED STATIONS

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>AGENCY</u>	<u>REMARKS</u>
03OA001	Ashuanipi River at Menihok Rapids	1952	19000	IOCC	REG RMT
03OC006	Atikonak River at Gabbro Lake	1973	21400	CFLCO	REG73 RMT
03OD006	Atikonak River at Ossakmanuan Lake Control Structure	1977		CFLCO	REG64 RMT
03OD005	Churchill River at Churchill Falls Powerhouse	1972	69200	CFLCO	REG71 RMT
02YL002	Corner Brook at Watsons Brook Powerhouse	1959	127	DLPLCL	REG
02YO001	Exploits River at Grand Falls	1914	8390	AB-CONSL	REG
02YK006	Hinds Brook at Hinds Brook Powerhouse	1981	651	N&LH	REG81
02YK001	Humber River at Grand Lake Outlet	1898	5020	DLPLCL	REG
02ZM003	Mobile River at Mobile First Pond	1962	112	NLPCL	REG
02ZM001	Petty Harbour River at Second Pond	1962	134	NLPCL	REG
02ZM002	Pierres Brook at Gull Pond	1962	117	NLPCL	REG
02YO003	Rattling Brook at Rattling Brook Powerhouse	1962	378	NLPCL	REG
02ZE003	Salmon River at Bay D'Espoir Powerhouse	1967	5910	N&LH	REG67
02YO004	Sandy Brook at Sandy Brook Powerhouse	1964	508	NLPCL	REG

[14 contrib. Stations]

EXPLANATION OF SYMBOLS & ABBREVIATIONS

TYPE OF RECORD

H _ water level data

Q - flow data

TYPE OF GAUGE

M - manual gauge

R - automatic recording gauge

OPERATION SCHEDULE

C - continuous record

M - miscellaneous record

S - seasonal record

REMARKS

DCP - data collection platform

LRTAP - samples collected for acid precipitation monitoring

MET - data available from meteorological sensors

REG - regulated flow REG78 - regulated flow since 1978

RMT - remote station accessed by aircraft

TMK - telephone interrogated telemark

TYP - typical stream; data used to produce statement on runoff conditions

WQ - samples collected for water quality national overview network

LG - data recorded by digital data Logger

A - building of any type on the site; California shelter incl

B - well

C - power and/or telephone

E - cableway

N&LH - Newfoundland and Labrador Hydro

NLPCL - Newfoundland light and power company limited

DLPCL - Deer lake power company limited

AB-CONSL - Abitibi – Consolidated

IOCC – Iron Ore Company of Canada

CHI - Consolidated Hydro Incorporated

HUMBER RIVER DATA COLLECTION NETWORK

Real Time Instrumentation To Be Operated and Maintained By Water Survey of Canada In Accordance With Memorandum of Understanding.

<u>Station</u>	<u>Response Time</u>
1. Burgeo Road near Buchans Access	48 Hrs.*
2. Grand Lake at Southwest End	48 Hrs.
3. Grand Lake on Glover Island	48 Hrs.*
4. Upper Humber River above Black Brook	48 Hrs.
5. Corner Brook Lake at Lake Outlet	48 Hrs.*
6. Sandy Lake at Howley Road	48 Hrs.*
7. Indian Brook Diversion to Birchy Lake	48 Hrs.
8. Lewassechjeech Brook at Little Grand Lake	48 Hrs.
9. Sheffield Brook near T.C.H.	48 Hrs.
10. Humber River at Humber Village Bridge	48 Hrs.
11. Upper Humber River near Reidville	48 Hrs.
12. Deer Lake near Generating Station	48 Hrs.
13. Aides Lake	48 Hrs*
14. Hinds Lake	48 Hrs*

* precipitation guage

Station 8-12 are not equipped with meteorological sensors but are included in this list of "Response Time Repair" due to the significance of the data in supporting the "Humber River Basin Data Collection Network".

APPENDIX II

SCHEDULE D

SUMMARY OF ANNUAL PAYMENT

SCHEDULE D

This schedule provides a summary of the annual payments. The details for operation and construction are available and have been jointly reviewed by the officers of each party.

ANNUAL PAYMENT FOR 2002-2003 TO BE PAID TO THE RECEIVER GENERAL FOR CANADA BY THE PROVINCE OF NEWFOUNDLAND AND LABRADOR

	Operation	Construction	Total
a) Streamflow and Water level installation: Island	\$170,209.46		\$170,209.46
b) Streamflow and Water level installations: Labrador	\$2,429.53		\$2,429.53
c) Decommissioning			\$0.00
d) Humber met Stations	\$5,369.38		\$5,369.38
e) Newfoundland & Labrador Hydro	\$148,885.00		\$148,885.00
f) Star Lake Contract	\$11,310.00		\$11,310.00
g) Reduction from Commercial Activity \$22,263.08	-\$22,263.08		-
h) Labrador Water Quality contribution	-\$5,000.00		-\$5,000.00
i) Credit for Star Advance April 2002	-\$5,000.00		-\$5,000.00
Total Annual Payment			\$305,940.29

M. G. Goebel
Director, water Resources Management Division
Department of Environment and Labour

Administrator for Province

W. Appleby
Director
Meteorological Service of Canada
Atlantic Region

Administrator for Canada

APPENDIX III

MINUTES OF COORDINATING COMMITTEE MEETING

**CANADA - NEWFOUNDLAND & LABRADOR
COST SHARING AGREEMENT**

March 10,2003

0900

AGENDA

Martin Goebel

Haseen Kahn

John Merrick

Bill Brimley

Michel Frigon

Mike Renouf

Cal Baker

Howie Wills

For Climate program: Ali Kahn

For Badger program: Bob Picco

OPENING REMARKS:

John Merrick:

- Staff changes; introduction of Michel Frigon and Howie Wills, introduction to indirect costing.

Martin Goebel:

- Mention of Voisey's, the administrator's meeting in October 2002, appreciation and tribute to Cal Baker and Bill Brimley on their retirement.

-

Haseen Khan:

- tributes to Cal and Bill and a welcome to Howie and Michel. Commented on the high level of respect for Cal in the diverse organizations served by WSC in NL and the long successful working relationship with Cal in the maintenance of network, his contribution to network and station retention as well as his work in station modernization. Comments with respect to the tech and professional support from Bill.
- Cal responds to Haseen with further words on Howie and their combined interest in the network and support to both parties of the agreement.
- Bill respond with brief comments on good memories and high level of cooperation with present and former members of provincial water program.

AGREEMENT RENEWAL – Mike Renouf

- Object ; come away with understanding of issues and a plan of proceeding
- Short discussion on history and evolution of current stage of renewal. At Administrator's October 2002 meeting in Newfoundland, there was agreement with templates and support documents.
- **ADD SLIDES TO MINUTES.** *Slides were presented at the meeting and are available upon request.*
- some jurisdictions have reviewed templates
- Main issue is being compliant with the Canada Water Act which requires annual federal **order in council (O.I.C.)** approval for work plans and budgets for all these types of water related bodies. To date unable to determine history as to why this has not been done in past with respect to the existing agreements.

- Environment Canada Assistant Deputy Minister has been approached to perform annual budget and workplan approvals under the currently required CWA legislation. EC ADM also will work to amend the Canada Water Act to permit lower delegation from O.I.C. but this could take up to 2 years.
- With DIAND and the territories there is also a requirement for an annual O.I.C. approval.
- **ACTION: Path forward: Need policy reviews to be finalized by all jurisdictions. Some jurisdictions have not yet addressed the agreement issue.**
- **ACTION: Bilateral issues need to be identified with Hale / Renouf in loop. Need coordinating committees to develop schedule A and D in new format.**
- In NL provincial minister can sign their new agreement. Most others require provincial O.I.C.
- For federal signing the preferred path is to have all provincial documents identical except for provincial names. A brief description was given of federal ministerial signing and privy council O.I.C. approval and links to provincial signing process. Other issues prior to signing are related to translation, necessity for earlier planning meetings .
- O.I.C. requirement is an administrative overhead, but may work to raise profile of hydrometric program.
- In general, most jurisdictions are operating under the renewal concepts.
- April conference call to be set up for administrators to discuss QAMS and renewal.
- **ACTION: Decision: Path from here: acquire federal legal feedback on Newfoundland input. Decision to be compiled and distributed [if not privileged], to all parties by Mike Renouf. After the next national Administrators conference call, Newfoundland [Martin Goebel] will contact, Manitoba, [Steve Topping] and Ontario [Dave Delawney & Ed Pichet]/ DIAND [] to determine level of interest in going ahead with federal O.I.C. approval.**
- As result of this March 2003 round of face to face meetings with NL, NS and NB Mike Renouf will forward a briefing note to Hale with respect to moving ahead.
- NL would like to go fwd, [possibly with ON and perhaps MB] keeping in mind possible need for consistency revisions if later provincial / federal signings develop more favourable or significantly divergent details from what has been earlier agreed to by NL.

QAMS: Mike Renouf:

ADD SLIDES TO MINUTES. *Slides were presented at the meeting and are available upon request.*

- Contributions by Parties document (former Schedule D) will have a \$ amount for going ahead in 03-04 with detailed QAMS development in MB. QAMS pilot to be performed in Manitoba (MB). Fall 2004 is the proposed deadline for MB pilot wrap up and presentation to Administrators for broader implementation.
- Competencies, accuracies and processes are the current national standard, vs the QAMS approach of defining each in a management system.
- Possible conference call to be scheduled for mid April. Discuss \$ avail from provinces with respect to QAMS support to be put on schedule D.

INDIRECT COSTS (IC)

ATTACH FINAL SPREADSHEET after joint approval of federal / provincial submissions

Discussion on Indirect Costs are still ongoing.

- Federal

CLARIFICATION: example of application of reconciling Indirect Costs (IC) between parties:

Assume the whole federal IC is \$75K and the F/ P station unit ratio is 50/50. Assume also that the whole provincial IC is \$45K.

Each party assigns shared costs to the other in proportion to the station units' ratio.

The federal party assumes 50% of its IC and attributes \$37.5K IC to the province.

The provincial party assumes 50% of its IC and attributes \$22.5K IC to the federal party.

It is those shares which are to be reconciled. Thus in this example the net movement of IC payment is from the provincial party to the federal party in the amount of \$15K.

Response from Haseen: John – This is a very good example to illustrate the concept of indirect cost sharing. It would be useful if you could add few more sentences dealing with historical indirect cost credit/debit.

- Provincial

- reinforce that annual reports from the federal party are required. Put all 4-5 years back reports in 1 document .
- Tabled the summary of annual costs and payments.

REVIEW OF SCHEDULE “A”

ATTACH FINAL SPREADSHEET when signed

- Tabled Schedule A for 03-04.
- **ACTION: Not in new format. To be done in new format by Michel.**
- One change not on the schedule with respect to other contributed list – Grey River contract with hydro is only for 6 months, WSC will operate station for full year for continuity of record and adds .5 station units to cost planner: .5 gets moved to P and this will be reflected in new format.
- Michel demonstrated the MB format
- Added Triton Brook,
- Suggest Northwest R at Terra Nova Nat park to 1/3 each P, F and Parks. Parks agrees for 03-04: province will decide when discussions with respect to all subject to Schedule D evolution.
- **ACTION: Badger to become part of network**

COST PLANNER and REVIEW OF SCHEDULE “D”

ATTACH FINAL SPREADSHEET when completed

- Estimate in March 2002 doesn't include salary increment as well as travel increases due to new staff and OSH training, Badger trip, etc.
- Rentals down 10k due to weather and reduced number of flying trips.
- Repair costs to equipment and lost equipment.
- Reduced expenditures for repairs to structures due to necessary changes being funded from OSH \$ money. Repairs to structures next year: St Shotts, new cable at Garnish
- Reduced expenditures for machines and equipment represents equipment not purchased.
- Next year's estimated salary is down, due to salaries from contracts assigned to this code.
- Data processing costs represent costs for software licenses, etc.

- Station units up by .5 Grey River
- Provincial Labrador station “Big Pond Brook” units increased from .2. to .4
- **ACTION: Worksheet requires final figures from end of f/y March finance report.**
- Summary on schedule D
- Reduction on Schedule D for Commercial activity: 29K credit
- **ACTION: indirect cost shown is federal estimate. Discuss these later (set a time frame ?) when provincial side come with their proposal.**
- Humber met stations are = 1 unit
- Star Lake invoiced by provincial
- **ACTION: QAMS / taken from Environment Canada budget for program: Bill Brimley to verify with Hale if commercial stations are included in costing for QAMS.**
- Discussion of the \$ from Geoff Howell from water quality program. If Geoff’s water program adds to time/circuits then real costs to us begin to mount. Current arrangement is not a large real cost to MSC because it is usually, not always, included in most circuit work.
- 5k from Geoff and 5k from provincial for support on Water Quality program.
- **ACTION: Time required for Hydrolab Water Quality installation in Voisey’s outside of hydrometric portion contract. Haseen has taken this into consideration and will apply credit. Actual time spent and other logistics to be discussed and finalized between Howie and Haseen**
- **ACTION: Bill Brimley will check on use of suspense accounts**
- Bill Brimley and Howie need to be comfortable with \$ from water quality.
- \$ from Geoff should be applied to program in proportion and not just to one party.

CONTRACTS:

Labrador Hydro Project:

Four stations in the Upper Churchill basin are discontinued. Atikonak River above Panchia was retained. The remaining 4 associated with the Lower Churchill basin is still in operation. These 5 former LHP stations are now incorporated in a comprehensive contract with Newfoundland and Labrador Hydro.

Voisey’s Bay:

- Three stations were reactivated in Sept 2002 with plans to establish 2 new stations by July 31, 2003. Three of the stations will be equipped with GOES transmitters and hydrolabs.
- Haseen and Howie will discuss details of hydrolab installation and other associated work

Newfoundland Hydro:

- Victoria Lake not on schedule A but hydro has requested new station

Action: Haseen and Howie to prepare a letter of amendment (in consultation with Hydro) to the Hydro Agreement

Iron Ore Company of Canada:

- WSC took over the IOCC water quantity monitoring program and operates 8 stations, 6 of which are equipped with IOCC owned Lakewood loggers. Data is processed using Compumod. This years contract is for 94K include flying.

Action: Haseen to discuss with Bob Picco the possibility of a formal contract with IOC similar to Hydro and Voisey's Bay contracts

DECOMMISSIONING

- Planning: A work plan to be developed subject to resources and targeting of specific sites based on access and public safety concerns.
- Province has approval for 9.6k per year for 5 years for decommissioning mothballed stations. Do work ASAP and spread costing over 5 years.
- **ACTION: Essential to reconcile all these \$ in annual reports for audit purposes.**

MERCURY CLEAN-UP

- 5 stations to be revisited in lieu of lab results indicating an incomplete cleanup. Namely, Waterford River at Mount Pearl; Exploits River at Grand Falls; Shoal Arm River; Glide Brook; Blanche Brook. 16k had to be turned back to HQ, want to get that back from HQ in 2003-04 for NL and NS. 2003 savings on helicopter flying reapplied to other hg sites.

ADCP

- Outline of what ADCP is and how used. Training and implementation needs. Schedule for training. All costs being absorbed by Environment Canada.

OSH

- cableways: 2 done last year; Torrent River – new cable; Upper Humber above Black Brook - new cable and concrete anchor on left bank.
- well conversion, 3 done: Garnish River, Rattler Brook and Isle aux Morts River.
- fall arrest at wells; 14 sites to be installed in coming year. Equipment is already purchased under OSH program.
- training: ice river rescue , confined space entry

WATER QUALITY

• WSC monitoring for Helicopter Savings

WSC collects water samples in Labrador, for the Water Quality Division, in areas where both WQ and WSC activities are conducted. This results in a net saving in flying time, which is applied to the hydrometric agreement.

BADGER FLOOD Ali Khan and Bob Picco

- Provincial operates a gauging station with **Hg** manometer for flood response, scheduled to be replaced with a logger; provincial will supply equipment: WSC will do work.
- Discussion of current ice condition.
- One site, Exploits River below Noel Pauls Brook, needs anemometer attention

- Exploits dam – need real time data – Abitibi Consolidated owns and operates the existing monitoring instrumentation. Abitibi runs themselves. Wind Direction and speed, precipitation, data are collected. Logger has alarms with auto dial out. Data access is by cell phone. Can be called and can get data (level). Water level site not calibrated or levelled by WSC since installation.
- **ACTION: Michel Frigon to check with Paul Thorne re auto dial-out of data from Wreckhouse for possible application in Badger situation.**
- Get Badger map jpeg from Bob Picco for minutes and detail the equipment at each site.
- **ACTION: Cal / Howie to cost out initial ball park variety of solutions for flow and level sites, ball park estimates to be presented by provincial to Abitibi - then prioritize: consider equipment, communications, modernization and servicing costs for each of the desired real time and early warning sites. – Complete; estimate submitted to province.**
- **ACTION: need documentation of WSC activity to date with respect to Badger for minutes from Cal/Howie including history of hydrometric site, current situation; temporary or other stations required, etc.**

On February 25, at the request of Provincial Environment, two WSC staff members traveled to Badger in response to flooding caused by an ice jam on the Exploits River. The purpose was to service the existing water level monitoring station, located in the town of Badger and provide temporary water level data at other locations on the river. The existing provincial water level station was serviced by removing approx .75 metres of ice, which encased the instrument and the bottom of the shelter. The spare Nitrogen cylinder was removed for safety considerations. Four temporary gauges were installed; Badger Brook, left bank, upstream side of old railway trestle; Exploits River, right bank, below the “ice plug” downstream of Badger in an area known as “Badger rough water”; Exploits River, right bank, across the river from the permanent station in the town of Badger. Installed as a backup in the event the permanent one got toppled by an ice run; Exploits River, left bank, approx 13 kilometers upstream from Badger. Installed to provide a possible warning of upstream ice movement and rapid changes in water level. The Exploits River below Noel Paul’s Brook was visited to ensure its operation. The river was flown, by helicopter, along with provincial water resources personnel and reports given during daily EMO meetings.

Provincial water resource personnel were instructed on accessing and downloading of data loggers.

All acquired data from these stations should be reviewed by Environment Canada before use in any official report or documentation.

The existing provincial gauging station at Badger, installed in 1986, is scheduled to be upgraded to a digital data logger in 2003, replacing the current manometer instrumentation.

- Initial emergency response by WSC to be absorbed by MSC. Further activity to be funded by province. Later discussion on funding .
- Decision: investigate whether reconnaissance can be done this year and equipment installed by October.

CLIMATE NETWORK – Ali Kahn and John Merrick

- Carmanville and Pt Saunders to be closed and letters have gone out notifying termination as of end of March 2003. Hawkes Bay / Torrents River sites to be considered and a request was put to the province to suggest persons and locales for a site review.
- New site will be put in around Clarenville but need a site and have to do a determination and need from provincial some indication of who and where.
- Pricing of climate program to be reviewed during 03-04 and if to be changed will consult prior to March 31 04 for 04-05.

APPENDIX IV

OTHER CORRESPONDENCE