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Date: July 5, 2006

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**Wek'eezhii Land
& Water Board**

File _____

JUL 07 2006

Application # MY2003L4-0014
Copied To SBT Reg

Dear Ms. Baines

Re: Surveillance Network Program Quarterly Report, Water License **N1L4-0150** Snare Rapids, Snare Falls, Snare Forks. Water License **MV2003L4-0014** Snare Cascades
Enclosed please find the Water Management and Reservoir Operating Plan for June 2006.

If you have any questions or concerns please contact me at 669-3327

Yours truly,

Ken Dies
Manager, Systems Control & Hydro Planning



**NORTHWEST TERRITORIES
POWER
CORPORATION**

Snare Hydro

Water Management and Reservoir Operating Plan

Water Licence Number N1L4-0150
&
Water Licence Number N1L4-0735

June 2006

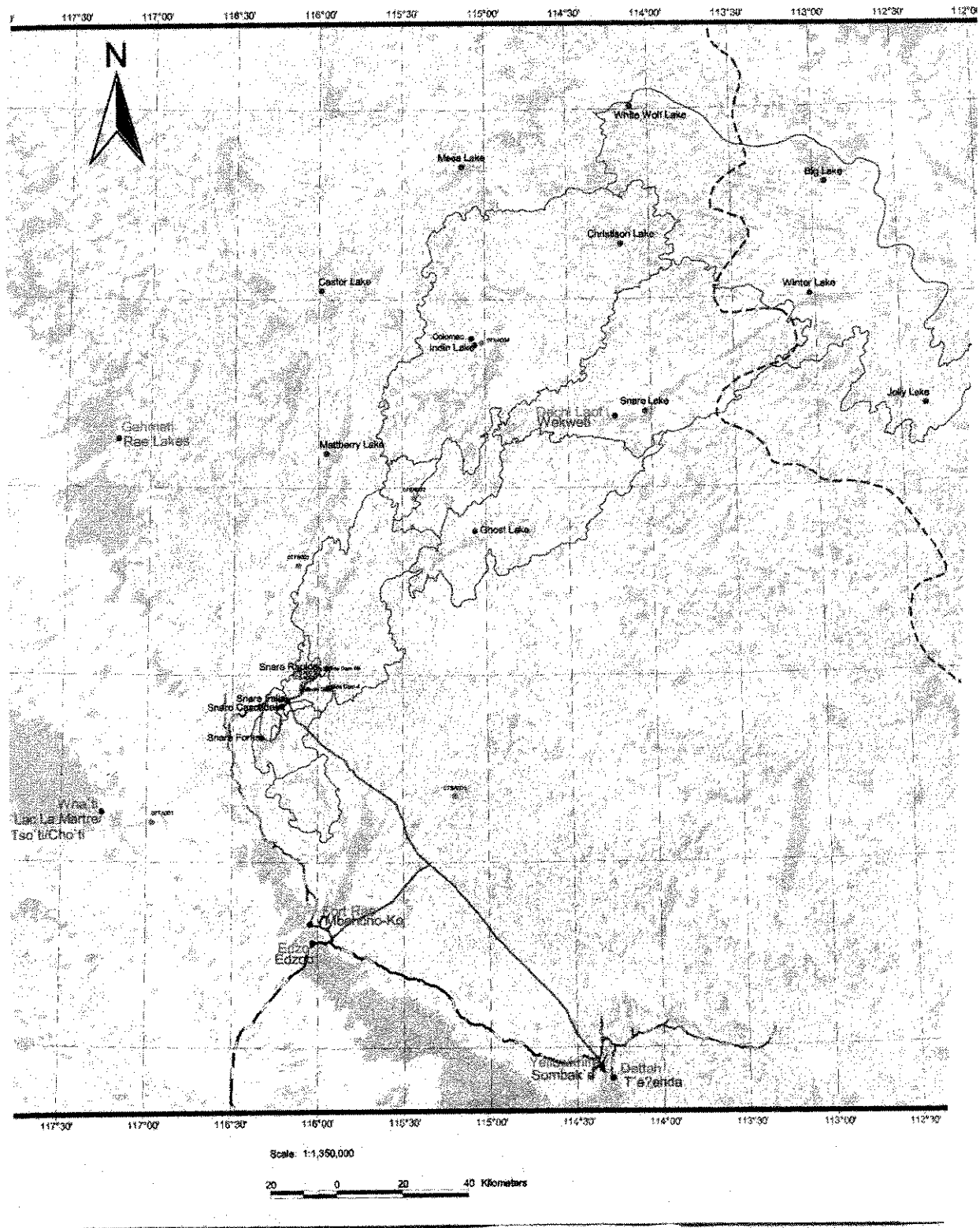
Prepared by
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NWT Power Corporation

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MAP



6.1 - Summary

The previous operating plan was affected by mild winter temperatures and reduced loads. The inflows were greater than forecast and the outflows lower than forecast, thus the forecast forebay level for Big Spruce Lake of 220.54 for a low did not occur and the low was 221.85. The snow survey indicates that there would be better than normal water this year. On May 26th Indin peaked at 78.0 m3s and on June 5th Snare / Indin peaked at 244 m3s . Snare / Ghost peaked at 298 on June 18th. There was more diesel generated in January and February than forecast, due to structure failures on the main line during ice storms. On June 15th the Snare Forks dyke 1 breached when the water level was at 174.75 during a high flow period. The breach was closed off on June 28th.

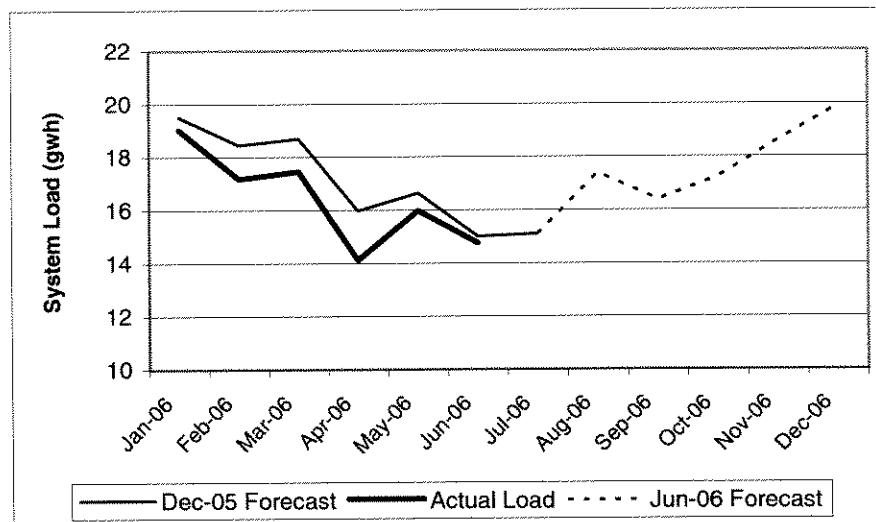
6.2 - Load Forecast and Historical Analysis

The following table and graph compare the forecast load to the observed load during the past six months. Actual loads were lower than forecast due to a very mild winter. The 2006 forecast loads are for a warmer summer and normal winter.

Table 1 – Observed and Forecast System Load

System Load (gwh)

	Dec-05 Forecast	Actual Load	Jun-06 Forecast
Jan-06	19.50	19.03	
Feb-06	18.45	17.17	
Mar-06	18.69	17.45	
Apr-06	15.98	14.12	
May-06	16.64	15.98	
Jun-06	15.00	14.75	
Jul-06	15.10		15.10
Aug-06			17.38
Sep-06			16.38
Oct-06			17.23
Nov-06			18.61
Dec-06			19.90



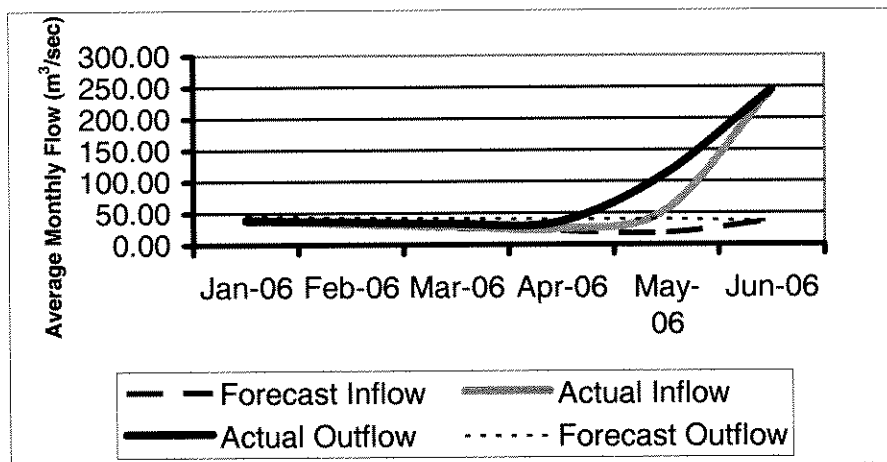
6.3 - Review of Previous Operating Plan

The following table and graph compares the previous operating plan's forecast with actual data regarding inflows and outflows at Snare Rapids. The inflows forecast for the winter months were very close, the snow survey indicated that the spring forecast was going to be low. In June we had record inflows, three weeks earlier than normal.

Table 2 - Observed and Forecast Flows at Snare Rapids

Snare River Flow (m³/s)

	Forecast Inflow	Actual Inflow	Forecast Outflow	Actual Outflow
Jan-06	39.40	41.2	45.51	38.50
Feb-06	31.90	33.5	42.84	36.40
Mar-06	26.20	28.7	41.43	33.22
Apr-06	21.70	25.3	39.96	37.15
May-06	18.90	55.1	39.96	112.60
Jun-06	37.50	244.7	36.81	245.50



The following table and graph compares the previous operating plan's forecast with actual data regarding the forebay elevation of Bigspruce Reservoir at Snare Rapids. The lower loads and higher inflows aloud NTPC to keep the forebay at Snare Rapids at near to full levels over the winter.

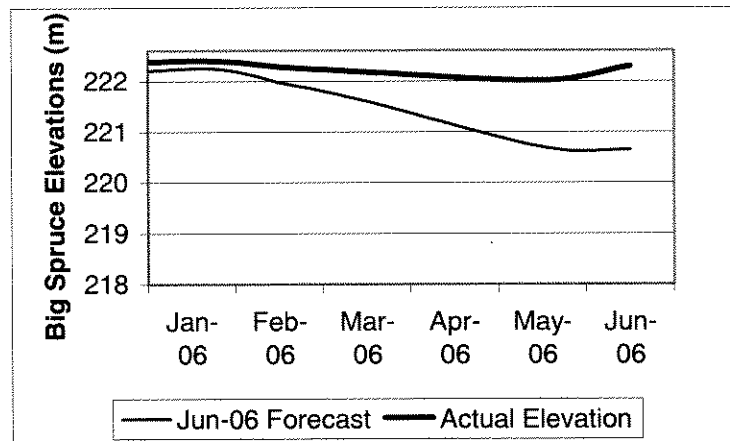
The forebays at Snare Falls, Snare Cascades, and Snare Forks are regulated between maximum and minimum licensed levels on a daily and weekly basis.

Table 3 – Observed and Forecast Reservoir Levels

Big Spruce Forebay Levels (m)

Jun-06 Actual
Forecast Elevation

Jan-06	222.15	222.30
Feb-06	221.87	222.18
Mar-06	221.50	222.08
Apr-05	221.09	221.85
May-06	220.60	221.91
Jun-06	220.54	222.19

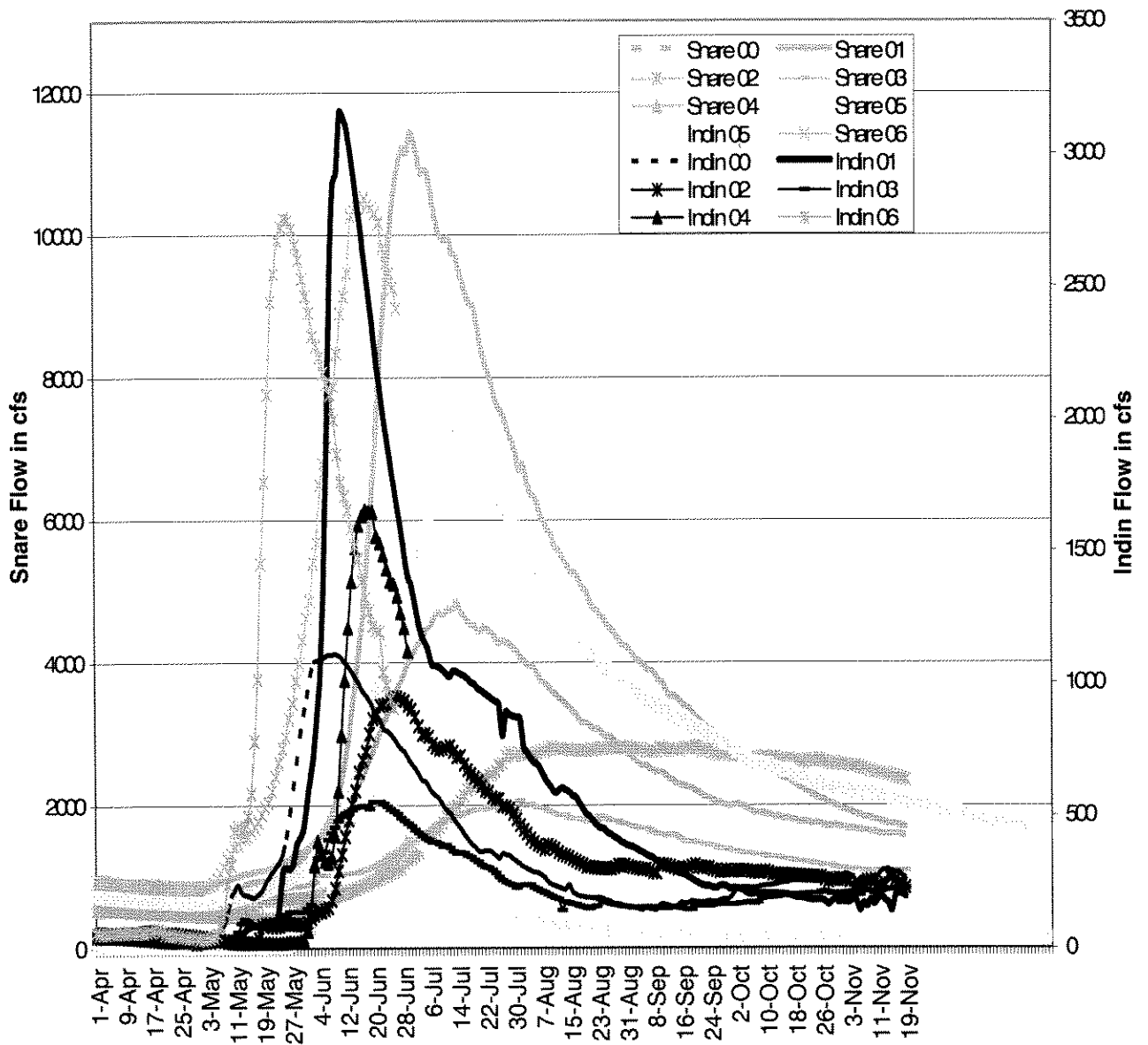


Licensed Level	Rapids	Falls	Cascades	Forks
Hi Flow Max	222.5	203.6	184.5	175.26
Maximum	222.3	202.4	182.88	173.74
Minimum	217.9	201.8	181.88	173.13

6.4 - Indicators

6.4.1 Flows and Trends

The following graph displays the historical and current relationship between the Indin gauge and the Snare / Ghost gauge.



Based on a peak at Indin River of 78.0 m³/s on May 26th it is normally expected that the Snare River will have a peak inflow of 244 m³/s on June 5th. With the run off being early by three weeks we are expecting Snare River to peak on June 18th with flows of 298 m³/s.

6.4.2 Precipitation

The following table is the recorded precipitation at Yellowknife and Snare Rapids.

Table 4 – Yellowknife and Snare Rapids Precipitation

Precipitation (in mm)

<i>Month</i>	<i>Yk Normals</i>	<i>Yellowknife</i>	<i>Snare Rapids</i>
Dec-05	16.3	12.0	13.2
Jan-06	14.1	13.4	13.4
Feb-06	12.9	11.9	12.1
Mar-06	13.4	16.0	14.8
Apr-06	10.8	18.6	16.2
May-06	19.1	34.5	25.5
Dec - May	86.6	106.4	95.2

6.4.3 Snow Survey

The following table summarizes the April 4 / 06 Snow Survey results, which were approximately 147 % of normal.

Snare River Basin	Long	Lat	years	ave	actual	%
Big Spruce Lake	-116.00	63.50	225	24	106.5	158.0 144.0
Ghost Lake	-115.07	63.88	290	28	108.3	154.0 137.0
Indin Lake	-115.03	64.38	290	28	115.1	195.5 162.0
Snare Lake	-114.04	64.20	360	28	119.1	162.0 133.0
Winter Lake	-113.03	64.50	365	27	93.5	96.0 104.0
Mattberry Lake	-115.96	64.09	255	27	100.5	176.5 167.0
Castor Lake	-115.99	64.52	295	27	119.5	190.0 170.0
Mesa Lake	-115.14	64.85	385	27	127.9	213.0 200.0
Big Lake	-112.55	64.48		9	120.4	167.0 133.0
White Wolf Lake	-114.60	65		11	130.9	214.0 155.0
Christianson Lake	-114.90	64.38		11	121.4	141.0 115.0
Jolly Lake	-112.21	64.12		5	150.8	n/a

6.4.4 Expected Inflows

In the spring of 2001 AMEC E&C Services Limited was retained to develop flow forecasting procedures for the Snare Hydro System. The following is the section on winter forecast.

In most years the mean daily temperature in the Snare Basin remains consistently below 0 °C from mid-October until mid-April.

During this period, virtually no liquid surface runoff enters the water courses and only water already “enroute” continues to flow. This process (ground water plus lake outflow) can be approximated quite accurately by a recession equation, as below:

$$Q = Q_0 \cdot e^{-k(t-t_0)}$$

Where: Q = Snare Ghost flow at time t days
 Q_0 = Snare Ghost initial flow at t_0
 $e = 2.7183$
 k = exponential co-efficient
 $t-t_0$ = elapsed time (days)

k is not perfectly constant but can be estimated from the following equation:

$$k = 0.00424 + 7.088 \cdot 10^{-5}.$$

Using the above formula and the November/December actuals the following curve is produced.

6.5 - Forecast Water Flows and Levels

6.5.1 Big Spruce Reservoir

The following table summarizes the expected flows and Bigspruce reservoir level for the next six months.

Jun/2006 Big Spruce Reservoir Forecast for Jul - Dec 2006

MONTH	# DAYS	INFLOW (cfs)	OUTFLOW (cfs)	HWL (ft)	INFLOW (m ³ /s)	OUTFLOW (m ³ /s)	HWL (m)
				729.26			222.28
Jul-06	31	5919	6400		167.6	181.2	
				728.34			222.00
Aug-06	31	3215	3200		91.0	90.6	
				728.37			222.01
Sep-06	30	2173	2200		61.5	62.3	
				728.32			221.99
Oct-06	31	1592	1600		45.1	45.3	
				728.30			221.99
Nov-06	30	1262	1600		35.7	45.3	
				727.67			221.80
Dec-06	31	1026	1600		29.1	45.3	
				726.57			221.46

Table 5 Big Spruce Reservoir Forecast

6.5.2 Downstream Plants

The outflow of Snare Rapids will be the inflow and outflow of the downstream plants for the forecast period.

6.5.3 Water Use Efficiencies

With the inflows expected to be above normal the Snare Units will be run at loads most efficient. The difference in load will be made up with diesel, this will be peak loads in November through to February.

6.6 - System Generation Forecast

6.6.1 Hydro Generation Forecast

The Hydro generation expected with the available water flow is shown in the following table.

	Load GW.h	Diesel GW.h	Bluefish GW.h	Hydro GW.h
Jul-06	15.10	0.08	2.20	12.82
Aug-06	17.38	0.08	2.20	15.10
Sep-06	16.35	0.08	2.80	13.47
Oct-06	17.23	0.08	2.80	14.35
Nov-06	18.61	0.08	2.80	15.73
Dec-06	19.90	0.08	3.90	15.92

Table 6 – Hydro Generation Forecast

6.6.2 Bluefish Forecast

The forecast for Bluefish Hydro is as follows:

	Load GW.h	Diesel GW.h	Bluefish GW.h	Hydro GW.h
Jul-06	15.10	0.08	2.20	12.82
Aug-06	17.38	0.08	2.20	15.10
Sep-06	16.35	0.08	2.80	13.47
Oct-06	17.23	0.08	2.80	14.35
Nov-06	18.61	0.08	2.80	15.73
Dec-06	19.90	0.08	3.90	15.92

Table 7 – Bluefish Forecast

6.6.3 Diesel Generation Forecast

The resultant diesel generation to meet the Load forecast and allow for hydro maintenance is as follows:

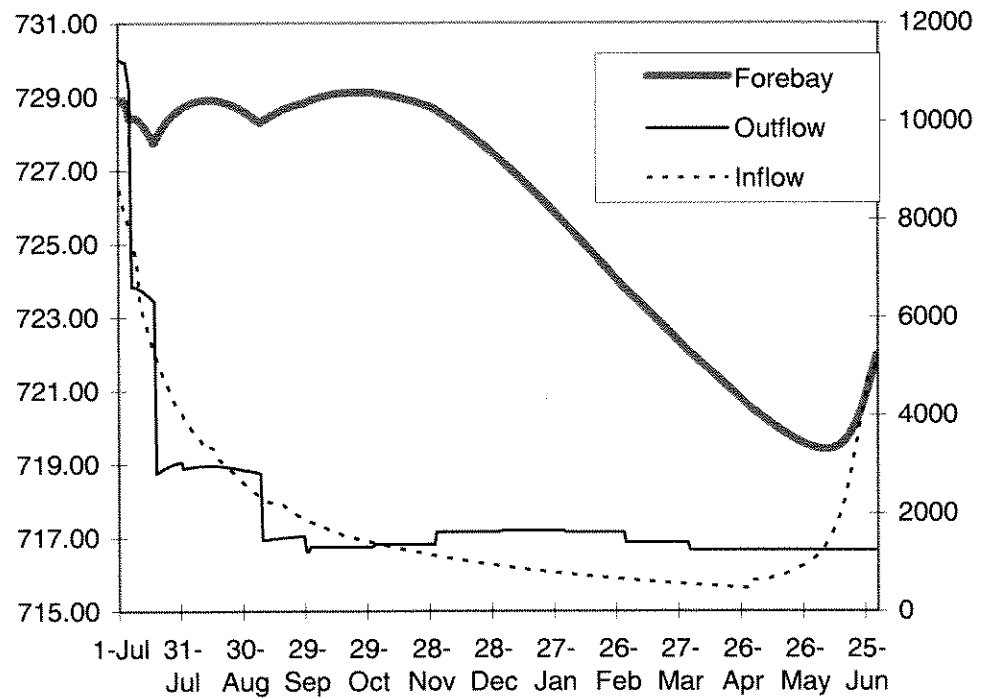
	Load GW.h	Diesel GW.h	Bluefish GW.h	Hydro GW.h
Jul-06	15.10	0.08	2.20	12.82
Aug-06	17.38	0.08	2.20	15.10
Sep-06	16.35	0.08	2.80	13.47
Jan-06	17.23	0.08	2.80	14.35
Nov-06	18.61	0.08	2.80	15.73
Dec-06	19.90	0.08	3.90	15.92

Table 8 – Diesel Generation Forecast

6.6.4 Long Term Forecast

With the current Bigspruce reservoir level and inflows the hydro plants can continue to operate at full capacity. The inflows are expected to be greater than normal, almost double. NTPC will be spilling water through spillways until October. (see following graph, in english units)

Snare Water Management Jun/06



6.7 - Commentary on Operations and Compliance

The Snare Hydro facilities were operated within compliance of the water license throughout the previous six months.

Surveillance network data for the period Oct-Dec, 2005 was submitted on Mar 15/06.

Surveillance network data for the period Jan-Mar, 2006 was submitted on Apr 26/06.

The Annual Report for Snare Hydro was submitted March 15th, 2006

6.8 - Commentary on Reports and Inspections

NWT Power Personnel performed annual maintenance and inspections will be done in August.

The Dam Safety Review of all Snare sites will be done July 12,13 and 14, 2006

On June 29,2006 Indian and Northern Affairs Canada did a Hydroelectric & Small Dam Inspection.