Ikuma Report

Nunavut's Energy Options for 2001

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1. INTRODUCTION

1.1 Purpose

This report is intended as a source document to aid in assessing a number of options for meeting Nunavut's future electric energy needs. Three basic questions are addressed:

- Continue with NTPC or go it alone? Should the Government of Nunavut rely on negotiating a suitable arrangement with the GNWT so that a jointly owned NTPC can continue to supply power to Nunavut for the next 5 to 10 years? Or, should it set up its own system for supplying power?
- Corporation or government department? If Nunavut has its own energy supply system, should it be run by a government department or a by a corporation?
- Electricity supply or total energy supply? Should electricity supply and fuel supply be consolidated in one entity responsible for meeting the total energy needs of Nunavut?

Answering these three basic option questions raises three other significant policy questions:

- Extent of outsourcing? To what extent should the energy supply system rely on external expertise for management and technical support?
- Should subsidies continue? Can the present system of reducing rates through subsidies continue, and if not how can power be made affordable?
- Regulation or not? Should the energy supply system be regulated by an independent Board, and if not what should be put in its place?

The purpose of this brief is to provide a starting point for an informed discussion of these options and policy questions.

1.2 Current Situation

In the context of division planning, leadership from the Government of the Northwest Territories (GNWT) and Nunavut Tunngavik Incorporated (NTI) agreed that certain institutions of government such as the Northwest Territories Power Corporation (NTPC) and the Workers' Compensation Board (WCB), should be shared between Nunavut and the NWT. Subsequent efforts to fulfill the mandate for a shared NTPC resulted in a

two year Transition Agreement between the NWT and Nunavut as represented by the Office of the Interim Commissioner (OIC).

It follows that both governments were to have a reasonable opportunity to assess all of the available options for the long term delivery of a safe, reliable and cost efficient supply of power to consumers within the two territories. If the GNWT and Government of Nunavut (GN) are unable to reach a solution for the future continuance and ownership of the NTPC before March 31, 2000, The Transition Agreement provides that NTPC will be divided on March 31, 2001, "or on such date as the Parties Mutually agree".

1.3 Mandate

Under the direction of the Nunavut Minister Responsible for the Power Corporation, the Ikuma Working Group (Ikuma) was created and tasked specifically to examine three basic options for the future supply and delivery of power in Nunavut, including:

- continuance of a joint model;
- a Nunavut Power Corporation; and
- a modified Power Corporation (may include PPD/PWTTS or a cooperative model involving greater community involvement and/or outsourcing).

This report will outline each of the options in detail to provide Nunavut's newly elected leadership with a comprehensive assessment of each of the above options as well as objective analyses of these options the necessary decision making of government.

1.4 Scope and Criteria

To fully understand the implications of each option, several criteria are identified and evaluated against each option. For example, will the arrangement provide for the reliable supply and delivery of power in Nunavut? Will it meet our needs? Are there one time start up costs? What is the scope and complexity of implementing each option? How much will it cost Nunavummiut now and in the future?

This report further outlines other key considerations important to decision making. These include: how power is supplied elsewhere; how rates are and could be controlled; internal and external constraints to supplying power; review of the current Territorial Subsidy Support Program; possible ownership structures; and understanding generally how power is supplied to Nunavut today.

1.5 Team

To achieve these objectives, Ministerial support for the NTPC file was arranged through the Department of the Executive and Intergovernmental Affairs (DEIA). In consultation with the Minister and under the direction of the Assistant Deputy Minister (ADM) Laura Udluriaq Gauthier of DEIA, a team was assembled to incorporate both the functional and knowledge based expertise in the public utilities field. The team included: a technical operations expert (Bill Shanks); a legal advisor (Fred Martin); a financial analyst (Azad Merani); policy analysts (Marianne Demmer and Hugh Lloyd); and a representative from the Petroleum Products Division (Les Clegg/ Susan Mackpah). A representative from NTI (Hagar Sudluviniq /Brian Mcleod) was invited to participate on the working group to enhance the knowledge base of the group.

1.6 Methodology

Following the direction of the Nunavut Minister Responsible for the NTPC, the ADM of DEIA recruited the necessary human resources and identified the financial resources within DEIA to support this first planning stage. Given the short time frame to develop options, the expertise required for the team was sole-sourced in consultation with the Minister.

The Ikuma Working Group meetings were conducted both by phone and on three occasions in person in Iqaluit. The first face to face meeting took place in mid July while the second occurred in early September. Each Ikuma member was tasked to research, analyze and draft their findings as well as contribute to a broader group analysis on the component parts of the report.

A number of sources were used throughout the project to gather the necessary information, but also, to build on the work and knowledge of others who were involved on the NTPC file. Sources of information and consultation include: Northwest Territories Power Corporation, Public Utilities Board decisions; other Canadian utility companies (Manitoba Hydro, Quebec Hydro, ATCO Energen, Sask Power International, Newfoundland and Labrador Power, and Ontario Hydro); DPWTTS; Nunavut PPD; DEIA; NTI; GNWT; Ernst & Young; Nelligan Power; Alain Carriere; and the Nunavut Department of Finance and Administration.

To date, the Nunavut Cabinet has been consulted on two occasions to deal with NTPC related items: strategic planning considerations , and the solicitation of proposals from Canadian utility companies. Individual meetings with each Minister were conducted to introduce key issues and to receive preliminary feedback.

1.7 Communication Strategy

During the transition period it is important to build public awareness and confidence that the Government of Nunavut will ensure adequate service, whatever choice is made to supply power to Nunavut. Nunavummiut need to know the Nunavut minister responsible for the Power Corporation, advised by a team of experts in the fields of utility operations, financial management, and legal issues, will explore all possible options for supply and delivery of power to Nunavut.

To ensure that everyone is well informed about all aspects of this important process, an information campaign has been developed for the general public, NTPC Nunavut operations staff, the Nunavut business community/Inuit organizations, the media, and the politicians.

This information campaign will involve:

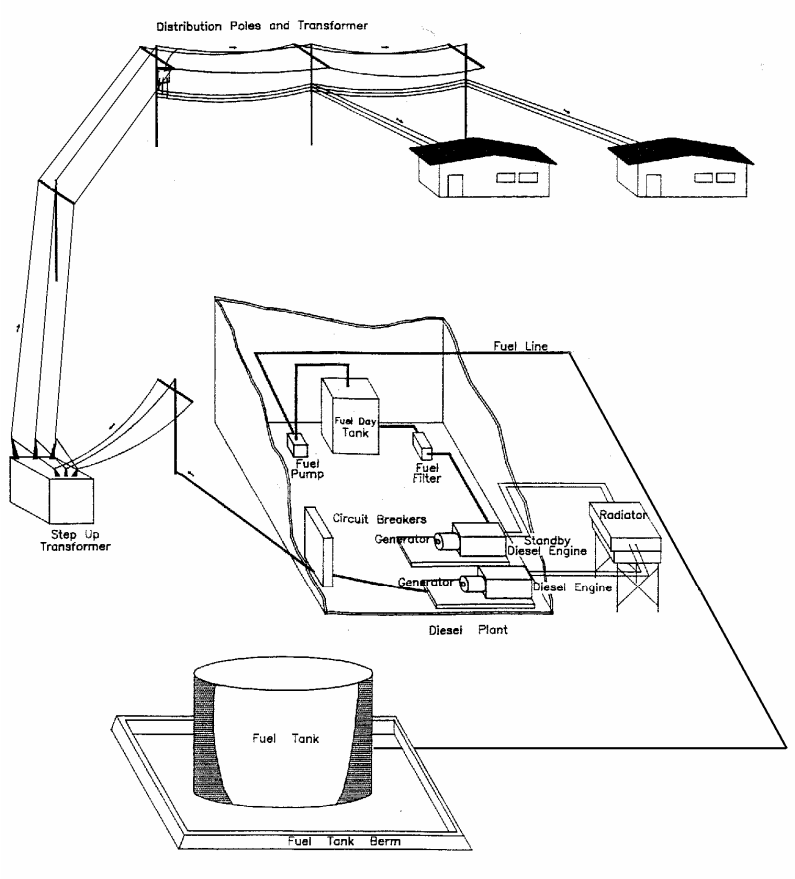
- internal consultations within government,
- public consultations with the Nunavut chambers of commerce (including cabinet ministers and MLAs),
- briefing pamphlets mailed to all residents,
- letters to the NTPC Nunavut operations staff,
- print advertising in territorial newspapers and taped radio messages for community radio stations,
- information kits for northern media, and
- miscellaneous interviews and news releases as the process develops.

PART I – CHOOSING AN OPTION

2. BACKGROUND

To understand the energy supply options available to Nunavut it is necessary to understand how a electric utility system works – in other parts of Canada and today in Nunavut. It also requires an understanding of how the situation in Nunavut is different from the operating environment of a typical utility. Northwest Territories Power Corporation (NTPC), a Crown corporation of the NWT was the sole supplier of electrical energy in Nunavut before division and remains so today. To consider options for the future it helps to understand what the current power company, NTPC, does and how it operates in Nunavut.

Schematic – Diesel Generation & Distribution System



2.1 Traditional Utilities

2.1.1 Electric Utility Services

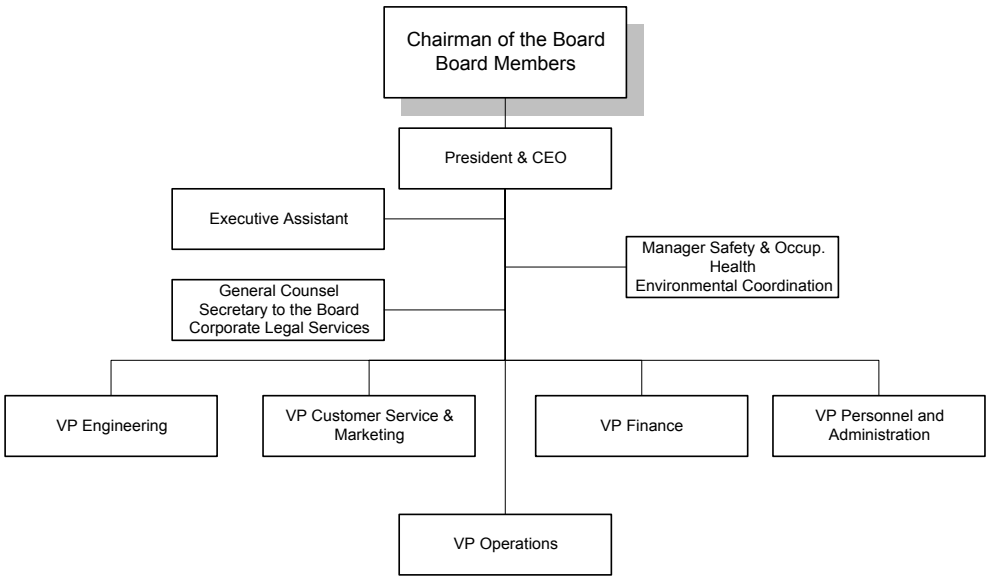
.1 Management and Direction

An electric utility is a complex organization with a corresponding wide range of functions. These are summarized in the function diagram on the next page. Utilities generally operate with a board of directors to oversee the management of the business and affairs of the utility. The Board oversees the development, adoption, and implementation of the corporation's strategies and plans. Senior Management then ensures that adequate resources (human, financial and physical) are available and deployed in an efficient and effective manner. The resources required can be obtained from outside the company (outsourcing) or from inside. Generally speaking, the larger the organization the less need there is to

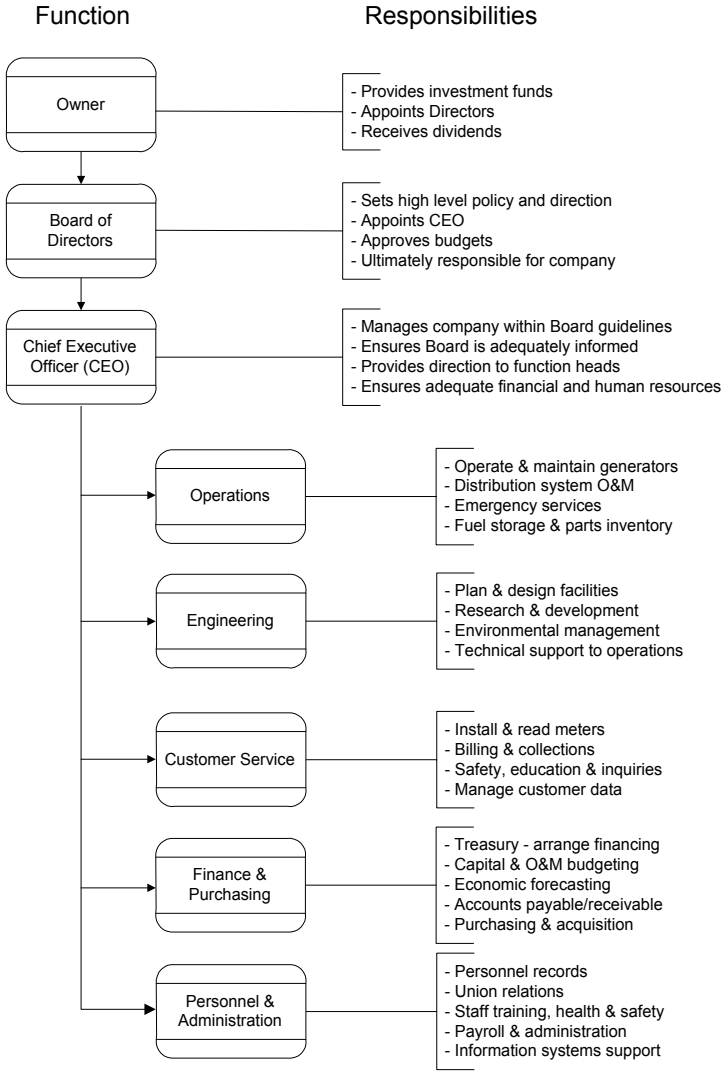
outsource services. Line Management implements the policies and direction of senior management in the utility's day to day front line activities, including operations, planning, maintenance and customer service.

The organization of senior management of a typical large utility with hundreds of thousands of customers is shown in the diagram below. The Nunavut power system would have less than 10,000 customers and consequently a much simpler organization chart, although most of the same functions would have to be provided.

Typical Utility Organization



Utility Functions



.2 Financing

Electric utilities require long and short term financing. Long term borrowing is needed to pay for expensive but long lasting assets like diesel generators while short term financing is needed for operating capital.

An electric utility's assets are not limited to the generators, transformers and other facilities that provide power. They also include investments, special purpose funds, accounts receivables, etc. As diverse as the assets are the financing vehicles used to support them, including shareholder investment, long term debt, short term debt, and the other tools of the modern financial market place. Note 10.5 in the Attachments provides more detail on utility financing and regulatory requirements.

2.1.2 General Regulatory Principles

.1 The Need for Regulation

Because they are the only source of an essential service, electric utilities are usually regulated. A regulatory board decides what is a fair charge for the service provided and ensures the utility provides a safe and reliable service at the lowest possible cost.

To set rates, the board must answer two basic questions:

- How much money does the utility need – what is the "revenue requirement"?
- Who is going to pay it – what are the "rates"?

How the revenue requirement is determined is described in *section 3.2.4* of this Report by considering the example of the most recent general rate application (GRA) filed by NTPC.

Once the Board has determined the total amount of money the utility needs, it moves to the second question – who will pay it? To decide that, it looks at a study of what it costs to serve each customer group. Based on this cost of service study it sets rates so that the rate charged to each group will recover the cost of serving that group. The balancing act at the rate setting stage is between different consumer groups who argue about the fairness of allocating certain costs to them.

This method of setting rates – the "rate base, rate of return" approach – is used by the NWT Public Utilities Board (PUB) and the regulators in most other provinces in Canada.

.2 Regulating government owned utilities

The traditional regulatory system was designed for privately owned electric utilities to protect the public from utility owners charging monopolistic rates. When the government owns the utility there is less need to protect the public from the owner because the public is the owner. Utility expenditures must be monitored to make sure they are prudent, as in any government enterprise. Once the total cost of

providing the service is determined, however, there is still the problem of who decides what is a fair rate for each customer class to pay. Since this pits one group of customers against another it can create political and economic problems if there is no independent and neutral regulatory body to make the decision. The problem of recognizing economics and balancing customer class interests is dealt with in a variety of ways by different provinces that have government owned electric utilities. This matter is addressed later in section 8.3.2 this Report when considering the policy question of whether regulation is appropriate for Nunavut at this time.

.3 Cost of Regulating NTPC

NTPC's estimated costs for its regulatory proceedings for fiscal years 1991 through 1997 are shown in the following table.

NTPC Regulatory Costs ($000's): Fiscal 1991 – 1997

	1991	1992	1993	1994	1995	1996*	1997*
Internal	504.6	358.5	345.9	469.2	406.5	432.9	531.9
External	8.8	97.2	208.3	606.7	447.3	223.0	392.3
Total	513.4	455.7	554.2	1075.9	853.8	655.9	924.2

* Denotes Forecast amount [Source: NTPC 1995/96 and 1996/97 GRA]

These are only NTPC's internal costs and the external costs paid by NTPC to consumer groups so they could participate in hearings. These costs are ultimately included in the rates as a cost to all customers. The table does not show the annual costs paid by the government to operate the PUB itself. In 1997/98 that was $320,000. Consequently the total annual cost of regulating NTPC to the government and consumers has been in the neighborhood of $1,250,000, or close to $75 per customer.[1]

The regulation cost per customer depends heavily on the number of customers because of the fixed nature of most of these costs. A small utility still must prepare a rate application and go through the hearing process to answer the questions of customer intervenors and the PUB. It follow that a small utility like NPC would have a much larger cost of regulation per customer than NTPC if regulated in the same manner. Section 8.3.4 of this Report addresses the total annual cost of regulation in

[1] The $75 /customer number is a little misleading because Yellowknife and Hay River are wholesale customers and consequently treated as only 2 customers. On a per household basis the NTPC regulatory cost would be closer to $40 per year, but to this would have to be added the regulatory cost of the utilities who buy power from NTPC and distribute it to these two centers.

Nunavut (utility internal and external, intervenor and PUB) which could exceed $750,000. Since there are only about 10,000 customers the cost of regulation in that case would exceed $75 per customer per year.

2.2 Overview of NTPC

2.2.1 Scope of Services

The Northwest Territories Power Corporation (NTPC) generates and distributes electricity to most of the 17,700 customers[2] in a total of 54 communities in Nunavut and the NWT. Power is generated either by diesel generators or hydroelectric plant with a total of 48 separate generating plants. At Inuvik, natural gas service is being installed as the primary fuel source, but all other installations use diesel fuel only. Hydroelectric generation supplies Ft Smith, Hay River and Enterprise, with Yellowknife being served by both hydroelectric and diesel generation.

At Yellowknife and Hay River NTPC sells power wholesale to local utility companies for distribution and retail sales. Otherwise NTPC sells directly to the end user. In the Town of Inuvik, the NTPC operates the water/sewer system under contract to the Town and also retails central heat. The central heat system is used primarily in the water plant and to heat large GNWT facilities such as the hospital, school and Arctic College buildings.

In four communities, the NTPC recovers heat from their diesel power plants for delivery by pipe system to nearby buildings. The current NTPC Capital Plan includes $13.8 million for residual heat projects over the next five years. The NTPC intends to develop the heat recovery business through their wholly owned subsidiary, NWT Energy Corporation.

Total electrical output in 1998/99 was 455.7 million kilowatt-hours (KWH) while total sales were 411.9 kwh. The difference between output and sales, 43.8 million kwh or about 10%, is mainly due to line losses in the transmission and distribution systems and the electrical energy used in plant operations. NTPC had operating revenues of $99.9 with capital assets with an original cost of $367.7 million and a depreciated cost of $224 million[3].

Customer Class Revenue

Customer Class	*% of Revenue*
Industrial	5.7
Wholesale	17.3
Streetlights	1.8
Commercial	41.3
Domestic	33.9
TOTAL	100

[2] Source NTPC 1998/99 Annual Report, page 30

[3] Source NTPC 1998/99 Annual Report, page 15

NTPC has been regulated by the NWT Public Utilities Board (PUB) since October 1, 1989. It has five customer classes and separate rates for each class. The table on the right shows the percent of operating revenue derived from each of its customer classes.

NTPC is franchised to operate and provide electrical services in 38 of the 54 communities in its service area. In two communities (Yellowknife and Hay River), it wholesales power to local, franchised utilities. The remaining 14 franchises are at various stages of the approval process In Nunavut, NTPC has franchises in 16 out of 25 communities.

2.2.2 Ownership and Control

NTPC is a Crown Corporation governed by the *Northwest Territories Power Act* (the *NTPC Act)*. The Act enabled the GNWT to take over the Northern Canada Power Commission (NCPC) from the Federal Government in 1988. The Act created NTPC as an Agent of the GNWT and defined the size, membership and powers of the Board, and the role and powers of its chief officers. In particular, the Act specifies that the Board is to be composed of at least six and no more than 10 Directors, all appointed by the Minister.

The Board of Directors directs the business of the Corporation under the guidelines set out in the NTPC Act. The Act requires the Board to act in accordance with any directions or policy guidelines issued by the Executive Council. Government control is furthered by the empowerment of the Minister to appoint the President as well. Under the NTPC Act this appointment is to be on the recommendation of the Board of Directors. Finally the NTPC Act enables the Minister to appoint directors as Chairperson and Vice Chairperson. The Minister can also appoint the Chairperson or the President as the Chief Executive Officer (CEO). The CEO is then charged under the NTPC Act to supervise, manage and direct the business of the Corporation in accordance with the direction of the Board of Directors.

NTPC is governed by the *Northwest Territories Power Corporation Act* and is limited in what it can do by the objects set out in the Act. These are essentially to generate, transmit, distribute deliver and sell energy on a safe, economic and reliable basis. NTPC is also authorised by the objects to supply water and sewerage services and conservation programs. Under the Act Cabinet can expand NTPC's objects to allow other activities. This has recently been done to enable NTPC to engage in a range of unregulated undertakings such as exploring for natural gas.

2.2.3 Corporate Financial Powers

NTPC is funded by revenue from its rates. Under the NTPC Act, NTPC's rates and rate structure as well as the terms and conditions for the supply of energy, water and sewerage are determined in accordance with the *Public Utilities Act* (the PU Act). Subject to the PU Act, NTPC may establish rates, terms and conditions for the supply of energy and water.

Subject to the *Financial Administration Act* (the FA Act) and the *NTPC Act*, NTPC may borrow money by way of a line of credit so long as the borrowing is for the purposes of the Corporation. Under section 24 of the Act it may issue bonds, debentures or other securities of the Corporation for the purpose of borrowing money. This power is restricted to an extent that cannot exceed three times the sum of the paid up share capital of the Corporation, plus the retained earnings. Other sources of funding authorized by the Act are contributions, loans and or investments from the Government.

The Board of Directors is empowered to declare dividends and must do so subject to the *Public Utilities Act* and the direction of Cabinet. Dividends can only be used to subsidize rates for energy and water. This is done through the Territorial Power Subsidy Program (TPSP) under which NTPC reduces the monthly power bills of residential and commercial customers, bills the monthly shortfall to the GNWT, and then annually reimburses the amount paid by the GNWT through a dividend.

As a Crown Corporation the NTPC, the president, the directors, employees and all persons acting on its behalf are exempt from civil proceedings. As well, the NTPC Act provides NTPC will not be liable for financial loss direct or indirect caused by reason of a failure to supply energy or water due to plant failure or malfunction.

2.2.4 Operations

NTPC has its corporate headquarters in Hay River with regional headquarters offices in Inuvik (Western operations), Yellowknife (Central operations), and Iqaluit (Nunavut operations). The three Regional offices oversee the Area offices. Area offices are located in Iqaluit, Rankin Inlet and Cambridge Bay for Nunavut operations, Fort Simpson for Western operations and Fort Smith for Central operations.

NTPC head office:

- Provides financial, human resource, administration, and engineering support and direction to field operations and regional and area offices. (Some financial and engineering resources have

recently been established in the regional offices as a move towards decentralization)

- Handles all payroll and customer billings. Invoices are prepared in HQ and sent to the field offices for delivery to customers. Payroll activities are centered in HQ with Regional/Area offices either sending time sheets to HQ or entering data at the Regional offices.
- Manages large industrial and direct customer accounts such as mines.
- Manages accounts payable and receivable, except for small item payments made by the Regional/Area offices.
- Is responsible for treasury, internal audits, purchasing, materials management, rates and regulatory affairs, and load forecasting functions.
- Provides engineering and technical support services. Several, electrical and mechanical engineers and technicians provide support to field maintenance and operating staff. Some specialized technical support is provided to other Regions from the Yellowknife Regional office where staff are located, i.e. relay and metering, as well as system protection. HQ provides transmission and distribution design and standards to the field with input from the regional offices and area offices. (One engineer and one engineer in training are located in Iqaluit and provide resident engineering support in the Nunavut Region).

The Regional/Area offices have responsibility for and control of the day to day operations in the field. These responsibilities include:

- Completing routine and major mechanical and electrical maintenance on generation equipment and apparatus, troubleshooting mechanical and electrical failures and restoring service.
- Maintaining and operating overhead transmission and distribution systems, repairing breakdowns and restoring service.
- Planning and maintaining adequate spare parts and stores inventories for repairs, and small service extensions.
- Day-to-day customer service activities such as reading customer meters, either imputing the readings or forwarding the readings to HQ for entry, meter installations and removals, customer inquiries and collection activities in the field as directed by HQ.

Some activities are performed jointly by the Headquarters and Regional/Area offices. These include:

- Operation and maintenance (O&M) budgets are prepared by the Regional offices and submitted to HQ for approval. The responsibility for the ongoing management of these budgets rests with the Regional offices but is closely monitored by HQ. HQ compiles a corporate O&M budget made up of the Regional Offices' submissions and O&M requirements for HQ functions.
- Capital Plans and budgets are compiled by the Regional offices and submitted to HQ for inclusion in the overall Capital Plan. Regional office submissions include buildings, vehicle replacements or additions, field maintenance equipment, generator engine replacement as well as distribution additions and extensions. Major capital additions have input from the Regional offices, but the engineering and capital planning are done mainly at HQ.
- Functional guidance is provided by HQ environmental affairs for two safety and occupational health managers. One is located at HQ for the Western Arctic and one is located at the Regional office in Iqaluit for Nunavut.

2.2.5 Financing

.1 Overview

NTPC's operations cost over $100 million annually. This section outlines how NTPC gets this money and the regulatory process involved in changing customer rates. It also examines the role of the government in guaranteeing debt as well as the impact of the TPSP on shareholder income and how rates are designed for the diesel communities served by NTPC.

.2 Regulation and revenue

To operate a utility in a safe and reliable manner, management must be provided with an opportunity to recover all prudently incurred expenses, as well as to earn a sufficient return on shareholders investment to attract financing. The PUB decides how to translate NTPC's need for money into fair rates for consumers. The process is called "rate base regulation".

- ***Step 1 – Determining Rate Base***

The first step in determining the amount of money needed is to decide how much capital is tied up in delivering the service – what is known as the utility's "rate base". For example, in NTPC's last rate application the NWT PUB approved a rate base of $218 million. It arrived at this figure by assessing the value of NTPC's property, plant and equipment, and

working capital (net of customer contributions) needed to provide utility services.

- ***Step 2 – Cost of Money***

Having decided how much capital is committed to providing the service (the rate base) the next step is to determine a reasonable cost for the capital. That means considering how much was borrowed and at what cost. It also means determining how much shareholders invested and what return they should be entitled to on their investment. In NTPC's last rate case, the NWT PUB allowed the company to recover its borrowing costs, which on a range of debentures varied from slightly under 7% to slightly over 10%.[4] The PUB also allowed a return on shareholder investment of 11.5%. The total cost of these two money sources was $11.8 million for debt and $10.8 million for return on shareholder investment – a total of $22.6 million.

- ***Step 3 – Revenue Requirement***

The cost of financing is just one of the costs of operating the utility. Next, the Board looks at the total cost to the utility of providing the service – what is called the "revenue requirement". In addition to the cost of financing, the revenue requirement includes depreciation and operating expenses. Depreciation recognizes that assets are used up to provide service and will someday have to be replaced. In its last rate case the PUB allowed NTPC $9.2 million for depreciation expense. Finally there are all the expenses of running the utility – O&M expenses like labour, fuel, supplies, etc. The PUB allowed NTPC $74.2 million for these O&M expenses. At the end of this stage of the process, the PUB has determined NTPC's revenue requirement – the total cost of service. In the last case, as described above, the total of the cost of money, depreciation, and O&M expense was $106 million, as shown in the table on the right. The table also shows that existing rates would not have generated that much revenue so it is necessary for the Board to allow a rate increase to recover the shortfall of $3.5 million.

Revenue Requirement

Cost Components	1997/98 ($M)
Cost of Money	22.6
Depreciation	9.2
O&M Expense	74.2
Total Revenue Requirement	106.0
Less: Revenue at present rates	102.5

- ***Step 4 – Setting Rates***

[4] The actual borrowing rates ranged from 6.90% to 10.287%. These rates are kept down by the reduced risk resulting from government guarantees on the debt.

Having decided how much money the utility needs, the PUB finally sets rates that will enable the utility to get that much money from its customers. In deciding on rates most public utility boards, including the NWT PUB, follow the principle that one customer class should not be required to subsidize another. The utility provides a cost of service study that shows the cost of serving each customer class and the rates needed to recover the cost. The PUB then makes any adjustments it considers necessary to ensure the rates are fair and recover the revenue requirement of the utility.

.3 How rates for diesel communities are set

In 1997 the NWT PUB approved[5] rates for individual diesel isolated communities based on the cost of serving the community. The Board also directed NTPC to amend and recalibrate its customer rates, on an annual basis, so that the amount paid by each customer class would be within 5% of what it cost to serve that class. NTPC has accordingly adjusted its rates between customer classes while maintaining the total approved amount of revenue. The result of these rate changes has been to increase rates in diesel communities for domestic customers, because these rates have historically been well below the cost of service. As a result, the differential between the Yellowknife rate (used as a benchmark for TPSP) and the revised domestic rates has grown creating an increased demand on the TPSP, which is based on that differential.

.4 Role of government's debt guarantee

Most of NTPC's long-term debt is guaranteed by the GNWT in order to reduce NTPC borrowing costs and thus customer rates. Because it lacks a credit history, the GN has not yet been given a bond rating by any of the rating agencies. Unless that rating is the same or better than what the GNWT had before division, there may be an additional cost of financing the debt taken over from the NTPC should the GN decide to set up an independent power corporation. The lending institutions that advanced the various debentures to NTPC presumably based their rate on the strength of NTPC's balance sheet and the debt guarantee from the GNWT. It remains to be seen whether they will demand a premium if NTPC is split into two corporations with corresponding split government guarantees.

The GN has been authorized by the federal government to borrow or guarantee up to $200 million. It is our understanding that the GN has no

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[5] NWT PUB Decision 12-97 dated June 16, 1997.

long term debt at this time but has factored into its planning that it may need to provide loan guarantees of about $100 million, of which $40 million would be for the Nunavut Power Corporation.[6]

If Nunavut proceeds with an independent NPC, the corporation will also need to periodically go to the capital markets to finance its capital projects. In that case the GN may also have to guarantee additional long-term debt undertaken by the Nunavut Power Corporation.

.5 Impact of TPSP on Shareholders Return

As noted above, NTPC's revenue requirement for the 1997/98 test year was $106 million. However, the TPSP subsidy funded from NTPC's retained earnings reduced the rates for eligible domestic and commercial customers by $6.3 million. In other words, the government as shareholder decided to forgo that much of the allowed return on common equity. The real rate of return for the shareholder for 1997/98 was consequently not the 11.50% approved by the Board but 4.8% [$10.8-6.3 divided by $93.8 million].

2.2.6 Regulating NTPC

.1 The NWT System

As discussed above, regulation in the NWT has been the typical rate base, rate of return, cost of service approach used in most provinces with regulatory boards. Under the *PU Act* (NWT), NTPC files a General Rate Application with the NWT Public Utilties Board. The GRA forecasts the amount of money it needs annually and what rates it would have to charge to earn that "revenue requirement". The Board holds a hearing, listens to NTPC and consumers, and then decides how much money NTPC needs and what the corresponding rates should be. The things it can consider, and the basic procedural requirements, are set out in the PU *Act*.

.2 Transitional Arrangements

When Nunavut was created, the strategy to deal with public utilities was basically:

- duplicate NWT legislation in Nunavut creating a Nunavut Power Corporation and Nunavut Public Utilities Board,

[6] Information communicated to the Ikuma work group by Finance Department officials.

- adjust the legislation in both territories to enable NTPC to continue operating in Nunavut, and
- sign a Transition Agreement between the NWT and Nunavut that provided a framework for operating and regulating NTPC for at least two years after division.

The result of this strategy, was a NWT/Nunavut Transition Agreement and a package of legislation that:

- Created the Nunavut Public Utilities Board with the power to regulate utilities including NTPC;
- Enabled the Nunavut and NWT PUBs' to make agreements for a joint division to deal with utilities operating in both jurisdictions;
- Committed the two governments to ensuring the two PUBs' would make an agreement enabling the joint division to be set up;
- Enabled NTPC to operate in Nunavut, with certain rights and protections7; and
- Provided for the PU Act (Nunavut) to apply to both NPC and NTPC.

The result is that the NWT PUB regulates NTPC operations in the NWT and the Nunavut PUB (not yet activated) regulates NTPC operations in Nunavut. Common matters, such as the NTPC rate base, revenue requirement, rate structures and rates must be determined in accordance with the utility statutes of both jurisdictions[8], the *Nunavut Power Utilities Act*, the *Public Utilities Act* (Nunavut), and their two equivalents in the NWT. Legislation was passed so that the two Boards can, by agreement, create a joint division for this purpose. The Transition Agreement also requires both governments to ensure that the two Boards enter into such an agreement. Until Nunavut has appointed members to its PUB, and the Nunavut PUB and NWT PUB have an agreement in place, it will be difficult, or impossible, for NTPC to file a general rate application (GRA). This has significant adverse financial implications for the GN during the transition period because the revenues and rates currently authorized by the PUB are insufficient to cover the costs of operations and the dividends needed for the subsidy program.

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[7] *The Nunavut Power Utilities Act* is the "mirrored version" of the *Northwest Territories Power Corporation Act*. It states NTPC can carry on business in Nunavut (s.43), it can expropriate land (s.45), its officers and directors cannot be sued (s.44), etc.

[8] Section 47 *Nunavut Power Utilities Act*, and section 42 of the *Northwest Territories Power Corporation Act* (NWT) as amended by section 5 of the *Northwest Territories Power Corporation Division Measures Act* (NWT).

.3 Supervisory Functions

Utility regulators do more than just set rates, they also make sure the monopoly provider of an essential service provides adequate service. To that end, the *PU Act* (Nunavut) gives the Nunavut PUB the same supervisory powers over utilities operating in Nunavut as the PU *Act* (NWT) gives to the NWT PUB over utilities operating in the NWT. In the NWT there are several such utilities. In Nunavut there is presently only one, NTPC. A specific provision of the *Nunavut Power Utilities Act* makes it clear that the *Public Utilities Act* (Nunavut) applies to NTPC.[9]

The supervisory powers of the PUB (Nunavut), as the regulatory body overseeing the operations of a utility in Nunavut, are extensive. Sections 52 through 65 of the Nunavut PU Act, for example, allow the Board to:

- hear and act on complaints that the Act or Board orders are not being followed,
- inquire into matters at the request of the Minister and prepare a confidential report,
- decide whether a utility should be allowed to proceed with a major capital project,
- approve, suspend or cancel municipal franchises,
- order a utility to provide proper service if it finds the service currently inadequate, etc.

Although the legislation currently in place provides for a joint division of the Nunavut and NWT PUBs' to sit on rate setting matters, there are no such provisions for these supervisory functions. This implies that each PUB will, on its own, handle these responsibilities in its own territory.[10]

.4 Implications

To summarize, utility regulators have two basic responsibilities – rates and service quality. If the government owns the utility, regulation may be beneficial but it is not essential. Saskatchewan does fine without it, as do many municipalities. At the moment, however, the sole supplier of electricity in Nunavut, NTPC, is partially owned by the Nunavut

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[9]Section 42 of the *Nunavut Power Utilities Act* specifies that, except as otherwise provided, the *Public Utilities Act* [Nunavut] applies to the Power Corporation [NTPC].

[10]The Transition Agreement [Section 13.1] states "The GNWT and GN shall ensure that the NWT Public Utilities Board and the Nunavut Public Utilities Board enter into an agreement that results in the Corporation being regulated by a joint division of the NWT Public Utilities Board and the Nunavut Public Utilities Board". To be consistent with the legislation this most likely only refers to the rate setting part of regulation.

government and is regulated. Under transitional arrangements, rate setting is to be done by a joint division of the PUBs' of the NWT and Nunavut. When it comes to supervising NTPC operations in their respective territories, however, each PUB is on its own. For this system to operate, a Nunavut PUB will have to be established and it will have to reach an agreement with the NWT PUB on how they will jointly determine rates.

If discussions with the GNWT for the continuance of NTPC operations in Nunavut fail, however, and Nunavut must go it alone, it may not be necessary to have a PUB in Nunavut. If the Nunavut owned Nunavut Power Corporation (NPC) is the sole supplier, the government could decide to take the Saskatchewan route and dispense with regulation for the foreseeable future. The merits of this are discussed in Section 8.3.2 of this Report and this approach should be kept in mind as a definite option.

2.3 Nunavut's Uniqueness

This section compares the characteristics of a typical electrical utility system with a system in Nunavut.

2.3.1 Nunavut's System is Unique

.1 The Typical Electric Utility System

A typical electric utility has multiple generation sources integrated with a network of transmission and distribution lines. The systems have agreements with neighboring utilities for transmission ties or connections that allow the exchange of energy and capacity between utilities and provide alternate electrical supply in emergencies. Most electric utilities in Canada have, until recently, been vertically integrated – they have owned, operated and maintained generation, transmission and distribution functions and have exclusively provided service at the retail level. In some jurisdictions, through deregulation at the generation level, these components have been separated into individual companies or business units with the idea that competition will bring lower costs and improved service. The majority of major electrical utilities in Canada, however, are still vertically integrated Crown or municipally owned corporations regulated either directly by government or by independent regulatory boards.

.2 Nunavut's System

Nunavut's electricity supply system is significantly different from the typical utility described above. Nunavut has essentially 25 unconnected

individual systems each based on stand alone diesel generation units and overhead distribution lines. The generating stations are all located in or very close to the communities they serve and the associated distribution systems are short. In spite of not having an interconnected system to depend on, or perhaps because of it, system reliability has generally been quite good. This may also be attributed to the fact that NTPC, as the service provider for all 25 communities, has developed considerable expertise in isolated diesel-electric generation and distribution in the Nunavut environment.

The Nunavut systems are also unique in respect to the fuel source needed to produce electricity. This fuel must be delivered over long distances, often only once a year necessitating the need to construct, operate and maintain large fuel storage facilities. These bulk fuel storage facilities and the need to handle the fuel present significant environmental risks from spills of diesel fuel in a fragile arctic environment.

In general it would be uneconomical and impractical to connect Nunavut communities to an existing southern grid system or to each other. A case is made in a recently released prefeasibility study, for a transmission line linking four Kivalliq communities (Arviat, Whale Cove, Rankin Inlet and Baker Lake) to the Manitoba Hydro grid system at Churchill.[11] Whether that proposal will be supported by a full feasibility study remains to be seen.

2.3.2 Secure Supply is Critical

In southern Canada load centers and generating plants are usually joined by an interconnected transmission grid system which provides support from other sources in case of failure. It may also cause failures in one area to cascade through the system causing failures in other places. In Nunavut, each community's system must stand on its own. If a fire, mechanical or electrical equipment failure, or loss of fuel supply, causes a failure of the generating system in a Nunavut community there is no transmission grid to fall back on. The result can be a partial or total loss of power in that community.

The consequences of a power failure in a Nunavut community can be severe, especially during the winter. Most residences, businesses, schools and other facilities rely on electricity to maintain heat and other services

[11] "Churchill to Kivalliq Region, Transmission Pre-Feasibility Study", Manitoba Hydro, May 1999.

and to prevent freezing of plumbing systems. Forced air furnaces, heating boilers and cooking appliances must have electricity to operate.

Even with the improved building standards of today, it may take only a few hours without power to cause severe damage to building systems. Telecommunication systems provide the only immediate contact with persons outside the community and require electricity to operate. Schools, health centers and other major buildings may have self-contained emergency power systems to protect the facility and allow use as short-term emergency shelters. In the case of a prolonged power failure, however, there could be extensive damage to most buildings within a community and even loss of life. In those communities with piped water and sewer systems, freezing could result in loss of these services for several weeks as thawing and repairing buried pipes during the winter is extremely difficult and expensive.

Depending on the nature of the failure, restoration of power could be prolonged. Materials and equipment would need to be airlifted from distant supply points and weather might further delay repairs. A general evacuation of a community may be required.

2.3.3 Government Plays a Larger Role

In Nunavut, government is involved in the power business in many ways. It is part owner of NTPC, sells NTPC fuel, and directly or indirectly pays for 65% to 75% of the power consumed in Nunavut. Diesel fuel purchasing accounts for about 45% of the operating costs of NTPC generating plants in Nunavut. The GN supplies most of the fuel used by these plants and sets the fuel prices – which it indirect subsidizes.[12] The result is a GN indirect subsidy to NTPC. An additional indirect subsidy results from the government's no-cost guarantee of the corporation's debt. In addition to these indirect subsidies, there is the direct subsidy of the Territorial Power Subsidy Program (TPSP) discussed in section 8.4 of this Report. These examples do not exhaust the government contributions masking the true cost of power in Nunavut.

Nearly all major facilities such as schools, health centres and social services group homes and treatment centres are funded entirely, including utility bills, by the GN. Municipal governments receive transfer payments from the GN as the major source of their funding for community centres, recreational facilities, repair garages, firehalls and water plants. These transfer payments are subject to adjustments for

[12] This topic is discussed in more detail in section 8.1.4.

inflationary factors such as the cost of fuel and power. The social housing program is jointly funded by the GN and the federal government and a significant expense to this program is the cost of utilities in social housing, paid almost entirely by the government. The GN also indirectly feels the effects of higher utility costs in the rates charged its employees for staying in commercial accommodation and in the cost of construction, maintenance and other service contracts.

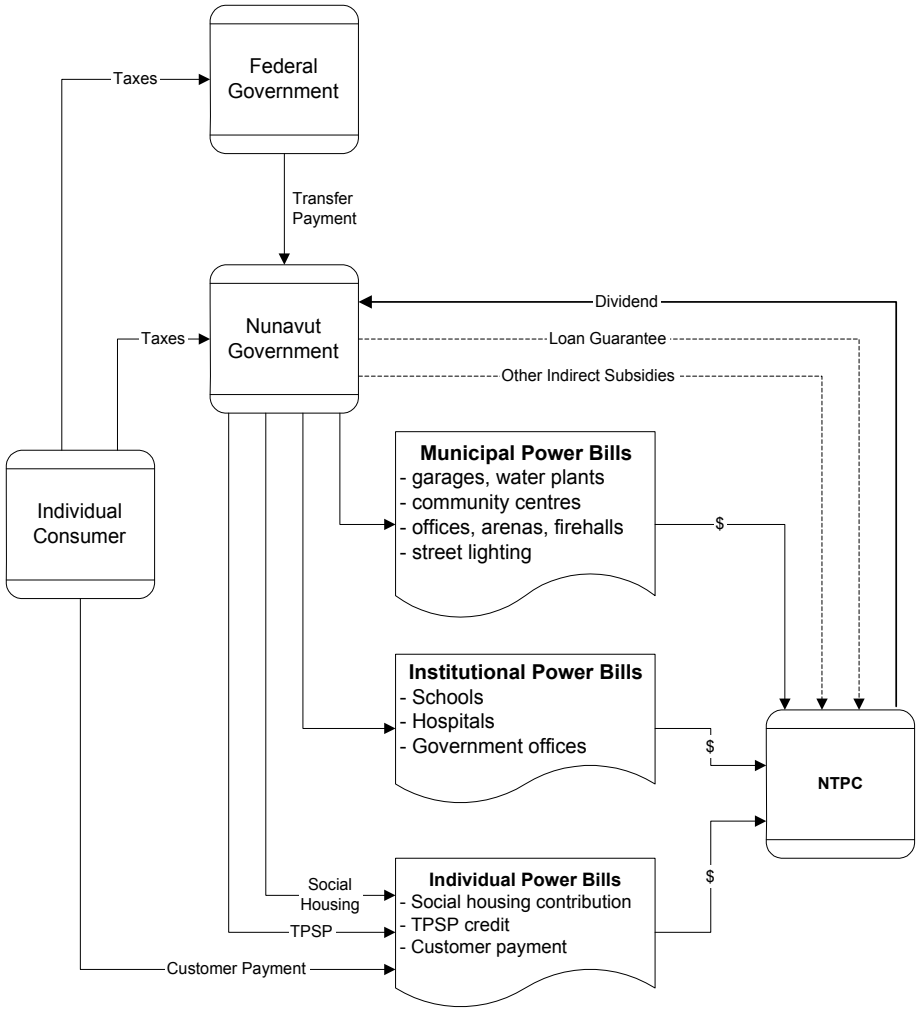
The GN subsidizes residents of private housing and small business from NTPC dividends through the TPSP. The GN may also contribute supplementary funding from other sources in order to keep housing affordable. The result is an increase in private housing. Since there are no TPSP payments for social housing where the government pays the utility bill, the increase in private housing has produced a corresponding increase in TPSP payments.

Based on NTPC records, it is estimated that the GN pays directly about 65% to 75% of the total electrical costs of customers in Nunavut. With fuel and other indirect subsidies, the actual share is probably closer to 75%. Because of this any increase in electrical rates quickly finds its way back to government.

Some of the cost of the government's direct and indirect payments for power are currently recovered in the form of dividends. As outlined in section 8.4.3, the dividend no longer comes close to covering the cost and will likely cover even less in the future if the present subsidy program continues.

The following diagram shows the flow of funds in government payments for power.

Paying for Power – Flow of Funds in Nunavut



This flow of funds results in the Government of Nunavut paying directly, or indirectly, 65% to 75% of the total NTPC power bill in Nunavut.

2.4 NTPC and Nunavut – The Current Situation

2.4.1 Continuation Efforts

In October 1998 the GNWT introduced Bill 1 – the "*Power Corporation Act*" and Bill 2 – "*An Act to Amend the Public Utilities Act*" to the

legislative Assembly. These Bills were intended to repeal the *Northwest Territories Power Corporation Act* and to continue NTPC under the *Canada Business Corporation Act* (CBCA).

The OIC and NTI made representations to the Standing Committee on Government Operations. In each presentation it was suggested the change was too significant given information provided and the dialogue that had taken place. While commenting on specific aspects of the Bills and while proposing other models which were seen to be perhaps more favoured the presentations recommended the following:

- A withdrawal of Bill 1 and 2;
- A moratorium period of 1-2 years be established by means of an Interim Agreement;
- During the moratorium NTPC would continue to service both NWT and Nunavut;
- The undivided shares of NTPC would be held in trust during the moratorium;
- Bill 2 would be amended to provide for a joint PUB operating in both Territories.

Shortly afterwards the Minister responsible for the NTPC withdrew both Bills from the Assembly. Concurrently, the Minister requested the parties try to work through a process of mediation with the expressed purpose being to try and find a common level of support for a continued corporation operating under the CBCA. Both the OIC and NTI agreed to the facilitation process and were active and full participants. Each brought a full level of participation and effort to the process. The facilitation process continued for about 8 weeks. There were meetings in Ottawa, Yellowknife, Iqaluit and Hay River

During this process the parties drafted and exchanged Memorandums of Understanding and Agreements in Principle in an attempt to find support and agreement for a working model consisting of a shared and continued corporation under the CBCA. Consensus was not forthcoming. Significant disagreements arose and could not be overcome in relation to matters of governance, dividend distribution, head office functions and location. Underlining all these difficulties was the view of the fundamental purpose and role of the NTPC. Should it focus on being a profit driven, cost effective, supplier of energy? Or should its aim be to supply energy in a way that was safe and reliable but also consistent with, and supportive of, job creation, economic growth and the Land Claims Settlement. The GNWT tended toward the former view and Nunavut, through the OIC and NTI, the latter.

In the fall of 1998, recognizing the need to ensure the ongoing supply of energy after Division and that early agreement was unlikely, the parties decided to enter into a temporary agreement to provide something like the status quo for a year or two. A Transition Agreement was entered between the OIC and the GNWT on March 29,1999.

2.4.2 Transition Agreement

The Transition Agreement provides that NTPC shall continue as a Crown Corporation for one year while efforts are made to reach an agreement on its future operations. Unless there is such an agreement by March 31, 2000, or an agreement to extend the term, the Transition Agreement continues until March 31, 2001 to allow for the orderly development of Nunavut's own Power Corporation (NPC). The assets and liabilities of NTPC would be split between the GNWT and GN on the basis of a pre-determined formula contained in the Transition Agreement and would provide the foundation for NPC operations.

The terms of the Transition Agreement have been implemented in both territories effective April 1, 1999, by passage of territorial legislation. The legislation also provides for NTPC to be regulated by the NWT and the Nunavut PUB in their respective jurisdictions, with rates to be set by a joint panel of the two Boards.

The Transition Agreement makes significant changes to the governance of NTPC. For example:

- Directors as of March 31, 1999, continue to hold office until their term expires. Vacancies are to be filled so the Board consists of 3 members appointed by the GNWT, 3 appointed on the recommendation of the GN, the Chairperson, the President (unless voted against) and two independent members.
- The assets and liabilities of the Corporation as of March 31, 1999, shall be apportioned between the GNWT and GN at the end of the term of the Transition Agreement in accord with the terms and provisions of the Transition Agreement and specifically the methodology found at schedule A to the Agreement.
- Dividends shall continue to be payable by NTPC. The Board is required to declare dividends of not less than the average dividend declared for the preceeding three years regardless of the financial results of the Corporation. The Dividends when declared shall be payable to the GNWT and GN in the proportion of shareholders equity effective March 31, 1999.
- The shares of the Corporation (issued to date only to the GNWT) shall be held by a Custodian during the term.

- The GNWT is required to consult with the GN and a Corporate Relations Group is to be established to facilitate a forum for review, consultation and discussion.
- The Territorial Power Subsidy Program (TPSP) must be continued in its existing form during the term.

2.4.3 Transition Operations

The Transition Agreement creates a framework in which NTPC can function while the two governments attempt to work out its future. It is a difficult situation since the Agreement results in a corporation with two "owners", one of which by legislation can make decisions affecting the other's interest as part owner. Put simply, the NWT Minister responsible for NTPC can make decisions about the corporation affecting the value Nunavut's interest, and the GN must rely on the Minister to adequately protect its interests. Similarly, NTPC may make decisions without GN input even though the decision creates an obligation for the corporation beyond March 31, 2001 and, if a split occurs, will need to be assumed by the GN. The result is that both the NWT Minister responsible and NTPC have an obligation to the GN to ensure the GN's interests, as part owner of NTPC and as potential inheritor of NTPC debts, are protected during the term of the Agreement.

The uncertainties of such an arrangement create a difficult operating environment. Decisions about NTPC will need to be made that affect the value of the GN's assets and its future obligations. When called upon to make such decisions, the NWT Minister and NTPC will understandably be uneasy about their potential liability unless there is some way for the GN to participate and assume corresponding responsibility. The Transition Agreement provides for a Corporate Relations Group "to provide a forum for review, consultation and discussion in relation to any matter of interest to the Group's membership concerning the Corporation's operations and activities". The Group does not, however, appear to date to have been given a clear mandate to address the issues outlined above.

3. DECISION ENVIRONMENT

Decisions on future energy supply options for Nunavut will need to take into account future needs, existing laws and policies, structural options, and the government's guiding goals and principles. This part provides a brief overview of this decision environment.

3.1 Future Energy Needs

The population of Nunavut is growing at the rate of about 3% per annum and is currently projected to stabilize at a growth rate of about 2.4% over the next 20 years. This has significant implications for the electricity provider, whether the GN, NTPC or a private utility. A growing population creates a need for additional housing, schools and other infrastructure. These place additional demand on the electricity supply system. For some communities there is also additional demand as new facilities are built in line with GN policies to decentralize and to increase local health and education services.

Meeting the new energy demands requires either conservation and demand reduction measures, or additions to the power system – power plants, electrical distribution systems and fuel storage facilities. All of this is at the expense of the consumers since the cost is recovered in the rates charged by the utility. In addition to the incremental costs for new infrastructure, there is the normal energy charge for all electricity consumed. As the major consumer of the Nunavut utility,[13] the GN will eventually pay for most of these cost increases, along with the accompanying increases in other O&M expenses such as for heat and water, maintenance and program delivery.

The following table summarizes the annual capital expenditures forecast by the NTPC for Nunavut as required to meet the growth in demand for electricity. This indicates an average annual expenditure over six years of $10.2 million. The complete NTPC Capital Plan showing projects by community is given in Note 10.4 of the Attachments.

Forecast Annual Capital Expenditures – NTPC Facilities in Nunavut

Year	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	Average

[13] The GN is estimated to pay, directly or indirectly, from 65% - 75% of the total power bill for all consumers in Nunavut. See Note 10.7 of Attachments.

$(000's)	4,766	8,764	16,725	20,614	9,122	1,540	10,255

Source: NTPC 1999/05 Capital Plan

There will be growth and consequent infrastructure costs regardless of the utility option selected, some options may offer the GN more opportunity to control the increases in costs through improved infrastructure planning and through the implementation of programs and policies designed to reduce energy consumption and perhaps alternative energy sources.

3.2 Law and Policy Considerations

3.2.1 GNWT Vision of Corporate Purpose

The current priorities of the GNWT may conflict with those of the GN, particularly with respect to the electrical service provider. The GNWT is anxious to develop the NTPC into a profitable business by implementing rates that will return a profit to the GNWT and by expanding the scope of operations into other areas such as oil and gas exploration. The western arctic offers more business opportunities to the NTPC than offered in Nunavut. There are well developed commercial and industrial sectors in the west as well as a more developed private residential market. Utility costs are generally lower in the west precluding the need for subsidy programs for most of the population. Because the GN is owner as well as major customer, and because small business and private housing are relatively new markets in Nunavut requiring continuing GN support, it is likely the GN will be interested in delivering electrical services at the lowest possible cost meaning with little or no profit. Further, it appears some form of subsidy program directed at specific consumer groups will be required for the foreseeable future.

A second example of possibly divergent GN/GNWT views of the role of NTPC is the recent unilateral decision by the NWT government to expand NTPC's objects to allow it to engage in riskier unregulated enterprises such as natural gas exploration and development. Such ventures may turn out to be profitable, but they correspondingly carry more risk than providing regulated electric utility services. This topic is discussed later in this report. At this point it is sufficient to point out that if Nunavut decides to pursue the jointly owned NTPC option, it will need to address the question of resolving different visions of corporate purpose and the allocation of risk and reward in decisions with which one party does not concur.

3.2.2 Environmental Liability

.1 Legislative Context

While NTPC is a Crown Corporation it is still subject to environmental legislation and accountable for the costs attributable to environmental damage. When transferring NCPC to the GNWT, the Federal government recognized the possibility of some environmental liability for previous actions of the corporation by providing a $14 million indemnity for past damage.

NCPC's successor, NTPC, is subject to extensive Territorial and federal legislation related to environmental issues, including:

- *Canadian Environmental Protection Act*
- *National Fire Code of Canada*
- *Fisheries Act*
- *Waters Act*
- *Canadian Shipping Act*
- *Transportation of Dangerous Goods Act*
- *Territorial Environmental Protection Act*
- *Territorial Safety Act*
- *Commisioners Land Act*.

All of this legislation requires NTPC to act within statutory codes of conduct to ensure the safety and well being of the environment. Failure to comply with such legislation and to satisfy the accompanying standard of care will make NTPC responsible for the remedial and or restorative costs.

In the 1998/1999 Annual Report NTPC confirms it has completed Phase 1, 2 or 3 Assessments at 29 sites. A phase 1 assessment identifies actual and potential site contamination. A Phase 2 assessment confirms and or demonstrates the absence of contaminants. A Phase 3 assessment consists of undertaking a remedial investigation and action plan assessment. If major environmental damages are discovered in the NWT, even though traceable to the days of federal ownership, the GN may be unable to get compensation from the federal government for the damages. When the GNWT purchased the shares of NCPC, there was some provision in the Acquisition Agreement raising the possibility of an indemnity perhaps being available from the Federal Government. However, this will only be available if it can be established that any representation given by the federal government within the Acquisition Agreement has been breached. Otherwise, all liabilities in existence at the time were assumed by the GNWT. NTPC has indicated that there

have been discussions with the Federal Government on this matter but were not prepared to disclose the nature and extent of the discussions.

.2 Approach Before Division

In the negotiations between the GNWT and the OIC and NTI which took place prior to Division it was fundamentally agreed that the responsibility for environmental liabilities would follow the geographic locale of the site. If this approach is maintained then at the end of the term of the Transition Agreement, regardless of what structure is adopted the GN will inherit the responsibility for and the cost of all existing environmental liabilities. This is not the usual approach undertaken at the time of an acquisition. Rather, what is typical is the buyer requires as a pre condition to closing a full environmental audit and then an undertaking from the vendor to be accountable for all identified and possibly future costs. Of course in this instance the GN is in effect both a vendor and purchaser.

The Transition Agreement provides that upon the expiry of the term the assets and liabilities shall be apportioned in accordance with the methodology that was developed by the Northern Representatives Committee (NRC). The methodology adopted by the NRC follows the reasoning that the geographic locale dictates responsibility. This will result in the liability for damage to the environment being assumed by the GN at that time.

The ultimate risk to the GN is the estimates done by NTPC may be found to be inadequate. This is possible as many of the audits have either not been done or are not complete. It is also possible the extent may have been understated. Part of this risk will include the pollutants left behind by the Federal Government in 1988 at the time of the sale of the Northern Canada Power Commission (NCPC). In July 1999 the President of NTPC wrote the Deputy Minister for DIAND expressing concern over the state of some of the plants purchased at that time. A meeting was requested and may be scheduled shortly. Whether the GN opts to continue with NTPC or opt for an independent NPC, it should be involved in all discussions regarding potential liabilities so that it can better manage the associated risk.

.3 Risk Going Forward

If the GN elects to proceed via a shared corporation with the GNWT then the risk and consequence of environmental liabilities will continue to be housed within NTPC. As a shareholder it will be affected in that the costs will be reflected in the operational costs of the company. However,

because there would be no transfer of assets and liabilities there would be no off loading of the liability onto the GN.

If the GN elects to establish NPC as a going concern and not to continue under NTPC then it will be fully accountable for all existing and future environmental liabilities. This would be tempered by whatever claim it would have against the Federal Government for liabilities existing on or before 1988(presuming the right of indemnity is assigned by GNWT and NTPC to the GN), and the right to claim indemnity from any party retained by NPC if the decision is made to outsource some or all of its functions. This right of indemnity would be provided for in any contract for the supply of services to NPC, presuming the services to be out-sourced related to operational aspects of NPC.

3.2.3 Nunavut Final Agreement

As the successor government to a signatory party (GNWT) of the *Nunavut Final Agreement (NFA),* the GN is obligated to implement the provisions under Articles 23 and 24.

- Article 23 – The objective is to increase Inuit participation in government employment in Nunavut to a representative level. The achievement of this objective requires initiatives by Inuit and by Government. Government and the Designated Inuit Organization will cooperate in developing and implementing employment and training.
- Article 24 – The objective is for Government to provide reasonable support and assistance to Inuit firms to enable them to compete for government contracts.

NTPC currently is exempt from Article 24.[14] The GN will need to determine if continuation of this exemption is desired or if it should be abandoned for the Nunavut electrical service provider. A continuation with the NTPC could mean that the exemption will be retained intact whereas the other potential options would be subject to the terms of the Articles. Through negotiation of a continuance agreement with the GNWT, the GN might be successful in having the exemption removed for NTPC operations in Nunavut only.

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[14] Section 24.1.1 of the *NFA* defines Territorial Government as "all territorial government departments and all public agencies defined by the *Financial Administration Act*, S.N.W.T. 1987(1), C.16, Part IX, and Schedules A, B, and C, but excluding the Northwest Territories Power Corporation" (page 198, *NLCA*). This has been flagged for further consideration.

Although Article 24 does limit the application so as to maintain "sound procurement practices", the Articles include terms that could result in incremental increases in the cost of service delivery, when compared to the costs of service currently provided by the NTPC. While these Articles are consistent with the socio-economic objectives of the GN, the cost of electricity for the consumer is also of concern.

Discussions with the NTI on the extent of the application of the Articles to the electrical service provider prior to selecting a Continuance or Independent option would assist in the decision making process. Items for discussion might include:

- Negotiation of a systems management contract with a southern firm.
- Location of the head office
- A transition plan for achieving Nunavut self-sufficiency
- Bid preference and criteria on service, construction and professional services contracts

For the purposes of this Report it is assumed that all potential models will be subject to the same procurement, employment and training policies.

3.2.4 Government Policies

.1 General

The GN has a number of policies that will need to be considered in choosing an option and deciding how it should be implemented. Of particular relevance are the Business Incentives Policy and the Decentralization Policy. In addition to these, there are labour, housing, personnel and other departmental policies that guide departments in their day to day business. If the Nunavut power system is operated as a government department, these policies will have a direct effect on operations.[15] They will have less effect if the power system is operated by NPC as an independent corporation. NPC as a government owned entity, however, would still need to be mindful of the consequences of policies and practices too widely divergent from those of government departments. Given that the major issues raised by these policies are operational, it is beyond the scope of this Report to identify the government policies that would relate or impact on each of the options considered. At the implementation stage, however, there should be a review of government policies in areas related to finance and administration, human resources and training, procurement and

[15] This issue is discussed in section 6.5.2 of this Report.

distribution, and housing. There will also be a need for consultation to address the goals of the *Nunavut Land Claim Agreement* and the Business Incentives Policy.

.2 Business Incentives Policy

The Nunavut Cabinet has endorsed a Nunavut Business Incentive Policy designed to encourage economic development by giving preference to local businesses. The preference means that a firm awarding a contract for goods or services must give preference to a Nunavut business even if its bid is 15% to 20% higher than outside competitors. The policy applies to any firm that receives 51% or more of its operating revenue directly or indirectly from the Government of Nunavut. At present it is estimated that between 65% and 75% of the total revenue to NTPC from Nunavut comes from the Government of Nunavut. Consequently any firm supplying power to Nunavut would likely be subject to the Policy. If applied as is, with no special considerations, this could significantly increase the cost of goods and services and consequently the cost of power. Cabinet can grant exemptions to the Policy, and that may need to be considered if a new power supply system is implemented.

.3 Decentralization

In June of 1999 Cabinet confirmed a commitment to decentralize government jobs to eleven Nunavut communities. In line with that commitment, it also indicated in circulating a Request for Expressions of Interest to possible power system managers that they should consider Baker Lake as a potential headquarters for the Nunavut Power Corporation. As a result, the decentralization policy will be a factor in implementing a new power delivery vehicle if the GN decides to adopt the independent NPC option. In addition, the Decentralization Secretariat will need to be consulted if service is provided by a restructured NTPC, and there are additional NTPC jobs to be located in Nunavut in the future.

3.2.5 Federal Formula Financing Agreement

The GN receives the majority of its funding under the Formula Financing Agreement between the GN and the Federal Government. The Grant received under this Agreement is intended to represent the difference between the GN's expenditure needs and its revenue raising capacity, as measured by the Formula. There are several factors considered in determining the expenditure needs and its revenue raising capacity, including population growth, economic performance of the Provinces, inflation and GN taxation policies. It is expected that where the GN can

reasonably generate own-source revenues, it should do so and the Grant may be reduced by an amount equal to all or part of the difference between the expected and actual revenue.

Some revenues are excluded from the Formula and therefore, do not affect the size of the Grant. Examples are the recoveries from DIAND for Indian and Inuit hospital and medical care and revenues attributable to tax rate changes. Funding transferred from the Federal Government to the territorial Government(s) were excluded at the time of program transfer e.g for the Health Program. Similarly, the dividends payable to the GNWT (and now the GN) by the NTPC under the Territorial Power Support Program were excluded from the GNWT Formula in the NTPC Transfer Agreement between the Federal government and the GNWT. It is assumed that this exclusion could be continued in Nunavut for some or all of the options being considered for a Nunavut electrical service provider. However, to assess the real cost to the Nunavut government of various electricity delivery approaches, it is necessary to consider the potential impact of the Formula.

The current GN Formula was negotiated in 1999 and would normally be in effect for five years. Because the agreement was made with the Interim Commissioner, there will be an opportunity for the elected GN to re-negotiate certain aspects in 2001. Although any new revenue sources are apparently excluded from the GN Formula it would be prudent for the GN Formula negotiators to review the various options in detail with their GNWT and Federal counterparts before selecting a model. While NPC revenues or dividends may not be included in the current Formula, it is important to determine if this is likely to continue in the long-term

3.3 Structural Options

There are several structures that could be used to provide electricity to Nunavut. They range from a government department—a structure that would be completely integrated into government—to corporate models owned by the government but providing varying degrees of government control. If the GN elects to establish its own system for delivering power, it will need to choose the model most suitable for the needs of Nunavut. The purpose of this section is to summarize the general characteristics of each of the potential models.

3.3.1 Corporate Models

.1 Crown Corporation

A Crown Corporation is a creature of statute and defined within the statute to be an agent of the Government and directed by the policies and requirements of the Government. Presently NPC is established under the NPC Act, which is essentially a duplicate of the NTPC Act. Under the NPC Act, the Minister responsible appoints NPC's Board of Directors as well as the Chairperson, the President and ultimately the Chief Executive Officer.

The role of the Crown Corporation would be defined to take direction and to implement the policies and directives of the GN. While the Directors, the Executive and the Administration have a considerable degree of decision making power and flexibility all are under the direct control and directive of the Minister and thus of the GN.

The question of whether or not to choose a Crown Corporation as opposed to another corporate model will to a great extent be determined by the desire of the GN to have direct political accountability and control. In other words, if the political will is to have the Government capable of directing the overall affairs of the Corporation and therefore take political accountability for its performance, then a Crown Corporation, similar to the existing NTPC model would be the model of choice.

.2 Canada Business Corporation Act

In a CBCA corporation the ultimate direction and care and control of the corporation rests with the Shareholders. The more day to day operation and management issues rest with the Board of Directors. The power of the Board of Directors can be restricted, however, through a Unanimous Shareholders Agreement (USA). The broader the USA the more overall control of the corporation shifts from the Directors to the Shareholders. The opposite is equally true – unless the USA limits the day to day and operational powers of the Directors all essential decisions of the corporation rest with the Board.

The Directors are mandated to oversee the operations of the company to appoint the officers; to employ the staff; and have the power to set and implement policy; to expend funds; to implement business decisions and in summary form to run the company.

In the CBCA model, if there are profits the directors can declare dividends and pay them to the shareholders. There are no restrictions on

what use the shareholders make of such dividends. Unless there are provisions in a USA, the only restrictions on directors issuing dividends are those provided by the CBCA and the fiduciary obligations owed by the directors to the corporation. These require the corporation to have profits and the financial ability to pay before issuing dividends.

.3 Canada Corporations Act

An alternative form of incorporating is to set up a single corporation under the Canada Corporations Act (CCA). Such a corporation is known as a non-share capital corporation. A CCA corporation would also achieve tax exempt status and would through its by-laws address matters of governance, Board composition and so on. It would also recognize through its objects one fundamental requirement of the GN - the delivery of safe and reliable power in the best interests of its constituents.

There are fundamental differences between a CBCA company and a CCA company which must be considered. A CCA corporation is specifically restricted by its objects and by its governing principles. In our consideration even though the GN would be the only Member and therefore responsible for the appointment of all directors, officers, and advisory committee members, if any, it would be restricted to those activities stipulated in its Objects.

Thus, in drafting the Objects and Principles for insertion in the Application for Letters Patent there must be serious consideration given to how broadly or narrowly the Objects and Principles should be cast.

A non-share capital corporation under the CCA also has the legal capacity to generate income and profits. It is not required to be a not for profit corporation with which it is often confused. However the other significant difference to a CBCA corporation is that a CCA corporation is required to re-invest any and all profits back into the operations of the company and a Member is not entitled to take out the money for any other purpose. Secondly, although (at this time) not relevant, upon termination it is required that all of the assets must revert to the Member or in a pre-defined and acceptable fashion.

Once the incorporating documents have been filed with Industry Canada then the GN could embark upon establishing the needed governance and operational structure. Firstly, the GN would appoint the Directors who would hold office in accord with the Letters Patent as filed. The Directors or the Member depending on the provisions of the Letters Patent would then appoint the officers including the executive. If committees were to be established this too would be in accord with the

letters Patent. Once all such components were in place then the administrative support staff and facilities would be established and the corporation could begin to function within its defined mandate.

The basics of the three structures can be summarized as follows:

	Crown Corporation	CCA	CBCA
Established by	⯌ Special legislation	⯌ Incorporation by Letters Patent under Canada Corporations Act	⯌ Incorporation under Canada Business Corporations Act
Limitations	⯌ As per own special Act ⯌ FAA – Financial Administration Act	⯌ Objects and governing principles in set up documents; ⯌ Must reinvest all profits into company	⯌ CBCA and incorporating documents ⯌ No constraint on use of profits
Ownership	⯌ Crown – don't need shares	⯌ Crown as member – no shares	⯌ Crown as shareholder
Government control	⯌ Direct and significant ⯌ Company is agent of Crown, ⯌ Appoints Board, Pres., CEO (under NPC Act)	⯌ Indirect and less significant; ⯌ Direction through incorp-orating documents; ⯌ Appoints directors	⯌ Indirect and limited ⯌ Appoint directors ⯌ Put limits in when incorporating
Accountability	⯌ To Minister via Board ⯌ Subject to FAA ⯌ Reporting per Act	⯌ To Directors and ultimately member (Crown) ⯌ Report per enabling documents	⯌ To Directors and ultimately shareholder (Crown) at annual meeting
Notes	⯌ Current NPC structure ⯌ Creates closest link to government	⯌ Unacceptable to GNWT in continuance talks ⯌ Link to government, but more indirect	⯌ GNWT requirement in continuance talks ⯌ Most independent of government

3.3.2 Government Department

Another department in the Government of Nunavut could deliver power services. This may be a new department established solely for the purposes of electrical power, added to the mandate of an existing department, or included in a restructuring of existing GN departments. The power authority could become an "Energy Department" responsible for electricity, fuel, and other forms of energy delivery such as the recovery and marketing of residual heat from diesel generators. Legislation may be required, depending on the methods of financing operations, rate setting and regulation. This topic is discussed in detail in section 6.

3.3.3 Long Term – Community Ownership

In the community ownership model, each Nunavut community would own the power system in their community. Therefore, there could be a total of 25 separate utilities, each with its own management, administrative and operating structures. Not all communities would need to participate in this model, providing there was an alternate, Nunavut-wide structure, such as the NPC. It would be expected that with the Community Model, there would be a need for centralized support services which could be accessed by any community as required. These services could be provided by the NPC or the private sector and might include billing and collections, linework, electricians, control and diesel specialists, planning services and project management. Many of these services are already available from the Nunavut private sector.

Some communities in Nunavut have expressed interest in community ownership. Certainly this approach furthers the general objective of community self-government since it would give the community responsibility for making major investment and policy decisions. This has potential benefits, such as:

- It may encourage more successful energy management efforts, particularly where plant expansions and significant capital investment may be required to meet the growth in demand.
- Planning and coordination of community development and power plant construction would be facilitated.
- Coordinating the use of power plant residual heat recovery with the construction of major community facilities would result in better and more extensive use of this form of energy.

On the negative side

- Community based rates may result in significant disparities between communities because of the different level and timing of capital investments and state of the existing infrastructure.
- There may be numerous fluctuations in rates in attempting to track costs of operating a small utility. Regulating the rates in 25 different communities would be a significant and expensive task for the Regulator (PUB).
- With the GN being the major customer, independent rate regulation would be mandatory.
- Subsidy programs funded by the GN would require continuing GN involvement.
- Having several communities independently placing demands on centralized support services could result in inefficient and wasteful

use of resources. Without a Nunavut wide coordinated approach, there could be an increase in costs.
- It is unlikely every community could afford to have the necessary "in-house" technical and administrative expertise needed to run a power utility. This would include the ability to manage the various contracts.
- Some communities may not accept the assets "as-is" and would demand capital upgrading to meet current standards prior to a transfer of ownership.
- Lost buying power of a single large utility.
- Financing the plant may impact unduly on the community's borrowing authority/limits

Along with the advantages and disadvantages a major factor in considering this option is time. The transition from the NTPC or some other form of Nunavut wide utility would take considerable time for so many communities. Therefore, this could only be considered as a long-term option.

Given the advantages and disadvantages outlined above, it is probably premature to consider the community ownership approach as a viable model today. For that reason, and given the "information for action" nature of this paper, this option has not been extensively analyzed. The concept is consistent with the long-term objectives of the Nunavut and Community Governments, however, and is a long term objective worth considering.

3.4 Principles for Decision

3.4.1 Goals

Nunavut's Cabinet has provided guidance on the goals of the independence option. As part its contingency plan in case continuance talks fail, this summer Cabinet approved the circulation of a request for expressions of interest in managing the Nunavut electricity supply system. The request specified that the goal was to create an electric energy supply system in Nunavut that will:

- Provide safe and reliable power to all Nunavut communities, at the lowest cost consistent with government social and economic development objectives;
- Ensure the people of Nunavut maintain effective ownership and general direction of the power system for the foreseeable future; and

- Develop NPC as a vehicle for delivering electric utility services now and in the future.

The goals of the continuance option have not been so clearly articulated, although the first goal could be considered a general guiding principle.

3.4.2 Constraints

Given the goals, any solution strategy has to take into account the realities of Nunavut's situation. The main realities constraining this decision are:

- The current structure ends in 2001

The first constraint on a strategy is the Transition Agreement under which NTPC is currently operating in Nunavut. The Agreement sets a deadline of March 31, 2000 for the two governments to reach a continuance agreement. If they don't have an agreement by then the Agreement provides for a one year wind down period to allow for the orderly development of the Nunavut Power Corporation. That means Nunavut has to make the decision between continuance and independence by March 31, 2000. If the decision is independence, it then has one year to implement the independence option. The Agreement provides for an extension of the term of the Agreement but this would be possible only with the consent of both the GN and the GNWT.

- The government has a full plate

The second constraint is the government's full plate. It is a new government of a new "state" with all the start up problems that face any new large institution, but compounded by the scope of the responsibilities, the geography, and the socio-economic realities of Nunavut. Given the problems it faces, the government must be very careful in prioritizing the allocation of its time, energy and human resources. A strategy for ensuring electric energy needs are met must keep that in mind. It should enable the need to be met with the least possible drain on government resources.

- Setting up a utility takes time

The third constraint is the realities of the utility business. A fully functional stand-alone electrical utility is a complex organization requiring highly skilled professionals in operations, management, engineering, and finance. At present NPC exists only as a shell crown corporation created by statute. It has no structure or resources. The Transition Agreement envisions a transfer of Nunavut located NTPC assets and staff to NPC on

April 1, 2001. If cost is no object a team of managers and professionals could likely be assembled to join this group to create a fully operational power company effective that date. It is not clear that this would be the most prudent approach. If the goal is to use NPC as part of the long term energy solution, and over time develop its capacity to fill that role, then a strategy can be developed to make that possible without incurring the expense of creating immediate full capacity.

- The cost depends on negotiations

The fourth constraint is that the cost to supply power using an asset-service model, in which NPC provides the assets and an outside utility provides the service, depends on what the service is and what the outside utility will charge to provide it. The service being replaced is essentially that of the head office of NTPC currently provided out of Hay River. Working out the details of the service required to meet Nunavut government goals, and what that service will cost, will take several months of discussions with potential suppliers.

3.4.3 Implications

If the assumptions above are correct, the first implication is that there is a need for a clear statement of goals, at least for the continuance option. The Nunavut government has already provided guidance on the goals for the independence option. It is essential that the goals for the continuance option be equally clear before embarking on further negotiations with the GNWT. If they include the first goal stated above, then a continuance agreement will have to include a mechanism for ensuring NTPC can operate in Nunavut in a way that meets the government's social and economic development objectives. If the GNWT cannot agree to that, then either the goal or the continuance agreement has to go.

The second major implication is that the solution has to create a minimal draw down on scarce government resources of time, money, and personnel. It has to be something that comes close to running on its own, much like NTPC does at present, with government involvement only at the highest policy level.

The third major implication is that the solution strategy must include the time and means to define the service and costs. It must be possible to sit down with potential suppliers and define exactly what Nunavut wants, how it could be supplied, and what it would cost. This is no different from any industry looking at meeting a need and consulting potential suppliers to find innovative ways of meeting it – you don't know what is possible, or

what it will cost until you've talked to the people who can deliver the product and tapped their expertise.

3.4.4 Basic Approaches

In this decision making context, the government of Nunavut has two basic options – negotiate an agreement with the GNWT to continue receiving power from a jointly owned NTPC, at least for the next 5 to 10 years, or set up its own energy supply system. If it opts to set up its own system based on existing NTPC assets, the system could be owned and operated by an energy corporation or by a government department. Whichever approach is taken, there will need to be a decision as to what service the system provides – all energy or electricity only. There will also need to be a decision as to the extent on which the system relies on contracting out management and technical expertise. These issues are explored in the following sections.

4. NTPC – THE CONTINUANCE OPTION

4.1 Overview

Nunavut currently receives its electricity from NTPC under the terms of the Transition Agreement. The simplest approach would be to continue receiving power from NTPC by extending the Transition Agreement. That approach is problematic because the Agreement does not address basic ownership and control issues identified as important by the Nunavut cabinet. An alternative is to reach a new agreement with the GNWT that addresses these issues by creating a restructured NTPC jointly owned by both governments. This option would likely be viewed as a 5 to 10 year solution to give the Government of Nunavut time to concentrate on other issues and develop plans for a long term energy supply alternative. This section considers some of the questions, options, and implications arising form such an approach.

4.2 Structures

4.2.1 Ownership Issues

Any restructuring of NTPC would require an agreement with the GNWT. Based on past experience, the GWNT would likely only consider shared ownership in a NTPC reconstituted as a corporation under the *Canada Business Corporations Act*. With this approach the "new" NTPC would have the same assets and liabilities as the NTPC currently constituted as a crown corporation. The Transition Agreement indicates an intent that the GNWT and the GN are each to be owners of the assets of the corporation by being holders of all of its issued and outstanding shares. The extent of the intended shareholdings has never been agreed upon. In any NTPC restructuring agreement, this would have to be addressed in a Unanimous Shareholders Agreement (USA).

The USA would also need to address other corporate ownership and governance matters. Typically, a USA deals with ownership, control, issuing dividends, issuing new shares, incurring financial obligations and liabilities for shareholders, buy out provisions, and so on. In this case, besides resolving the issue of the shareholdings of each government and the other issues listed above, the USA would need to spell out an agreement on matters of governance capable of reflecting different views of corporate purpose and conduct in different Territories. If the corporation was established under the CCA instead of CBCA, the same

issues would need to be addressed through the bylaws of the company rather than in a USA.

4.2.2 Legal Structures

The GNWT and GN could enter into a number of arrangements that would enable NTPC to continue supplying power to both Territories.

- NTPC could continue as jointly owned restructured power provider incorporated as:
  - a Crown Corporation,
  - a Corporation under the Canada Business Corporations Act (CBCA),
  - a Corporation under the Canada Corporations Act (CCA), or

  Any of these structures, with sufficient ingenuity and common purpose, could be set up to allow for two different governance structures within one corporation. All could also be structured so as to be exempt from federal income tax.[16]
- NTPC could be part of a three corporation system in which each government owns its own power provider and shares ownership of a third "ServCo". ServCo would be a support services only corporation roughly equivalent to NTPC's current head office.
- NTPC could continue to provide power under the Transition Agreement.

These alternatives are considered briefly.[17]

.1 One Jointly Owned Power Corporation

- ***Crown Corporation***

It is technically possible to have NTPC restructured as jointly owned Crown Corporation providing power in both Territories. To do so, however, the two governments would need to develop an agreement addressing all the same basic ownership and governance issues as the USA of a jointly owned CBCA corporation. In addition there would need to be amendments to the enabling legislation in both the NWT and Nunavut to provide necessary Ministerial authorities, delegations of power, and operating authorities. In view of these complications, the lack of

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[16] The accounting firm Ernst & Young has provided an opinion that, under certain conditions, any of the above corporate structures could retain tax exempt status.

[17] A general description of the legal structures – crown corporation, CBCA, and CCA – is provided in section 3.3.1.

offsetting benefits, and the GNWT's past preference for the CBCA approach, it does not seem realistic to pursue this option.

- ***CBCA Corporation***

The Government of Nunavut has made clear that it must have ultimate direction and control of any power supply arrangement replacing NTPC. If the same policy applies to a restructured NTPC incorporated under the CBCA, the continuance agreement would need to include a USA for NTPC that ensures such involvement. The USA would need to cover the nature and extent of shareholdings, corresponding shareholder powers, nominations and appointments to the Board of Directors, declaration of dividends, consensus on business activities, ability to borrow, ability to sell off shareholdings, and so on. It would also need to address issues of ownership and equity and of effective operational input. These matters have been discussed in the past with the GNWT without producing anything resembling consensus.

- ***CCA Corporation***

A CCA corporation, as a not-for-profit corporation, would be established by filing Letters Patent creating the corporation and specifying the GNWT and the GN as Members. All the same ownership and governance issues would need to be addressed as for the CBCA model. The only significant difference between a CBCA corporation and a CCA corporation is that in a CCA corporation profits must be re-invested in the field of endeavour. Money cannot be taken out of the operation and used for an application not consistent with the aims, objects and principals of the corporation. This plow back requirement would clarify the mission of the corporation as a service provider rather than profit generator. Whether the GNWT would accept such a limitation on the use of NTPC profits is questionable.

.2 Shared Support Services Corporation[18]

NTPC could be restructured to put head office functions in a separate jointly owned support services corporation. In this model NTPC assets in Nunavut would be transferred to NPC. NTPC and NPC would both receive management services from a new jointly owned service company (say "ServCo"). ServCo could have any of the corporate structures described above. Its technical legal structure would be less important than the underlying agreement between the two governments

[18] A more complete description of the shared services option is provided in Attachments Note 10.11.

on the company's purpose, ownership, control, etc. Some of the same issues would need to be addressed in structuring ServCo as in the one power company approach. Many, however, could be avoided since each government would own the system in its own Territory and simply purchase head office services from ServCo. ServCo would not need to be regulated since if its price became unreasonable or service quality lagged, either government power corporation could take over the functions themselves or purchase them elsewhere. In essence this approach is very similar to one in which an independent NPC out-sources head office services to a GNWT owned NTPC. The difference is that with the ServCo approach the GN would be part owner of the service supply company.

.3 Continuance Under Transition Agreement

Currently the GN and the GNWT are parties to a Transition Agreement made as of March 29, 1999. By this agreement the two governments agreed that NTPC should continue as a single corporation for the period provided for in the agreement to allow each government a reasonable opportunity to assess all of the available options for the long term delivery of safe and reliable power in each Territory. The term expires on March 31, 2000. If there is no agreement on continuance by that date, the term is extended for one more year to allow for the orderly development of NPC.[19] The term could be extended by agreement with the GNWT to enable NTPC to continue operating under the current structure. Whatever the perceived flaws of the Transition Agreement, this would provide a framework in which NTPC could provide power to Nunavut. The GNWT should be interested in extending the Agreement since it ensures NTPC continues in its present form providing 85 or more head office jobs in the NWT. This is the simplest of all options to implement since it simply preserves the status quo. However, given the problems associated with the Transition Agreement[20] this does not seem an attractive long-term option for Nunavut.

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[19] Article 1.2 of the Transition Agreement states "If the Parties do not reach consensus on the future operation of the Corporation during the term provided for in paragraph 1.1, this Agreement shall continue for a further (1) year term, ending March 31, 2001, or on such other date as the Parties may agree, to allow for the orderly development of the Nunavut Power Corporation following which this Agreement shall terminate and be of no further force and effect."

[20] See discussion in section 2.4.3.

4.2.3 Issues for a Continuance Agreement

Regardless of the legal structure adopted, NTPC can only continue to provide power in Nunavut if there is some form of continuance agreement between the GN and the GNWT. Since continued service from a restructured NTPC is only one of the GN's options, the agreement would need to adequately address a number of significant issues to make the option attractive. For example:

- ***Policy Level Input*** - The Nunavut government has made it clear that socio-economic goals must play a part in setting corporate direction. In particular, it has stated its intent to honour the spirit and intent of the Nunavut Land Claims Agreement. If there is no mechanism in place to ensure action on these GN goals, the continuance option fails to satisfy a stated policy objective of the Nunavut government.
- ***Planning Input*** – When NTPC builds or upgrades facilities in Nunavut it will create corresponding costs for the GN. The GN will want to be involved in these multi-million dollar planning decisions.
- ***Ownership and Control*** - To satisfy Nunavut government policy objectives, NTPC would have to be restructured to enable the Nunavut government to earn appropriate returns on its investment and to have a significant say in NTPC's Nunavut operations at the Board and Ministerial levels.
- ***Limits on Head Office Costs*** - To make continuance attractive there would need to be a reduction and cap on the allocation of NTPC head office expenses that makes NTPC competitive with other potential utility service suppliers. Currently the people of Nunavut pay $4.5 million annually for a service that it appears other utilities are prepared to provide for less than $3 million. This differential in annual expense soon matches the amortized one-time costs of starting up Nunavut's own power corporation.
- ***Cost of Leaving*** - If a $2 million "leaving penalty" will be incurred regardless of when Nunavut decides to go it alone, and if the Transition Agreement makes it uneconomic to stay, there is little incentive to continue with NTPC in the interests of reducing consumer costs.
- ***Termination Provisions*** - Although there may be short term advantages to the continuance option, it may not provide a satisfactory long-term arrangement for both governments. Given that, any agreement for continued service from NTPC would need to include provisions for a reasonable termination notice period and clear rules and procedures for separating the assets and liabilities of the corporation.

- ***Financing and Liability*** – If the GN and GNWT are guaranteeing debts related to jointly owned assets of unequal worth, they may want the cost of the guarantee recognized. They may also want protection from any costs related to NTPC involvement in unregulated non-utility business ventures.

These issues, and others, will have to be addressed regardless of the legal structure used for a continued NTPC. Depending on the structure adopted, the terms of the agreement will need to be spelled out in a USA, by-laws, or some other document. If continuance is to be considered as a serious option, discussions would need to begin immediately with the GNWT to determine whether there is any realistic possibility of resolving these basic issues.

4.3 Regulation

If service is provided by a jointly owned NTPC, there will be a continued need for a Nunavut PUB. As discussed in section 2.2.6, current legislation in the NWT and Nvt calls for a joint panel of both PUB's to determine rates. This does not necessarily mean that the same rate structure would have to apply to both Territories. It would be possible for the joint panel to determine revenue requirement – the total amount of money needed by NTPC – and the apportionment of then have Nvt members determine the rates for Nvt.

The intent of this arrangement was to have decisions affecting Nunavut to be decided by a PUB of that region while matters affecting NWT would be made by the PUB reflective of the NWT. The Joint PUB would be tasked to take overall decisions affecting the whole of the operations of NTPC.

Again, in this instance unless a decision was undertaken to abandon the PUB system the regulatory regime currently in place via the passage of the PU Act in both Nunavut and the NWT would continue. The PUB would remain empowered to establish rates and to determine the revenue requirements of the Corporation.

4.4 Operations

4.4.1 Plant Additions

Each year NTPC develops a five year capital plan based on ongoing assessments of plant status and forecast community needs. Aging facilities and load growth create a need for projects such as upgrading and replacing generating equipment and fuel storage facilities, extending power distribution systems, constructing new powerhouses,

etc. In any reasonably foreseeable continuation model the Territory affected will need to assume ultimate responsibility for the financing needed for these projects. That Territory's PUB will also need to approve the project if it costs more than $5 million. For example, if a new $6 million generator is installed in a Nunavut community, the Nunavut PUB will have to approve the project and the GN will likely have to guarantee the debt that finances it. Since the cost will ultimately be recovered through the rates, and the GN pays 65% to 75% of that cost, the GN may want to be involved in planning major capital additions. As indicated above, any continuance agreement will have to address this problem.

4.4.2 Service Delivery

With the continuance option there should be no significant change in front line service delivery since there would likely be no changes in line staff. The transfer of NTPC head office functions to Nunavut would likely only change if driven by economic considerations or the continuance agreement. There has been some decentralization of these functions over the past several years, increasing the Nunavut Regional office complement in such areas as engineering, technical services and finance. Along with these additional human resources has come additional responsibilities and authority, expanding the management functions in the region especially in the crucial area of capital planning. At the same time, the regions and areas have assumed steadily increasing roles in financial planning and management. The only sure means of increasing head office decentralization, however, is to build suitable provisions in the continuance agreement, either in the USA or related documents.

4.5 Finances

4.5.1 Raising Capital

The current and forecast operating and capital requirements of each community and rate zone are assessed and analyzed to determine NTPC's short and long-term capital needs. Under the option of continuing as a joint company, it is not expected that there will any changes in this budget and planning process. However, what will become important is the need to identify precisely the amount of investment required in each territory and the associated debt. This will become even more important if, as is expected, the west undertakes and invests in non-utility investments.

Because it is generally cheaper to issue a larger debenture, it is not expected that NTPC will raise debt that is specific to the requirements of each territory. From that standpoint, the existing practice of raising debt for the entire corporation should not change. In addition, assuming all other things remain equal, it is not expected that the financial markets would view the joint corporation as any riskier simply because there are two shareholders as opposed to one. The financial markets may, however, seek a premium for the riskier non-utility ventures in the west that NTPC may now contemplate. There could be a similar impact from the prospect of major industrial/mining load loss in the west. In all cases, if the government guarantee does not maintain the stability of the borrowing rate there should be arrangements to ensure Nunavut does not pay these incremental costs.

A second financing issue in the continuance option is recognition of the value of each government's guarantee to NTPC. The cost of this guarantee has not been addressed in past rate applications because there was only one shareholder and one guarantor – the GNWT. In a mixed ownership model, however, it should be quantified if there is a possibility of joint guarantees. In that case the guarantee of one government would serve to reduce the rates of the customers in the other Territory since the strength of a joint guarantee should reduce borrowing costs. For example, under the Transition Agreement the GN is obligated to take all reasonable steps to maintain NTPC's existing financing.[21] If that means sharing the GNWT's guarantee on existing long term debt, the GN could be technically "on the hook" for 50% or more of the corporation's long term liabilities even though the Transition Agreement assigns approximately 70% of these liabilities to the NWT.

4.5.2 Liabilities

NTPC's 1998/99 Annual Report shows long term debt of about $132 million and bank and short term indebtedness of about $5.1 million. These statements also show retained earnings held to the credit of the shareholders of $106.1 million.

In any model of a continued NTPC corporation with the GN as part owner, the GN will be responsible for some or all of the corporation's liabilities. All of the assets and all of the liabilities will be tracked via the financial statements of the corporation. The financial results will have

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[21] Section 7.2 of the Transition Agreement states "The GN and GNWT at the request of the Corporation will take all reasonable steps required to maintain the Corporation's existing … financing …"

financial implications for the GN as a shareholder unless the corporation is structured to effectively separate it into two distinct operating companies – NTPC NWT and NTPC Nunavut. Without such separation the GN and GWNT will be affected by NTPC operations in both territories. For example, there could be a negative impact on the GN as shareholder if NTPC must spend large sums cleaning up a site in the West. The same would be true if the NWT economy is significantly worse than that of Nunavut, or if the GNWT implements policies that have an adverse affect on the financial results of NTPC. Conversely, if the problems occur in Nunavut, the GN would suffer less because the other shareholder, the GNWT, would be sharing the burden. Whether either government would want a restructured NTPC that enabled such risk sharing is questionable and would have to be addressed in a restructuring agreement.

The GN does have some input in the decisions of NTPC that may adversely effect it as a shareholder since it has representation on the NTPC Board. However, without a USA or collateral agreement enabling it to veto such decisions, or providing indemnity instead, this representation provides little protection from eventual liability.

4.5.3 Cost Impacts

It is not expected that the consumers, in the aggregate, will see any significant added costs or reductions when continuing with NTPC, assuming NTPC continues to focus on providing rate-regulated utility services. However, the fact that NTPC is contemplating a move to engage in non-utility operations may potentially cause increased borrowing costs. This may occur if the non-utility investments do not perform well and are then viewed as risky investments. In that case, the bond rating agencies may degrade the bond rating for NTPC, which in turn may lead to higher borrowing costs. In addition, to the extent both shareholders have provided debt guarantee, the GN may be called upon to honor its share of the debt guarantee in the event of default by NTPC. In this case, the taxpayers of Nunavut, who are also customers of the utility system, may end up paying additional taxes.

4.5.4 Earnings

The GN would continue to earn dividends, based on the cost of the TPSP and the earnings of the NTPC. Approximately 60% of the net revenues (profits) of the NTPC are returned to the GNWT and the GN in the form of dividends. NTPC could increase earnings by increasing rates, but this would require PUB approval of a general rate application. Alternatively, NTPC could increase earnings with existing rates by reducing costs or increasing sales. Although it shares in the earnings, the GN gains little from

a rate increase since it pays roughly 65% - 75% of the total power bill in Nunavut. Depending on the view of the GN, the delivery of power services may be seen as providing another government service for which it never expects a profit. The potential for profit would apply to a small portion of the Nunavut customer base, the private and commercial customers.

4.6 Special Issues

4.6.1 Policy Questions

Since the beginning of East-West discussions on the Power Corporation began, the Eastern position, as represented by the OIC, by the NIC in "Footprints in New Snow", as well as by NTI, has been to try to keep the Corporation intact. The first consideration for the East's position has been what is best for consumers in Nunavut, for individual Nunavummiut.

However, NTPC represents a political as well as a business partnership, and in the political domain Eastern and Western aims diverge. During the first round of talks, the Western Coalition, and by implication Western NWT Members of the Legislative Assembly, were concerned that the existing structure of NTPC provided disproportionate support to Nunavut communities. They felt that the West required a new deal that would see it having the majority of seats on a Board of Directors, and collecting the dominant share of dividends (70%) accruing to the corporation, based on their estimates of relative East-West performance.

Although some voices on the Western side have advocated continuation of NTPC as an equal partnership, the over-all tone has been one that of a majority shareholder to a minority one. The West does not appear to give adequate weight to Nunavut's concerns about corporate control, corporate structure (Crown Corporation vs. CBCA corporation) and about the disposition of headquarters jobs.

In September 1999, the NWT Cabinet decided to unilaterally change the Objects of the corporation further eroding Nunavut's confidence in the likelihood of an equal and mutually beneficial partnership. Respect and good faith must be at the core of any partnership, business or otherwise. Whether or not these qualities exist in sufficient amounts to justify entering into a long-term partnership must judged by Nunavut's policy makers. This business and political consideration must be balanced against whatever economic advantage lies with continuation.

4.6.2 NTPC Scope Of Services and Risk to Nunavut

NTPC has recently broadened its scope to enable it to pursue non-utility operations, which are generally considered riskier than the traditional role of providing electric utility service. It is also understood that these non-utility ventures are mainly in the NWT – investment in these projects creates employment and investment opportunities in the west and little, if any, in the east.

While these projects may prove beneficial to the Corporation's bottom line, there are also significant risks to customers of Nunavut. Firstly, there will likely be a need for additional financing, which will increase the company's debt load and risk profile. The cost of new debt for utility purposes, for example, may be higher than it would otherwise be. In addition, as a shareholder, Nunavut would be potentially required to guarantee debt for these primarily "western" projects.

Next, some of these non-utility ventures may be joint ventures; while this results in shared risks, it also removes control and allocates a portion of the profits to the joint ventures.

Any losses occasioned by non-utility operations would affect the ability of NTPC to maintain the current level of the dividends and this would have direct consequences on the level of subsidy available to shelter rates. Such losses would also dampen the level of common equity component of the capital structure, resulting in a lower the return on equity and higher debt component. This has the impact of increasing the overall financial risk of the Company and hence, may result in increased borrowing costs. As with any utility that is engaging in non-utility ventures, it becomes important for customers to ensure that these non-utility operations are not being subsidized by the utility operations.

4.6.3 Dividends and the TPSP

As discussed in Section 8.4.3, the GN will be faced with a supplementary contribution to the TPSP of about $2.6 million in 1999-2000. This will occur regardless of the option selected. The GNWT, however, will experience a cost of under $0.1 million. As such, it is unlikely the GNWT will consider any changes to the current TPSP and Dividend payments a priority. If it continues with NTPC without a restructured agreement, the GN may be faced with a continuing and worsening deficit in the TPSP.

4.6.4 Assessment

.1 Criteria

The criteria selected for assessing each of the three major options are:

- Risk – What is the risk of an inability in the short-term, medium-term, or long-term to provide power to communities?
- Complexity – How complex is this option? How difficult is it to implement – legally, organizationally and financially? How demanding on government staff and resources?
- Cost – Will there be significant one-time or ongoing costs?
- Suitability – How well does this option meet the needs of a good utility and the needs of Nunavut, short term and long term?

.2 Risk

Continuance offers the most reliable/dependable option for power services. There would be no disruptive changes in the senior management and direction of the corporation and consequently no impacts on service delivery. The option allows the GN considerable time to review and develop future options for achieving independence and to plan for the implementation of any such changes without the urgency and time constraints imposed by the current Transition Agreement.

.3 Complexity

If the GN were satisfied with the NTPC currently operates in Nunavut this could be a very easy option to implement with minimal demand on GN resources. However, there are a number of aspects of the current situation which clearly would not be satisfactory to the GN and would need to be negotiated to the satisfaction of the GN for any continuance agreement. These include:

- the GN having an equal voice on the Board of Directors and subsequently in day to day operations,
- liability only for the Nunavut share of the NTPC debt and immunity from any liabilities incurred in the west,
- ability to implement a Nunavut rate structure and subsidy program, and
- increasing Nunavut employment and business opportunities.

These are all key issues that would need to be negotiated by the GN and the experience of negotiating with the GNWT to date tends to indicate the GNWT would not be receptive to these changes. The various structural options discussed, including several "Joint Models", all include

various degrees of complexity to implement, but are best suited to the style of Corporation that would be needed to meet the needs of the GN.

.4 Cost

The only incremental costs associated with continuance might be in the one-time legal and related costs to negotiate and implement a shared corporation. Depending on the agreement negotiated there could also be some one-time costs to expand the Nunavut Regional office. It would be necessary to establish and operate a Nunavut PUB with continuance. However, these costs would be equivalent to or somewhat less than the Nunavut share of the existing GNWT PUB. Depending also on the freedom to operate the Nunavut share of the NTPC the GN may be able to structure the corporation and TPSP such that the federal transfer payments would not be reduced because of NTPC dividends.

.5 Suitability

Assuming a suitable restructuring agreement can be negotiated, this option could meet all the requirements of the GN for several years. It is unlikely that a long-term continuance would lend itself to amalgamating electrical service delivery with fuel services in a Nunavut Energy Corporation or to pursue concepts such as community ownership. Even without total satisfaction at negotiations, continuance under an extended Transition Agreement, for example, might be suitable for a short period (up to 5 years). This would allow the GN time to plan and prepare for a long-term, independent NPC over a more suitable time period. Also, it may afford the GN an opportunity to negotiate less costly and more clearly defined termination conditions.

5. AN INDEPENDENT NUNAVUT POWER CORPORATION

Instead of continuing to rely on NTPC for power the GN could create Nunavut's own electric utility system. The Transition Agreement provides for the transfer of NTPC assets in Nunavut to the GN so, from an operational perspective, everything necessary to supply energy would be in place. The GN could put a government department in charge of the system or turn the responsibility over to a separate power corporation. The government department approach is discussed later. This section looks at the options and implications for a separate Nunavut Power Corporation.

5.1 Structure

5.1.1 Ownership and Control

Earlier this Report discussed the general characteristics of three corporate models for power delivery – Crown corporation, CBCA corporation, and CCA corporation. In any of these models, the GN would own the plant, the assets, the profits, and the system at large. If constituted as a Crown Corporation, NPC would simply be an agent of the Crown. If established as a CBCA Corporation, the GN would be the single shareholder. If NPC is a CCA Corporation, the GN would be the singular Member. In every instance the voice of ownership and control would vest in the GN.

.1 Crown Corporation

The *Nunavut Power Utilities Act* constitutes NPC as a Crown Corporation. Under the Act, which in effect is the duplicate of the *Northwest Territories Power Corporation Act*, the Minister appoints the Board of Directors as well as the Chairperson, the President and ultimately the Chief Executive Officer. The Corporation is a creature of statute and defined within the statute to be an agent of the Government and directed by the policies and requirements of the Government. Because of the similarity in legislation, NPC essentially replicates NTPC.

As a Crown Corporation, NPC is directly accountable and answerable to the Minister and consequently closely linked at the policy and direction level to the GN. If NPC is activated as a Crown Corporation, the Directors and senior management will need to have a free hand to manage the company, within these policy guidelines, as a business like and efficient utility.

.2 CBCA Corporation

NPC is currently structured as a Crown Corporation. To recast it as a CBCA company it would be necessary to seek continuation under the *Canada Business Corporation Act*. This should not be a problem. This approach was contemplated for NTPC when Bill 1 was introduced into the GNWT Assembly in October of 1998. Opinions obtained at that time indicated that the approach was viable and would not jeopardize the corporation's tax exempt status.

This model would put NPC less directly under government control than the Crown Corporation or CCA models. CBCA corporations are intended to be unrestricted in their endeavours so long as they are not unlawful or contrary to the best interests of its shareholder. The absolute right of the shareholder to remove directors and to refuse to approve actions or proposals of the directors is always present. It is, however, a distant and last resort form of control in almost all instances. The shareholder generally becomes directly involved only as a last resort after the Board or an individual on the Board has failed to act or has acted in an unacceptable fashion.

.3 Canada Corporation

As the only Member, the GN would have ultimate direction and control of NPC if constituted as a CCA corporation. The control would be more visible than in the CCA model because the GN would pre-determine its influence and control through the drafting of the Letters Patent. The scope of the ventures NPC could become involved in would be set out in the Letters Patent. The underlying principles, or mission statement, would also be established at the outset.

Essentially the GN could at the time of establishing NPC stipulate its mission, its overall governance, its structure, and its limitations in terms of direct influence and control from the Member (GN). Also, the GN would control the source of and the use of the profits generated through the supply and delivery of energy. In contrast to the CBCA concept, which sees the Directors restricted by the enabling legislation and the burden of fiduciary duty, the CCA model contemplates the restrictions and limitations being spelled out in advance within the Letters Patent and By-Laws.

5.2 Regulation

If Nunavut opts for the independent Nunavut owned NPC crown corporation model, it will need to decide whether to regulate it or not. As

discussed later in this Report, there is less need for a regulator to protect the public from the utility if the public owns the utility. There is still a need, however, for someone to do the regulator's job of ensuring the utility is providing adequate service, is not wasting money, and is charging a fair amount for its service.

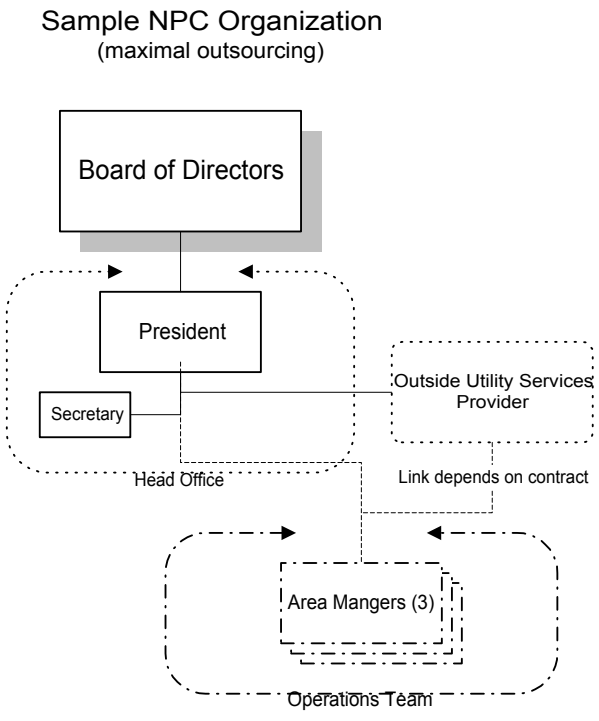
5.3 Operations

5.3.1 Plant Additions

The planning and implementation process for this option would be similar to that of a continued NTPC, except that it would done at NPC headquarters in Nunavut instead of NTPC head office at Hay River. If there is significant outsourcing for services, including privately owned and operated plant, the planning and approval process would be different, depending on the details of the service contract(s). If capital planning is outsourced, the service provider would advise NPC senior management when plant additions were required. NPC's Board would determine which projects should proceed and how they should be financed. Because the GN would likely be called on to guarantee debt, it would need to be involved in the planning process at some level. For privately owned plant, long-term service agreements would be necessary in order to minimize the debt service costs included in the revenue requirement.

5.3.2 Management

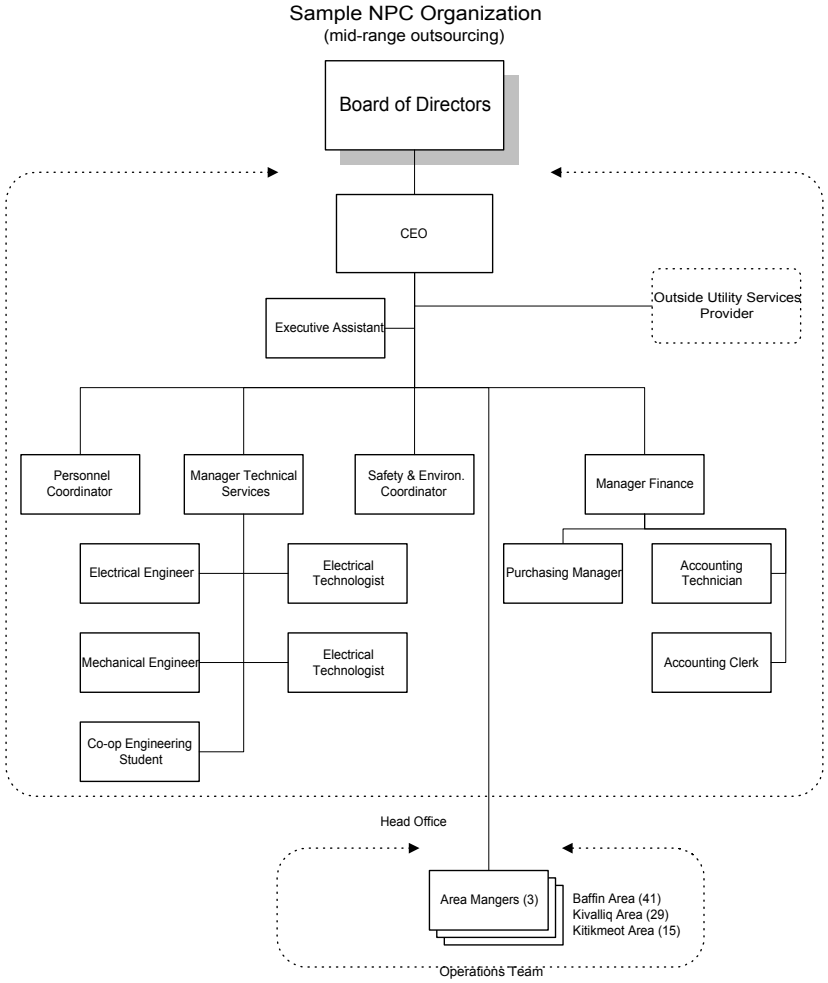
NPC's Board of Directors will determine the corporation's direction, subject to any constraints created by the GN. Senior management will be responsible for implementation. What they actually do will depend on the level of outsourcing. In the maximum outsourcing model, senior management may be nothing more than a President



who coordinates relations between the system manager utility, the NPC Board, and the GN. In the minimal outsourcing model, NPC's senior management will run the utility with the help of an outside utitlity's expertise. In between these extremes are an almost infinite number of possibilities. Sample organization charts on this and the next two pages so possible structures associated with the various levels of outsourcing.

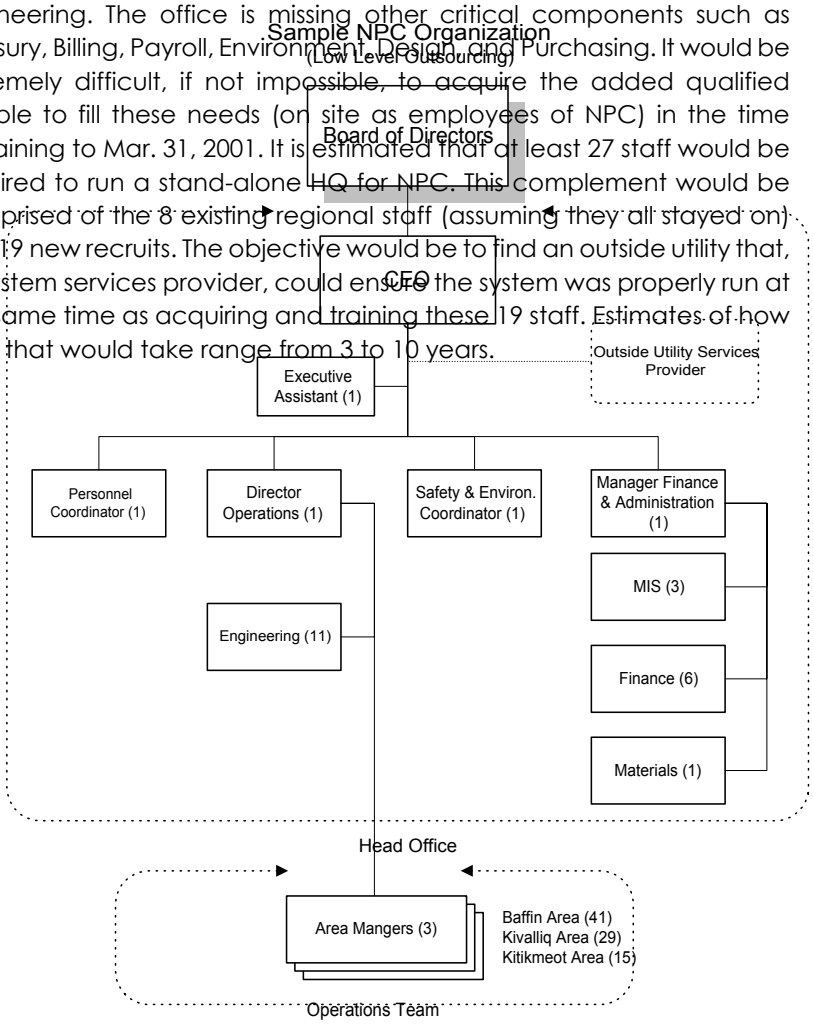
5.3.3 Head Office Services

At present NTPC operates somewhat like a Nunavut based operational company purchasing head office services from the Hay River office.



Some finance, personnel, administration, engineering and technical service functions already exist in NTPC's regional office in Iqaluit. NPC

would acquire these personnel and would have to provide them with the necessary support either by additional staffing or by purchasing the service from an outside utility. By using an outside provider it may be possible to make the transition to self-sufficiency over time, say 3 to 5 years. This avoids rushed decisions and gives the outside service provider time to train residents of Nunavut to fill the needs of the headquarters functions. The NTPC staff in Nunavut that would form the core of NPC are quite capableof carrying on the day to day operations of the power systems in Nunavut. The Regional Office staff in Iqaluit currently has 8 people who provide head office functions in finance, personnel, and Engineering. The office is missing other critical components such as Treasury, Billing, Payroll, Environment, Design, and Purchasing. It would be extremely difficult, if not impossible, to acquire the added qualified people to fill these needs (on site as employees of NPC) in the time remaining to Mar. 31, 2001. It is estimated that at least 27 staff would be required to run a stand-alone HQ for NPC. This complement would be comprised of the 8 existing regional staff (assuming they all stayed on) plus 19 new recruits. The objective would be to find an outside utility that, as system services provider, could ensure the system was properly run at the same time as acquiring and training these 19 staff. Estimates of how long that would take range from 3 to 10 years.



If the HQ is located somewhere other Iqaluit the existing nucleus of 8 staff would either have to move or be replaced. That could be a problem. The existing NTPC office in Iqaluit could provide a starting point for NPC head office. It has little growth potential, however. No matter where the NPC HQ is located office space and housing will be a problem. It is impossible without further study to determine the cost differential in housing and office space costs between Iqaluit and other possible Nunavut locations.

5.4 Finances

5.4.1 Raising Capital

The capital planning and budgeting process described in section 6.3.1 should apply irrespective of the ownership of the utility. In other words, a detailed five to ten year capital budget, based on the requirements of each community in Nunavut, will determine the short and long term borrowing requirements for the NPC.

However, the size of the NPC will be significantly smaller than that of the NTPC as currently configured (rate base is expected to be about 30 % of the forecast 1997/98 NTPC rate base). As such, any capital requirements for Nunavut will also be correspondingly lower than those currently undertaken by the NTPC. Therefore, the effective cost of borrowing, even if the NPC has the same or similar credit rating as the NTPC, may be somewhat higher in light of the fixed amount of issue costs (underwriting legal and accounting costs).

The GN will have to guarantee the debentures issued by the NPC in much the same manner as the GN/GNWT are required to pursuant to section 7.1 of the Transition Agreement. If the bond rating agencies have assigned a lower credit rating to Nunavut, in comparison to NWT, the absolute costs to borrow funds will be higher for Nunavut. With Nunavut being a new government, the eventual credit rating is unknown. The GN is authorized by the federal government to borrow up to $200 million. At separation, the NPC/GN will have to assume approximately $40 million of long-term debt presently carried by the NTPC/GNWT/GN for the Nunavut portion of NTPC assets. This leaves room for any other commitments realized because of Division and future borrowing if necessary for plant expansion or other GN budgetary needs.

5.4.2 Liabilities

NTPC has a number of obligations that may have to be assumed in part by a new NPC or the GN. These obligations arise from a number of sources, including:

- Long term debt – a share of NTPC's $130 million LTD
- Contracts – service and supply agreements
- Labour and employment agreements – with union and staff
- Franchises – agreements with Nunavut communities to provide service

These obligations are discussed more fully in following sections.

5.4.3 One-Time Costs

The independent NPC option carries a one time cost made up of three components – the cost of leaving NTPC, the cost of transition, and the cost of setting up NPC. The leaving cost is due to termination arrangements in the Transition Agreement. Transition costs arise primarily from the need to move contractual rights and responsibilities from NTPC to NPC and from the GNWT to the GN. Set up costs are the costs associated with creating a new NPC and getting it operational. Note 10.9 in the attachments provides a summary of these one time costs.

.1 Cost of Leaving

The cost of removing Nunavut based assets and corresponding liabilities from the NTPC system is about $2 million. This "buyout" amount is determined by a formula included in the Transition Agreement. The Transition Agreement is open to a number of interpretations, however, and the actual amount that Nunavut may have to pay will need to be negotiated.

.2 Transition Costs

The second major cost component is the cost of transition. NPC will have to take over NTPC assets and personnel in Nunavut as well as the related contractual rights and obligations. These rights and obligations include long term debt, service and supply contracts, labour agreements and other employee commitments, and franchise agreements. While it is fairly straightforward for NTPC to transfer its rights to NPC, it is not so easy to transfer its obligations. NPC may be willing to assume the obligation but the person to whom the obligation is owed may not want someone new to step into NTPC's shoes. To transfer the obligation the third party's cooperation will be necessary, and that may come at a cost. Other contract negotiations will be needed with an outside utility to ensure NPC has the management and support services in place to operate the system. There may also be severance liability in the likely event that NTPC's head office is downsized following Nunavut's withdrawal.

.3 Setup Costs

The third major cost category is the cost of setting up NPC. This cost is very difficult to estimate since it depends on the strategy adopted – the more NPC does, and the sooner it does it, the higher the cost. Note 10.8 provides an estimate of the range of costs that could be expected.

.4 Cost Summary

In addition, a decision to set up an operational NPC instead of continuing with NTPC will lead to costs related to the satisfactory resolution of the following issues:

- Legal and consulting
  - Ensuring that the assets and liabilities are adequately, properly and fairly split
  - Human Resources issues related to severance and termination, new public service union, termination
  - Taking over contracts (short term and long term) presently administered by NTPC
  - Dealings with financial institutions with respect to the appropriate changes in the debenture instruments
  - Handling the transition of franchise agreements from NTPC to NPC
  - Passage of appropriate new legislation and/or changes to the existing legislation to enable NPC to commence its operations
  - Negotiate System Management Agreement

  It is impossible to accurately estimate the cost of addressing these issues, but $500,000 is a reasonable high level forecast for the purposes of this Report.

- One time costs to set up head office

  These are detailed in Note 10.8 of the Attachments to this Report. Based in part on some work previously done by NTPC, estimates of these costs vary from less than $100,000 to over $1.1 million, depending on the extent of outsourcing employed.

- Setting up NPC's Board of Directors

  A Board of Directors will need to be appointed to run NPC. The costs (travel, per diem, etc) associated with such a board are estimated to be about $100,000 per annum.

- Accrued severance liability

  Winding up NTPC's Nunavut operations may significantly reduce the head office staff in Hay River and create corresponding severance liability costs for NTPC. Whether the GN or NPC would have share of

this cost is unknown. A contingency of $200,000 has been used to enable high end cost calculations.

Note 10.9 in the Attachments summarizes the low and high cost ends of the spectrum for these one time costs. The range is from $2.1 million to $4.2 million. There are several options for recovering these costs. The first would be for the customers to pay the entire one-time set up costs by assigning the cost to NPC and collecting it over time in the rates. Alternatively, some costs, such as the $2 million "leaving penalty" in the Transition Agreement, could be paid for from the GN general revenues to reduce the rate impact of the change over. Considering only the high side of the one-time costs, assigning all costs to NPC, and assuming these costs are recovered in rates over a 5-year period, the average cost[22] to a domestic customer varies from $28 to $53 per year, absent any power support program considerations. Details of the calculation are given in Attachments Note10.9.

5.4.4 Annual Operating Costs of NPC

Annual operating costs will vary depending on the extent to which NPC outsources management services. These costs have been estimated, assuming three outsourcing options (Minimum, Moderate and Maximum). The results are summarized in Note 10.8 of the Attachments. These costs include costs that are referred to as "one-time" costs to set up the infrastructure needed for NPC to begin operations. In addition, there are also several head office type costs that may be incurred on an on-going or annual basis. Some simplifying assumptions were used to derive these cost estimates.

Currently Nunavut consumers pay annual NTPC head office costs of about $4.5 million. The assessment in Note 10.8 shows that if electric power service was to be provided by an independent NPC, the annual head office costs for NPC would be in the range of $0.4 million (maximum outsourcing) to $3.7 million (minimum outsourcing).

Because NTPC already has a form of head office in Iqaluit with 8 head office rated personnel, these costs are based on a head office in Iqaluit. It is very difficult to estimate the cost difference if the head office were to be located in Rankin Inlet or Baker Lake. In a very limited sample office lease costs in Baker Lake exceeded those in Iqaluit by over 200%. Housing costs would likely also be higher by a factor of perhaps 25%. There would also be higher costs for fuel, electricity and travel. It has been estimated

[22] Assuming average consumption of about 600 Kwh per month

that the added annual cost of locating the head office in Baker Lake could be in the range of 35%. This is a very rough estimate however because of the limited availability of data. If the GN decides to proceed with an independent NPC it would be necessary to do a more thorough costing comparison to develop a reliable estimate of the cost differential between locating the head office of NPC in Iqaluit, Rankin Inlet or Baker Lake.

Another factor that could affect consumers would be a change in rate structure. Shifting from the current community based rates to rate zones (as proposed by the NTPC in the 1995/98 GRA) or a common or equalized rate for all of Nunavut communities (postage stamp rates), will mean rate adjustments in every community – some will go up and some down. Frequent rate changes create uncertainty and may be difficult for customers to accept. Some rates will increase while others would decrease. Changing from a community-based rate making scheme will effectively undo what the NTPC has been doing since 1987, at the request and direction of the NWT PUB.

In Decision 12-97, respecting the 1995/98 GRA, the NWT PUB adopted community based rates and reasoned as follows:

> "Community based rates best ensure an effective price signal to customers with respect to their true cost of electricity, are not unduly discriminatory, avoid any level of cross subsidization between communities, and provides for an appropriate revenue requirement recovery." (Decision 12-97, page 21)

5.4.5 Impact on customer costs

.1 Independence Difference

Based on the evidence available, it appears that NPC could supply power to Nunavut at little or no more cost than NTPC operating under the Transition Agreement. The calculations supporting this comment are found in Attachments Note 10.10. What this means is that, over the next 5 years, customers can expect to see the normal rate changes occasioned by the need for new or replacement plant, increased operating expenses and growth in their communities. The calculations in Note 10.10 show "cost" differences, not "rate" differences. The distinction is important. The fact that there is a small change in costs does not guarantee that there will be a small change in rates resulting from the new structure. Rates are set by the PUB and may not precisely track costs. Furthermore, if the government decides to provide rate relief through subsidies, a change in rates may not turn into a change in what

consumers pay. What Note 10.10 shows is simply that the independence option, on its own, should not cause a major rate increase.

.2 Effect of Outsourcing

Attachments Note 10.10 is an analysis of the cost impact on the customer over the next 5 years of setting up an independent Nunavut Power Corporation. A number of simplifying assumptions had to be made and these are listed in the Note. The results of this exercise suggest that in all cases, if the "one-time" costs are amortized over 5 years and the GN contributes $2.0 million with respect to the "leaving costs", there would be a slight reduction in customer rates from the existing rates. In the minimum outsourcing option, for the years two through five, a small increase (less than 1%) can be expected.

If however, the GN does not contribute towards the one-time costs, there would be a small rate increase (less than 2.0% in each of the next five years) under the minimum outsourcing option. In all other options, there would be a rate reduction.

It should be noted that the foregoing rate changes do not consider the impact of the any rate subsidy program that may be implemented by the GN.

Given the many unknown factors, and simplifying assumptions used, the extent of cost increase should be viewed only as a very rough estimate. However, this assessment shows that with the right outsourcing contract for head office services, it should be possible to implement the independent NPC option with no significant rate increase. In fact there may be a small decrease. This is due to forecast reductions in head office costs and O&M costs as a result of going to an alternate supplier.

Comment [APM1]: Need to insert appendix or attachment #

A qualifier is in order. The type of outsourcing arrangement that would result in little or no rate increase may be unacceptable to the GN. For the foreseeable future, it is likely that there will be a direct cost relationship between the level of functions assumed by NPC and the level of costs. The more functions NPC assumes quickly, the higher the cost. With the independent NPC option, the key is to negotiate a head office services agreement that properly balances GN objectives of low rates and NPC development.

.3 Rate shock mitigation scheme

For some communities, community-based rates may result in a rate spike should there be a large capital addition. To counter this possibility, it may be preferable to implement a Reserve for Plant Replacement (RPR)

whereby a system-wide fund would be set up to mitigate the rate increase associated with the addition of a large capital item in any one community. A draw down from the RPR would be made when a major capital asset is added, say in excess of $1 million.

5.5 Special Transitional Issues

5.5.1 Risk and Reliability

As outlined earlier in this report, in Nunavut today a reliable supply of power is a critical necessity. Put another way, every effort must be made to reduce the risk that the power provider will be unable to deliver the service. The risk of failure may be immediate because of operational problems. It may arise midterm due to inadequate support systems. Or it may be long term as a result of problems at the top level – the CEO, the Board and the owner. The overall reliability of the independent NPC option, will depend on the risk of failure in all three areas – operations, support, and structure.

.1 Operations

The independent NPC option assumes that the facilities in Nunavut, and the people running them will stay in place even if NTPC is no longer the service provider. That assumption is based on the Transition Agreement. There is little question that the existing NTPC personnel and plant in Nunavut can be relied on to continue providing reliable power if they have the necessary technical and managerial support. To the best of our knowledge the physical facilities are in good shape and the people operating and maintaining them are capable and responsible. That view is shared by the independent utilities who have surveyed the system from the view of a potential system manager. Our conclusion is that from a short term operational perspective there is little or no incremental risk in changing system ownership from NTPC to an independent NPC.

.2 Support

Replacing Head Office functions increases risk

The mid-term picture is not so clear. The daily operations of a utility can only continue if they have adequate technical, financial, and managerial support. The nature of those support functions is discussed earlier in this report in the context of "Head Office Functions". A failure in one of these head office support areas is not likely to bring down the system overnight. Over time, however, such failures will cause the system to become unreliable.

At present the power supply system in Nunavut is supported by the NTPC head office in Hay River with the help of 8 NTPC staff in Iqaluit. Even assuming the 8 "head office" staff in Iqaluit remain in Nunavut, a move to an independent NPC will increase risk in the support system area. NTPC's head office in Hay River currently does a good job of supporting Nunavut operations. If that support is gone, there will be an increase in risk in the support area. Part of the risk is due to a loss of general technical expertise. Another part is due to a discontinuity and the loss of specific corporate knowledge of the system. The latter risk is an inevitable result of changing the service provider. The risk from the loss of general technical expertise, however, can be reduced by outsourcing – hiring another capable utility to provide head office services.

Risk is related to extent of outsourcing

If an outside utility assumes all responsibility, it simply means one functioning support system is replaced by another and there is little change in risk – assuming continuity of contracts and information. If NPC provides essentially all its own support services, however, then there is a corresponding increase in risk from relying on a new support system with no stand alone experience. NPC may, and in fact probably could, meet the challenge, but until it has proven its capability there will be additional risk. In short, the more quickly NPC assumes all support responsibility the greater the risk in this area. The challenge is to minimize the risk and still meet the goals of the Nunavut government.

The minimal risk option would be to have an outside utility simply step into NTPC's shoes and assume all responsibility for the system. To be in the same position as NTPC, however, the new utility would need to have the same contractual rights, the same access to all system information, and the same control. No outsourcing option can satisfy all of three of these criteria. It may not even be possible to fully satisfy any. Certainly, it would not be possible to give an outside utility the same control as NTPC and still meet Nunavut government goals of owning and controlling the system and developing NPC. Managing the risk associated with control will be a difficult issue, but it can be addressed in the system management agreement with the outside utility. The more problematic areas are those relating to contractual and informational continuity.

Acquiring NTPC's contracts and information reduces risk

Contract continuity means that the service provider stepping into NTPC's shoes acquires the same rights to money, supplies and services as currently held by NTPC. A person supplying money under a long term debt obligation may not be interested in having NTPC replaced by NPC. They may insist on a higher interest rate or some other risk premium. A firm

selling essential supplies to NTPC under a long term contract may also want to negotiate more favorable conditions in a supply contract with NPC. The same can be said of the need for continuity of system information. The service provider stepping into NTPC's shoes will need full access to schematics, customer records, working diagrams, computer data, and all other system information currently held by NTPC. It may be expensive, or impossible to reproduce this information.

Minimizing the cost of discontinuities in contracts and information, which are ultimately expressions of risk, is a significant transitional problem. It will require immediate action on two objectives if continuing with NTPC is no longer an option. First, protect Nunavut's interests in the NTPC system. Second, find the least cost route to replacing NTPC's contractual rights to financing, supplies, and services.

Protecting Nunavut's interests requires immediate action

As discussed earlier in this report, the Transition Agreement provides that assets and personnel located in Nunavut will be transferred to Nunavut if there is no agreement by March 31, 2000 to continue with a jointly owned NTPC. NTPC will continue to provide service for one year while details of the transfer are worked out. The Agreement assumes a certain amount of good will and does not enter into the details of how Nunavut's interests in all the support systems associated with the personnel and physical plant will be protected during the transition year. If Nunavut is seriously considering an alternate service provider, it will need to develop a strategy that ensures suitable protective mechanisms are in place on April 1, 2000. The strategy will have to include legal and operational components, including the role of the prospective system manager. What that strategy will be is beyond the scope of this report. What is relevant to this report, however, is that the less there is in place to protect Nunavut's interests during the transition period, the greater the risk in the support area associated with an independent NPC.

The new provider will need to transfer or replace NTPC's contracts

While there is less urgency to replacing NTPC's contracts, the issue will have to be dealt with during the transition year. This will require a coordinated effort involving both governments, NPC and NTPC, and the new system manager. Terminating or amending contracts may create costs. Who picks them up will be an issue. How large those costs will be depends on how the supplier of money, materials, or services views the risks and opportunities. It may be possible to minimize the cost through government guarantees or by structuring arrangements through the new system manager. In both cases large and financially secure institutions would be absorbing the risk. As with protecting Nunavut's interests, it is

essential that a transition strategy be developed as soon as Nunavut decides that an independent NPC may well be the option.

Risks may be less if NTPC stays on as System Manager

The problems associated with continuing NTPC contracts and acquiring access to NTPC information could be reduced by awarding a system management contract to NTPC. With that approach, NPC would own the assets but NTPC would continue to provide head office services. The question would be whether another utility could provide services that were of sufficiently lower cost or higher quality to offset the reduced risk of continuing to receive these services from NTPC.

Summary

The independent NPC option provides less assurance of secure support services than continuing with NTPC. The associated risk is manageable, however. Managing the risk carries a cost that cannot be clearly determined up front. To minimize those costs, the government of Nunavut will need a strategy that puts systems in place on April 1, 2000 to protect Nunavut's interests in NTPC assets and provides for orderly and low cost transfer of NTPC contractual rights to the new service provider. If that service provider is NTPC the transitional problems will naturally be reduced.

.3 Structure

The third area of potential unreliability for an independent NPC has to do with long term structural issues. The system will eventually have problems delivering a reliable supply of energy if the mandate of the service provider (including NPC) is unclear, if there is undue political interference in its operations, or if there is instability in NPC's Board or top management. All these risks can be managed, but to do that they must be addressed while the structure for a new system is being developed. That will require a coordinated effort by the Nunavut government, NPC, and the prospective system manager, to clarify the service provider's mandate, prevent political interference, and foster stability at NPC's senior officer and Board level.

The service provider needs a clear mandate

The Nunavut government has taken the first step towards clarifying the mandate of the future provider of electric energy to Nunavut by set out three goals for the new system:

> Provide safe and reliable power to all Nunavut communities, at the lowest cost consistent with government social and economic development objectives;

Ensure the people of Nunavut maintain effective ownership and general direction of the power system for the foreseeable future; and

Develop NPC as a vehicle for delivering electric utility services now and in the future.

These goals will need to be further defined in an operational plan developed with NPC and the system manager. The plan should define roles and responsibilities in a way that provides a clear mandate for NPC and the system manager as joint venture service provider.

The role of government must be defined

Defining the role of the Nunavut government is another aspect of defining the mandate of the service provider. To avoid confusion in the future, and attendant costs and insecurity, the government of Nunavut must make a policy decision on the role it will play. This should be worked out with NPC and the system manager as part of a detailed system management agreement. The agreement should identify issues on which the government must be informed, on which it must be consulted, and on which its approval is required – if any. It should also set out the protocol to be followed in each case.

Stability at the top is vital

The third area of effort to minimize reliability related risk for an independent NPC is top management stability. The system management agreement should include provisions to encourage stability, team building, and professionalism at the top of NPC – the Board, President, etc. The specific strategies and targets will need to be worked out with the outside utility, NPC, and the government of Nunavut during the transition year. The details of such a plan are beyond the scope of this report, but it is fair to say that putting such a plan in place will contribute significantly to reducing the long term insecurity of an independent NPC.

5.5.2 Existing Nunavut Franchises

If Nunavut selects the independent NPC model, the issue of existing NTPC franchises in Nunavut will have to be addressed. At present 16 communities in Nunavut have franchise agreements signed with NTPC. The earliest any of these expires is 2004. NTPC will continue as a corporate entity whether the GN is part owner or not. As a corporation it could take the position that what ever the government of Nunavut decides to do, a community with an existing franchise is bound to take service from NTPC as long as the franchise is in place. For the community to take service from NPC instead of NTPC, there would have to be an assignment of the agreement from NTPC to NPC, something requiring the consent of all

three parties – the community, NTPC, and NPC. Attachment 11.3 includes a summary of all franchise agreements.

The Transition Agreement provides a guide for dividing up NTPC assets, but does not specifically address the franchise issue. Given that the plant needed to meet its service obligations would be transferred to NPC, however, it is unlikely that NTPC would refuse to cooperate in transferring the franchise.

If it decides to pursue the independent NPC option, the Nunavut government may want to consider a change in legislation to eliminate the need for franchises. That could be done by the Saskatchewan approach of passing legislation making the government owned utility the sole supplier of the service.

5.6 Assessment

The criteria selected for assessing each of the three major options are:

- Risk – What is the risk of an inability in the short-term, medium-term, or long-term to provide power to communities?
- Complexity – How complex is this option? How difficult is it to implement – legally, organizationally and financially? How demanding on government staff and resources?
- Cost - Will there be significant one-time or ongoing costs?
- Suitability – How well does this option meet the needs of a good utility and the needs of Nunavut, short term and long term?

5.6.1 Risk

An independent NPC would employ the facilities and the operators currently in place in the NTPC system. Consequently, in the short term the operations should have the same risk of failure as continuing with NTPC. In the medium term, there may be more risk with the independence option because of a change in support – the replacement of head office functions now supplied by NTPC. The risk can be minimized, however, by initially having a utility that is able to perform these functions step into NTPC's shoes. To control the risk, a concentrated effort will be needed during the transition year to ensure that utility and NPC have full access to NTPC's contracts and system information. Finally, an independent NPC presents some additional risk of unreliability because of potential inexperience and instability at the top. It should be possible to minimize this risk by a joint effort of the Nunavut government, NPC, and the prospective system manager to develop strategies and systems to address the problem.

5.6.2 Complexity

There are more complexities associated with the independent NPC option than with the continued NTPC option – assuming that a NTPC restructuring agreement can be reached with the GNWT. That is a major assumption given the policy constraints of the GN and past indications of GNWT position. The independent NPC option eliminates the need to resolve a host of restructuring issues with the GNWT prior to March 31, 2000. Except for that proviso, the independent NPC option is more complex. It involves activating NPC, transferring NTPC assets and liabilities, negotiating a system management agreement, arranging financing, and setting up a head office adequate for NPC operations. These will all require GN resources in the form of time, money and effort.

5.6.3 Cost

As outlined above, the one time costs of the independent NPC model are a significant downside for this option as compared to a continued jointly owned NTPC. Depending on the strategy adopted in ramping up NPC to take over complete responsibility for delivering power to Nunavut the one-time cost could range from $2 - $4 million. If it were possible to renegotiate the Transition Agreement the cost could be reduced by up to $2 million. If the independent NPC option is selected, the government will need to decide how to pay the one time cost, either paying it directly or requiring NPC to recover it over time in the rates. If the cost is recovered in the rates, an effort should be made to avoid bringing in the related rate increase until NPC has established itself as a credible power provider in the minds of the public.

5.6.4 Suitability

The great advantage of the independent NPC option is suitability – it is better adapted than a continued NTPC to meeting Nunavut's needs, and better suited than a government department to meeting the needs of an electric utility. If the Nunavut government wants an energy delivery vehicle to use in implementing socio-economic and energy conservation strategies, it needs to play a significant role in directing and controlling that vehicle. That will be difficult under the continuance option because another government with a potentially different vision would be co-owner. A government department of electric services would also satisfy the need for a vehicle that could be ultimately steered by the GN. A government department, however, would be less suited than a quasi-independent corporation to the needs of the utility business – raising capital, setting fair and cost recovering rates, tracking costs, etc.

6. THE GOVERNMENT POWER DEPARTMENT OPTION

6.1 Structures

6.1.1 Ownership, Structure and Legal Issues:

The power delivery system in Nunavut could be set up as a government department. In such an arrangement, the GN would own the facilities in Nunavut now owned by NTPC. The department could simply run the utility as a government service on a fee for service basis as is done by a number of municipalities in Canada. Alternatively, it could lease the facilities to a private operator and restrict its role to that of an asset holder. In such a "total outsourcing" model, the GN would own all the major assets of the power system and simply lease them to an outside utility who would be responsible for providing power to Nunavut.

Legally, this option would not be difficult to implement – Cabinet could create an Energy Services Department without legislation. The GN would have the right to acquire NTPC assets by operation of the Transition Agreement, which requires the transfer of NTPC assets in Nunavut to the GN on termination of the Agreement. Although not legislative, there would be some legal work required to effect the transfer of assets, personnel, and operational rights such as service contracts and easements.

It may be useful to make some changes in legislation, however, if this option is adopted. An Energy Services Department would not be subject to regulation by the Nunavut PUB and, in fact, legislation could be amended to replace the PUB with some less expensive internal regulatory mechanism. If the change in legislation revoked the *Public Utilities Board Act* it would also dispense with the need for community franchise agreements. There may be a need for a Revolving Fund (similar to the PPD) to operate the department. If so, it would have to be established through legislation. The special arrangements needed to amortize capital expenditures associated with plant additions may also require legislation.

6.1.2 Direction and Control:

With all GN departments, direction and control are provided through the Minister responsible, Cabinet and the Legislative Assembly. GN legislation and directives provide the controls in the area of finance, purchasing and contracting. The Legislative assembly sets GN priorities and direction whereas the Minister responsible and Cabinet approve specific

programs, policies and initiatives. The Deputy Minister provides day to day management of the department.

6.2 Regulation

Many forms of regulation could be used, but the simplest form would not require a Public Utilities Board (PUB) and would be less expensive and complicated. Typically, the department would recommend a rate structure and specific rates and the Minister responsible would take the proposal to the Financial Management Board (FMB) for approval. The revenue requirement would be established by the department's expenditure budget for the year, adjusted for any additional revenue items such as capital recovery. The GN would need to make basic decisions on the type of rate structure that was needed and the department would then develop a rate proposal necessary to achieve the revenue requirement. For example, key decisions would be required on community based or common "postage stamp" rates and on subsidy programs and how they would be implemented. The rate structure might include mechanisms for periodically adjusting the rates to track fluctuations in fuel prices, for example, and thereby avoid numerous formal requests for rate changes. Without a PUB, the GN would need to self-regulate the department with respect to standards of delivery, reliability and overall quality of the services delivered. Independent auditors could be retained by the GN for this purpose.

6.3 Operations

6.3.1 Plant Additions

A GN capital project would be planned by the department for approval by the Legislative Assembly through the GN budgeting process. Once approved, the department might manage the project in-house, or arrange for project management services from the Department of Public Works, Telecommunications and Technical Services (DPWTTS). The DPWTTS has the mandate to manage all GN projects and normally contracts externally for design, construction and construction supervision services. Where a plant is to be financed and constructed by the private sector and therefore will not require incremental GN funding, the Minister responsible might approve such projects. However, if there were rate implications associated with the private development, then project approval would probably rest with the FMB.

6.3.2 Operations

.1 Community Operations:

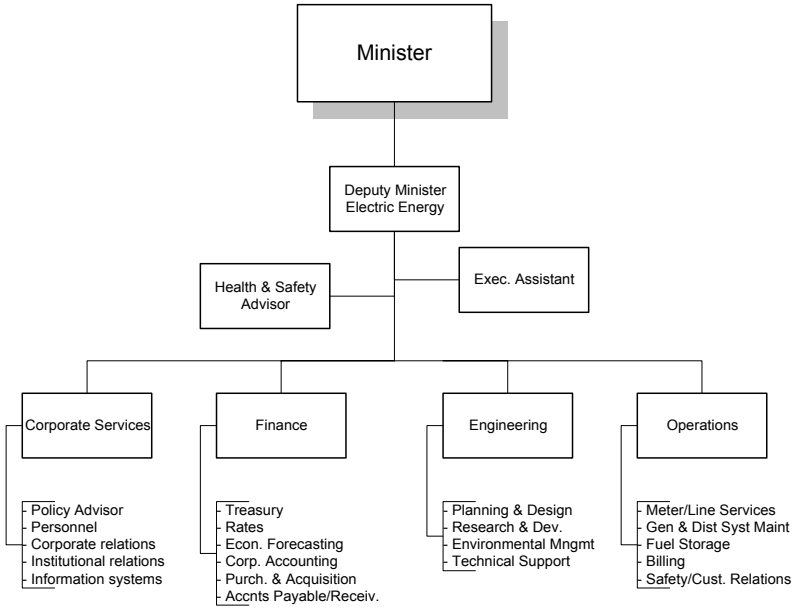
Each plant would be staffed with operation and maintenance personnel in the same manner as done by the NTPC. The community-based superintendents would report to a manager in a regional office. The community based staff would do most routine repairs and maintenance with larger or more complex tasks handled by specialist staff or contractors, usually from outside the community. Staff in the Regional Office would normally arrange these latter services.

.2 Regional Office

It is expected there would be offices and shops in each regional center the same as currently maintained by the NTPC. These offices would provide support to the community operations through specialist trade services such as electrical and linework There would be insufficient demand for these services in each community to substantiate full time staff at each location and centralizing these services at the regional centre is an accepted approach. In-house staff or contractors may provide these support services. The regional office would also handle much of the administrative work associated with service delivery. This may include preparation of budgets, personnel functions, billings and collections, purchasing, accounts receivable and payable and other functions. Some of these services may best be consolidated in a HQ office to avoid duplication of staff and systems and to achieve economies of scale. There is also the potential to reduce costs by obtaining certain services from, or in partnership with, other GN departments. Personnel services, payroll, billing and collections and purchasing are services common to other departments.

.3 Headquarters

As illustrated in the following organization chart, the Deputy Minister and senior support staff would be the primary positions at HQ. This group would be responsible for policy, directives, human resource



management, finance, budgeting and overall coordination and direction of the department. Also included, would be the central core group of technical specialists. While it may be desirable to contract for technical services wherever possible, it is essential to retain in-house expertise to hire and direct these outside services, provide timely technical support to regional and community staff and to maintain departmental technical standards. The HQ office would employ the services of other GN departments wherever possible. Such services as payroll, personnel benefits, financial and computer systems and project management could be acquired from other GN departments. GN policy would determine how interdepartmental support services would be billed, if at all.

.4 Outsourcing

Contracting for various services outside the department should be a standard approach to doing business. This would include contracts with other GN departments or agencies, other governments or utilities and the private sector. The intent is to take full advantage of available expertise and avoid the time and expense of duplication. Where certain services are considered critical, in constant demand, or needed on very short notice, in-house capability may be preferred. When all costs are

considered, most outsourcing is competitive with the cost of in-house services and the department is afforded additional flexibility in meeting needs by outsourcing. All contracts let by the department must be managed and therefore the department still must have knowledgeable staff on strength for this purpose. The contract manager must be knowledgeable in the technical issues as well as procurement practices, contract law and GN policies and procedures.

6.4 Finance

6.4.1 Raising Capital

Capital funding requirements are included in the departments' Capital Plan, which is updated annually and submitted to the Legislative Assembly, by the Minister responsible, for approval through the normal GN budget process. The GN usually sets targets for the total GN capital budget each year and all departments must then "compete" for the funding for their particular projects. Therefore, the overall GN budget position and GN priorities of the day determine the amount of capital funding that will be available to any one department. The GN budget process also commits funding for the current year only. Therefore multi-year projects such as those for new powerplant construction, have no guarantee that future year's funding will be approved. However, it would need to be a very unusual situation to have funding for a project already in progress to be withheld.

Where the government does not have sufficient capital for all desired projects, a deficit budget may be approved. However, the borrowing needed to do this is not attached to any specific project or asset and may be combined with borrowing long and short term for other needs.

It is essential for any utility to recover the total cost of operations and capital investment in the rates charged consumers. It is also normal practice to amortize capital investment costs over the life of the plant, usually 25 years, as a means to avoid huge rate spikes in the year(s) of investment. However, the normal GN financial and budgeting processes do not lend themselves to amortizing and recovering capital expenditures in this way. While O&M expenditures may be recovered through the use of a Revolving Fund or Revenue Budgets, amortizing and recovering capital expenditures through the rates would lead to additional GN revenues each year. Such revenues would be subject to setoff under the Federal Formula Financing Agreement.

Rate spikes in individual communities may be avoided through the use of Rate Zones or a common Nunavut (Postage Stamp) rate, but this would not solve the problem of how to recover the capital investment costs. One approach investigated for use by the PPD and considered feasible, would be for the department to actually "borrow" the funds, either from the GN or from outside lenders. In the case of the PPD, the debt service costs appear in the Revolving Fund accounts and then are recoverable in the rates. The actual source of borrowed funds must be determined in consideration of Federal Funding implications.

6.4.2 Liabilities

The GN would be fully liable for all plant owned and operated by the GN. Liability for any privately owned and operated plant would be that of the contractor. Whereas the GN would self-insure for most potential liabilities (at no cost to the electrical consumer), contractors would purchase insurance and recover the cost of the insurance in the rates.

6.4.3 Cost To Consumers

Community operations would probably cost the same as for any other option. However, there may be savings in regional and HQ offices, depending on how well the support services supplied by other departments suit the power department and how the GN charges for these services. Not charging the full actual cost of the support services would be another form of hidden subsidy.

There would be some one-time costs of implementing the option, including the setting up of the department, separation from the NTPC and legal and other costs associated with addressing issues such as land, franchises, rights of way and environmental. The GN would need to determine if any of these costs were to be recovered in the rates or funded by the GN in some other way.

6.4.4 Subsidy Program

In a manner similar to the independent NPC option, the GN would have the freedom to implement whatever subsidy program(s) it considers appropriate and affordable. As discussed in Section 6.4.6 below, there may be implications for the Federal Funding Formula depending on the approach to subsidies. There may be some level of subsidization applied "Across the Board" if all the costs of operating the GN Department are not recovered and included in the Revenue Requirement. It is important to the success of future energy management initiatives that the true costs

of energy be disclosed, even if these costs are eventually subsidized by the GN.

6.4.5 Profits

There would be no profits from a GN department as the primary reason for using the GN department approach would be to minimize the costs to the consumer. Being its own major customer, there is nothing to be gained by setting rates that result in a profit for the GN. In fact, profits may result in setoffs under the Federal Funding Formula. The GN should aim to break even in the electrical power business and strive to set the rates accordingly. The funding of any subsidy programs would also be an important consideration in the setting of rates, and the net financial position of the GN.

6.4.6 Federal Formula Financing Agreement

The potential implications of the Formula Financing Agreement were discussed previously in section 3.2.5. The matter of subsidies and recovery of such expenditures as capital investment need to be discussed with the Federal negotiators to avoid setoffs against the Grant.

6.5 Special Issues

There are a host of special issues that arise with the government department model. Of particular concern are decision making dynamics, the application of government policies, and transition issues like capacity building and labour relations.

6.5.1 Decision-Making Dynamics

In the NPC model, decision making for operational issues rests with the Board of Directors, while the Minister maintains certain discretionary authorities as legislated in the Act. The NPC is ultimately an agent of the government, however, it is managed at arms length from government as a business entity through the Board of Directors. This is done to ensure that the power corporation operates on sound utility business principles and practices. The Board of Directors sets the priorities for the operations and determines the revenue requirement.

The challenge in the government department model is that the Board of Directors does not exist to continue to set priorities, determine the revenue requirement, and oversee the operations of the corporation. Control and accountability rest closer to the Minister Responsible. The Minister is no longer at arms length to the operations. As a result, there is

the potential to create an imbalance between decisions based on utility and business principles and decisions based on political direction.

Another weakness of the model relates to the overall allocation of government capital and O&M funding. Specifically, the department will identify its capital requirements (ie. new generator) and then compete for funding with other government departments on significant capital requirements (e.g. a school). This could be problematic for critical plant expansion projects, but experience to date with the PPD program and similar critical projects, such as fuel storage expansion, indicates that the government is able to assign priority to such projects and allocate the needed resources. The budget review and approval process', including internal government reviews, scrutiny of all projects by the Standing Committee for Financial matters and final approval by the Legislative Assembly, ensures that all projects are priorized and substantiated. If the department were to be funded through a Revolving Fund, as would likely be the case, then there is no competition for O&M funding as Revolving Funds are excluded from the normal O&M budgeting process. Accountability for these expenditures then rests with the department when the corresponding electrical rates are being established.

Because of the problem in amortizing and recovering GN capital expenditures in the rates (Federal Funding setoff), the preferred approach to capital investment may be to borrow the needed capital funds and bypass the GN capital budgeting process. This approach was investigated by the GNWT for the PPD program and considered feasible and cost effective.

6.5.2 Application of Government Policies to the Electrical Utility

As an arms length power corporation, NPC would operate according to legislation, the objects of the power corporation and pertinent operational policies. At present, the NTPC operates under their own policies – they negotiate their own terms and conditions of employment separate from the GN public service, they are exempt from Article 24 of the Nunavut Final Agreement, and they have a different housing policy. The NTPC mandate is to deliver electrical services at the lowest possible cost and still give its shareholders a profit. The GN policies for employment, business development and housing have different objectives, and clearly are not designed to achieve the lowest possible cost. However, the GN, being a major customer of itself, would not be interested in earning a profit on the electrical services and thereby able to effect some savings for the consumer offsetting the potential increases.

The ability to impose the GN policies on the electrical service provider is the primary reason for selecting the government department option. The GN (and GNWT) traditionally accepts the added costs of its policies, in construction, procurement and service delivery, as a necessary cost of achieving its long term objectives. The same approach could be applied to an electric utility department, keeping in mind the incremental costs and potential impact on reliability and standards of service. Before implementing a government department model, it would be wise to review policies that would apply to the department and determine any adjustments needed to enable the department to run a utility that provides safe, reliable, low cost power – with no hidden subsidies.

As a government department, it will be contingent upon the department to ensure compliance with the government's adopted policies and each new Cabinet's five year strategic priorities.

6.5.3 Transition Issue: Capacity Building

A decision will need to be made about the best approach to be adopted in building departmental capacity. If Inuit or local employment and training is critical; if decentralizing the department to a Nunavut community is critical; and if physical infrastructure continues to pose the challenge to recruitment, then the timeframe and the approach to capacity building is an important factor.

In option two, three scenarios are being used to allow for capacity to be developed in Nunavut over a period of time (five to ten years). These scenarios call for three levels of outsourcing: maximum (little Nunavut capacity at beginning), medium (blend of Nunavut and Utility Company capacity at beginning) and minimum (full Nunavut capacity for April 1, 2001). If the decision is made to adopt the government department model, it will be necessary to establish objectives and develop an appropriate implementation plan which takes into account the timeframe and the approach to capacity building. The same strategy as outlined for the Continuance and Independent NPC options could also be applied to the GN department model.

6.5.4 Transition Issue: Labour

The current Transition Agreement states that on termination of the agreement,

> the Corporation's employees resident in Nunavut will be transferred to the NPC, and those employees shall become employees of the public service of the GN, with fully transferred

seniority and benefits grandfathered until such time as the GN enters into a collective agreement with those employees.

Should the latest draft collective agreement be ratified by the membership, those NTPC staff transferred to Nunavut shall maintain their terms and conditions for an additional two years following the division of the NTPC. The terms and conditions may be different from the broader terms and conditions of the GN public service and they may not be immediately reconciliable. In the short-term any real or perceived inequities in the wage and benefit packages of the ex NTPC employees and the other GN employees will result in disatisfaction in one group or the other. However, this problem is not unique to the government department option. It may already be a factor for GN and NTPC employee relations and would certainly be the case with an independent NPC. The difficulty will lie in the task of normalizing the terms of the collective agreements and the respective wages and benefits through negotiation. Significant employee "turnover" could result from this process.

6.5.5 Transition Issue: Centralized Government Services

There are certain functions performed within the utility that duplicate government functions in other departments and attempts should be made to address duplication and rationalize functional needs across departments. These measures would simplify government structures and save resources which could be applied to other government priorities or programs. A tremendous amount of work is associated with this exercise including interdepartmental planning for a functional amalgamation, the development of a labour strategy to deal with labour re-classification, disputes, remedies and communications. If the GN selects a phased implementation through outsourcing, similar to that outlined for the independent NPC model, then the task of amalgamating the internal needs of the electrical service department with other departments can be phased over several years. A key area of concern with centralized government services is the tracking of all costs for the purposes of rate setting. Generally, the GN departments do not track the costs of services provided to other departments and to do so requires a significant change in accounting procedures and "charge backs". To not identify these costs and include in the Revenue Requirement results in "hidden subsidies" and distorted utility costs. With Nunavut's huge dependency on petroleum for energy, this Report has stressed throughout the need for accurate energy costs as a means to encourage and support meaningful energy management initiatives.

6.5.6 Continuity in Government

A utility is most dependent on long term planning and well defined standards of service delivery. Numerous and ad hoc changes in policy and direction will seriously affect the ability of the utility to deliver a reliable and cost effective service. Frequent changes in priorities and direction are an integral part of the political system and could very well impact on the long term stability of the utility. While this may also occur with an NPC, the Corporation would be at arms length and somewhat insulated from short term influences. Government departments usually develop policies and procedures applicable to their operations and these may be approved by the GN Cabinet. For example, it would be expected that the GN would put a policy on rate setting in place and this could only be changed by the Cabinet. A Revolving Fund would need to be established through legislation thereby lending stability to the financing aspects of the electrical service department.

If the department is to serve as an instrument to achieve government objectives then some flexibility will be necessary.

6.6 Assessment

6.6.1 Criteria

The criteria selected for assessing each of the three major options are:

- Risk – What is the risk of an inability in the short-term, medium-term, or long-term to provide power to communities?
- Complexity – How complex is this option? How difficult is it to implement – legally, organizationally and financially? How demanding on government staff and resources?
- Cost - Will there be significant one-time or ongoing costs?
- Suitability – How well does this option meet the needs of a good utility and the needs of Nunavut, short term and long term?

6.6.2 Risk

There are minimal differences in the reliability of the power system in any of the options being considered. The mechanics of generating and distributing power are well known and as long as adequate funding and good management are in place, the power system will operate. Of greater concern, is the ability to maintain a business-like approach to delivering these services in the long-term. There would be numerous opportunities to use the department as a means to further the government's social and economic goals. While this is a significant factor in the selection of the department option, if not done with the utmost

care and, in full consideration of the implications on long-term reliability and costs, the results could be disappointing. Well-structured departmental policies with adequate levels of protection against ad hoc changes would be essential. Rates and subsidy programs, preferences in purchasing and contracting and capital investment decisions are particularly susceptible

6.6.3 Complexity

Normally, the set up of a new department is fairly straightforward, but does require the coordinated efforts of many existing government personnel. Given the other demands of setting up the Nunavut government and all that involves, setting up another new department at this time may prove extremely difficult. Fortunately, the implementation would involve mainly the headquarters and have minimal impact on the day to day business of supplying power in the communities.

If a revolving fund is used to fund the department, legislation would be necessary to either revise the PPD Revolving Fund Act or to establish a new act for power. The normal legislative process can take from six months to two years. There may be some long-term or standing NTPC contracts for goods or services in place and these either cancelled or assigned to the GN. The transfer of other assets, including the plant and lands and the rights to other lands needed for pipeline and power line easements and for future plant expansion. The liability for environmental impairment existing at the time of transfer and how this is handled could result in prolonged negotiations in addition to expensive environmental audits.

6.6.4 Cost

The one-time costs would be associated with staff recruitment and relocations and the setting up and equipping the office space. The GN may lease the space from the private sector, but choose to fund the leasehold improvements through the capital budget as a one-time expenditure. Depending on the method of setting and regulating rates, there may be additional costs to set up and operate a PUB, for example. With self-regulation, the costs would be much less, but the GN would still need to purchase independent audit and rate setting advice. It would be expected that the department would either outsource for support services such as billing, payroll and other systems based services or acquire these services from existing GN departments. There could be substantial legal and administrative costs associated with the transfer of assets from the NTPC to the GN. Land issues tend to be particularly complicated, especially with the environmental considerations of fuel

storage facilities and powerplants. Environmental audits at selected sites may be required.

The GN would need to decide which of the initial setup costs would be recovered from the consumers and built into the rate base and which would be simply funded by the GN as a cost of delivering an essential government service. It would be expected however, that all of the annual operating costs would be recovered in the rates through a Revolving Fund approach.

The only variations in long-term consumer costs would be related to how the one-time costs discussed above are treated by the GN. The annual operating costs of the provider for any of the options would be very close.

Recovering capital investment costs in the rates would need special consideration to avoid setoffs against federal transfer payments. Borrowing the needed capital investment funds and amortizing these costs in the rates in the same manner as done by most utilities is a feasible option.

6.6.5 Suitability

The department option offers the most opportunities for implementing government social and economic programs such as preference for Nunavut and local businesses, Inuit employment and training programs and subsidized energy costs. However, these programs may result in higher costs, at least in the short-term. Achieving a balance between such programs and the cost implications will be difficult. The Department option lends itself to simplified regulation and rate setting, but may lead to preferential rates that give false signals to consumers.

The GN department option may be most suitable for the future amalgamation of electrical and fuel services. The problems with operating the PPD within a corporate environment are avoided. Moving towards community ownership would also be facilitated.

7. COMPARING OPTIONS

Each potential model was assessed in its section on the basis of the following criteria:

- Risk – What is the risk of an inability in the short-term, medium-term, or long-term to provide power to communities?
- Complexity – How complex is this option? How difficult is it to implement – legally, organizationally and financially? How demanding on government staff and resources?
- Cost - Will there be significant one-time or ongoing costs?
- Suitability – How well does this option meet the needs of a good utility and the needs of Nunavut, short term and long term?

The following table summarizes the results.

Assessment Criteria	Option 1 Continue With NTPC	Option 2 Independent NPC	Option 3 Government Department
Risk	⛤No major changes within the organization ⛤Least disruption to staff ⛤Proven NTPC track record.	⛤Continuity in NTPC facilities and key staff ⛤Outsourcing can provide needed support services	⛤Similar to Ind. NPC ⛤Political agenda vs. utility business agenda could cause long run problems
Complexity	⛤Initial complexity of getting agreement with GNWT ⛤If agreement with GNWT reached, least complex to implement ⛤Different philosophies and objectives for NTPC will raise complications in partnership	⛤Most complicated to implement ⛤Financial, legal and environmental issues to be resolved ⛤Restructuring long term debt and other NTPC obligations may be difficult. ⛤Requires creation of a new operational company	⛤Easier than Ind. NPC, but same issues to be resolved ⛤Complicates GN's annual O&M and Capital budgets ⛤Legislation required if Revolving Funds used. ⛤Government policies and procedures may hamper utility decision making ⛤Independent regulation may be more difficults
Cost	⛤One-time costs of negotiating restructuring ⛤On-going cost comparison depends on terms of restructuring (head	⛤Initial cost $2 million to leave, and $2 to $4 million to start up NPC ⛤One-time costs recovered in rates ⛤Costs could depend on TPSP structure	⛤Similar costs to Option 2 ⛤Could be lowest cost for consumer, but highest cost for government because of hidden subsidies

	office allocation, dividends, etc.) and on NPC outsourcing	Operating costs could be less than continued NTPC depending on outsourcing, NTPC HQ allocation, HQ location	
Suitability	Requires the least effort, but may not meet all GN expectations	Most suitable with least disruption in operations, independence and potential cost savings.	Least suitable. The government structure inappropriate for the utility business.

PART II – RELATED POLICY ISSUES

8. FUNDAMENTAL POLICY QUESTIONS

8.1 Electrical Service versus Total Energy Provider

8.1.1 Service Options

.1 Electricity Provider Only

The NTPC provides only electricity in Nunavut. Although there are plans to market heat recovered from the diesel generators, through the NWT Energy Corp., there are only a few small installations at present and the business has yet to be developed. The possibility of the NTPC taking over the PPD business from the GNWT was investigated several years ago and it was determined there were potential benefits in merging the two operations. However, the many issues associated with running the PPD on a corporate basis precluded any further action at that time. The recent privatization study by the GNWT confirmed there were several issues that needed to be addressed before making any significant changes in the method of operation, but customers would benefit if the PPD were run in a more business-like fashion. Total privatization of the PPD was ruled out.

Selection of the "electricity only" option now, does not preclude the addition of the fuel business at a later date. Such a possibility should be considered when structuring the electrical service provider now.

.2 Total Energy Provider–Power and Fuel

Fuel services in all communities in Nunavut, except Cambridge Bay, are currently delivered by the Petroleum Products Division (PPD) of the DPWTTS. There are many similarities in the delivery of fuel services by the PPD and electrical services by the NTPC, such that a future merger should be considered in the context of each electrical service provider option. However, an immediate merger would require the immediate resolution of numerous, significant issues, adding further complexity to, and possibly delaying, the task of establishing a new power provider and is therefore not recommended.

8.1.2 Fuel Supply is Critical

All plants in Nunavut require diesel fuel for their operation. Within any community, the powerplant is the single largest consumer, using an average 23 % of all bulk fuels used there. Bulk fuel is delivered once per

year, through the marine resupply usually coordinated by the PPD, Department of Public Works, Telecommunications and Technical Services (DPWTTS). In some communities, the NPC owns bulk storage facilities and may arrange for the annual resupply directly, but the greatest economy is achieved by ordering all fuel for each community through a single contract. Marine resupply is the most cost effective resupply method, but air resupply may be done in emergency situations where there is a fuel shortfall prior to the scheduled marine resupply, for example. Fuel accounts for approximately 40% of the total` cost of operating a powerplant, making the electrical rates very sensitive to the cost of fuel. A safe, reliable and cost effective fuel supply is critical to the powerplant operation.

Contractors in each community that are responsible for delivering the fuel from bulk storage to the NTPC powerplant either by delivery truck or by pipeline, depending on the community. In some communities, NTPC owned bulk tanks might be filled directly during the resupply.

The purchasing contracts normally used by both the PPD and the NTPC allow the price of the product to float in accordance with the world market price. The price in effect for the whole year is set at the time the fuel is loaded at the purchase point, usually in July and August. As the market price of fuel escalates, so will the cost of fuel used in power generation. In the past year, there have been increases of 5-8 cents/litre and these costs may soon be reflected in the cost of power. Transportation costs are usually fixed for the term of the contract (usually 3 years) and vary only between resupply zones. There are three basic resupply zones for Nunavut. The Kitikmeot Region supplied through the Mackenzie River system by tug and barge, the Baffin Region, supplied by deep draft tanker from off shore and the Kivalliq Region. For Kivalliq, the Port of Churchill Manitoba is resupplied as part of the Baffin resupply and then tug and barge are used to distribute the fuel to the communities. The tugs and barges used in the Kitikmeot and Kivalliq also carry dry cargo to the communities, so the transportation costs of fuel and dry cargo are interdependent. For example, delivering the bulk fuel to these communities by some other means may result in higher transportation costs for dry cargo.

The Table to the right illustrates the key cost components in the fuel supplied by the PPD and the differences between some components in the

Average Cost of Diesel Fuel in Nunavut (cents/litre)

	Baffin	Kivalliq	Kitikmeot	Nunavut
Landed Cost	23.5	42.8	48.4	32.6
Commissions	13.7	11.4	9.5	12.0
Shrinkage	1.0	1.0	1.0	1.0
O&M	10.5	10.5	10.5	10.5

three resupply zones. These are average costs (cents/litre) of diesel fuel only (1998/99) and the actual costs for diesel and for the other fuels supplied vary between communities and fuel types. The actual taxes applied vary according to fuel type, end use and tax status of the customer, but may include GST, federal excise tax, and GN petroleum tax.

The cost of bulk fuel is not sensitive to the power option selected, except for any modified option involving privatization of the PPD. With the latter, there would be additional costs and complications, increasing the price of fuel for all users, including the NPC. These issues are discussed in Section 5.3 of this Report. Most critical to the cost of bulk fuel is keeping the resupply contracts as large as possible and not fragmenting these into numerous small contracts. The landed product costs are particularly sensitive to volume purchasing.

8.1.3 The Petroleum Products Division (PPD)

The PPD has the responsibility to supply petroleum products in all communities in Nunavut except Cambridge Bay. This includes the annual resupply, bulk storage and distribution of heating fuel, motive gasoline and diesel fuel and aviation fuel products.

The PPD is a division of the Department of Public Works, Telecommunications and Technical Services (DPWTTS) and therefore operates as a Nunavut Government department, responsible to a Minister and the Nunavut Legislative Assembly. The PPD is headquartered in Rankin Inlet with additional staff in each of the three DPWTTS regional offices responsible for PPD activities. Regional offices are located in Cambridge Bay, Iqaluit and Rankin Inlet

Shortly prior to division of the North West Territories (NWT), the Government of the NWT (GNWT) had thoroughly examined the feasibility of totally privatizing the PPD. The implications of privatization on long-term costs, quality and reliability of service were examined. It was concluded that total privatization was not in the best interests of the citizens of the NWT, but that a certain degree of additional privatization or "commercialism" (involvement of non-government in the business) was desirable[23]. The primary reason for not recommending total privatization, was an inevitable, substantial increase in fuel costs that would result. Security of

[23] "Privatization Of The Petroleum Products Division of The Government of The Northwest Territories", Roland C. Bailey & Associates, November 1997.

supply and quality of service in the long term were also concerns. For these reasons the GNWT elected to not proceed with privatization.

8.1.4 Factors

There are a number of factors that will come in to play when considering merging the fuel and power businesses in Nunavut. As discussed above, many of these were key to the GNWT decision not to privatize the PPD and may also be significant factors in some scenarios involving a single agency responsible for both fuel and power.

.1 Subsidies

The price of fuel supplied by the PPD to its customers does not include all costs realized by the GN in providing the service. As a result, the cost of fuel sold to all customers is subsidized by the GN. The subsidies are briefly summarized:

- *Capital Costs*: The construction of new infrastructure, renovation and upgrading of existing facilities and the purchase of new fuel delivery vehicles are included in the GN capital plan. These costs are not added to the operating cost of the PPD and therefore not included in the price of fuel. Traditionally, the cost of capital for Nunavut averaged about $5 million per annum.
- *Financing of Operating Accounts:* The PPD Revolving Fund. A significant, up front expenditure is required to purchase the annual bulk resupply as well as to finance accounts receivable throughout the year. The cost of the PPD annual operating fund totals about $60 million, provided by the GN through financing is not charged back to the PPD by the GN and is therefore not included in the current price of fuel.
- *Insurance*: Although the PPD does purchase some insurance, primarily through its various contractors, the GN "self insures" for losses such as environmental impairment, product loss and property loss. Other insurance is paid for by the GN through blanket policies applicable to all GN assets and the cost of this insurance attributable to the PPD is difficult to identify and separate from the blanket premium and therefore is not charged the PPD.
- *Legal Services*: As a rule, the GN does not charge for legal services acquired through its Legal Services Division. These services are frequently required by the PPD when implementing new contracts and when dealing with contractual or other disputes.
- *Support Services*: The PPD receives other support services from many other GN Departments and Divisions at no cost to the PPD.

These may include personnel services such as recruitment, benefits administration and payroll, administrative services in contract management and administration, senior management, financial services including audit and management of the Revolving Fund.

The estimated cost of these subsidies is shown in the following table on the right. All of the costs shown in the table represent real costs of doing business and in a non-government/private scenario must be added to the price of fuel. If factored in, they show a "real" average added cost of more than 6 cents/litre – a 10% increase. GN policy would have to decide the extent to which these costs would be rolled into the price of fuel in a consolidated energy department or corporation.

Fuel Subsidies	Approximate
Capital Costs	2.47
Financing	2.91
Insurance	0.30
Legal Services	0.20
Other Support Services	0.49
Total Subsidy	6.37

.2 Rates and Regulation

The NTPC is regulated by the NWT PUB in the delivery of electrical services. However, this form of rate setting may not be the best option for Nunavut. Some other form of simple rate setting and independent regulation of standards and quality of service may be appropriate for both fuel and electrical services delivered by a GN owned energy provider. For example, the PPD recommends fuel rates which are approved by the GN Financial Management Board (FMB) and this has worked out to be a simple and effective approach. Alternatively, the mandate of the PUB could be extended to include fuel pricing, but there would be a cost to do this. The electrical provider is a major customer of the fuel service provider and this does present a potential conflict of interest when the fuel rates for powerplant fuel and those for the other customers are being set. A PUB approach would avoid imbalances in the rates.

.3 Fuel Storage and Handling Infrastructure

Both the NTPC and the PPD have bulk storage tanks and distribution pipelines in the communities. In some communities, these are located in a common tank farm owned by the GN. Joint ownership and management of these facilities would be more efficient.

.4 Environmental

There is known environmental contamination at both power generation and fuel storage and distribution facilities. The costs to remediate this damage are substantial and treating the electrical separate from the fuel may be prudent until remediation has been planned and financed. For the Nunavut PPD facilities, the estimated costs are $11.6 million and for the NTPC (Nunavut), $13.1 million. [24]

The risk of major environmental contamination at these types of facilities and the associated costs are such that it would be extremely expensive to purchase environmental impairment insurance. An estimate done for the GNWT privatization report indicated a fuel cost increase of about 3.2 cents/litre could be expected to cover the cost of environmental impairment insurance. Such insurance may not even be available. Both the NTPC and the GN self-insure for such risks, therefore there are no premium costs in the rates. However, in the event of a significant loss, there would be cost implications for the consumers.

8.1.5 Advantages of a Total Energy Provider

There are many similarities in the businesses of the NTPC and the PPD that would enhance the efficiency of a single Energy Provider.

.1 Billing and Collections

Both agencies have accounts in each community and use meter readings or fuel delivery tickets as a source for their invoicing. As most of the customers have both a fuel and electrical account, combining the two in a single accounts system makes economic sense. In addition, the customer would have only one agency to deal with on any account matters. Similarly, the collections and accounts receivable functions are common to both agencies.

.2 Environmental

Recent changes in the Canada Shipping Act affect all owners and operators of shoreside fuel handling facilities. The Act requires extensive training of the staff involved in the operation of these facilities as well as the purchase of additional spill containment equipment. Cooperation between the two agencies would avoid duplication of effort and expense.

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[24] Privatization of the PPD, Roland Bailey and Associates, November 1997

.3 Facility Planning and Management

Coordination of maintenance and capital projects on fuel facilities is a benefit. Both the NTPC and the GN have similar capital planning processes, although the method of financing approved projects is different.

.4 Fuel Resupply

Combining the volumes of both the PPD and all the NTPC would help achieve better pricing. Currently the NTPC purchases most of their Nunavut fuel through the PPD, but in recent years have been tending to make separate purchases in some locations. Also, a single resupply operation at each community avoids duplication and extra costs as well as the increased risk of spills or other mishaps associated with the resupply.

.5 Product Pricing

A common approach to setting rates and regulation would be easier to understand and less costly to administer. Where a PUB approach is not used, some form of independent regulator or adviser should be considered in order to maintain the industry standards in service delivery.

.6 Other Services

An energy provider may also offer other services to the private and public sectors in order to fully utilize the expertise and resources on hand. The NTPC already markets residual heat recovered from the diesel generators. In every community there are standby emergency generators in schools, health centres and other facilities. These installations are critical to the community in emergencies and need regular and expert maintenance. It would be important that a GN department or crown corporation not compete with the private sector, but there may be other potential areas in appliance and general electrical repairs and energy management where the NPC could market its services.

8.1.6 Other Considerations for an Energy Provider

There are some aspects that would complicate service delivery, especially in the near term. The actual option selected for the Energy Provider (GN department or corporation) would be an important consideration.

.1 Subsidies

The current subsidies included in the electrical and the fuel services and funded by the GN are totally different and represent different sets of problems. Whereas the power subsidy programs are structured, the costs known and directed to specific consumers, the fuel subsidies are largely hidden within GN operations and capital programs and not directed to any particular customers (the rate structure does have separate rates for residential and non-residential customers). The PPD rates appear to be community based, but there are numerous cross-subsidies between communities in addition to the cross-subsidies between consumer classes within a community and the hidden GN subsidies discussed previously. As the NTPC purchases much of its fuel from the PPD, the NTPC, and NTPC rates, are being subsidized to some extent by the PPD.

.2 The PPD

The PPD privatization study identified a number of business issues that needed to be addressed to improve the cost effectiveness and general efficiency of the PPD. Inventory management, rates, purchasing practices, short and long-term community agency contracts and land issues were identified. These are areas that should be addressed in a comprehensive PPD Business Plan before any major structural changes are contemplated.

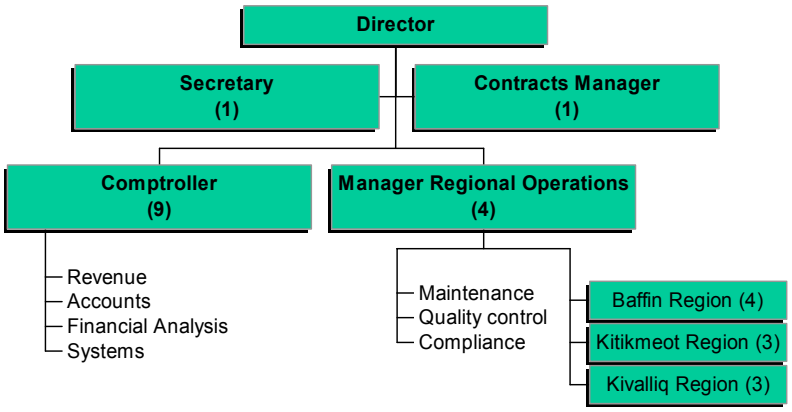
.3 Implementation Plan

The option and implementation plan selected for power services should be the primary consideration, being the most complex and critical service. The PPD operation is already Nunavut specific and can be adjusted to fit with the power option when time permits. It is expected that addressing the subsidy issues attached to the PPD will take time (probably several years) and could hinder the establishment of the NPC.

8.1.7 Organizational Structure

The Petroleum Products Division

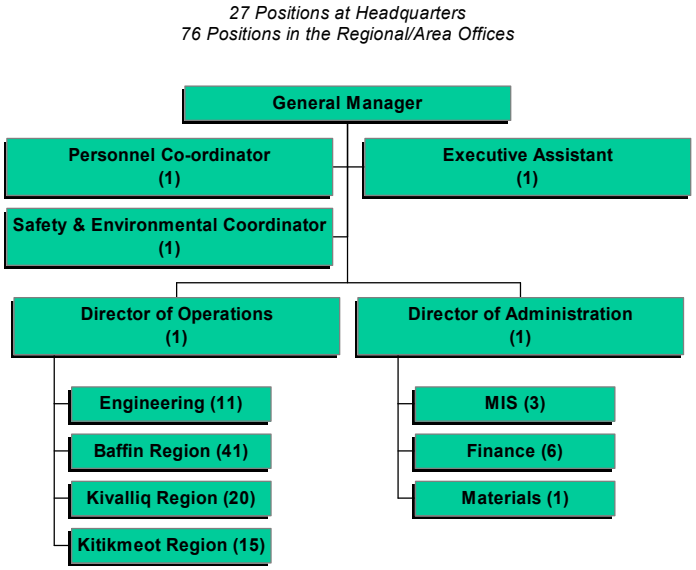
16 Positions at Headquarters
10 Positions in the Regional Offices



The headquarters is responsible for directing operations and developing policy, preparing financial statements, establish pricing and develop policies requiring Executive/Legislative approval. A key task is providing support services to the regional staff including quality control, trouble-shooting, staff training and certification and coordinating the annual resupply. The headquarters handles invoicing and accounts receivable, although the regional offices are assuming more responsibilities in this area.

The regional PPD staff report to the DPWTTS Regional Superintendent through a senior manager responsible for Regional Operations. Therefore, it is the Superintendent who has the ultimate responsibility to deliver the PPD services in the communities. In addition to direct supervision, the superintendent also provides support services such as technical advice and assistance, maintenance of facilities, project management services for upgrades, renovations and new projects and financial and accounting services for the collection of cash accounts and data entry on meter tickets for all deliveries. In every community there is at least one agency on contract to the PPD for the local delivery and dispensing of fuel products and the Superintendent is responsible for the day to day management of these contracts. There are numerous maintenance contracts in place for work on various GN facilities within the communities and these standing contracts are also used by the Superintendent for work on the PPD facilities. Many of the general services described above

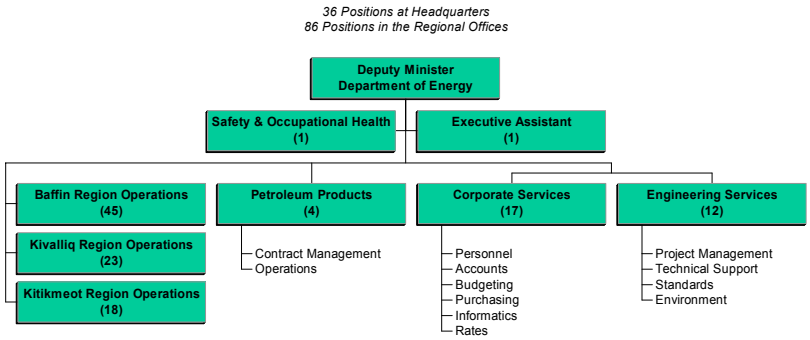
and provided through the Superintendent's office are not charged back



to the PPD program. These represent a significant subsidy to the program.

The division of responsibilities between the headquarters of the NTPC and the regional offices is similar to that within the PPD. A typical organization for a Nunavut based NPC headquarters indicates a total of 27 positions would be required.

A preliminary assessment indicates that combining NPC and PPD headquarters would create a saving of about 7 full time positions. The functional organizational chart here indicates a total of 36 headquarters positions, assuming no functional changes at the Regional or Community levels.



Combining power and fuel services is not likely to result in reductions at the regional or community levels. Many of the support services now

provided to the PPD by the DPWTTS and other GN departments, would also be available to a GN Energy Department

8.2 Out-Sourcing

8.2.1 Role of Outsourcing

.1 Rationale

An electric utility needs a wide range of skills and expertise to deliver power reliably, economically, and safely. Some of that skill and knowledge may be found in-house, but even the largest utility will find that some services are better purchased from outside – it is simply not economic to have the necessary equipment and personnel within the organization. For example, NTPC contracts out a range of services such as major engine overhauls, meter testing, training, rate case preparation, construction projects, etc. This "outsourcing" is part of the organization's effort to do its job well and economically, and is standard throughout the industry. The variable is the degree of outsourcing, small utilities will do more because they are less able to keep in-house the wide range of equipment and personnel needed to meet all their needs.

The result is that no matter what option the GN selects, outside companies will be involved in delivering power to Nunavut. This will certainly be the case if the decision is to stay with NTPC. Nunavut's condition for staying with this model, however, may be that the corporation be less "outside". In other words that Nunavut play a larger role in the ownership and direction of the company, and that it be structured and operated so that it is less of an appearance in Nunavut of a power company operations group outsourcing head office services to a company in Hay River.

.2 Extent of Outsourcing

If Nunavut decides to give its own power corporation, NPC, a role in a new delivery system, the role needs to be defined. The Transition Agreement provides for the transfer of NTPC plant in Nunavut to NPC, if there is no consensus by March 31, 2000 with respect to continuance with the NTPC. The operation of the Transition Agreement would therefore create an assets-services model for supplying electricity in Nunavut. NPC would own the assets. The services – operating the plant, maintaining facilities, billing customers, planning new additions, etc. – could be provided by NPC or contracted out. The nature and extent of this

outsourcing is the critical issue in considering the independent NPC model.

At one end of the spectrum NPC could outsource everything – simply lease the assets to an outside utility and have that utility assume all responsibilities for providing power in Nunavut. The effect would be similar to granting an outside utility a long-term franchise to supply power to Nunavut. In the short term (3-5 years) this approach would be the simplest and least uncertain, given that NPC is presently a shell with no directors, officers, staff or assets. Depending on the agreement with the outside utility, it is unlikely, however, that this "total outsourcing" approach would meet the GN's long-term desire to provide direction and build local capacity.

At the other end of the spectrum, NPC could outsource nothing – create a duplicate of NTPC in Nunavut and on April 1, 2001 take the NTPC plant and become a stand-alone fully functioning utility. This "no outsourcing" approach is also problematic. Moving that quickly would likely put unacceptable demands on limited resources of government time and money. It would also likely carry an unacceptable level of uncertainty about structural capability. In making a decision to rely on NPC to meet its electric energy needs on April 1, 2001, the GN can tolerate very little uncertainty about the capability of NPC's structure to meet that need.

.3 The Yukon Model

The assets-services model has been employed elsewhere in the north. Yukon Energy Corp. (YEC) was established to take over the power system assets from the federal government. YEC put in place a Board of Directors and President, but the entire operation and management of the system was outsourced to a subsidiary of an Alberta based utility. The original 5 year contract was renewed for an additional 5 years and then, after a brief transitional period, YEC took over complete responsibility for its own operations. YEC still outsources some functions such as billing and engineering. Informal discussions with the utility involved, YEC and independent observers indicate that the basic approach is workable. It does require, however, that aspects of the relationship be addressed in the framework agreement.

8.2.2 Considerations

.1 Risk

An essential consideration in the outsourcing question is the how much risk does Nunavut Power Corporation wish to undertake. For example, if it

chooses the minimum level of outsourcing, there may be considerable risks of a "bumpy" start to a new corporation, with potential detrimental consequences on reliability and quality of service. The running of a power utility is a significant undertaking with an intensive start-up process that requires a comfortable lead-time from the start date of the new company.

.2 Policy

Any outsourcing agreement must also meet the three policy goals set by the cabinet. These goals are noted in Section 3.4.1 of this Report. These goals must be implemented by a set of strategies, which the provider of the outsourcing services must be accountable for. These include:

- Operate and maintain assets economically and efficiently to safely and reliably meet the customers' current and future demands for electricity;
- Take measures to safeguard Nunavut Power Corporation's assets;
- Develop a qualified workforce that is representative of the Nunavut population (approximately 85% Inuit);
- Provide timely results to the Nunavut Power Corporation
- Operate in an environmentally responsible manner
- Design and implement fair and equitable rates;
- Encourage efficient use of electricity;
- Support economic development of Nunavut.
- Use of alternative energy resources

.3 Monitoring Performance

As with any other such arrangement, there must be adequate checks and balances in place to ensure that the strategies deployed will produce the desired goals. To that end, there must be certain "key performance indicators", specific to Nunavut's requirements, for measuring the performance of the outside agency. In certain instances, the compensation of the service provider may be linked to the successful achievement of these key performance indicators. Examples of such indicators are:

- Customer satisfaction surveys
- Identify training needs and provide adequate training
- Use of local employment
- Deployment of local resources
- Measures of system safety, reliability and cost performance
- Overall cost per Kwh, with and without fuel

- Benchmarking against external data (e.g. Canadian Electricity Association) and past performance of the NTPC/Nunavut Power Corporation.
- Introduction and implementation of alternative generation methods
- Meeting load-generation balances

8.2.3 System Management Agreement

.1 Purpose of Agreement

Given the problems with the ends of the spectrum, the most viable approach for the independent NPC model is to establish an energy delivery vehicle that combines certainty and flexibility. Certainty concerns can be met by contracting a capable outside utility to provide electricity in some sort of partnership with NPC. At the same time the contract should provide the flexibility to adjust the level of dependence on the outside utility over time so that NPC's stand-alone capacity can be developed to an appropriate level. The terms of such a contract, or "System Management Agreement", and the associated costs, cannot be known without negotiations with potential suppliers.

The Agreement would provide the framework for a joint effort to meet the GN's electric energy needs. The joint effort would involve three components – NPC as owner, NTPC's existing Nunavut operations group as operators, and an outside utility as system manager. It will clearly take some time to negotiate a System Management Agreement that suitably defines the role of each component of this owner-operator-manager mix. For the purpose of this report, however, it would be useful to identify some of the objectives of such an Agreement.

.2 Replacing NTPC head office functions

The Transition Agreement provides for the transfer of the NTPC plant and personnel located in Nunavut to NPC. As discussed earlier in this Report, these employees currently operate the system on a day to day basis. They could continue to do so if there is a change in plant ownership. They rely on NTPC's head office in Hay River, however, for the management, financial and technical support functions needed to run a utility. There is no provision in the Transition Agreement for any of this head office expertise to be transferred to Nunavut on NTPC division. The first objective of the System Management Agreement, therefore, would be to replace NTPC head office functions. Those functions, as outlined earlier in this Report, include management, engineering, financial services,

purchasing, billing, and human resources. Because of the cost allocation process used by the PUB to set rates, Nunavut effectively "buys" these services now from NTPC's Hay River office for about $4.5 million a year. The question would be whether it could buy equal or better services elsewhere for less. The answer would depend on negotiations.

.3 Satisfying GN Policy Goals

As indicated earlier in this Report, the GN has indicated that its goals are

- Providing safe and reliable power to all Nunavut communities, at the lowest cost consistent with the territory's social and economic development goals;
- Maintaining effective ownership and direction of the power system in GN hands for the foreseeable future; and
- Developing NPC as a vehicle for delivering electric utility services.

There is no obvious best means of meeting all these policy objectives. An optimal solution will have to be worked out with someone who has the expertise to develop and explore options and also the ultimate responsibility of implementation. In other words, the best way to determine a suitable outsourcing arrangement is to negotiate with credible potential suppliers to determine how those goals can be met, at what price and for what time period. The responsibility to deliver at that price will encourage realistic costing of various policy objectives.

.4 Creating incentives and flexibility

The GN goals set out above provide broad direction. To make progress toward them, the Agreement should provide for an incentive system in which specific objectives – "Key Performance Indicators" – can be defined and the System Manager rewarded (or penalized) for meeting (or not achieving) these objectives. The Agreement must also provide flexibility so that functions can be transferred to NPC as it develops the capacity to assume responsibility. The Agreement will have to provide incentives to develop the capacity, a fair method of agreeing when a capacity exists, and the mechanisms for effective transfer.

.5 Implementation

If the GN opts for the NPC with outsourcing model, NPC must be moved from a shell to a functioning corporation as quickly as possible. At present NPC is a legal entity, but a shell. There will need to be a Board of Directors and Chief Executive Officer in place for a System Management Agreement to be signed that includes the GN, NPC and the outside Manager. An alternative is for the GN to sign a System Management

Agreement and then proceeding with the ramping up of NPC to assume responsibilities under the Agreement. This should be a last ditch alternative since it would likely produce conflicts in the future with NPC feeling the obligations imposed by someone else's agreement.

8.2.4 Potential Cost Savings

As indicated earlier, if the current structure of NTPC in Nunavut is viewed as a Nunavut based operations group supported by "outsourced" head office services from Hay River, the cost of this service is over $4.5 million a year. That is a conservative estimate based on cost allocations filed with the Public Utilities Board. By all accounts, NTPC head office provides a high quality service for $4.5 million. From Nunavut's perspective, however, the question would have to be "*Can we buy an equal or better service elsewhere for less*?. The question cannot be definitively answered until a system management agreement has been signed and the service provided. But some basic principles of economics would imply the answer is "Yes".

The problem for the NTPC head office is that it provides a wide range of expensive professional skills to a very small number of customers. For example, in 1998, NTPC had about 17,000 customers. By comparison, TransAlta Utilities had 358,000. To operate as a fully functional, stand-alone utility NTPC must employ many of the same types of professionals as TransAlta, but the corresponding costs are spread over far fewer customers. It stands to reason that the cost to the larger utility of extending its existing management and professional services to a few additional customers would be less than for the smaller utility to retain the staff and equipment to provide the same range of services for the same customer group. Consequently the larger utility should be able to provide the service for less. How much less can only be known by negotiating the service and the price.

8.2.5 Summary

In summary, an independent NPC with outsourced management services is an option worth serious consideration. It would be built on NPC owning the plant, former NTPC operators continuing to operate it, and an outside utility managing the system in line with government policy goals. The cost and structure of the arrangement can only be established by negotiation.

8.3 Rate Setting Options

8.3.1 Current Nunavut regulatory system

There are many approaches to utility regulation. In Canada, the most common is an independent board that monitors and regulates utility operations and sets rates based on rate base, rate of return, and cost of service. In essence the board determines the amount of money the utility needs by putting a value on the plant used to provide service, allowing a fair rate of return on the owners investment in that value, and then enabling the recovery of reasonable operating costs. The total cost allowed is the revenue requirement. Looking at that total cost, the Board then considers the cost of serving each class of customers and sets rates to recover the cost from that customer group. That model is used in the NWT at present, and by the legislation mirroring process exists in Nunavut even though no board has been appointed. Whether it is the best system for Nunavut depends on what energy delivery model is selected.

8.3.2 Regulating Government Owned Utilities

The traditional regulatory system was originally designed for privately owned electric utilities to protect the public from irresponsible or self-serving utility owners. When the government owns the utility there is less of a need to protect the public from the owner because the public is the owner. Utility expenditures must be monitored to make sure they are prudent, but the same applies to any government department. Once the total cost of providing the service is determined, however, there is still the problem of who decides what is a fair rate for each customer class to pay. The problem is dealt with in a variety of ways by different provinces that have government owned electric utilities.

One solution is to have the government set the rates. For example, the Saskatchewan Provincial Government owned electric utility, SaskPower, prepares a report setting out its revenue requirement and what it considers fair corresponding rates. After reviewing the recommendation the government decides what to allow. The system is simple and inexpensive, but is open to complaints about the lack of openness and the possibility of politics playing a large role in rate setting.

Manitoba also has a government owned electrical utility, Manitoba Hydro, but it has an independent Public Utilities Board that sets the company's rates. The result is a fair and open process for balancing the competing interests of various customer groups. This is very important where there are large classes of customers (industries, institutions, businesses, homes) with very different types of uses and usage patterns.

But the trade off for the fairness and openness is cost B regulation is expensive. We will consider that issue shortly.

8.3.3 Continuance and Regulation

The package of legislation and agreements described in section 2.2.6 creates a regulatory structure in which NTPC provides power to Nunavut. An essential component of that structure is the Nunavut PUB. Although legislation has created a Nunavut Public Utilities Board, it presently exists in name only. There are no Board members or office. Barring a change in legislation, it will be necessary to make the Board operational. As long as NTPC is the power provider for Nunavut, the Nunavut PUB will need to remain in place to ensure service quality and fair rates. That is one of the buried costs of the continuance option.

While NTPC is the power provider for Nunavut, the Nunavut PUB will play a role in supervising NTPC's operations in Nunavut and in setting NTPC's rates. The supervisory functions, Nunavut's PUB can do on its own – things like approving major capital additions, assuring satisfactory service etc. But setting revenue requirement and rates will have to be done jointly with the NWT PUB. That may limit the rate setting options in Nunavut.

If the legislation and agreements are implemented, a joint panel of the two PUB's would sit to determine NTPC's total cost to provide service and to set the rates needed to recover that cost. There should be no problem with the first step of the process – determining total cost (revenue requirement). As part of the process, the joint panel could allocate the total revenue requirement between the NWT and Nunavut. That would set the amount of money NTPC needed to collect in each Territory. There could, however, be a problem in the second step – setting actual rates – if the two PUB's have different philosophies about basing rates on cost of service.

The NWT PUB has adopted a system of cost based rates and community based cost allocation. In other words, the cost of serving each community is determined and then rates set for the community to recover somewhere between 95% and 105% of that cost. If that approach is unacceptable to the Nunavut PUB there would need to be some agreement that the joint panel could approve different rate structures in the NWT and Nunavut. This should not be a problem for NTPC, since it is financially neutral as to rate structure once the revenue requirement has been determined. It would simply mean that it used a different rate system to collect its Nunavut revenue requirement from that used for the NWT share.

In short, with cooperation it should be possible to work out a regulatory system that would enable NTPC to function in both Territories using different rate setting approaches in each. The fact of life for regulation, however, is the cost. We turn to that issue now.

8.3.4 Cost of Regulation

As indicated earlier, in section 2.1.2, the total annual regulatory cost for NTPC and the NWT PUB has been over $1.25 million, of which about $320,000 is the cost of running the PUB. The cost of the PUB is very low, it represents a bare bones operation with a full time Chair, a secretary, and a part time consultant. Nunavut's PUB may not cost as much since it will have less utilities to regulate. However, with higher travel and meeting costs, it can be expected to cost the government at least $250,000 annually. In addition to that cost, about 40% of NTPC's regulatory costs are allocated to Nunavut consumers – an additional amount of about $370,000. The total annual cost to Nunavut residents, whether through their rates or taxes, is therefore about $620,000. Given that the GN probably pays 75% of the total power bill for Nunavut, the cost to government to regulate NTPC will be over $500,000 annually.

8.3.5 Regulating an independent NPC

If Nunavut opts for the independent Nunavut owned NPC crown corporation model, it will need to decide whether to regulate it or not. As discussed earlier, there is less need for a regulator to protect the public from the utility if the public owns the utility. There is still a need, however, for someone to do the regulator's job of ensuring the utility is providing adequate service, is not wasting money, and is charging a fair amount for its service.

Eliminating regulation will not completely eliminate that cost. Whatever system of rate setting is used, NPC would still have to develop reports and rate design proposals similar to what would have to be filed for a PUB. But these would be minimal compared to the costs of maintaining a PUB and holding public hearings to set rates.

Different provinces with government owned public utilities take different approaches, as pointed out earlier. There is no need to go into detail in this report on the mechanisms that government can use to monitor utility spending and ensure appropriate rates are set. Those should be explored if the GN decides to opt for an independent NPC with some alternative to regulation.

8.4 Subsidy Programs

8.4.1 History

The Territorial Power Subsidy Program (TPSP) for energy consumption has been in place for over 21 years. Northerners have come to rely on it. It originated as a federal program to attract people to the North. The GNWT inherited the subsidy program when it purchased NCPC in 1988. The objectives of the TPSP are noted in *GNWT Policy No. 15.01* as follows:

> In support of the development of northern business and the encouragement of private home ownership in the Northwest Territories, the Government of the Northwest Territories will provide for equitable power rates throughout the Territories.
>
> The Power Subsidy Contribution Policy of the Government of the Northwest Territories is designed to provide small commercial enterprises and private residential power consumers, with equitable rates for power consumption.
>
> The cost differential for power consumption between Yellowknife rates and those of other Northwest Territories communities will be paid for by this Contribution Policy, up to specified consumption levels.

When the program was first implemented there were very few privately owned houses and most of the electricity used for residential purposes was purchased by the government, either for government staff housing or for public/social housing. While the cost of the TPSP was very low because of this, the total cost of electricity paid by various government departments was very high. With the tenants not being responsible for any electrical costs, and rents being highly subsidized and not a function of actual costs, there was no incentive to conserve energy. The TPSP provided the incentive for the tenant to conserve with net savings to the government because the tenant was paying a share and the overall usage was lower.

There are two parts to the TPSP, a domestic subsidy and a commercial subsidy. For domestic customers each customer is automatically charged at the current Yellowknife electrical rate for the first 700kwh hours each month. The credit is reflected in the monthly bill sent by NTPC to each of its domestic customers. All energy consumption in excess of the 700 kwh hour benchmark is then billed at the community rate. "Domestic customers" include private residential customers only, and includes apartments or houses where the resident pays NTPC for the electricity. The program is not available to company (staff) housing where the company purchases the electricity.

For commercial customers the subsidy applies to the first 1,000 kwh hours per month. To remain eligible the customer must have sales of less than

$2 million and must reapply every year. In 1998/99, domestic consumers in Nunavut received subsidies totalling $3.2 million, whereas commercial consumers received subsidies of only $56,850, about 1.7% of the total and 40% less than the previous year. It appears that the application process for the commercial consumers is far too onerous and expensive for the benefits received, resulting in minimal interest.

8.4.2 How TPSP Works

There continues to be confusion surrounding the role of NTPC and the role of government in relation to the TPSP. Because the subsidy credit is reflected on the monthly account sent by NTPC to its customers, it is often believed the responsibility for the TPSP and the cost of the TPSP is that of the NTPC. This is not the case. In each instance that responsibility rests with government. NTPC is merely an agent of government.

Each month NTPC renders an account to the government for the total subsidy credits which have been reflected in the customer accounts. Each month the government pays this. Thus throughout the fiscal year NTPC is paid on a monthly basis to the full extent of the subsidy credits. Initially, it is the government which incurs this cost out of operating revenues.

Since 1988 however, the government has realized a full return of such subsidy payments via the payment of an annual dividend issued by the Directors of NTPC. Pursuant to section 29 of the NTPC Act, any dividend payable to the common shareholders of NTPC (government) can only be used to subsidize the rates for energy or water or sewage services and related administrative costs.

The use of the dividend payment out of the surplus generated by the operations of NTPC has been the cornerstone of the TPSP. It is consistent with the statutory purpose of NTPC, which is to be an agent of the government. Prior to Division NTPC, as the agent of the GNWT, administered the TPSP and provided the GNWT with a means of recouping the cost of TPSP through an annual reimbursement for the monthly subsidy payments to NTPC. By this arrangement the GNWT avoided the need to establish and administer its own subsidy program.

The NTPC Act and the PUB hearings have always contemplated and indeed reflected the use of dividends to reimburse the government for the subsidy payments made to NTPC throughout the year. However this procedure is predicated on the assumption that NTPC will always generate sufficient excess surplus profits to permit a payment of a

dividend equivalent to the annual cost paid by the government to NTPC. Unfortunately it would seem this assumption is no longer valid.

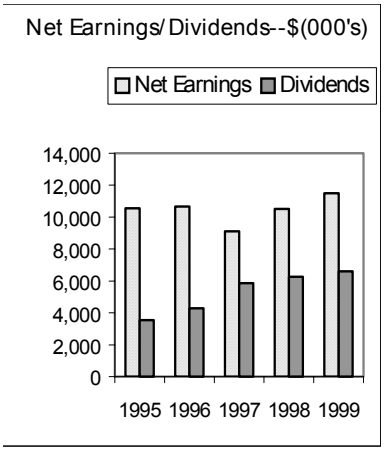
With increasing costs of the TPSP caused in part by a significant increase in privately owned housing and the government's "User Pay" policy for staff housing, the amount of the annual dividend as declared by NTPC in accord with the direction of the GNWT has increased significantly. This has been a significant increase in both absolute and relative terms. The following table illustrates the dividend payments have increased 87% since 1995.

Dividends Declared 1995 – 1999
($'000)

	1995	1996	1997	1998	1999
Net Earnings	10,539	10,665	9,106	10,510	11,495
Dividends Declared	3,538	4,292	5,854	6,261	6,603
Increase from Prior Year	N/A	754	1,562	407	342
% of Net Earnings	33.5%	40.2%	64.3%	59.6%	57.4%
Increase % Since 1995	N/A	21.3%	65.5%	77.0%	86.6%

Officials at NTPC have indicated it is unlikely in the near future that NTPC will generate net earnings in excess of $11 million. The 1998-1999 annual report confirms net earnings of $11.5 million but goes on to confirm a reduction in total revenues of $0.1 million. The net earnings were positively influenced by a reduction in expenditures of $1.1 million. The forecasted net earnings for fiscal year 1999-2000 as confirmed by NTPC in its Annual Report is $10.4 million.

Consistently since 1995, the level of NTPC net earnings has failed to keep pace with the increase of the dividend payment required to reimburse the GNWT. The graph on the right illustrates this point.[25]



Indications are that the cost to the GNWT for the TPSP payments made to NTPC for the year ending March 31, 1999, were about $8 million. On expected revenues of $10.4 million, NTPC will be unable to pay a dividend

[25] Source: NTPC 1998-1999 Annual Report

anywhere near the required sum of $8 million.

A corporation is not in a position to pay out all of its excess revenue in the form of a dividend. This would be fiscally irresponsible. NTPC has acknowledged (1998/99 Annual Report, page 7) that an appropriate level of dividend payments is equal to or less than 60% of excess profits.

8.4.3 Transition Agreement's Effect on Nunavut.

.1 The Situation

Under the Transition Agreement NTPC continues to administer the subsidy program in both the NWT and Nunavut. Each month NTPC renders an account to the appropriate territorial government for the subsidy credits of customers in its territory, and is reimbursed by the government. Consequently, each month the GN and GNWT must make TPSP payments to NTPC. At year-end, the governments are to be paid dividends by NTPC to help offset the amount paid out for TPSP. At one time NTPC dividends fully funded the subsidy program for the GNWT. That will not be the case for the GN. In fact, the cost of the subsidy program to the GN will far exceed the annual dividend payment. It will become an annual multi-million dollar drain on revenues.

The Transition Agreement requires the Directors to continue to issue a dividend each year. The amount of the dividend to be paid out has been defined to be no less than the average dividend declared for the preceding three years. The portion of the dividend to be paid to each territorial government has been pre-determined as GN 33.4% and GNWT 66.6%, as per the 1998 NTPC balance sheet after allocation of assets and liabilities to Nunavut and the NWT.

If the estimates of the net earnings of NTPC are correct, the GN will be faced with a significant shortfall as illustrated in the following table:

	1999 – 2000			2000 – 2001		
	Nvt	NWT	Total	Nvt	NWT	Total
NTPC Net Income Note 1	3,390	7,010	10,400	3,259	6,741	10,000
Dividend Note 2	2,084	4,155	6,239	2,127	4,241	6,368
TPSP Allocation Note 3	4,680	4,320	9,000	4,784	4,416	9,200
Net Dividend (less TPSP)	-2,596	-165	-2,761	-2,657	-175	-2,832

Note 1: The allocation of the net income between Nunavut and NWT is based on allocation of return (net income) as approved by the NWT PUB for NTPC's 1997/98 GRA, on a forecast basis. This was 32.50% for Nunavut communities and 67.50% for the balance of the system.

Note 2: The first year that the dividend provisions of the Transition Agreement take effect is the year ended March 31, 2000. The Transition Agreement states that the dividend to be declared will be no less than the average for the preceding three years. Hence, while NTPC may declare dividends in excess of the three-year average, for purposes of this Report, we have assumed the minimum dividend to be declared.[26]

Note 3: The allocation of the TPSP is based on the actual cost of the TPSP program for the year 1997/1998 i.e. 52% in Nunavut and 48% for the balance of the system.

.2 Implications

The perverse result of the Transition Agreement is obvious. While the GN is expected to pay an additional $5.2 million in over the next two years, the GNWT in fact is expected to have a net cost of under $0.3 million only. There is little doubt that the shortfall between the payments made by the GN to support the TPSP and the dividend it will receive if the subsidy program is permitted to continue will grow.

8.4.4 Government Choices

As the demand for subsidized electrical services continues to grow, the GN will be faced with making some crucial decisions. An important policy choice will be to decide the extent to which it wants to or is even able to increase these subsidies. Allocating resources to the subsidy program will of course mean shifting them from other government programs. In view of that, alternatives should be considered to eliminate the subsidy program or change it to cater to Nunavut's specific needs. This section will examine some of the options available to the GN to address the question of how to deal with the difficult issue of the nature and extent of the power subsidy program in Nunavut.

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[26] Minimum dividend based on 3 year average. Dividends (in $'000) for fiscal years were (1997) 5854, (1998) 6261, (1999) 6603, (2000) 6239. Resulting 3 year averages are (2000) 6239 and (2001) 6368.

.1 Annual Subsidy Rebate

Under this scheme, the GN receives a credit equivalent to the annual rebate it currently receives through dividends from the NTPC. What this means is that customers' rates reflect the full cost of providing service, allowing for the provision of the intended price signals. That is, if the rates fully reflect the actual cost of service, there is an incentive for the customer to reduce load and energy consumption. This option will, at least initially, undoubtedly be met with customer opposition because it will increase rates, and therefore may be politically unsuitable. However, over time, customers will be rewarded for the wise and responsible use of energy. Any initiatives undertaken to reduce load and consumption will of course be to the benefit of the community as a whole and will result in long-term cost savings.

This approach may be costly to administer as it will require an accounting and payment system separate from the billing and collections. The biggest drawback is that it seems to defeat the purpose of the subsidy, which is to make power affordable. The "full cost of power up front" approach with reimbursement up to a year later will do little to make power affordable to the unemployed single parent.

.2 Change from a Yellowknife base rate to an Iqaluit base rate

The current TPSP program currently uses the Yellowknife rate as a benchmark for purposes of calculating the refund under the TPSP to the customer. The Yellowknife rate reflects primarily hydro generation costs and, as such, bears little or no resemblance to the diesel generation costs. Further, with the creation of Nunavut, one must question the appropriateness of continuing with the Yellowknife rate.

The cost of the subsidy program, if benchmarked to an Iqaluit based community, will no doubt result in a decrease in the subsidy cost to GN and an increase to customers' rates. Should there be a change from community-based rates now in effect to some kind of a postage stamp rates, there will be increased complexity - now we have to deal with a change in rate design as well as TPSP philosophy. Customers in lower cost communities will be impacted the most; firstly, through a lower subsidy and secondly, through subsidizing higher cost communities.

However, it makes intuitive sense to break the umbilical cord to YK and design and implement a "made in Nunavut" rate subsidy program. It does not even have to be called the TPSP; it could be termed the "Nunavut Power Subsidy Program". In the event the objective of the GN is

to subsidize the total energy costs, it could be termed the "Nunavut Energy Subsidy Program".

The issues for consideration for the GN are:

- What community should be used to benchmark the NPSP/NESP? Ideally, it would have to be a community that has the lowest cost of service (now and anticipated for the foreseeable future) and rates for the domestic non-government and commercial non-government rates.
- If a suitable Nunavut community cannot be found, consideration should be given to a "notional" benchmark. Such a benchmark can be changed from time to time based on the objectives of GN and the level of such a benchmark can be designed to meet the annual forecast or budgeted power subsidy costs. As such, it would not attract any claw back provisions of the federal formula funding agreement.

.3 Adjust the TPSP consumption benchmark to a lower value

The average consumption for a residential customer in Nunavut has been about 500-550 Kwh per month.[27] If the intent of the TPSP is to reduce a domestic customer's monthly bill, it makes sense to reduce the threshold from 700 Kwh to 500 Kwh. Keeping a 700 Kwh limit in fact encourages a customer to increase usage because the incremental energy is still at a cheaper rate. Further savings by the GN can be achieved by reducing the threshold even further, say to about 400 Kwh per month. Consideration should also be given to reducing the threshold for the commercial customers from 1,000 Kwh per month, to say 750 Kwh per month.

.4 Increase rates for government customers

Under this option, the effective rates for those customers benefiting from the TPSP program (domestic and commercials) would be reduced at the expense of all government customers. While this option may encourage GN's efforts to increase energy efficiency, it creates artificially low rates for domestic and commercial customers and may discourage conservation and therefore, accelerate need for new plant. The unintended result is all of the conservation initiatives are undertaken by GN, and little, if any, by domestic and commercial customers. Furthermore, as the power subsidy costs are built into rates designed for

[27] NTPC Response to Ikuma Information Request 4.1.

government, the non-government domestic/commercial customer base has no idea of the level and extent of the subsidy. As many of the government facilities are operated by agencies, private contractors or municipal governments, the definition of "government" also becomes critical.

.5 Eliminate commercial subsidy or charge higher commercial rates

For the year ended March 31, 1998, only $94,131 out of a total subsidy to Nunavut customers of $3,440,348 (or 2.7%) was paid out to Nunavut commercial customers. Therefore, eliminating this portion of the subsidy will have a minimal impact on the desire to restructure the subsidy program. In addition, the elimination of the commercial power subsidy, or attempts to effect higher commercial rates, would lead to increased costs of operations of these customers and impair their ability to compete with southern firms with lower overheads. It appears that if the GN wants the commercial sector to be developed as the engine of economy, this option would spurn that objective.

.6 Seek rate application increase across the board

This is perhaps the easiest way to seek recovery of the shortfall experienced by GN. However, since the total revenue requirement is about $44 million, an across-the-board increase to meet the power subsidy shortfall will mean an average rate increase of about 6% ($2.5 million/$44 million).

When compounded with the potential increase in the cost of fuel (see section on Fuel Costs in section x), and the one-time costs associated with the creation of the NPC (discussed in section x of this Report), the increase associated with the recovery of shortfall in the TPSP will undoubtedly be met with stiff opposition from customers.

This approach may encourage more efficient use of power, but may also have negative effects at a community level for those consumers who are already pressed for money. In addition, it may be politically difficult, but this option must be considered by government since reducing subsidies will be necessary at some point even with more efficient power use and other sources of subsidy.

.7 Provide a tax credit

Under this option, eligible customers would receive an income tax credit at the end of the year when their tax returns are filled out. The cost of this option would be paid through an annual dividend from the Nunavut

Power Corporation. Such a program could ensure, for example, that only low-income taxpayers receive the benefit of the electrical (or energy) costs.

The advantage is that the Nunavut Power Corporation holds on to the funds for a full year. The customer's bill reflects the full cost of providing electrical energy and, as noted, previously, will provide correct pricing signals to encourage desired behavior. However, this option may run afoul of the federal Formula Financing Agreement if not structured properly – see section 3.2.5 of this Report for a discussion on this matter.

8.4.5 Efficient Use of Power

Using electricity more efficiently, will help reduce the cost of electricity through lower consumption, as well as help keep the electrical rates lower by avoiding or deferring capital investment in plant expansion needed to meet growth in demand.

The nature of the electrical load in Nunavut communities, being primarily residential and institutional limits the potential for peak load management, a procedure where heavy electrical loads are scheduled for "off-peak" hours. However, such loads as electric hot water heating, community centre and school lighting systems and vehicle plug-ins are significant loads that can be scheduled off-peak if there is incentive to do so. Reducing the peak loads in this manner enables the utility to defer or avoid costly plant expansion. The maximum benefit can be realized through basic energy management practices and energy efficient construction, appliances and lighting.

Programs where all or part of the energy used is paid for by the consumer are usually the most successful. For example, the TPSP is an effective tool in keeping housing costs down as well as for encouraging energy conservation. Both the consumer and the GN benefit when the consumer uses less power; the consumer's electrical bill is lower and the cost of the TPSP for the GN is lower. Reducing the level of support currently afforded by the TPSP would definitely reduce the GN's costs and the higher electrical bills seen by the consumer would encourage more diligence in reducing power consumption

More efficient use of power has immediate benefits for the consumer and the GN as well as long-term benefits in reduced capital investment costs in electrical plant expansion and consequent lower rates for all customer classes.

9. CONCLUSION

This document is intended as a source document for the Ikuma Report. It's purpose is to provide a reference for the data and positions included in a separate "Summary and Recommendations" document.

10. ATTACHMENTS

Note 10.1 Population by Year/Region/Community

Population by Region/Type/Community, 1976-96 Census

	Population 1976	Population 1981	Population 1986	Population 1991	Population 1996
Nunavut	13,765	15,612	18,408	21,244	24,730
Baffin	7,177	8,119	9,675	11,386	13,218
Kivalliq	3,639	4,358	4,973	5,832	6,868
Kitikmeot	2,541	2,943	3,402	4,030	4,644
Iqaluit	2,320	2,332	2,947	3,552	4,220
Rankin Inlet	852	1,150	1,374	1,706	2,058
Cambridge Bay	612	808	1,002	1,118	1,351
Regional Centres (3)	3,784	4,290	5,323	6,376	7,629
Larger Communities (8)	5,521	6,425	7,265	8,367	9,713
Smaller Communities (14)	4,052	4,705	5,462	6,505	7,388
Regional Centres (3)	3,784	4,290	5,323	6,376	7,629
SA Dependency lower (10)	4,609	5,017	5,695	6,509	7,438
SA Dependency higher (12)	4,891	5,772	6,640	7,752	9,037
Arctic Bay	388	375	477	543	639
Cape Dorset	677	784	872	961	1,118
Clyde River	348	442	471	565	708
Grise Fiord	120	106	114	130	148
Hall Beach	287	349	451	526	543
Igloolik	675	746	857	936	1,174
Lqaluit	2,320	2,332	2,947	3,552	4,220
Kimmirut	233	252	326	366	397
Nanisivik		261	315	294	287
Pangnirtung	807	838	1,004	1,135	1,243
Pond Inlet	500	705	796	974	1,154
Qikiqtarjuaq	351	378	439	461	488
Resolute Bay	171	168	184	171	198
Sanikiluaq	300	383	422	526	631
Arviat	835	1,047	1,189	1,323	1,559
Baker Lake	856	947	1,009	1,186	1,385
Chesterfield Inlet	241	225	294	316	337
Coral Harbour	414	433	477	578	669
Rankin Inlet	852	1,150	1,374	1,706	2,058
Repulse Bay	264	369	420	488	559
Whale Cove	177	187	210	235	301
Cambridge Bay	612	808	1,002	1,118	1,351
Gjoa Haven	416	544	650	783	879
Kugluktuk	755	814	888	1,069	1,201
Pelly Bay	246	248	297	409	496

Taloyoak	439	449	488	580	648

Note 10.2 Population by Type/Region/Community

Population Details by Region/Type/Community, 1991-96 Census

	Pop. Growth 1991-96	% Growth 1991-96	Inuit Pop. 1996	Non-Inuit Pop. 1996	Inuit as % of Pop.
Nunavut	3,486	16.4%	20,880	3,850	84.4%
Baffin	1,833	16.1%	10,470	2,748	79.2%
Kivalliq	1,034	17.7%	5,980	888	87.1%
Kitikmeot	619	15.4%	4,430	214	95.4%
Lqaluit	668	18.8%	2,555	1,665	60.5%
Rankin Inlet	352	20.6%	1,540	518	74.8%
Cambridge Bay	233	20.8%	1,005	346	74.4%
Regional Centres (3)	1,253	19.7%	5,100	2,529	66.9%
Larger Communities (8)	1,346	16.1%	8,935	778	92.0%
Smaller Communities (14)	868	14.7%	6,260	1,128	84.7%
Regional Centres (3)	1,253	19.7%	5,100	2,529	66.9%
SA Dependency lower (10)	929	14.3%	6,515	923	87.6%
SA Dependency higher (12)	1,285	16.6%	8,395	642	92.9%
Arctic Bay	96	17.7%	590	49	92.3%
Cape Dorset	157	16.3%	1,010	108	90.3%
Clyde River	143	25.3%	665	43	93.9%
Grise Fiord	18	13.8%	135	13	91.2%
Hall Beach	17	3.2%	500	43	92.1%
Igloolik	238	25.4%	1,075	99	91.6%
Lqaluit	668	18.8%	2,555	1,665	60.5%
Kimmirut	31	8.5%	355	42	89.4%
Nanisivik	-7	-2.4%	40	247	13.9%
Pangnirtung	108	9.5%	1,160	83	93.3%
Pond Inlet	180	18.5%	1,085	69	94.0%
Qikiqtarjuaq	27	5.9%	465	23	95.3%
Resolute Bay	27	15.8%	155	43	78.3%
Sanikiluaq	105	20.0%	590	41	93.5%
Arviat	236	17.8%	1,465	94	94.0%
Baker Lake	199	16.8%	1,250	135	90.3%
Chesterfield Inlet	21	6.6%	305	32	90.5%
Coral Harbour	91	15.7%	625	44	93.4%
Rankin Inlet	352	20.6%	1,540	518	74.8%
Repulse Bay	71	14.5%	525	34	93.9%
Whale Cove	66	28.1%	285	16	94.7%
Cambridge Bay	233	20.8%	1,005	346	74.4%
Gjoa Haven	96	12.3%	825	54	93.9%

Kugluktuk	132	12.3%	1,065	136	88.7%
Pelly Bay	87	21.3%	465	31	93.8%
Taloyoak	68	11.7%	600	48	92.6%

Note 10.3 Capital Plan – Expenditure by Community

		$(000's)						
Plant	Community	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	Totals
501	Cambridge Bay	68	65	1,200	0	0	0	1,333
502	Gjoa Haven	225	129	635	100	0	0	1,089
503	Taloyoak	0	85	50	2,000	0	0	2,135
504	Pelly Bay	40	296	250	0	0	0	586
505	Kugluktuk	0	733	0	0	0	0	733
601	Rankin Inlet	78	790	2,500	4,200	0	0	7,568
602	Baker Lake	0	0	925	0	140	0	1,065
603	Arviat	1,796	1,227	0	100	0	0	3,123
604	Coral Harbour	0	0	302	0	0	0	302
605	Chesterfield Inlet	0	128	713	60	0	100	1,001
606	Whale Cove	0	0	140	80	0	0	220
607	Repulse Bay	667	602	190	0	0	0	1,459
701	Iqaluit	473	1,411	6,666	3,720	1,760	1,227	15,257
702	Pangnirtung	0	25	0	700	0	0	725
703	Cape Dorset	0	0	0	3,100	0	0	3,100
704	Resolute Bay	0	0	200	2,416	0	0	2,616
705	Pond inlet	0	0	80	1,100	0	0	1,180
706	Igloolik	0	720	1,685	120	0	0	2,525
707	Hall Beach	235	0	0	2,120	0	0	2,355
708	Broughton Is.	0	28	0	330	5,050	140	5,548
709	Kimmirut	0	539	0	0	0	0	539
710	Arctic Bay	0	0	600	0	0	0	600
711	Clyde River	1,184	1,588	329	0	0	0	3,101
712	Grise Fiord	0	0	0	80	2,090	0	2,170
713	Sanikiluaq	0	0	150	300	0	0	450
700	(Baffin Various)	0	348	110	88	82	73	701
501/712	Cam Bay/Grise Fiord	0	50	0	0	0	0	50
	Totals	$4,766	$8,764	$16,725	$20,614	$9,122	$1,540	$61,531

Note 10.4 NTPC Capital Plan – Project Details

Plant	Description	Community	1999/00 ($'000)	2000/01 ($'000)	2001/02 ($'000)	2002/03 ($'000)	2003/04 ($'000)	2004/05 ($'000)
501	Residual Heat Recovery	Cambridge Bay			1,200			
502	Grounding	Gjoa haven			25			
502	Plant Ventilation	Gjoa haven			30			
502	Engine Replacement Cat 398	Gjoa haven			580			
502	Replace Fuel System	Gjoa haven				100		
503	Plant Feasibility Study	Taloyoak			50			
503	Replace Breakers	Taloyoak				2,000		
503	Tank Farm	Taloyoak						
504	Engine Replacement	Pelly Bay			250			
601	Residual Heat Distribution System	Rankin Inlet				2,800		
601	Engine Replacement/Air Start System	Rankin Inlet			2,500			
601	PLC Installation ??	Rankin Inlet				400		
601	Line Shed and Office Construction	Rankin Inlet				1,000		
602	Plant Feasibility Study	Baker Lake			60			
602	Construct Garage	Baker Lake			115			
602	Engine Replacement	Baker Lake			750			
602	Concrete Floor Repairs	Baker Lake					140	
603	Distribution System Upgrade	Arviat				100		
604	Engine Replacement	Coral Harbour			302			
605	Engine Replacement	Chesterfield Inlet			300			
605	Facility Expansion	Chesterfield Inlet			350			
605	Plant Heating Upgrade	Chesterfield Inlet				60		
605	Plant Ventilation Upgrade	Chesterfield Inlet						100
606	Plant Firewall Construction	Whale Cove			60			
606	PLC Convert Siemens/Allen Bradley	Whale Cove			80			
606	Fence Property	(Various)				80		
607	Soil Remediation	Repulse			60			
607	Renovate Transient Trailer	Repulse			50			
607	Fence Property	Various			80			
701	Relocate 12v200	Iqaluit			300			
701	Relocate Watsita 9R32	Iqaluit			711			
701	New Unit	Iqaluit			1,500			
701	Fence Property	(Various)			130			
701	Powerplant Cladding	Iqaluit			140			
701	Feeder Improvement ??	Iqaluit			200			
701	Mechanical Systems	Iqaluit			1,000			
701	Residual Heat Recovery	Iqaluit			2,000			
701	Build Sixplex Residential Unit	Iqaluit				1,200		
701	Construct Office Building and Reno.	Iqaluit				2,320	1,760	1,227
701	Glycol Recycling Facility	Iqaluit				200		
702	Engine Replacement	Pangnirtung				700		
703	Distribution System Upgrade	Cape Dorset				400		
703	Engine Replacement	Cape Dorset				700		
703	Residual Heat Recovery	Cape Dorset				2,000		
704	Residual Heat Distribution System	Resolute Bay				1,116		
704	Control System Upgrade	Resolute Bay			200			
704	Mechanical System Upgrade	Resolute Bay				100		
704	Pole Replacement	Resolute Bay				1,200		

Plant	Description	Community	1999/00 ($'000)	2000/01 ($'000)	2001/02 ($'000)	2002/03 ($'000)	2003/04 ($'000)	2004/05 ($'000)
501	Extend LAN	Cambridge Bay	68					
502	Replace Cat D353 Engine	Gjoa Haven	225					
504	Breaker Retrofit	Pelly Bay	40					
601	Extend LAN	Rankin Inlet	78					
603	Plant Electrical Upgrade and Automation	Arviat	569					
701	Electrical Upgrade	Iqaluit	400					
701	Lineman Safety Training Equipment	Iqaluit	4					
701	Replacement/Upgrade PC's	Nunavut	69					
707	Engine Removal and New Installation	Hall Beach	207					
707	Scada Installation	Hall Beach	28					
603	Residual Heat Distribution System	Arviat	1,227	1,227				
701	Tank Farm Expansion	Iqaluit		1,140	685			
706	Tank Farm Expansion Upgrade	Igloolik		720	1,185			
607	Powerhouse Ext.and Mech/Elec UpGrade	Repulse	667	442				
711	New Powerhouse	Clyde River	1,184	1,588	249			
502	Fence Installation	Gjoa Haven		98				
704	Engine Removal and New Installation	Resolute Bay						
501	Installation of Feeder and Multiline Gen.	Cambridge Bay		65				
503	Fence Installation	Taloyoak		54				
607	Engine Replacement	Repulse		160				
502	Scada Installation	Gjoa Haven		31				
503	Scada Installation	Taloyoak		31				
708	Scada Installation	Broughton		28				
601	Minimum Mechanical/Electrical Upgrade	Rankin Inlet		790				
504	PLC and New DC Control Installation	Pelly Bay		116				
700	Vehicle Replacement	Nunavut		348				
501/712	Vehicle Additions and ATV	CamBay/Grise		50				
605	Tank Farm Painting and Const. Catwalk	Chesterfield		128	63			
701	HVAC System-Iqaluit Office	Iqaluit		68				
505	Engine Replacement	Kugluktuk		733				
709	Air Start System	Kimmirut		60				
709	PLC Installation	Kimmirut		80				
701	Integrate Satellite PLC to Iqaluit Scada	Iqaluit		50				
504	Residual Heating System Upgrade	Pelly Bay		180				
701	Distribution System Upgrade Study	Iqaluit		75				
702	Residual Heat for Main Office	Pangnirtung		25				
701	Lathe for Mechanical Shop	Iqaluit		28				
701	Circuit Breaker Testing Equipment	Iqaluit		50				
709	Transient Trailer	Kimmirut		126				
709	Engine Replacement	Kimmirut		273				
705	Fence Property	(Various)			80			
705	Bulk Fuel Storage Tank	Pond Inlet				600		
705	Engine Replacement	Pond Inlet				500		
706	Engine Replacement	Igloolik			500			
706	Fence Property	(Various)				120		
707	Fence Property	(Various)				80		
707	Residual Heat Recovery	Hall Beach				2,000		
707	Transient Trailer Renovation	Hall Beach				40		
708	Fence Property	(Various)				80		

Plant	Description	Community	1999/00 ($'000)	2000/01 ($'000)	2001/02 ($'000)	2002/03 ($'000)	2003/04 ($'000)	2004/05 ($'000)
708	Engine Replacement	Broughton				250		
708	Plant Floor Rehab	Broughton						140
708	Plant/Electrical Upgrade	Broughton					5,000	
708	Warehouse Construction	Broughton					50	
710	Engine Replacement	Arctic Bay						
710	Fuel Storage	Arctic Bay			600			
711	Fence Property	(Various)			80			
712	Fence Property	(Various)				80		
712	PLC Installation	Grise Fiord					90	
712	Facility Upgrade	Grise Fiord					2,000	
713	Plant Upgrade	Sanikiluaq			150			
713	Engine Replacement	Sanikiluaq				300		
700	Scada Installation Program	(Various)			110	88	82	73
	Grand Total		4,766	8,764	16,725	20,614	9,122	1,540

Note 10.5 Public Utility Financing

Electric utilities require long and short term financing. Generally, the capital intensive nature of utilities require substantial long term borrowing, with short term financing needed for operating capital.

Typically, an electric utility will have the following assets:

- utility plant - physical plant net of accumulated amortization and construction work in progress
- other property and investments - investment in associated companies, non-utility plant less accumulated amortization and special funds such as sinking fund assets, capital replacement funds
- current and accrued assets – cash and accounts receivables, prepaid expenses, temporary investments, materials and supplies
- deferred assets – unamortized financing costs, rate stabilization funds, regulatory costs, reserve for injuries and damages)

These assets will need to be financed by a mixture of short and long term liabilities including:

- proprietary capital – including common and preferred stock
- long term debt – including obligations under capital leases
- other non-current liabilities – rate refunds, pensions and benefits, etc.
- current and accrued liabilities – notes and accounts payable, customer deposits, accrued liabilities (e.g. dividends declared), current portion of long-term debt, etc.
- deferred credits – customer contributions/advances for construction, donations of assets, etc.

Regulatory commissions are not only concerned with the company's total capitalization, but also with the composition of its capital structure i.e. the proportion of debt and equity. Historically, public utilities have issued about 50% of their securities in bonds and 50% in equity (preferred and common). An examination of the company's capital structure is critical to ensure that the debt and equity mix represents an optimal blend, one that will provide the issuers of capital a reasonable degree of comfort in lending considerations and will result in the least overall cost to consumers. If there is too much debt compared to equity the risk increases and correspondingly the cost of borrowing and thereby the cost to consumers. Similarly, because of the risk associated with equity investment, the return on shareholders invested money is usually higher than the cost of debt so consumers will pay more if there is too much equity in the capital structure.

Note 10.6 NTPC Franchise Agreements in Nunavut

Community	Franchise Status
Arctic Bay	Expires Jul 12, 2004
Arvlat	Expires Jul 12, 2004
Broughton Island	Expires May 25, 2004
Cambridge Bay	Expires Nov 6, 2007
Gjoa Haven	Expires Oct 31, 2006
Grisa Fiord	Expires Aug 9, 2004
Igloolik	Expires Oct 31, 2006
Iqaluit	Expires Feb 26, 2006
Kuglutuk (Coppermine)	Expires Aug 9, 2004
Pangnimung	Expires May 25, 2004
Pelly Bay	Expires Aug 9, 2004
Pond Inlet	Expires Aug 9, 2004
Rankin Inlet	Expires Jul 12, 2004
Repulse Bay	Expires Jun 27, 2004
Resolute Bay	Expires Jul 12, 2004
Taloyoak (Spence Bay)	Expires Jul 12, 2004
Baker Lake	No franchise - To start over
Cape Dorset	No franchise - To start over
Chesterfield Inlet	No franchise - 2nd reading completed – continue follow-up
Clyde River	No franchise - 2nd reading completed – continue follow-up
Coral Harbour	No franchise – To negotiate
Hall Beach	No franchise - 1st reading completed – continue follow-up
Kimminut (Lake Harbour)	No franchise – Waiting for documentation
Sanikiluaq	No franchise – To negotiate
Whale Cove	No franchise - Waiting for documentation

Note 10.7 Government Payments for Nunavut Power

Area	Government Domestic	Commercial	Street Lights	Total	Non Government Domestic	Total Sales Revenue
Kitikmeot	$2,474,680	$2,360,430	$180,340	$5,015,450	$1,719,092	$8,739,928
Keewatin	2,933,260	3,259,936	236,440	6,429,636	2,443,215	11,780,495
Iqaluit	5,577,492	6,790,444	539,792	12,907,728	4,588,145	24,609,569
Total	10,985,432	12,410,810	956,572	24,352,814	8,750,452	45,129,992
TPSP					$4,300,000	
			Gov. Direct Costs	$24,352,814		
			Gov. Indirect Costs (TPSP)	$4,300,000		
			Total Gov.	$28,652,814		
			Gov. % Sales Revenue	63.49%		

Note: This calculation is based on readily available data. There are additional GN indirect payments that can only be identified by a bill by bill analysis. As well, there are indirect subsidies in areas such as fuel costs – if fuel is 45% of operating cost and fuel is subsidized 10% the result would be a 4.5% indirect subsidy. Consequently, the real share of the total Nunavut power bill paid by the GN is probably in the high end of the 65% to 75% range.

Note 10.8 Forecast NPC Head Office Costs

Description	Option A Minimum Outsourcing		Option B Moderate Outsourcing		Option C Maximum Outsourcing
Total number of Head Office staff	27		14		2
Existing Head Office staff in Iqaluit	8		8		8
Additional Head Office staff needed	19		6		-6
1. ONE TIME COSTS	($000)		($000)		($000)
Computer and Software	$200		$100		$0
LAN Hardware and Software	$100		$60		$0
PC Workstations and Software	$95		$30		$10
Furniture and Equipment	$171		$54		$20
Pool Vehicles	$44		$20		$0
New Staff – Recruitment	$46		$14		$5
New Staff – Moving Costs	$238		$68		$17
New Staff – Training	$232		$73		$24
Total One Time Costs	$1126		$419		$76
2. ANNUAL OPERATING COSTS					
Salaries and Benefits	$2,700		$1,400		$200
Medical Travel	$49		$25		$4
Recruitment of replacement staff	$12		$6		$1
Removals for replacement staff	$38		$19		$3
Employee training and upgrading	$49		$25		$4
Head office travel	$100		$50		$15
Legal & consulting	$40		$40		$20
Miscellaneous expenses	$75		$50		$50
Pool vehicle O&M	$7		$4		$0
Office Space Needed (sq ft)	7,015		4,015		700
Office Lease @ $34.15/sq Ft/Annum	$240		$137		$24
Housing Leases-Number of Units	20		10		1
1 Bedroom @ $1,900/Month-$22,800/Annum	7	$160	3	$68	0 $0
2 Bedroom @ $2,200/Month-$26,400/Annum	7	$185	3	$79	0 $0
3 Bedroom @ $2,700/Month-$32,400/Annum	6	$194	4	$130	1 $32
Total House Lease Costs	20	$539	10	$277	1 $32
Housing Utilities @ $500/Month/Unit		$120		$60	$6
Staff House Rental Revenue					
1 Bedroom @ $1,009/Month-$12,108/Annum	7	-$85	3	-$36	0 $0
2 Bedroom @ $1,045/Month-$12,540/Annum	7	-$88	3	-$38	0 $0
3 Bedroom @ $1,383/Month-$16,596/Annum	6	-$100	4	-$66	1 -$17
Total Staff House Rental Revenue	20	-$272	10	-$140	1 -$17
Total Annual Operating Costs		$3,697		$1,953	$343

Notes on NPC Head Office Cost Estimates

In preparing costs estimates for each of the options being studied, it was necessary to make a number of assumptions. In general, it was assumed

that GN policies would be applied to both the NPC and GN Department models, particularly with respect to office space and housing.

Office Space

- Lease versus Own: It was assumed that office space would be leased on the private market for a 10 year term with the leasehold (tenant) improvements completed by the landlord and amortized over the term of the lease. Average Iqaluit market rates were used.
  - Base Rent: $19.14/Sq Ft
  - O&M: $9.60
  - Leasehold Improvements: $5.41 ($37.17 amortized @8% -- 10 Yr.)
  - Total Rents: $34.15/Sq Ft
- Office Area (Sq Ft): The GN Office Space Standards and Guidelines for the allocation of office space were used to determine the Square Footage to be leased.
- Furniture & Equipment: An average cost of $9,000 per employee was used for the purchase of furniture, fax and copy machines and a phone system.
- Personal Computers: An average cost of $5,000 per employee was used for the purchase of PC's, software and workstations.

Staff Housing:

The GN draft Staff Housing Policy for the allocation of GN accommodation and collection of rents. An equal mix of one, two and three bedroom units was assumed and that 75% of the employees would be eligible for staff accommodation. (Considering two GN employee families and privately owned housing). All accommodation would be leased on the private market and average lease and staff rental rents applied. Furnishing of the units would be the responsibility of the employees.

Unit	Size (Sq. Ft.)	* Lease ($/Month)	**Staff Rent ($/Month)
One Bedroom	625	$1,900	$1,009
Two Bedroom	800	$2,200	$1,045
Three Bedroom	1050	$2,700	$1,383

*Water and fuel are extra and paid by the GN at an Average of $500/month/unit.

** Includes all utilities except electricity

Vehicles:

GN departments employ a vehicle pool system. The vehicles are purchased by the GN and maintained by the DPWTTS.

- Purchase price FOB Iqaluit: Sedan $20,000 Minivan $24,000
- O&M Costs (Fuel, Maintenance & Repairs) $3,500/annum

Insurance is provided through a blanket policy for all assets and the costs are not included in the above O&M estimate. Where only one vehicle is required it was assumed to be a sedan. Where two vehicles are required, one is a sedan and the second a minivan.

Computer Services:

The GN has a centralized computer system with the capacity to handle the extra load imposed by the minimum outsourcing option. The PPD currently operates on the GN mainframe at an annual cost of about $410,000 including software maintenance and upgrades. The PPD is approximately the same size as a potential power operation, in terms of the number of customers receiving fuel deliveries and electrical services. For the purposes of this Report, it was assumed dedicated hardware and software would be purchased for both the NPC and department options, but it would be expected that computer services would be examined in detail once decisions had been made on the extent of outsourcing and the actual model to be employed.

Staffing:

- Severance Costs: Depending on which option is selected, there may be the need for layoffs. With the downsizing of NTPC in the west and perhaps the NTPC Head Office component currently located in Iqaluit, there may be a need for layoffs and resulting severance payments. Whether the NTPC or the GN/NPC makes these payments would be the subject of negotiation.
- Staff Recruitment/Initial: An average cost of $2,400 to recruit a new employee at setup was provided by the NTPC for Utility personnel.
- Staff Removal In/Initial: An average cost per new employee of $17,000 to cover transportation of the employee, personal and household effects. For options A&B it was assumed that approximately 75% of the employees would be recruited outside Iqaluit.
- Staff Recruitment/On Going: Because of staff turnover, recruitment of replacement staff is estimated to cost $454/employee on strength/annum.
- Staff Removals/On Going: An average cost of $1,395/employee on strength/annum.
- Medical Travel: An allowance of $1,800 per employee per year.
- Staff Training/Initial: An allowance of $12,250/new employee is included for initial job training and familiarization. This includes training at the NTPC headquarters in Hay River.

- Staff Training/On Going: Annual training and upgrading costs are estimated at $2,000/employee.
- Salaries: Based on information provided by the NTPC, the average annual salary, including vacation, travel and other benefits is $100,000.

Note 10.9 High/Low NPC Cost Scenarios

Description	Low Case	High Case
1. One-time costs	$'000's	$'000's
"Leaving" costs – this is the estimated cost applying the three-step methodology incorporated in the Transition Agreement in the division of assets and liabilities of NTPC.	1800	2200
Transition – legal and consulting – these represent the estimated amount of additional costs associated with the creation of a new corporation, including:	200	600
Ensuring that there is a proper and fair split of assets and liabilities in accordance with the Transition Agreement		
Dealing with human resource issues – severance, termination new public service union		
Assuming contracts (short and long term) currently administered by NTPC		
Dealings with financial institutions regarding the appropriate changes in the debt instruments		
Proper and orderly transition of franchise agreements from NTPC to Nunavut Power Corporation		
Passage of new legislation and/or changes to the existing legislation to enable Nunavut Power Corporation to commence operations		
Negotiate system management agreement		
Transition Misc. – Costs of terminating contracts, paying NTPC's severance liability, debt restructuring premiums, etc.	0	300
Head office set up costs –costs incurred in setting up of new head office. Details in Attachments Note 10.8 (computers, staffing, training, furniture, etc.) Costs depend on level of outsourcing.	100	1100
Total One-Time Cost	2100	4200
2. Annual On-going Costs		
Head office costs will vary depending on the choice of outsourcing mode and include salaries, office space, vehicles, housing costs etc	350	3700
Corporate Affairs, including expenses associated with the Board of Directors (per diem, travel, etc)	50	150
System Management Fees – depend on outsourcing option negotiated	750	3000
Total Annual Cost	1150	6850

Comment [APM2]: AM to review with Les Clegg

Comment [APM3]: AM to review with Les Clegg

In the Report, references are made to "one-time" and "on going" costs expected with the set-up and operation of the Nunavut Power Corporation. The Table above summarizes these costs. This are best estimates based on very limited information and should be viewed from the perspective of order of magnitude rather than precise costs. They assume a head office location in Iqaluit since that is the present location of NTPC's head office in Nunavut and there is sufficient data to prepare

estimates. If the decision is to proceed with an independent NPC, and some other community is considered for the head office, a study would need to be done on the cost differential between that community and Iqaluit. The only evidence available for this Report suggested a head office at Baker Lake might increase costs by 35%, but more data is needed to do any realistic assessment.

The following table shows the impact on domestic customer rates of amortizing the one-time costs over 5 years. This is the impact of the one time NPC costs only, without factoring in any potential savings or higher costs that might be associated with operating NPC. The net impact from considering all factors is shown in Note 10.10.

Start Up Cost Impact on Domestic Customer

Average Annual Cost	5-Yr. Average Kwh	Cents/Kwh	Annual Rate Increase	Current average annual cost***	Increase on annual bill
$440,000*	114,042,233	0.3858	$27.78	$2,696	1.03%
$840,000**	114,042,233	0.7366	$53.03	$2,696	1.97%

Source: Energy (Kwh) from NTPC

* Per Attachments Note 10.9, total high side cost of $4.2 million, less $2.0 million assumed to come from GN revenues, amortized over 5 years.
** Per Attachments Note 10.9, total of high side costs, with no contribution from GN general revenues, amortized over 5 years.
*** Using Board approved average cost of $0.3745/Kwh times 7200 Kwh/year

Note 10.10 Cost Impact - Independent NPC 1

OPTION A - MINIMUM OUTSOURCING		Base Year 2000/2001	Yr. 1 2001/2002	Yr. 2 2002/2003	Yr. 3 2003/2004	Yr. 4 2004/2005	Yr. 5 2005/2006
1. Current customer cost of service - all Nunavut communities		43,334,599	45,501,329	47,776,395	50,165,215	51,670,172	53,220,277
2. Total consumption	KWH	111,969,636	114,860,501	117,119,702	119,423,056	121,717,566	124,054,543
3. Average cost per Kwh (cents/kwh)	cents/Kwh	38.70	39.61	40.79	42.01	42.45	42.90
ALT A : ASSUME CONTRIBUTION FROM THE GN TOWARDS THE ONE-TIME COSTS							
Incremental Charges in setting up the Nunavut Power Corporation							
4. One-time Charges							
- "Leaving" costs as per the Transition Agreement	$2,000,000						
- Legal/Consulting Fees to set up new corporation	$500,000						
- Nunavut's portion of accrued severance liability	$200,000						
- head office costs	$1,100,000						
Total Costs of setting up corporation	$3,800,000						
Less: Contribution from the GN	($2,000,000)						
Balance to be amortized over 5 years	$1,800,000		360,000	360,000	360,000	360,000	360,000
5. On-going operating expenses re Head Office Expenses			3,700,000	3,811,000	3,925,330	4,043,090	4,164,383
6. System Service Provider Fees			750,000	787,500	826,875	868,219	911,630
7 Corporate Affairs and governance			100,000	105,000	110,250	115,763	121,551
8. Elimination of NTPC Head office costs			(4,500,000)	(4,500,000)	(4,500,000)	(4,500,000)	(4,500,000)
9. O&M Savings estimated from outsourcing			(500,000)	(525,000)	(551,250)	(578,813)	(607,753)
10. Total incremental costs to be paid by the customers of Nunavut			(90,000)	38,500	171,205	308,259	449,810
11. Revised customer cost of service			45,411,329	47,814,895	50,336,420	51,978,430	53,670,087
12. Average cost per Kwh (cents/kwh)			39.54	40.83	42.15	42.70	43.26
13. Increase (decrease) in average rate (Cents/Kwh)			(0.08)	0.03	0.14	0.25	0.36
14. Increase (decrease) in average rate (in %)			-0.20%	0.08%	0.34%	0.60%	0.85%
15 Incr (decr) in annual bill for domestic customer	L13/100*7200Kwh		(5.64)	2.37	10.32	18.23	26.11
ALT B : ASSUME NO CONTRIBUTION FROM THE GN TOWARDS THE ONE-TIME COSTS							
16. Costs per Line 11, plus $2,000,000/5 years			45,811,329	48,214,895	50,736,420	52,378,430	54,070,087
17. Average cost per Kwh (cents/kwh)	L16/L2		39.88	41.17	42.48	43.03	43.59
18. Increase (decrease) in average rate (Cents/Kwh)	L17-L3		0.27	0.37	0.48	0.58	0.69
19. Increase (decrease) in average rate (in %)			0.68%	0.92%	1.14%	1.37%	1.60%

20.	Incr. (decr.) in annual bill for domestic customer	L18/100*7200Kwh	19.43	26.96	34.44	41.90	49.32

Note 10.10 Cost Impact - Independent NPC 2

OPTION B - MODERATE OUTSOURCING		Base Year 2000/2001	Yr. 1 2001/2002	Yr. 2 2002/2003	Yr. 3 2003/2004	Yr. 4 2004/2005	Yr. 5 2005/2006
1. Current customer cost of service - all Nunavut communities		43,334,599	45,501,329	47,776,395	50,165,215	51,670,172	53,220,277
2. Total consumption	KWH	111,969,636	114,860,501	117,119,702	119,423,056	121,717,566	124,054,543
3. Average cost per Kwh (cents/kwh)	Cents/Kwh	38.70	39.61	40.79	42.01	42.45	42.90
ALT A : ASSUME CONTRIBUTION FROM THE GN TOWARDS THE ONE-TIME COSTS							
Incremental Charges in setting up the Nunavut Power Corporation							
4. One-time Charges							
- "Leaving" costs as per the Transition Agreement	$2,000,000						
- Legal/Consulting Fees to set up new corporation	$500,000						
- Nunavut's portion of accrued severance liability	$200,000						
- head office costs	$400,000						
Total Costs of setting up corporation	$3,100,000						
Less: Contribution from the GN	($2,000,000)						
Balance to be amortized over 5 years	$1,100,000		220,000	220,000	220,000	220,000	220,000
5. On-going operating expenses re Head Office Expenses			2,000,000	2,060,000	2,121,800	2,185,454	2,251,018
6. System Service Provider Fees			1,750,000	1,837,500	1,929,375	2,025,844	2,127,136
7 Corporate Affairs			100,000	105,000	110,250	115,763	121,551
8. Elimination of NTPC Head office costs			(4,500,000)	(4,500,000)	(4,500,000)	(4,500,000)	(4,500,000)
9. O&M Savings estimated from outsourcing			(500,000)	(525,000)	(551,250)	(578,813)	(607,753)
10. Total incremental costs to be paid by the customers of Nunavut			(930,000)	(802,500)	(669,825)	(531,752)	(388,049)
11. Revised customer cost of service			44,571,329	46,973,895	49,495,390	51,138,419	52,832,228
12. Average cost per Kwh (cents/kwh)			38.80	40.11	41.45	42.01	42.59
13. Increase (decrease) in average rate (Cents/Kwh)			(0.81)	(0.69)	(0.56)	(0.44)	(0.31)
14. Increase (decrease) in average rate (in %)			-2.04%	-1.68%	-1.34%	-1.03%	-0.73%
15 Incr (decr) in annual bill for domestic customer			(58.30)	(49.33)	(40.38)	(31.45)	(22.52)
ALT B : ASSUME NO CONTRIBUTION FROM THE GN TOWARDS THE ONE-TIME COSTS							
16. Costs per Line 11, plus $2,000,000/5 years			44,971,329	47,373,895	49,895,390	51,538,419	53,232,228
17. Average cost per Kwh (cents/kwh)	L16/L2		39.15	40.45	41.78	42.34	42.91
18. Increase (decrease) in average rate (Cents/Kwh)	L17-L3		(0.46)	(0.34)	(0.23)	(0.11)	0.01
19. Increase (decrease) in average rate (in %)			-1.16%	-0.84%	-0.54%	-0.25%	0.02%

20.	Incr (decr) in annual bill for domestic customer	L18/100*7200Kwh	(33.22)	(24.74)	(16.27)	(7.79)	0.69

Note 10.10 Cost Impact - Independent NPC 3

OPTION C - MAXIMUM OUTSOURCING		Base Year 2000/2001	Yr. 1 2001/2002	Yr. 2 2002/2003	Yr. 3 2003/2004	Yr. 4 2004/2005	Yr. 5 2005/2006
1. Current customer cost of service - all Nunavut communities		43,334,599	45,501,329	47,776,395	50,165,215	51,670,172	53,220,277
2. Total consumption	KWH	111,969,636	114,860,501	117,119,702	119,423,056	121,717,566	124,054,543
3. Average cost per Kwh (cents/kwh)	cents/Kwh	38.70	39.61	40.79	42.01	42.45	42.90
ALT A : ASSUME CONTRIBUTION FROM THE GN TOWARDS THE ONE-TIME COSTS							
Incremental Charges in setting up the Nunavut Power Corporation							
4. One-time Charges							
- "Leaving" costs as per the Transition Agreement	$2,000,000						
- Legal/Consulting Fees to set up new corporation	$500,000						
- Nunavut's portion of accrued severance liability	$200,000						
- head office costs	$100,000						
Total Costs of setting up corporation	$2,800,000						
Less: Contribution from the GN	($2,000,000)						
Balance to be amortized over 5 years	$800,000		160,000	160,000	160,000	160,000	160,000
5. On-going operating expenses re Head Office Expenses			350,000	360,500	371,315	382,454	393,928
6. System Service Provider Fees			3,000,000	3,150,000	3,307,500	3,472,875	3,646,519
7 Corporate Affairs			100,000	105,000	110,250	115,763	121,551
8. Elimination of NTPC Head office costs			(4,500,000)	(4,500,000)	(4,500,000)	(4,500,000)	(4,500,000)
9. O&M Savings estimated from outsourcing			(500,000)	(525,000)	(551,250)	(578,813)	(607,753)
10. Total incremental costs to be paid by the customers of Nunavut			(1,390,000)	(1,249,500)	(1,102,185)	(947,721)	(785,756)
11. Revised customer cost of service			44,111,329	46,526,895	49,063,030	50,722,451	52,434,521
12. Average cost per Kwh (cents/kwh)			38.40	39.73	41.08	41.67	42.27
13. Increase (decrease) in average rate (Cents/Kwh)			(1.21)	(1.07)	(0.92)	(0.78)	(0.63)
14. Increase (decrease) in average rate (in %)			-3.05%	-2.62%	-2.20%	-1.83%	-1.48%
15 Incr (decr) in annual bill for domestic customer	L13/100*7200Kwh		(87.13)	(76.81)	(66.45)	(56.06)	(45.60)
ALT B : ASSUME NO CONTRIBUTION FROM THE GN TOWARDS THE ONE-TIME COSTS							
16. Costs per Line 11, plus $2,000,000/5 years			44,511,329	46,926,895	49,463,030	51,122,451	52,834,521
17. Average cost per Kwh (cents/kwh)	L16/L2		38.75	40.07	41.42	42.00	42.59
18. Increase (decrease) in average rate (Cents/Kwh)	L17-L3		(0.86)	(0.73)	(0.59)	(0.45)	(0.31)

19.	Increase (decrease) in average rate (in %)	-2.18%	-1.78%	-1.40%	-1.06%	-0.72%
20.	Incr (decr) in annual bill for domestic customer	(62.06)	(52.22)	(42.33)	(32.40)	(22.39)

Assumptions for Note 10.10 Cost Impact Calculation

In developing an estimate of the cost impacts on customers stemming from the commencement of Nunavut Power Corporation's operations, we have had to incorporate a number of significant assumptions. The analysis of cost impacts to customers is therefore very sensitive to the assumptions used. A change in one or more of these assumptions may have a material impact on the results of this exercise. Further, the estimated cost impacts do not reflect any rate subsidy program that may be implemented by the Nunavut Power Corporation or the GN.

- General

Costs associated with three scenarios were developed – Minimum, Moderate and Maximum Outsourcing options. Common set of assumptions, as noted below, was made for each of these three options. In addition, for each option, Alternative A presents a calculation assuming that the $2 million associated with the "walk-away" costs was paid by the GN and Alternative B assumes these costs were paid by the customers.

- Line 1 – cost of service or revenue requirements

The base year cost of service assumes that the existing rate revenue levels (or the approved utility revenue requirement) approved by the Board in Decision 12-97 will apply in the base year 1999/2000. This is based on a further assumption that NTPC will not file a GRA requesting the Board to increase rates during the Transition Period. For the years commencing 2001/2002, the total cost of service is escalated at 5% for the first three years and 3% for years 4-5. This escalation represents increases in costs of O&M, fuel, etc.

- Line 2 – consumption in Kwh

Total consumption figures were derived for the NTPC's response to Ikuma Working Group's request for information. NTPC has provided the forecast consumption for the years up to 2004/2005. For the fifth year, 2005/2006, a 1.9% increase in consumption has been assumed, based on the increases in years 2, 3 and 4.

- Lines 4 and 16 – One time Costs and GN contribution

The "one-time" charges in setting up the new corporation are as per Attachments Note 10.8. In Alternative A, it is assumed that the GN will contribute $2 million to defray these costs; the balance of the costs is amortized over five years. Alternative B assumes that there is no contribution from the GN. Therefore, the $2 million is amortized over five years as additional customer cost.

- Line 5 – On going costs to operate Head Office

On going costs of Head Office operations as per Attachments Note 10.8. These costs have been escalated at 3% per annum

- Line 6 – System Service Provider Fees

The fees for the System Service Provider are based on a very preliminary estimate. Discussions with the prospective service providers will provide a better feel of the real numbers. Based on the preliminary review of the responses to the Request for Expressions of Interest, the fees for maximum level of outsourcing may be in the $3 million range.

- Line 7 – Corporate Governance

This cost represents an estimate of the cost of corporate governance, including the costs of the Board of directors.

- Line 8 – NTPC HO costs

The existing cost of service includes about $4.5 million for head office costs allocated from NTPC to Nunavut communities. With the decision to have the head office functions provided by an outsourcing agency (the System Service Provider), this cost will no longer be applicable.

- Line 9 – O&M Savings

Based on a preliminary assessment of the responses to the Request for Expressions of Interest, it appears that all respondents suggest that there can be savings in operating costs from the current levels. While some respondents have provided estimates of significant savings, we have assumed a conservative amount of $0.5 million per year, escalated by 5% per annum.

- Lines 15 and 20 – Annual Domestic Customer cost

It has been assumed that the annual consumption for an average domestic customer is about 600 Kwh per month, to 7200 Kwh per annum.

Note 10.11 Structuring Shared Services

There are a number of legal structures that the GN and GNWT could create to effectively split the assets and liabilities of NTPC and yet enable NTPC's existing head office to carry on system management services. For example:

.1 Two Corporations-Shared Model

An alternative model would have both Governments establish a separate corporation. the two corporations would establish a commonly held corporation (likely under the CBCA) which would operate the utility operations in both NWT and Nunavut. The establishment of this third corporation could again bring up the contentious issues of the need for the important matters of the negotiating of an acceptable USA, and the division of the assets and liabilities of the NTPC unless the parties agreed to operate this entity as a non-profit entity.

However the benefit of this approach would be to allow both governments to opt for a corporate vehicle of their choosing and to permit them freedom in dealing with the issue of profits. A possible approach to this "three corporations" model would be for the two governments rather than to establish a new third corporation to enter into a service supply contract with the NTPC. The benefit would be to ensure continuity and safe and reliable power and would avoid the cost and disruptive elements of the dismantling of the NTPC . In effect the two corporations once established would enter into a service contract with the NTPC.

This contract could be for a fixed term and price and would enable both governments to accurately budget for the cost of power. It would eliminate at the NTPC level most of the issues that arise in the other models such as share ownership, dividends, Board membership and so as the NTPC would be only the service supplier and likely generating little or no profits. Indeed such a model would eliminate the need to generate profits completely. The service contract with NTPC, or a third corporation, would achieve the supply of power to the two territories at the cheapest price possible. Each government would effectively pay its share of electrical consumption and would defray costs from its citizens in any manner it saw fit. It could maintain a subsidy program and use some of the "profits" to cover the costs or it could simply reduce the rates to a cost level and therefore not need to have any profits. The GN in this model would have a choice in the establishment of the primary utility corporation in whether it would be a CBCA, CCA or Crown

Corporation. This would allow the GN to weigh the various points raised elsewhere in this report.

.2 One Corporation–Shared Model

An alternate approach to the "two corporation" model would be the establishment of separate classes of shares and possibly the establishment of distinct representation within a single corporate structure. With this approach the steps would need to be taken to establish either a CBCA or a CCA corporation. If a CBCA model then each government would hold two classes of shares. The first class would deal with the "equity" issue and the second type to be issued would speak to the "day to day" side of the operations. This would permit the two governments to deal "up front" with the issue of the allocation of the assets and liabilities at the end of the Transition Agreement. Once established each government would be issued the equivalent percentage of common equity shares but of separate classes of shares. This would permit each government to be independent in its treatment of the profits attributable to the total equity shareholdings. It would allow both governments to run different subsidy program and to have freedom in how it chooses to deal with such profits.

The other type of shares to be issued to the two governments would be a type of share to be equally allocated to both governments. This type of share would via a USA cover the issues of Board make up and deal with the day to day operational matters so that each government had an equal say in the day to day affairs of the company. As well, it would be possible within this type of structure to arrange for there to be two separate substructures within the Board level so that each territory could be separately monitored and indeed managed. All profits and costs could be tracked and the amount of "profits" could be distributed back to the Territory that "earned" it, if this was wanted.

Note 10.12 Glossary of Terms

CBCA	Canadian Business Corporations Act
CCA	Canada Corporation Act
Crown Corporation	A Government owned Corporation
Debt:Equity Ratio	See Attachments Note 10.5
DEIA	Department of Executive and Intergovernmental Affairs, Gov't of Nunavut
DIAND	Department of Indian Affairs and Northern Development, Gov't of Canada
DPWTTS	Department of Public Works Telecommunications and Technical Services
FTE	"Full Time Equivalents"; The number of Person Years
GN	Government of Nunavut
GNWT	Government of the Northwest Territories
GRA	General Rate Application
KWH	Kilowatt Hour(s); The standard measure of electrical energy
NCPC	Northern Canada Power Commission
NFA	Nunavut Final Agreement
NIC	Nunavut Implementation Commisssion
NPC	Nunavut Power Corporation
NRC	Northern Representatives Committee
NTI	Nunavut Tunngavik Incorporated
NTPC	Northwest Territories Power Corporation
O&M	Operations and Maintenance
PPD	Petroleum Products Division of the DPWTTS
PU Act	Public Utilities Act
PUB	Public Utilities Board
RPR	Reserve for Plant Replacement
TPSP	Territorial Power Support Program
Outsourcing	Contracting outside the GN or Corporation for certain services