NEWFOUNDLAND POWER
A FORTIS COMPANY

Salt Pond Gas Turbine Relocation Project

March 2001

Executive Summary

Transmission-related outages make up a substantial portion of the total outage statistics in areas served by long radial transmission lines. A significant improvement in the reliability of service to these areas can be achieved by locating generation facilities on such radial lines.

A single radial transmission line historically served the Burin Peninsula. When Newfoundland & Labrador Hydro completed a second transmission line to this area in 1990, the need for local generation was greatly reduced. A review of operating records for the 13.4 MW Salt Pond gas turbine (GT) shows that on only 6 occasions over the past 10 years has the unit been operated to provide emergency generation for a transmission-related outage (3 of these instances were scheduled outages). Based on historical data, relocating this unit would increase SAIDI and SAIFI by an estimated 1.1 hours and 0.5 instances respectively for approximately 3,700 customers on the Burin Peninsula. The Salt Pond GT could be much better utilized if it were located in an area presently served by a single radial transmission line.

A review of transmission-related SAIDI and SAIFI reliability statistics indicated that the areas with the greatest need for transmission line improvements or local generation are Wesleyville, Twillingate, Trepassey and Old Perlican. As an aid in determining the site at which the Salt Pond GT would provide the greatest benefit, the cost per minute of reduction in customer outages was calculated for relocating the GT to each of these areas. This cost was also calculated for other possible solutions for the reliability problems in these areas. The other alternatives considered were: paralleling the existing transmission line with a second line, locating new stationary diesels in the area, and purchasing new mobile diesel generating units. The analysis indicated that relocating the Salt Pond GT is the most cost effective solution to the transmission reliability problem in each of the areas studied with the exception of Old Perlican. Of these areas, locating the unit in Wesleyville will provide the greatest overall benefit with a ratio of $0.613 per customer minute of outage reduced.

Another important factor considered in deciding where to relocate the Salt Pond GT was matching the load in the area with the capacity of the unit. The Trepassey and Old Perlican areas presently have 11.2 and 10.9 MVA of peak load respectively. However, the Salt Pond GT would be oversized with respect to the loads in the Trepassey and Old Perlican areas and there are options are available for improving reliability in these areas.

It is therefore recommended that the Salt Pond Gas Turbine be relocated to Wesleyville. It is recommended that environmental registration and equipment design/ordering be completed in 2001. However, the GT should not be taken out of service in Salt Pond until June 2002 with project completion in November 2002. The total capital cost of this project is estimated to be $2,906,000. Of this amount, $650,000 will be required to be spent on unit upgrades within the next year or two regardless of the relocation.

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Appendices

1 Introduction

Long radial transmission lines currently serve a number of areas within Newfoundland Power's (NP) service territory. The reliability of service to these areas is presently of concern, as indicated by the SAIDI and SAIFI statistics provided in Tables 1 and 2 in Appendix A. NP has studied the available alternatives for improving reliability to these areas. These include: paralleling the existing radial transmission line with a second line, installing a new source of generation at the end of the transmission line, or relocating an existing generator that may be underutilized at its present location. With regard to the last option, NP has identified its two gas turbine units at Salt Pond and Greenhill on the Burin Peninsula as currently being underutilized.

2 Gas Turbine Utilization on the Burin Peninsula

The Burin Peninsula is one area which until 1990 was also served by a single radial transmission line. To ensure reliability of service, NP had installed local generating capacity on the Burin Peninsula totaling 41.3 MW. This generating capacity is comprised of three hydro plants and two gas turbines. In late 1990, a second Burin Peninsula transmission line (TL219) was completed by Newfoundland and Labrador Hydro (NLH) to provide additional security and voltage support for the power supply to this area. TL219 significantly reduced the need for local generation on the peninsula for reliability purposes.

The Salt Pond and Greenhill gas turbines (GT) provide the bulk of NP's local generating capacity on the Burin Peninsula. The Salt Pond GT has a demonstrated capacity of 13.4 MW (nameplate capacity of 14.7 MW) and the Greenhill GT has a demonstrated capacity of 22.5 MW (nameplate capacity of 25 MW). From 1991 to 2000, these GTs have both been operated together on only 6 occasions to provide emergency generation for this area. Of these 6 starts, 3 have been in response to scheduled outages.

Based on this information, the generating capacity provided by these GTs is not being fully utilized from a reliability perspective. Relocating one or both of these units could provide much greater reliability benefits to areas served by long radial transmission lines.

Although the GTs have rarely been called upon since the completion of TL219, there have been circumstances whereby the presence of these units has prevented or mitigated an outage on the Burin peninsula. To evaluate the impact of relocating either of the GTs, operating data for the 1991-2000 period was collected and matched with customer interruption reports. Depending on the reason given for unit operation, and whether or not one or both of the gas turbines were operating, an estimate was made of the expected increase in customer minutes of outage on the Burin peninsula should one of the GTs be relocated.

The impact of relocating the Salt Pond unit on Burin area reliability is relatively slight. Approximately 3,700 customers will see an increase in SAIFI of 0.5 (or 1 additional

outage every 2 years) and an increase in SAIDI of 1.1 hours. Relocating the Greenhill GT would affect approximately 6,100 customers with a similar increase in SAIFI of 0.5 and an increase in SAIDI of 0.8 hours. These impacts assume that only one of the GTs is relocated and that the past 10 years of data is representative of future operating conditions. As shown in Appendix A, the customers served by Salt Pond substation have experienced relatively few outages (SAIFI=3.1) and outages of a relatively short-duration (SAIDI=2.1) on the transmission system since 1990.

3 Project Decision Criteria/Alternatives

Initially, consideration was given to seven areas presently served by transmission lines greater than 30 km in length. The list of seven areas, together with general information regarding the load and service reliability for each area is provided in Tables 1 and 2 in Appendix A.

Based on the SAIDI and SAIFI statistics for each area and considering the size of the Salt Pond unit and the number of customers that would benefit from the relocation, it was determined that the Placentia, Port Aux Basques and Baie Verte areas would not be considered for relocation of the GT.

The remaining four areas selected for further study included:

- Wesleyville
- Twillingate
- Trepassey
- Old Perlican

This report will investigate the potential benefits of locating one of the Burin GTs to one of these four areas presently served by a single radial transmission line. As the Greenhill GT is larger and more problematic to relocate, this study will focus on relocating the Salt Pond GT to an area that is presently without backup generation. However, for comparative cost purposes, relocating the Greenhill unit has been included as an alternative option for areas with higher load

3.1 Alternatives to Salt Pond GT Relocation

The alternative solutions to reliability problems in these areas include: paralleling the existing radial transmission line with a second line, locating a new stationary power plant at the end of the transmission line, or purchasing mobile generating capacity which could supply the local loads in these areas in the event of transmission line faults. Relocation of the larger Greenhill gas turbine was also considered as a possible alternative for the two sites having peak loads greater than the capacity of the Salt Pond unit (Wesleyville and Twillingate). The purchase of smaller capacity stationary generating units was also considered as an alternative for the areas where peak loads are currently substantially less than 13 MVA (Trepassey and Old Perlican).

The costs of paralleling the existing transmission lines were based on budgetary estimates provided by the Electrical Engineering group of Power Systems. These estimates assumed a standard cost of $75,000/km of 66 kV transmission line. The line lengths used assumed that the new line would be constructed along the same corridor as the existing line for each area.

The cost estimates for new diesel generation were based on budgetary quotes provided by generating suppliers. For the Wesleyville and Twillingate sites, new (out-of-the box) generating units providing 13 MW of capacity were considered. This alternative was also considered for the Trepassey and Old Perlican sites. However, at these latter two locations, smaller refurbished units were also evaluated as a possible alternative to the GT relocation. The refurbished units are less expensive in terms of $/kW, but the estimated asset lives are shorter and the reliability of such units may require further investigation should this alternative be pursued. The substation modifications, civil works and controls/auxiliaries estimates for all generation alternatives were based on the estimates prepared for the GT relocation. System benefits of new sources of generation were considered in the analysis by way of NP's capacity credit. As the need for new generation is not anticipated until 2007, no capacity credit was included in the analysis before that time.

Upgrading of the existing radial transmission line was not considered as an alternative in this study as such efforts would not be expected to positively impact reliability as much as the other alternatives being considered. Also, quantifying the benefits of the upgrading option would be difficult and therefore comparisons with other options would not be meaningful. Regardless of any decision to install local generation in these areas, NP is committed to continued upgrading and maintenance on the existing radial transmission lines to all these areas.

3.2 Reductions in Customer Minutes of Outage

For each of these areas, an estimate of the reduction in customer minutes of outage that could be realized through additional generation or transmission initiatives was calculated using historical interruption data. The data available covered the period January 1990 up to and including August 2000. The estimates were based on the assumption that all unscheduled transmission related outages exceeding 15 minutes would have been prevented if a gas turbine had been located at the end of the line in question. In addition, all scheduled transmission related outages and all scheduled NLH related outages would not have occurred.

Estimates of the reduction in customer minutes of outage vary for the transmission alternatives when compared with the generation options. This is due to the fact that the benefits for the generation alternatives are calculated considering a time lag (assumed to be 15 minutes) in responding to unscheduled outages. This lag would not occur in the case of a transmission line back-up. In addition, outages due to the loss of NLH infeed would not be alleviated with the transmission option. Reductions in these outages were not considered to be a benefit of this alternative as was the case for the generation

alternatives. The analysis has not considered the possibility that both transmission lines could fail in a single event. Neither has the capacity of the transmission line to serve loads greater than that estimated for the generation alternatives been valued. To some extent these study limitations will offset one another.

3.3 Economic Analysis

All costs used in the project justification and comparison of alternatives are incremental. The cost of any facility/system upgrades that would have been conducted within the next five years, regardless of decisions arising from this study, have been subtracted from the cost estimate for the appropriate alternative (after adjustments for timing differences). This applies primarily to the GT relocation alternative. Incremental operating costs were also used for the justification, which are shown as net of any quantifiable operating savings which would be realized.

Using a revenue requirement analysis, the present worth value of each of the alternatives was determined. The analysis accounted for the differences in asset lives, depreciation rates and CCA categories of the various assets. Copies of the revenue requirement analysis output spreadsheets are contained in Appendix B of this report.

The resulting present worth values were then levelized over a sixty year period and divided by the estimated reduction in customer minutes of outage per year. The resulting numbers provides a useful comparison of the costs and benefits of each option and is an important tool in determining which alternative is the best value for the money invested. A breakdown of the calculation of the Levelized Cost per Customer Minute can be found in Appendix D.

3.4 Alternative Sites

Wesleyville

The radial transmission line to Wesleyville originates at Gambo substation and serves 4 substations located at Hare Bay, Trinity, Greenspond, and Wesleyville. The 1999 peak loads at these substations were 2.9 MVA, 2.4 MVA, 0.8 MVA and 10.1 MVA respectively, for a total of 16.2 MVA. The 13.4 MW Salt Pond GT does not have the capacity to supply this entire load at peak. However, it is assumed that the total load from all of these stations could be carried for 82% of the year, and at all stations except Hare Bay for the entire year.

The Greenhill GT was also considered as an alternative at this site. This 22.5 MW unit would be capable of serving the entire load for this line at all times of year.

The potential annual reductions in customer minutes of outage at each station are provided in table 3-1. This table also provides the estimated benefit provided by a parallel transmission line and the various generation options.

Table 3-1

Sub.	SAIFI Improve.	SAIDI Improve.	Reduction in Customer Minutes of Outage per Year			
	Relocate Salt Pond GT			Relocate Greenhill GT	New 13MW Diesel	Parallel Transmission Line
WES	4.3	8.8 hrs	885,900	885,900	885,900	926,800
GPD	4.2	8.2 hrs	110,600	110,600	110,600	116,700
TRN	3.6	5.9 hrs	234,800	234,800	234,800	249,300
HBS	3.3	2.9 hrs	135,400	143,100	135,400	150,200
Burin	(0.5)	(1.1 hrs)	(255,700)	(315,100)	-	-
Total	-	-	1,111,000	1,051,600	1,366,700	1,443,000

The capital and operating cost estimates for the Wesleyville site for each alternative are provided in table 3-2. These costs are based on the assumption that the GT or new generation would be located at the existing Wesleyville substation site. The estimated costs per minute of reduction in customer outages by implementing each alternative are also provided in this table. More detail regarding the cost estimates for each alternative is provided in Appendix B of this report.

Table 3-2

Alternative	Expected Life of Asset	Initial Incremental Capital Cost	Net Operating Cost per Year	Levelized Cost per Customer Minute
Relocate Salt Pond GT	15	$2,256,000	$52,000	$0.613
Relocate Greenhill GT	15	$2,800,000	$52,000	$0.704
Transmission Line	29	$7,225,000	$90,000	$0.740
New 13MW Stationary Diesel	28	$8,300,000	$108,000	$0.939
New 13MW Mobile Diesel	28	$8,740,000	$108,000	$0.983

Twillingate

The radial transmission line to Twillingate originates at Clarke's Head (where transmission line 142L terminates) and serves 4 NP substations located at Summerford, Twillingate, Indian Cove (off SUM-01 feeder) and Boyd's Cove. No NP load is served by the Boyd's Cove substation but TL254, which serves NLH customers on Change Islands and Fogo, originates from this station. For the purposes of this study, no distinction has been made between NLH customers in Fogo and other NP customers as NP transmission lines serve all of these customers. The 1999 peak loads at these substations were 8.1 MVA (including Indian Cove), 7.2 MVA and 6.5 MVA respectively, for a total of 21.8 MVA. The 13.4 MW Salt Pond GT does not have the capacity to supply this entire load at peak. However, it was assumed that the total load from all of these stations could be carried for 62% of the year, and at Twillingate and Summerford substations for 87% of the year.

The Greenhill GT was also considered as an alternative at this site. This 22.5 MW unit was assumed to be capable of serving the entire load along this line at all times of the year.

The potential annual reductions in customer minutes of outage at each station are provided in table 3-3. This table also provides the estimated benefit provided by a parallel transmission line and the various generation options.

Table 3-3

Sub.	SAIFI Improve.	SAIDI Improve.	Reduction in Customer Minutes of Outage per Year			
	Relocate Salt Pond GT			Relocate Greenhill GT	New 13MW Diesel	Parallel Transmission Line
TWG	4.6	7.2 hrs	691,700	691,700	691,700	759,900
SUM	2.6	2.8 hrs	444,600	444,600	444,600	492,900
IND	2.6	3.5 hrs	74,000	74,000	74,000	80,500
Fogo	1.3	1.1 hrs	78,700	78,700	78,700	94,600
Burin	(0.5)	(1.1 hrs)	(255,700)	(315,100)	-	-
Total	-	-	1,033,300	973,900	1,289,000	1,427,900

The capital and operating cost estimates for the Twillingate site for each alternative are provided in table 3-4 below. These costs are based on the assumption that the GT or new generation would be located at the existing Twillingate substation site. The estimated costs per customer minute of outage reduced by implementing each alternative are also provided in this table. More detail regarding the cost estimates for each alternative is provided in Appendix B of this report.

Table 3-4

Alternative	Expected Life of Asset	Initial Incremental Capital Cost	Net Operating Cost per Year	Levelized Cost per Customer Minute
Relocate Salt Pond GT	15	$2,225,000	$55,500	$0.661
Relocate Greenhill GT	15	$2,885,000	$55,500	$0.776
Transmission Line	29	$6,430,000	$80,000	$0.664
New 13MW Stationary Diesel	28	$8,385,000	$111,500	$1.008
New 13MW Mobile Diesel	28	$8,825,000	$111,500	$1.054

Trepassey

The radial transmission line to Trepassey originates at Blaketown substation and serves 3 substations located at St. Catherines, Riverhead, and Trepassey. The St. Catherines substation was completed in 2000, and therefore interruption data for the load served by this station is limited. The analysis conducted as part of this study considered only Trepassey and Riverhead substation data. The actual benefits attributable to the Trepassey alternatives should exceed these estimates due to the fact that some of the load now served by St. Catherines was previously served by Blaketown substation and therefore would not have been included in this analysis. The 1999 peak loads at the Riverhead and Trepassey substations were 5.8 MVA and 3.7 MVA respectively. The estimated 35% of the Blaketown 02 feeder load transferred to St. Catherine's would add approximately 1.7 MVA to this 1999 peak for a total of 11.2 MVA.

The Salt Pond GT would have excess capacity in handling this entire load at peak and with negligible (or even negative) annual load growth, this unit would be oversized for the load it would be serving in this area for many years. This is undesirable from the perspective of underutilization of generating resources and the transmission losses associated with transporting energy great distances to larger load centers. In addition, such load mismatches may give rise to system capacity concerns should an outage occur on the transmission line coincident with a system peak.

The potential annual reduction in customer minutes of outage at each station is provided in table 3-5 below. This table also provides the estimated benefit provided by a parallel transmission line and the various generation options.

Table 3-5

Sub.	SAIFI Improve.	SAIDI Improve.	Reduction in Customer Minutes of Outage per Year		
	Relocate Salt Pond GT			New Diesel Generation	Parallel Transmission Line
TRP	3.4	15.9 hrs	651,100	651,100	652,000
RVH	2.9	8.9 hrs	629,500	629,500	622,500
Burin	(0.5)	(1.1 hrs)	(255,700)	-	-
Total	-	-	1,024,900	1,280,600	1,274,500

The capital and operating cost estimates for the Trepassey site for each alternative are provided in table 3-6 on the following page. The estimated costs per minute of reduction in customer outages by implementing each alternative are also provided in this table. More detail regarding the cost estimates for each alternative is provided in Appendix B of this report.

Table 3-6

Alternative	Expected Life of Asset	Initial Incremental Capital Cost	Net Operating Cost per Year	Levelized Cost per Customer Minute
Relocate Salt Pond GT	15	$2,150,000	$64,000	$0.669
Refurbished 10MW Diesel	23	$6,000,000	$120,000	$0.808
Transmission Line	29	$7,595,000	$95,000	$0.882
New 13MW Stationary Diesel	28	$8,310,000	$120,000	$1.017
New 13MW Mobile Diesel	28	$8,750,000	$120,000	$1.063

Old Perlican

The radial transmission line to Old Perlican originates at Hearts Content substation and serves 2 substations located at New Chelsea and Old Perlican. The 1999 peak loads at these substations were 3.3 MVA and 7.6 MVA respectively, for a total of 10.9 MVA. Although 4.3 MW of hydroelectric generation is available at New Chelsea, this generation is not located at the terminus of the line and it does not have the capacity to serve the entire load in this area for the majority of the year.

The Salt Pond GT would have excess capacity in handling this entire load at peak and with very small annual load growth, this unit will be oversized for the load it would be serving in this area for many years. This is undesirable from the perspective of underutilization of generating resources and the transmission losses associated with transporting energy great distances to larger load centers. In addition, such load mismatches may give rise to system capacity concerns should an outage occur on the transmission line coincident with a system peak.

The potential annual reduction in customer minutes of outage at each station is provided in table 3-7 below. This table also provides the estimated benefit provided by a parallel transmission line and the various generation options.

Table 3-7

Sub.	SAIFI Improve.	SAIDI Improve.	Reduction in Customer Minutes of Outage per Year		
	Relocate Salt Pond GT			New Diesel Generation	Parallel Transmission Line
OLP	4.0	15.5 hrs	1,534,400	1,534,400	1,539,600
NCH	2.0	7.5 hrs	398,100	398,100	383,000
Burin	(0.5)	(1.1 hrs)	(255,700)	-	-
Total	-	-	1,676,800	1,932,500	1,922,600

The capital and operating cost estimates for the Old Perlican site for each alternative are provided in table 3-8. The estimated costs per minute of reduction in customer outages by implementing each alternative are also provided in this table. More detail regarding the cost estimates for each alternative is provided in Appendix B of this report.

Table 3-8

Alternative	Expected Life of Asset	Initial Incremental Capital Cost	Net Operating Cost per Year	Levelized Cost per Customer Minute
Relocate Salt Pond GT	15	$1,800,000	$66,500	$0.384
Refurbished 8MW Diesel	23	$5,000,000	$122,500	$0.537
Transmission Line	29	$3,660,000	$55,000	$0.291
New 13MW Stationary Diesel	28	$7,960,000	$122,500	$0.652
New 13MW Mobile Diesel	28	$8,400,000	$122,500	$0.683

3.5 Decision Criteria

From the analysis of the Levelized Cost per Customer Minute statistics, it is clear that for most of the areas considered, the lower cost option is achieved by relocating the Salt Pond GT. The exception is the Old Perlican area, where the parallel transmission line alternative has been determined to be the lower cost option to improve reliability.

If the Salt Pond unit is relocated, the load to be served at the destination chosen should be matched with the size of the unit. Loads for these areas are included in Tables 1 and 2 of Appendix A and have been expressed in terms of the 1999 peak load. Load growth in all of the areas is considered very small, and in the case of some areas (such as Trepassey) loads have been declining in recent years. The demonstrated capacity of the Salt Pond unit is 13.4 MW. Therefore, the unit is significantly undersized with respect to the existing peak load it would serve in the Twillingate area, assuming no load growth in this area. Conversely, the Salt Pond GT is significantly oversized with respect to even the peak loads in the Trepassey and Old Perlican areas unless load growth accelerates significantly in these areas. While the total peak load in the Wesleyville area is greater than the Salt Pond GT capacity, this location does provide the best "fit" for the unit.

The Greenhill gas turbine (demonstrated capacity of 22.5 MW) would seem to provide a better fit for the Twillingate area, should local generation be further considered at this site. This option was not extensively considered as part of this study as NP's mechanical engineering group has indicated that this unit would provide a much greater technical challenge (and hence a much greater risk) to relocate. For the Twillingate and Wesleyville sites, the Greenhill unit was considered for comparative purposes. As may be seen from the benefits attributed to this alternative, the Greenhill GT does not appear to provide further reductions in customer outage minutes at Twillingate as the locations of the transmission line faults prevent additional generating capacity from being utilized. Capacity in excess of the Salt Pond GT's 13.4 MW does provide a very slight benefit to

the Wesleyville line (a reduction of 7,700 customer minutes of outage annually at Hare Bay substation).

3.6 Environmental Concerns

Environmental issues surrounding this project present a risk in terms of feasibility, cost and schedule. These risks stem mainly from the decision to relocate the Salt Pond GT. The environmental risks do not change substantially with the choice of the unit's destination, although the Twillingate site is located within a protected public water supply area. There are primarily two categories of environmental risks associated with this project: risks associated with the environmental assessment process and risks related to the unit's emissions.

The relocation project would require registration as an undertaking under the Environmental Assessment Act. Within 45 days following registration, the minister will respond to the company with an indication of what, if any, further environmental assessment will be required. Previous experience with the proposed Port Aux Basques GT in 1992 would indicate that no further environmental assessment will be required for a project of this type. This is supported by an opinion recently received regarding the project from Jacques Whitford environmental consultants. However, should an Environmental Impact Statement be required, the project would be delayed as much as 2 years and the costs of preparing such a document would be in the range of $100,000 to $200,000.

In addition to this risk, relocation of the Salt Pond GT may subject the unit to closer scrutiny by the Department of Environment and Labour from an emissions perspective. Informal discussions with this department have indicated that the standards to which the unit is subjected would not change regardless of its location, although application of these standards are somewhat influenced by site and operating conditions. Modeling will be required to determine if the effects of unit operation meet Provincial regulations. If the cost of adding emissions reduction technology were to be added to this project, this could represent a significant increase in the cost estimates prepared. However, it should be recognized that continued operation of this unit (even in Salt Pond) may require such modifications in the future.

4 Recommendation

Based on the analyses conducted and the additional considerations discussed above, it is recommended that the Salt Pond Gas Turbine be relocated to Wesleyville. This project provides the most economical means of improving reliability to this area, while not materially impacting reliability on the Burin peninsula. With the exception of the Old Perlican area, the Wesleyville GT site provides the best "bang for the buck" in service improvement expressed as levelized annual cost per customer minute of outage reduced. Better alternatives are available for improvement in the Old Perlican area and it would not make sense to locate a unit as large as the Salt Pond GT to this area.

In implementing the recommendation to relocate the Salt Pond GT to Wesleyville, it is suggested that the project schedule be developed to allow sufficient time to properly address likely public concerns and environmental issues. The uncertainty surrounding these issues dictates that completion of the project not be scheduled until late 2002.

5 Detailed Project Cost Estimates/Schedule

5.1 Capital Costs

The capital costs of the recommended alternative (relocation of Salt Pond gas turbine to Wesleyville) are detailed in Appendix B and described briefly in the following sections. It should be noted that the total capital cost estimate differs from that used in the project justification due to the inclusion of several related projects which have been identified as requiring completion regardless of the GT relocation. Specifically, these items include replacement of the governor and control logic ($500,000 budgeted in 2002) and replacement of the air intake enclosure ($150,000 budgeted in 2002).

5.1.1 Mechanical

The mechanical estimate for this project includes disassembly, transport, reassembly and commissioning of the unit and all appurtenant mechanical equipment. This includes relocation of the fuel storage tanks, which were replaced in 2000. The only major mechanical component that will not be relocated is the air intake enclosure, which as noted above will be replaced in coordination with the relocation project. Contractors will conduct the majority of the mechanical work with supervision and commissioning conducted by NP staff. Also included in the mechanical estimate is $80,000 to cover the cost of an auxiliary power unit (APU) at the Greenhill gas turbine. Presently, the Salt Pond unit (which has an APU) is used to AC start the unit at Greenhill. The Greenhill APU will be needed to maintain and enhance the dependability of that unit in emergency circumstances.

The costs of any enhanced emissions control or monitoring equipment required as a result of the relocation have not been included in these estimates.

5.1.2 Civil

The civil works estimate for this project includes all necessary site work at the Wesleyville substation, unit and building foundations and the purchase and erection of a new GT enclosure. The cost of dismantling and transport of the existing enclosure at Salt Pond would be approximately equal to that of purchasing a new structure. Therefore, the project will involve the purchase of a new building for the Wesleyville site, allowing the existing Salt Pond structure to remain for the use of operations staff in Burin.

The civil estimate also includes site work and fencing for the Wesleyville substation modifications as well as site work and foundations for new equipment at Gambo, Hare

The civil estimate also includes site work and fencing for the Wesleyville substation modifications as well as site work and foundations for new equipment at Gambo, Hare Bay, Trinity and Greenspond substations. The civil budget also includes an allowance for environmental consulting and works of $50,000.

5.1.3 Electrical

The electrical works associated with the Salt Pond GT relocation project includes design, purchase, installation and commissioning of new unit governor, sequencing system and fuel valve, in addition to new exhaust gas and vibration monitoring equipment. The estimate also includes the costs of relocation of all other GT auxiliaries.

5.1.4 Substations

The substation capital cost estimate includes the purchase, installation and commissioning of a breaker, switch and PTs at Wesleyville substation. The estimate includes purchase, installation and commissioning of a new switch at Trinity substation and miscellaneous modifications to Gambo and Hare Bay substations. This estimate also includes motorizing existing switches and configuring for remote control at these substations.

5.1.5 Communications

The communications estimate includes relocation of the existing Salt Pond GT RTU, in addition to installation/modifications to RTUs at Wesleyville, Trinity, Hare Bay and Gambo substations to provide for remote operation of this unit.

5.2 Operating Costs

Operating costs are detailed in Appendix C. As with the capital costs, the operating cost estimates used in the project justification reflect only the increased cost of operating the unit in Wesleyville. The estimated long-term operating costs of the unit if located in Salt Pond were subtracted from the total operating cost to arrive at the cost difference used in the justification portion of this report. These costs were based on recent historical operating costs (ie. 1999 and 2000) for parts/labour and Salt Pond GT fuel consumption data for the past 10 years.

Estimated operating costs for the Wesleyville GT consider additional labour required for unit maintenance and operation and the additional fuel consumption due to increased unit operation.

For the most part, the unit controls, substation equipment and communications infrastructure will be upgraded as needed to ensure that the need for human intervention in unit operation is minimized. However, it is simply not possible to eliminate the need for manned operation entirely. Operation of this unit in Wesleyville will be more costly

than the current situation in Salt Pond due to the proximity of the unit location at present to the area office in Burin.

The ability of the District crew in Wesleyville to handle this workload will be limited to weekly fuel dips/reconciliations and visual inspections as needed. Some additional operating duties could be handled by the District crew in the event of scheduled unit operations provided adequate training was conducted. During most unscheduled outages this crew would usually be required to conduct repair work on the line and therefore would be unavailable to operate the gas turbine. Electrical maintenance staff from Gander or Rattling Brook will be required to travel to Wesleyville. This increased workload at Gander may require upgrading a current temporary electrical maintenance position to full-time status. Mechanical maintenance will have to be handled by (at least) monthly visits from the existing staff in Burin. An allowance for training costs has been built into the capital cost estimates, as necessary. Employee relocation costs, if necessary, have not been included in these estimates. No job losses are anticipated in the Burin area as a result of the relocation. It has been assumed that any reduction in labour utilization in the operation and maintenance of generating facilities can be fully transferred to other aspects of NP's operation in the Burin area.

Fuel consumption was determined based on projected operating hours/loads from the reduction in customer minutes of outage analysis. A long-term fuel price per litre of $0.35 was assumed.

Also included in the operating cost estimate is $10,000 for a leased NewTel communications circuit.

5.3 Linkage with Distribution Automation Project

The distribution automation planned for the feeders served by 115L and 116L has a synergistic relationship with the Salt Pond GT relocation project, although both projects may be justified independently. Distribution automation will multiply the benefits provided by the gas turbine at Wesleyville by permitting better management of the load to be served. As the capacity of the Salt Pond gas turbine is less than the combined peak load of all substations on the Gambo-Wesleyville line, in some circumstances (particularly during cold-load pick up) this load will need to be sectionalized. The distribution automation project will permit much greater flexibility in this regard.

Conversely, the distribution automation project will benefit from the relocation of the Salt Pond GT to Wesleyville as coordinating work to coincide with the relocation effort can offset some of the costs of this project. As the substations along this line were scheduled for distribution automation in 2002, this will simply involve ensuring that the activities under each project are scheduled to coincide appropriately. For instance, the purchase, installation and configuration of RTUs at the substations along this radial transmission line have been included in the relocation costs as described in Section 4.1.4. Provided the equipment selection and installation considers the needs of both projects, some overall savings should be realized.

No adjustment to the budgeted costs of the GT relocation project has been made to account for this synergy. However, as each of these projects progress it is essential that the respective project managers maintain the lines of communication to maximize any potential savings.

Appendix A
Reliability Statistics

Table 1

1990 to 2000 Reliability Data (11 yrs)										
				Total Line				Terminal Substation		
Area Served	Radial Line Length (km)	1999 Peak Load (MVA)	No. of Customers	Existing Generation (MW)	Avg. Ann. Customer Hours of Outage	SAIFI	SAIDI (hrs)	No. of Customers	SAIFI	SAIDI (hrs)
Port Aux Basques	149	25.9	5228	15.7	49,720	5.1	9.5	1995	5.7	11.1
Trepassey	87	11.2*	1624	1.4	21,860	4.4	13.5	683	5.3	17.8
Wesleyville	79	16.2	3339	-	26,650	5.5	8.0	1669	5.6	9.9
Baie Verte	67	12.1	999	-	4,220	2.0	4.2	999	2.0	4.2
Twillingate	64	21.8	5721	-	29,350	4.1	5.1	1603	5.7	8.7
Old Perlican	44	10.9	2539	4.3	34,280	3.7	13.5	1654	4.3	16.4
Placentia	42	15.6	3095	-	25,720	4.9	8.3	1191	7.2	12.9
Salt Pond	-	-	-	-	-	-	-	1731	3.1	2.1

Table 2

1995 to 1999 Reliability Data (5 yrs)										
				Total Line				Terminal Substation		
Area Served	Radial Line Length (km)	1999 Peak Load (MVA)	No. of Customers	Existing Generation (MW)	Avg. Ann. Customer Hours of Outage	SAIFI	SAIDI (hrs)	No. of Customers	SAIFI	SAIDI (hrs)
Port Aux Basques	149	25.9	5228	15.7	21,540	2.9	4.1	1995	3.8	4.0
Trepassey	87	11.2*	1624	1.4	29,020	5.1	17.9	683	6.4	26.0
Wesleyville	79	16.2	3339	-	26,910	4.3	8.1	1669	4.4	10.2
Baie Verte	67	12.1	999	-	5,000	2.7	5.0	999	2.7	5.0
Twillingate	64	21.8	5721	-	26,490	2.5	4.6	1603	4.3	8.4
Old Perlican	44	10.9	2539	4.3	28,740	5.0	11.3	1654	6.1	14.8
Placentia	42	15.6	3095	-	13,800	4.0	4.5	1191	5.2	6.1
Salt Pond	-	-	-	-	-	-	-	1731	4.6	2.1

* Includes estimate of load transferred from Blaketown substation.

Appendix B
Revenue Requirement/Present Worth Spreadsheets

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		**8.42%**
Escalation Rate		**3%**
PW Year	**2001**	

Relocate Salt Pond GT to Wesleyville

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmission 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecommuni 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	1,586,000					480,000		190,000	367,525	55,000	3,000	-419,525	-386,944	-386,944
2003									317,668	56,650	3,090	-371,228	-315,807	-702,751
2004									314,841	58,350	3,183	-370,008	-290,324	-993,074
2005									310,930	60,100	3,278	-367,751	-266,144	-1,259,218
2006									306,136	61,903	3,377	-364,662	-243,413	-1,502,631
2007									300,622	63,760	3,478	-360,904	-222,195	-1,724,827
2008									294,517	65,673	3,582	-356,608	-202,500	-1,927,327
2009									287,927	67,643	3,690	-351,881	-184,298	-2,111,625
2010									280,936	69,672	3,800	-346,808	-167,535	-2,279,159
2011									273,612	71,763	3,914	-341,460	-152,141	-2,431,300
2012									266,010	73,915	4,032	-335,893	-138,038	-2,569,338
2013									258,173	76,133	4,153	-330,154	-125,142	-2,694,480
2014									241,782	78,417	4,277	-315,921	-110,448	-2,804,928
2015								295,000	271,437	80,769	4,406	-347,800	-112,150	-2,917,078
2016									244,680	83,192	4,538	-323,335	-96,164	-3,013,242
2017	8550000								1,651,162	85,688	4,674	-1,732,177	-475,162	-3,488,404
2018									1,492,172	88,259	4,814	-1,575,617	-398,649	-3,887,053
2019									1,460,481	90,907	4,959	-1,546,429	-360,878	-4,247,931
2020									1,427,366	93,634	5,107	-1,515,892	-326,279	-4,574,210
2021									1,393,042	96,443	5,261	-1,484,224	-294,653	-4,868,864
2022									1,357,683	99,336	5,418	-1,451,601	-265,797	-5,134,660
2023									1,321,432	102,316	5,581	-1,418,167	-239,508	-5,374,169
2024									1,284,404	105,386	5,748	-1,384,042	-215,592	-5,589,761
2025									1,246,696	108,547	5,921	-1,349,322	-193,861	-5,783,622
2026									1,208,386	111,804	6,098	-1,314,091	-174,137	-5,957,758
2027									1,156,564	115,158	6,281	-1,265,440	-154,667	-6,112,425
2028								430,000	1,171,065	118,613	6,470	-1,283,207	-144,658	-6,257,083
2029									1,104,603	122,171	6,664	-1,220,110	-126,863	-6,383,947
2030									880,622	125,836	6,864	-999,594	-95,863	-6,479,810
2031									967,213	129,611	7,070	-1,089,755	-96,393	-6,576,203
2032									938,190	133,499	7,282	-1,064,407	-86,839	-6,663,042
2033									907,496	137,504	7,500	-1,037,500	-78,071	-6,741,113
2034									875,428	141,630	7,725	-1,009,332	-70,053	-6,811,165
2035									842,225	145,878	7,957	-980,146	-62,744	-6,873,909
2036									808,079	150,255	8,196	-950,138	-56,099	-6,930,008
2037									773,146	154,762	8,442	-919,466	-50,072	-6,980,081
2038						1,380,000			907,352	159,405	8,695	-1,058,062	-53,145	-7,033,226
2039									868,839	164,187	8,956	-1,024,071	-47,443	-7,080,669
2040									811,758	169,113	9,224	-971,646	-41,518	-7,122,187
2041								630,000	852,154	174,186	9,501	-1,016,839	-40,075	-7,162,263
2042									773,977	179,412	9,786	-943,603	-34,301	-7,196,563
2043									748,511	184,794	10,080	-923,225	-30,954	-7,227,517
2044									719,558	190,338	10,382	-899,514	-27,817	-7,255,334
2045									-354,540	196,048	10,694	169,185	4,826	-7,250,508
2046	19500000								3,469,351	201,930	11,014	-3,660,266	-96,292	-7,346,800
2047									3,112,486	207,988	11,345	-3,309,129	-80,294	-7,427,094
2048									3,047,487	214,227	11,685	-3,250,029	-72,735	-7,499,829
2049									2,980,481	220,654	12,036	-3,189,099	-65,829	-7,565,658
2050									2,911,720	227,274	12,397	-3,126,597	-59,527	-7,625,184
2051									2,841,412	234,092	12,769	-3,062,736	-53,782	-7,678,967
2052									2,769,730	241,115	13,152	-2,997,693	-48,552	-7,727,519
2053									2,669,105	248,348	13,546	-2,903,907	-43,380	-7,770,899
2054								930,000	2,712,103	255,799	13,953	-2,953,949	-40,701	-7,811,600
2055									2,579,267	263,473	14,371	-2,828,368	-35,944	-7,847,544
2056									2,523,852	271,377	14,802	-2,780,426	-32,591	-7,880,135
2057									2,462,916	279,518	15,246	-2,727,188	-29,484	-7,909,619
2058									2,397,457	287,904	15,704	-2,669,656	-26,621	-7,936,240
2059									2,328,275	296,541	16,175	-2,608,641	-23,992	-7,960,232
2060									2,256,017	305,437	16,660	-2,544,794	-21,587	-7,981,819
2061									2,181,202	314,600	17,160	-2,478,643	-19,393	-8,001,212

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

Relocate Salt Pond GT to Twillingate

	CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE													
	Generation	Generation	Generation	Generation	Transmissio	Substation	Distribution	Telecomm	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
	Thermal	Hydro	Thermal	Hydro										
	28.19 yrs	49.50 yrs	28.19 yrs	49.5	29.59 yrs	36.36 yrs	29.59 yrs	12.90 yrs						
	4% CCA	4% CCA	30% CCA	30% CCA	4% CCA	4% CCA	4% CCA	20% CCA						
YEAR														
2002	1,465,000					560,000		200,000	361,473	60,000	4,500	-416,973	-384,590	-384,590
2003									311,765	61,800	4,635	-368,930	-313,852	-698,443
2004									309,311	63,654	4,774	-368,191	-288,898	-987,341
2005									305,723	65,564	4,917	-366,369	-265,144	-1,252,485
2006									301,212	67,531	5,065	-363,677	-242,756	-1,495,240
2007									295,948	69,556	5,217	-360,288	-221,816	-1,717,057
2008									290,070	71,643	5,373	-356,340	-202,348	-1,919,404
2009									283,686	73,792	5,534	-351,944	-184,331	-2,103,736
2010									276,886	76,006	5,700	-347,192	-167,720	-2,271,456
2011									269,740	78,286	5,871	-342,155	-152,451	-2,423,906
2012									262,307	80,635	6,048	-336,894	-138,449	-2,562,355
2013									254,632	83,054	6,229	-331,457	-125,636	-2,687,991
2014									237,956	85,546	6,416	-317,086	-110,855	-2,798,846
2015								295,000	267,013	88,112	6,608	-348,516	-112,381	-2,911,227
2016									240,480	90,755	6,807	-324,429	-96,489	-3,007,716
2017	8550000								1,647,186	93,478	7,011	-1,733,654	-475,567	-3,483,283
2018									1,488,422	96,282	7,221	-1,577,483	-399,121	-3,882,404
2019									1,456,957	99,171	7,438	-1,548,690	-361,406	-4,243,810
2020									1,424,070	102,146	7,661	-1,518,555	-326,852	-4,570,663
2021									1,389,974	105,210	7,891	-1,487,294	-295,263	-4,865,925
2022									1,354,845	108,367	8,128	-1,455,084	-266,435	-5,132,360
2023									1,318,824	111,618	8,371	-1,422,071	-240,168	-5,372,528
2024									1,282,028	114,966	8,622	-1,388,372	-216,267	-5,588,794
2025									1,244,552	118,415	8,881	-1,354,086	-194,545	-5,783,340
2026									1,206,475	121,968	9,148	-1,319,295	-174,826	-5,958,166
2027									1,154,887	125,627	9,422	-1,271,091	-155,358	-6,113,524
2028								430,000	1,169,622	129,395	9,705	-1,289,313	-145,346	-6,258,870
2029									1,103,396	133,277	9,996	-1,226,677	-127,546	-6,386,416
2030									894,401	137,276	10,296	-1,021,381	-97,952	-6,484,368
2031									972,093	141,394	10,605	-1,102,883	-97,554	-6,581,923
2032									942,834	145,636	10,923	-1,077,547	-87,911	-6,669,834
2033									911,904	150,005	11,250	-1,050,658	-79,061	-6,748,895
2034									879,598	154,505	11,588	-1,022,515	-70,967	-6,819,862
2035									846,156	159,140	11,936	-993,361	-63,590	-6,883,452
2036									811,770	163,914	12,294	-963,391	-56,882	-6,940,334
2037									776,596	168,832	12,662	-932,765	-50,797	-6,991,131
2038						1,620,000			940,375	173,897	13,042	-1,101,229	-55,313	-7,046,444
2039									901,055	179,114	13,434	-1,066,735	-49,420	-7,095,863
2040									843,453	184,487	13,837	-1,014,103	-43,333	-7,139,196
2041								630,000	883,317	190,022	14,252	-1,059,087	-41,740	-7,180,936
2042									804,598	195,722	14,679	-985,641	-35,829	-7,216,765
2043									778,579	201,594	15,120	-965,053	-32,356	-7,249,121
2044									749,065	207,642	15,573	-941,133	-29,104	-7,278,225
2045									-325,605	213,871	16,040	127,774	3,644	-7,274,581
2046	19500000								3,497,706	220,287	16,522	-3,701,472	-97,376	-7,371,956
2047									3,140,252	226,896	17,017	-3,350,131	-81,289	-7,453,245
2048									3,074,656	233,703	17,528	-3,290,831	-73,648	-7,526,893
2049									3,007,046	240,714	18,054	-3,229,706	-66,667	-7,593,561
2050									2,937,672	247,935	18,595	-3,167,012	-60,296	-7,653,857
2051									2,866,745	255,373	19,153	-3,102,965	-54,489	-7,708,345
2052									2,794,437	263,034	19,728	-3,037,743	-49,201	-7,757,546
2053									2,693,178	270,925	20,319	-2,943,784	-43,976	-7,801,522
2054								930,000	2,735,536	279,053	20,929	-2,993,661	-41,248	-7,842,770
2055									2,602,055	287,425	21,557	-2,867,923	-36,447	-7,879,217
2056									2,545,988	296,047	22,204	-2,819,832	-33,053	-7,912,270
2057									2,484,395	304,929	22,870	-2,766,454	-29,909	-7,942,178
2058									2,418,273	314,077	23,556	-2,708,794	-27,011	-7,969,189
2059									2,348,424	323,499	24,262	-2,647,660	-24,351	-7,993,540
2060									2,275,493	333,204	24,990	-2,583,706	-21,917	-8,015,458
2061									2,200,000	343,200	25,740	-2,517,460	-19,697	-8,035,155

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		**8.42%**
Escalation Rate		**3%**
PW Year	**2001**	

Relocate Salt Pond GT to Trepassey

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmission 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	1,455,000					505,000		180,000	349,611	72,000	8,000	-413,611	-381,490	-381,490
2003									302,195	74,160	8,240	-368,115	-313,159	-694,649
2004									299,525	76,385	8,487	-367,423	-288,296	-982,944
2005									295,828	78,676	8,742	-365,763	-264,705	-1,247,649
2006									291,294	81,037	9,004	-363,326	-242,521	-1,490,170
2007									286,077	83,468	9,274	-360,270	-221,805	-1,711,976
2008									280,300	85,972	9,552	-356,719	-202,563	-1,914,539
2009									274,062	88,551	9,839	-352,774	-184,766	-2,099,305
2010									267,445	91,207	10,134	-348,518	-168,361	-2,267,665
2011									260,511	93,944	10,438	-344,016	-153,280	-2,420,945
2012									253,313	96,762	10,751	-339,324	-139,448	-2,560,393
2013									245,893	99,665	11,074	-334,484	-126,783	-2,687,176
2014									230,368	102,655	11,406	-321,617	-112,439	-2,799,615
2015								265,000	255,909	105,734	11,748	-349,895	-112,825	-2,912,440
2016									231,537	108,906	12,101	-328,343	-97,553	-3,010,093
2017	8550000								1,637,886	112,174	12,464	-1,737,596	-476,649	-3,486,742
2018									1,478,922	115,539	12,838	-1,581,623	-400,169	-3,886,911
2019									1,447,384	119,005	13,223	-1,553,166	-362,450	-4,249,361
2020									1,414,525	122,575	13,619	-1,523,481	-327,913	-4,577,274
2021									1,380,540	126,252	14,028	-1,492,764	-296,349	-4,873,623
2022									1,345,586	130,040	14,449	-1,461,177	-267,550	-5,141,173
2023									1,309,792	133,941	14,882	-1,428,851	-241,313	-5,382,486
2024									1,273,266	137,959	15,329	-1,395,896	-217,439	-5,599,924
2025									1,236,093	142,098	15,789	-1,362,403	-195,740	-5,795,664
2026									1,198,347	146,361	16,262	-1,328,446	-176,039	-5,971,703
2027									1,148,431	150,752	16,750	-1,282,433	-156,744	-6,128,447
2028								390,000	1,158,722	155,275	17,253	-1,296,744	-146,184	-6,274,631
2029									1,095,345	159,933	17,770	-1,237,507	-128,672	-6,403,303
2030									885,840	164,731	18,303	-1,032,268	-98,996	-6,502,300
2031									963,232	169,673	18,853	-1,114,052	-98,542	-6,600,842
2032									933,840	174,763	19,418	-1,089,185	-88,861	-6,689,703
2033									902,911	180,006	20,001	-1,062,916	-79,983	-6,769,686
2034									870,714	185,406	20,601	-1,035,520	-71,870	-6,841,556
2035									837,468	190,968	21,219	-1,007,217	-64,477	-6,906,033
2036									803,346	196,697	21,855	-978,188	-57,755	-6,963,789
2037									768,491	202,598	22,511	-948,579	-51,658	-7,015,446
2038						1,460,000			912,894	208,676	23,186	-1,098,384	-55,170	-7,070,617
2039									874,276	214,936	23,882	-1,065,330	-49,355	-7,119,971
2040									819,041	221,384	24,598	-1,015,827	-43,406	-7,163,378
2041								570,000	851,945	228,026	25,336	-1,054,634	-41,565	-7,204,942
2042									777,622	234,867	26,096	-986,392	-35,856	-7,240,799
2043									750,966	241,913	26,879	-966,000	-32,388	-7,273,186
2044									721,134	249,170	27,686	-942,619	-29,150	-7,302,336
2045									-353,596	256,645	28,516	125,467	3,579	-7,298,757
2046	19500000								3,469,859	264,345	29,372	-3,704,832	-97,464	-7,396,222
2047									3,112,716	272,275	30,253	-3,354,738	-81,400	-7,477,622
2048									3,047,565	280,443	31,160	-3,296,848	-73,783	-7,551,405
2049									2,980,506	288,856	32,095	-3,237,267	-66,823	-7,618,228
2050									2,911,772	297,522	33,058	-3,176,236	-60,472	-7,678,700
2051									2,841,555	306,448	34,050	-3,113,953	-54,682	-7,733,382
2052									2,770,013	315,641	35,071	-3,050,583	-49,409	-7,782,790
2053									2,672,207	325,110	36,123	-2,961,194	-44,236	-7,827,026
2054								840,000	2,704,018	334,864	37,207	-3,001,575	-41,359	-7,868,385
2055									2,577,020	344,910	38,323	-2,883,606	-36,646	-7,905,031
2056									2,519,880	355,257	39,473	-2,835,664	-33,238	-7,938,269
2057									2,457,686	365,915	40,657	-2,782,944	-30,087	-7,968,356
2058									2,391,343	376,892	41,877	-2,726,358	-27,186	-7,995,542
2059									2,321,576	388,199	43,133	-2,666,642	-24,526	-8,020,068
2060									2,248,971	399,845	44,427	-2,604,389	-22,093	-8,042,161
2061									2,174,001	411,840	45,760	-2,540,081	-19,874	-8,062,035

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		**8.42%**
Escalation Rate		**3%**
PW Year	**2001**	

Relocate Salt Pond GT to Old Perlican

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissior 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	1,465,000					185,000		150,000	295,851	75,000	8,500	-362,351	-334,211	-334,211
2003									255,960	77,250	8,755	-324,455	-278,017	-610,227
2004									253,482	79,568	9,018	-324,032	-254,249	-864,476
2005									250,148	81,955	9,288	-322,814	-233,622	-1,098,099
2006									246,115	84,413	9,567	-320,962	-214,243	-1,312,342
2007									241,514	86,946	9,854	-318,605	-196,154	-1,508,495
2008									236,445	89,554	10,149	-315,850	-179,356	-1,687,851
2009									230,993	92,241	10,454	-312,780	-163,819	-1,851,670
2010									225,223	95,008	10,768	-309,463	-149,494	-2,001,164
2011									219,190	97,858	11,091	-305,957	-136,322	-2,137,486
2012									212,936	100,794	11,423	-302,306	-124,235	-2,261,721
2013									206,497	103,818	11,766	-298,548	-113,162	-2,374,883
2014									199,303	106,932	12,119	-294,116	-100,727	-2,475,610
2015								220,000	214,184	110,140	12,483	-311,841	-100,555	-2,576,165
2016									193,673	113,444	12,857	-294,261	-87,517	-2,663,682
2017	8550000								1,600,113	116,848	13,243	-1,703,717	-467,355	-3,131,037
2018									1,441,482	120,353	13,640	-1,548,195	-391,711	-3,522,748
2019									1,410,473	123,964	14,049	-1,520,388	-354,801	-3,877,549
2020									1,378,302	127,682	14,471	-1,491,514	-321,032	-4,198,581
2021									1,345,132	131,513	14,905	-1,461,740	-290,190	-4,488,771
2022									1,311,096	135,458	15,352	-1,431,203	-262,062	-4,750,833
2023									1,276,305	139,522	15,813	-1,400,015	-236,443	-4,987,276
2024									1,240,849	143,708	16,287	-1,368,270	-213,135	-5,200,411
2025									1,204,803	148,019	16,775	-1,336,047	-191,953	-5,392,364
2026									1,168,229	152,460	17,279	-1,303,410	-172,721	-5,565,086
2027									1,131,501	157,033	17,797	-1,260,737	-154,092	-5,719,178
2028								325,000	1,124,925	161,744	18,331	-1,268,339	-142,982	-5,862,160
2029									1,066,846	166,597	18,881	-1,214,562	-126,286	-5,988,446
2030									857,185	171,595	19,447	-1,009,332	-96,797	-6,085,243
2031									934,764	176,742	20,031	-1,091,476	-96,546	-6,181,788
2032									905,835	182,045	20,632	-1,067,248	-87,071	-6,268,860
2033									875,591	187,506	21,251	-1,041,846	-78,398	-6,347,257
2034									844,257	193,131	21,888	-1,015,500	-70,481	-6,417,738
2035									812,016	198,925	22,545	-988,396	-63,272	-6,481,010
2036									779,016	204,893	23,221	-960,687	-56,722	-6,537,732
2037									745,374	211,040	23,918	-932,496	-50,782	-6,588,514
2038						530,000			776,350	217,371	24,635	-969,086	-48,676	-6,637,190
2039									740,824	223,892	25,374	-939,342	-43,518	-6,680,707
2040									690,890	230,609	26,136	-895,363	-38,259	-6,718,966
2041								475,000	714,409	237,527	26,920	-925,017	-36,456	-6,755,423
2042									648,577	244,653	27,727	-865,502	-31,462	-6,786,884
2043									622,470	251,992	28,559	-845,903	-28,361	-6,815,246
2044									593,719	259,552	29,416	-823,855	-25,477	-6,840,723
2045									-479,498	267,339	30,298	242,457	6,915	-6,833,807
2046	19500000								3,345,823	275,359	31,207	-3,589,975	-94,443	-6,928,250
2047									2,990,832	283,620	32,144	-3,242,308	-78,672	-7,006,922
2048									2,928,067	292,128	33,108	-3,187,087	-71,327	-7,078,249
2049									2,863,587	300,892	34,101	-3,130,378	-64,617	-7,142,866
2050									2,797,591	309,919	35,124	-3,072,386	-58,495	-7,201,360
2051									2,730,244	319,216	36,178	-3,013,283	-52,914	-7,254,274
2052									2,661,682	328,793	37,263	-2,953,212	-47,832	-7,302,106
2053									2,571,128	338,657	38,381	-2,871,403	-42,895	-7,345,000
2054								700,000	2,588,486	348,816	39,533	-2,897,770	-39,927	-7,384,927
2055									2,473,404	359,281	40,719	-2,791,966	-35,482	-7,420,409
2056									2,416,444	370,059	41,940	-2,744,563	-32,170	-7,452,579
2057									2,355,182	381,161	43,198	-2,693,145	-29,116	-7,481,695
2058									2,290,375	392,596	44,494	-2,638,477	-26,310	-7,508,005
2059									2,222,633	404,374	45,829	-2,581,178	-23,740	-7,531,745
2060									2,152,445	416,505	47,204	-2,521,746	-21,392	-7,553,136
2061									2,080,209	429,000	48,620	-2,460,589	-19,252	-7,572,388

Present Worth Analysis

Revised 01/03/09

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital	8.42%
Escalation Rate	3%
PW Year	2001

Transmission Alternative - Wesleyville

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissio 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002					5,975,000	1,070,000		180,000	1,161,265	90,000	0	-1,251,265	-1,154,090	-1,154,090
2003									1,023,394	92,700	0	-1,116,094	-949,472	-2,103,562
2004									1,006,593	95,481	0	-1,102,074	-864,734	-2,968,296
2005									988,533	98,345	0	-1,086,879	-786,581	-3,754,877
2006									969,416	101,296	0	-1,070,711	-714,703	-4,469,580
2007									949,402	104,335	0	-1,053,737	-648,748	-5,118,327
2008									928,626	107,465	0	-1,036,090	-588,345	-5,706,672
2009									907,193	110,689	0	-1,017,881	-533,116	-6,239,788
2010									885,191	114,009	0	-999,201	-482,690	-6,722,478
2011									862,694	117,430	0	-980,123	-436,703	-7,159,182
2012									839,759	120,952	0	-960,711	-394,811	-7,553,993
2013									816,435	124,581	0	-941,016	-356,685	-7,910,677
2014									784,847	128,318	0	-913,165	-319,247	-8,229,924
2015								265,000	794,171	132,168	0	-926,339	-298,702	-8,528,627
2016									753,436	136,133	0	-889,569	-264,569	-8,793,196
2017									734,765	140,217	0	-874,982	-240,021	-9,033,216
2018									714,523	144,424	0	-858,947	-217,323	-9,250,540
2019									692,996	148,756	0	-841,752	-196,433	-9,446,973
2020									670,411	153,219	0	-823,630	-177,277	-9,624,250
2021									646,952	157,815	0	-804,768	-159,765	-9,784,016
2022									622,768	162,550	0	-785,318	-143,796	-9,927,812
2023									597,977	167,427	0	-765,403	-129,266	-10,057,078
2024									572,676	172,449	0	-745,126	-116,068	-10,173,146
2025									546,945	177,623	0	-724,568	-104,101	-10,277,247
2026									520,846	182,951	0	-703,797	-93,264	-10,370,510
2027									482,774	188,440	0	-671,214	-82,038	-10,452,549
2028								390,000	505,100	194,093	0	-699,193	-78,821	-10,531,370
2029									453,940	199,916	0	-653,856	-67,986	-10,599,356
2030									435,425	205,913	0	-641,339	-61,506	-10,660,861
2031									-142,283	212,091	0	-69,808	-6,175	-10,667,036
2032					14,500,000				2,466,420	218,454	0	-2,684,874	-219,045	-10,886,081
2033									2,204,308	225,007	0	-2,429,316	-182,803	-11,068,884
2034									2,159,204	231,757	0	-2,390,962	-165,944	-11,234,828
2035									2,112,594	238,710	0	-2,351,305	-150,518	-11,385,346
2036									2,064,672	245,871	0	-2,310,544	-136,422	-11,521,768
2037									2,015,597	253,248	0	-2,268,845	-123,557	-11,645,325
2038						3,100,000			2,347,613	260,845	0	-2,608,458	-131,020	-11,776,345
2039									2,290,942	268,670	0	-2,559,613	-118,582	-11,894,926
2040									2,290,217	276,731	0	-2,566,948	-109,686	-12,004,612
2041								570,000	2,297,563	285,032	0	-2,582,595	-101,784	-12,106,396
2042									2,237,743	293,583	0	-2,531,327	-92,016	-12,198,412
2043									2,187,516	302,391	0	-2,489,907	-83,481	-12,281,893
2044									2,031,160	311,463	0	-2,342,623	-72,443	-12,354,336
2045									1,979,017	320,807	0	-2,299,823	-65,597	-12,419,933
2046									169,759	330,431	0	-500,190	-13,159	-12,433,091
2047									307,521	340,344	0	-647,864	-15,720	-12,448,811
2048									283,251	350,554	0	-633,805	-14,184	-12,462,996
2049									258,024	361,071	0	-619,094	-12,779	-12,475,775
2050									232,034	371,903	0	-603,937	-11,498	-12,487,273
2051									205,436	383,060	0	-588,496	-10,334	-12,497,607
2052									178,355	394,552	0	-572,907	-9,279	-12,506,886
2053									125,817	406,388	0	-532,205	-7,950	-12,514,837
2054								840,000	203,672	418,580	0	-622,252	-8,574	-12,523,411
2055									123,460	431,137	0	-554,597	-7,048	-12,530,459
2056									113,821	444,071	0	-557,892	-6,539	-12,536,998
2057									99,814	457,393	0	-557,208	-6,024	-12,543,022
2058									82,316	471,115	0	-553,431	-5,519	-12,548,541
2059									62,025	485,249	0	-547,274	-5,033	-12,553,574
2060									39,503	499,806	0	-539,309	-4,575	-12,558,149
2061									-1,336,638	514,800	0	821,837	6,430	-12,551,719

Present Worth Analysis

Revised 01/03/09

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

Transmission Alternative - Twillingate

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissio 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002					4,850,000	1,400,000		180,000	1,029,088	80,000	0	-1,109,088	-1,022,955	-1,022,955
2003									905,751	82,400	0	-988,151	-840,630	-1,863,585
2004									891,528	84,872	0	-976,400	-766,125	-2,629,709
2005									876,082	87,418	0	-963,500	-697,291	-3,327,000
2006									859,612	90,041	0	-949,653	-633,896	-3,960,896
2007									842,281	92,742	0	-935,023	-575,660	-4,536,556
2008									824,218	95,524	0	-919,742	-522,276	-5,058,832
2009									805,529	98,390	0	-903,919	-473,428	-5,532,261
2010									786,301	101,342	0	-887,643	-428,799	-5,961,060
2011									766,606	104,382	0	-870,987	-388,077	-6,349,137
2012									746,500	107,513	0	-854,013	-350,963	-6,700,099
2013									726,031	110,739	0	-836,770	-317,171	-7,017,270
2014									697,323	114,061	0	-811,384	-283,664	-7,300,934
2015								265,000	709,552	117,483	0	-827,035	-266,681	-7,567,615
2016									671,744	121,007	0	-792,751	-235,774	-7,803,389
2017									656,022	124,637	0	-780,659	-214,147	-8,017,536
2018									638,751	128,377	0	-767,128	-194,092	-8,211,628
2019									620,215	132,228	0	-752,443	-175,592	-8,387,220
2020									600,640	136,195	0	-736,835	-158,596	-8,545,815
2021									580,211	140,280	0	-720,491	-143,034	-8,688,850
2022									559,074	144,489	0	-703,562	-128,826	-8,817,676
2023									537,347	148,824	0	-686,171	-115,885	-8,933,561
2024									515,128	153,288	0	-668,417	-104,119	-9,037,680
2025									492,494	157,887	0	-650,381	-93,442	-9,131,122
2026									469,507	162,624	0	-632,131	-83,767	-9,214,889
2027									434,563	167,502	0	-602,066	-73,587	-9,288,476
2028								390,000	460,030	172,527	0	-632,558	-71,309	-9,359,785
2029									412,026	177,703	0	-589,729	-61,318	-9,421,103
2030									396,679	183,034	0	-579,713	-55,596	-9,476,699
2031									-72,966	188,525	0	-115,560	-10,222	-9,486,920
2032					11,780,000				2,045,175	194,181	0	-2,239,356	-182,697	-9,669,617
2033									1,830,957	200,006	0	-2,030,963	-152,827	-9,822,445
2034									1,792,836	206,007	0	-1,998,842	-138,729	-9,961,174
2035									1,753,328	212,187	0	-1,965,515	-125,822	-10,086,996
2036									1,712,622	218,552	0	-1,931,175	-114,023	-10,201,019
2037									1,670,874	225,109	0	-1,895,983	-103,251	-10,304,270
2038						4,060,000			2,128,763	231,862	0	-2,360,626	-118,571	-10,422,842
2039									2,077,812	238,818	0	-2,316,630	-107,325	-10,530,166
2040									2,077,255	245,983	0	-2,323,238	-99,272	-10,629,438
2041								570,000	2,091,909	253,362	0	-2,345,271	-92,431	-10,721,869
2042									2,035,097	260,963	0	-2,296,060	-83,464	-10,805,333
2043									1,992,112	268,792	0	-2,260,904	-75,803	-10,881,136
2044									1,852,856	276,856	0	-2,129,712	-65,859	-10,946,995
2045									1,807,562	285,161	0	-2,092,723	-59,690	-11,006,685
2046									200,122	293,716	0	-493,838	-12,992	-11,019,676
2047									323,237	302,528	0	-625,765	-15,184	-11,034,860
2048									302,168	311,603	0	-613,772	-13,736	-11,048,596
2049									280,125	320,952	0	-601,078	-12,407	-11,061,004
2050									257,306	330,580	0	-587,886	-11,193	-11,072,196
2051									233,863	340,498	0	-574,361	-10,086	-11,082,282
2052									209,923	350,712	0	-560,635	-9,080	-11,091,362
2053									160,512	361,234	0	-521,746	-7,794	-11,099,157
2054								840,000	241,480	372,071	0	-613,551	-8,454	-11,107,610
2055									164,370	383,233	0	-547,603	-6,959	-11,114,570
2056									157,820	394,730	0	-552,550	-6,477	-11,121,046
2057									146,891	406,572	0	-553,463	-5,984	-11,127,030
2058									132,459	418,769	0	-551,228	-5,497	-11,132,526
2059									115,224	431,332	0	-546,556	-5,027	-11,137,553
2060									95,748	444,272	0	-540,020	-4,581	-11,142,134
2061									-1,023,772	457,600	0	566,172	4,430	-11,137,704

Present Worth Analysis

Revised 01/03/09

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital	8.42%
Escalation Rate	3%
PW Year	2001

Transmission Alternative - Trepassey

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

	Generation	Generation	Generation	Generation	Transmissio	Substation	Distribution	Telecomm	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
	Thermal	Hydro	Thermal	Hydro										
	28.19 yrs	49.50 yrs	28.19 yrs	49.5	29.59 yrs	36.36 yrs	29.59 yrs	12.90 yrs						
	4% CCA	4% CCA	30% CCA	30% CCA	4% CCA	4% CCA	4% CCA	20% CCA						
YEAR														
2002					6,575,000	860,000		160,000	1,223,077	95,000	0	-1,318,077	-1,215,714	-1,215,714
2003									1,079,386	97,850	0	-1,177,236	-1,001,486	-2,217,200
2004									1,060,949	100,786	0	-1,161,734	-911,546	-3,128,746
2005									1,041,340	103,809	0	-1,145,149	-828,751	-3,957,497
2006									1,020,739	106,923	0	-1,127,662	-752,717	-4,710,214
2007									999,293	110,131	0	-1,109,424	-683,032	-5,393,247
2008									977,122	113,435	0	-1,090,556	-619,273	-6,012,520
2009									954,321	116,838	0	-1,071,159	-561,021	-6,573,541
2010									930,973	120,343	0	-1,051,316	-507,865	-7,081,406
2011									907,141	123,953	0	-1,031,094	-459,414	-7,540,820
2012									882,880	127,672	0	-1,010,552	-415,294	-7,956,114
2013									858,236	131,502	0	-989,738	-375,152	-8,331,266
2014									826,208	135,447	0	-961,656	-336,200	-8,667,466
2015								235,000	830,414	139,511	0	-969,925	-312,757	-8,980,222
2016									790,224	143,696	0	-933,920	-277,759	-9,257,982
2017									769,567	148,007	0	-917,574	-251,704	-9,509,686
2018									747,486	152,447	0	-899,933	-227,693	-9,737,379
2019									724,234	157,021	0	-881,254	-205,652	-9,943,031
2020									700,015	161,731	0	-861,746	-185,481	-10,128,512
2021									674,992	166,583	0	-841,575	-167,073	-10,295,585
2022									649,300	171,581	0	-820,880	-150,308	-10,445,893
2023									623,043	176,728	0	-799,771	-135,070	-10,580,963
2024									596,310	182,030	0	-778,340	-121,242	-10,702,205
2025									569,171	187,491	0	-756,662	-108,712	-10,810,917
2026									541,683	193,115	0	-734,799	-97,372	-10,908,288
2027									503,557	198,909	0	-702,466	-85,858	-10,994,146
2028								345,000	518,818	204,876	0	-723,694	-81,583	-11,075,730
2029									469,100	211,022	0	-680,123	-70,717	-11,146,447
2030									448,241	217,353	0	-665,594	-63,832	-11,210,278
2031									-187,521	223,874	0	-36,353	-3,216	-11,213,494
2032					15,960,000				2,584,096	230,590	0	-2,914,685	-237,794	-11,451,288
2033									2,396,192	237,508	0	-2,633,699	-198,183	-11,649,470
2034									2,347,376	244,633	0	-2,592,009	-179,898	-11,829,368
2035									2,297,087	251,972	0	-2,549,059	-163,177	-11,992,546
2036									2,245,502	259,531	0	-2,505,033	-147,905	-12,140,451
2037									2,192,766	267,317	0	-2,460,083	-133,971	-12,274,422
2038						2,500,000			2,447,395	275,336	0	-2,722,731	-136,759	-12,411,181
2039									2,388,008	283,597	0	-2,671,605	-123,770	-12,534,951
2040									2,388,335	292,104	0	-2,680,439	-114,535	-12,649,487
2041								510,000	2,385,185	300,868	0	-2,686,053	-105,862	-12,755,348
2042									2,327,864	309,894	0	-2,637,758	-95,885	-12,851,233
2043									2,272,979	319,190	0	-2,592,170	-86,910	-12,938,143
2044									2,108,433	328,766	0	-2,437,199	-75,368	-13,013,511
2045									2,052,381	338,629	0	-2,391,010	-68,197	-13,081,708
2046									148,943	348,788	0	-497,731	-13,094	-13,094,802
2047									293,125	359,252	0	-652,377	-15,829	-13,110,631
2048									267,123	370,029	0	-637,152	-14,259	-13,124,891
2049									240,273	381,130	0	-621,403	-12,827	-13,137,718
2050									212,750	392,564	0	-605,314	-11,524	-13,149,242
2051									184,692	404,341	0	-589,032	-10,344	-13,159,586
2052									156,208	416,471	0	-572,680	-9,275	-13,168,861
2053									104,956	428,965	0	-533,921	-7,976	-13,176,837
2054								745,000	169,216	441,834	0	-611,050	-8,419	-13,185,257
2055									93,660	455,089	0	-548,749	-6,974	-13,192,230
2056									80,702	468,742	0	-549,443	-6,440	-13,198,671
2057									63,877	482,804	0	-546,681	-5,910	-13,204,581
2058									43,961	497,288	0	-541,249	-5,397	-13,209,978
2059									21,576	512,207	0	-533,783	-4,909	-13,214,887
2060									-2,783	527,573	0	-524,790	-4,452	-13,219,339
2061									-1,516,669	543,400	0	973,269	7,615	-13,211,724

Present Worth Analysis

Revised 01/03/09

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital	8.42%
Escalation Rate	3%
PW Year	2001

Transmission Alternative - Old Perlican

	CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE								Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissio 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA						
YEAR														
2002					3,350,000	170,000		140,000	592,880	55,000	0	-647,880	-597,565	-597,565
2003									520,351	56,650	0	-577,001	-490,860	-1,088,425
2004									512,519	58,350	0	-570,869	-447,928	-1,536,353
2005									503,797	60,100	0	-563,897	-408,096	-1,944,449
2006									494,338	61,903	0	-556,241	-371,292	-2,315,741
2007									484,264	63,760	0	-548,024	-337,398	-2,653,140
2008									473,675	65,673	0	-539,348	-306,269	-2,959,409
2009									462,651	67,643	0	-530,294	-277,742	-3,237,151
2010									451,258	69,672	0	-520,930	-251,649	-3,488,799
2011									439,548	71,763	0	-511,310	-227,819	-3,716,619
2012									427,565	73,915	0	-501,480	-206,087	-3,922,706
2013									415,344	76,133	0	-491,477	-186,290	-4,108,996
2014									396,756	78,417	0	-475,173	-166,123	-4,275,119
2015								205,000	409,853	80,769	0	-490,622	-158,203	-4,433,322
2016									384,342	83,192	0	-467,534	-139,050	-4,572,373
2017									375,953	85,688	0	-461,641	-126,635	-4,699,008
2018									366,401	88,259	0	-454,660	-115,034	-4,814,042
2019									355,904	90,907	0	-446,810	-104,269	-4,918,311
2020									344,636	93,634	0	-438,269	-94,333	-5,012,644
2021									332,737	96,443	0	-429,180	-85,202	-5,097,846
2022									320,321	99,336	0	-419,657	-76,842	-5,174,688
2023									307,478	102,316	0	-409,794	-69,208	-5,243,896
2024									294,281	105,386	0	-399,667	-62,256	-5,306,152
2025									280,789	108,547	0	-389,337	-55,937	-5,362,089
2026									267,051	111,804	0	-378,854	-50,204	-5,412,293
2027									244,086	115,158	0	-359,244	-43,908	-5,456,201
2028								305,000	268,461	118,613	0	-387,073	-43,635	-5,499,837
2029									235,216	122,171	0	-357,387	-37,160	-5,536,997
2030									227,534	125,836	0	-353,370	-33,889	-5,570,885
2031									-94,114	129,611	0	-35,497	-3,140	-5,574,025
2032					8,130,000				1,370,456	133,499	0	-1,503,955	-122,700	-5,696,725
2033									1,225,112	137,504	0	-1,362,617	-102,535	-5,799,260
2034									1,201,218	141,630	0	-1,342,848	-93,200	-5,892,460
2035									1,176,301	145,878	0	-1,322,180	-84,639	-5,977,099
2036									1,150,507	150,255	0	-1,300,762	-76,801	-6,053,901
2037									1,123,953	154,762	0	-1,278,716	-69,636	-6,123,537
2038						495,000			1,157,822	159,405	0	-1,317,227	-66,163	-6,189,700
2039									1,129,081	164,187	0	-1,293,269	-59,914	-6,249,614
2040									1,124,278	169,113	0	-1,293,391	-55,267	-6,304,881
2041								445,000	1,146,518	174,186	0	-1,320,705	-52,051	-6,356,932
2042									1,109,116	179,412	0	-1,288,528	-46,839	-6,403,771
2043									1,085,780	184,794	0	-1,270,574	-42,600	-6,446,370
2044									1,003,517	190,338	0	-1,193,855	-36,919	-6,483,289
2045									978,170	196,048	0	-1,174,218	-33,492	-6,516,781
2046									34,213	201,930	0	-236,143	-6,212	-6,522,993
2047									107,287	207,988	0	-315,275	-7,650	-6,530,643
2048									95,400	214,227	0	-309,628	-6,929	-6,537,572
2049									82,784	220,654	0	-303,439	-6,264	-6,543,836
2050									69,591	227,274	0	-296,865	-5,652	-6,549,488
2051									55,940	234,092	0	-290,032	-5,093	-6,554,581
2052									41,928	241,115	0	-283,042	-4,584	-6,559,165
2053									8,057	248,348	0	-256,405	-3,830	-6,562,995
2054								650,000	74,976	255,799	0	-330,775	-4,558	-6,567,553
2055									19,919	263,473	0	-283,392	-3,601	-6,571,155
2056									19,486	271,377	0	-290,863	-3,409	-6,574,564
2057									15,687	279,518	0	-295,205	-3,192	-6,577,755
2058									9,198	287,904	0	-297,102	-2,963	-6,580,718
2059									561	296,541	0	-297,102	-2,733	-6,583,450
2060									-9,790	305,437	0	-295,547	-2,508	-6,585,958
2061									-779,471	314,600	0	464,870	3,637	-6,582,321

Present Worth Analysis

Method Revised 01/03/25

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

New Stationary Generation Alternative - Wesleyville

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmission 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	7,225,000					875,000		200,000	1,358,072	115,000	7,000	-1,466,072	-1,352,215	-1,352,215
2003									1,198,277	118,450	7,210	-1,309,517	-1,114,018	-2,466,234
2004									1,177,098	122,004	7,426	-1,291,675	-1,013,503	-3,479,737
2005									1,154,508	125,664	7,649	-1,272,522	-920,932	-4,400,669
2006									1,130,730	129,434	7,879	-1,252,285	-835,904	-5,236,573
2007									1,105,947	133,317	8,115	-1,231,148	-757,973	-5,994,546
2008									1,080,303	137,316	8,358	-1,209,261	-686,680	-6,681,226
2009									1,053,921	141,435	8,609	-1,186,747	-621,560	-7,302,786
2010									1,026,896	145,679	8,867	-1,163,707	-562,159	-7,864,945
2011									999,310	150,049	9,133	-1,140,226	-508,039	-8,372,983
2012									971,230	154,550	9,407	-1,116,373	-458,781	-8,831,765
2013									942,708	159,187	9,690	-1,092,206	-413,992	-9,245,756
2014									904,995	163,963	9,980	-1,058,977	-370,224	-9,615,980
2015								295,000	912,831	168,881	10,280	-1,071,432	-345,488	-9,961,468
2016									864,901	173,948	10,588	-1,028,261	-305,817	-10,267,286
2017									841,526	179,166	10,906	-1,009,786	-276,999	-10,544,285
2018									816,396	184,541	11,233	-989,704	-250,406	-10,794,692
2019									789,828	190,077	11,570	-968,335	-225,973	-11,020,665
2020									762,076	195,780	11,917	-945,939	-203,603	-11,224,268
2021									733,345	201,653	12,275	-922,724	-183,182	-11,407,450
2022									703,801	207,703	12,643	-898,861	-164,587	-11,572,037
2023									673,576	213,934	13,022	-874,488	-147,689	-11,719,726
2024									642,779	220,352	13,413	-849,718	-132,361	-11,852,086
2025									611,496	226,962	13,815	-824,643	-118,479	-11,970,565
2026									579,799	233,771	14,230	-799,341	-105,925	-12,076,490
2027									534,770	240,784	14,656	-760,898	-93,000	-12,169,489
2028								430,000	556,238	248,008	15,096	-789,149	-88,962	-12,258,452
2029									496,909	255,448	15,549	-736,808	-76,611	-12,335,063
2030									-407,228	263,112	16,015	160,132	15,357	-12,319,706
2031	16530000								2,835,698	271,005	16,496	-3,090,207	-273,341	-12,593,047
2032									2,535,921	279,135	16,991	-2,798,065	-228,279	-12,821,326
2033									2,483,289	287,509	17,501	-2,753,298	-207,182	-13,028,508
2034									2,428,747	296,135	18,026	-2,706,856	-187,869	-13,216,377
2035									2,372,553	305,019	18,566	-2,659,006	-170,216	-13,386,593
2036									2,314,922	314,169	19,123	-2,609,968	-154,101	-13,540,694
2037									2,256,029	323,594	19,697	-2,559,926	-139,408	-13,680,103
2038						2,535,000			2,508,485	333,302	20,288	-2,821,499	-141,720	-13,821,823
2039									2,442,846	343,301	20,897	-2,765,250	-128,108	-13,949,931
2040									2,359,186	353,600	21,523	-2,691,262	-114,998	-14,064,929
2041								635,000	2,373,434	364,208	22,169	-2,715,473	-107,021	-14,171,950
2042									2,267,457	375,134	22,834	-2,619,757	-95,230	-14,267,180
2043									2,214,193	386,388	23,519	-2,577,062	-86,403	-14,353,584
2044									2,157,018	397,980	24,225	-2,530,773	-78,262	-14,431,845
2045									2,096,617	409,919	24,952	-2,481,585	-70,781	-14,502,626
2046									2,033,544	422,217	25,700	-2,430,060	-63,928	-14,566,554
2047									1,968,243	434,884	26,471	-2,376,656	-57,668	-14,624,222
2048									1,901,076	447,930	27,265	-2,321,741	-51,960	-14,676,183
2049									1,832,334	461,368	28,083	-2,265,619	-46,767	-14,722,949
2050									1,762,254	475,209	28,926	-2,208,537	-42,048	-14,764,997
2051									1,691,028	489,465	29,794	-2,150,700	-37,767	-14,802,764
2052									1,618,813	504,149	30,687	-2,092,275	-33,887	-14,836,651
2053									1,517,806	519,274	31,608	-2,005,472	-29,959	-14,866,610
2054								930,000	1,560,624	534,852	32,556	-2,062,919	-28,424	-14,895,034
2055									1,428,363	550,897	33,533	-1,945,728	-24,727	-14,919,761
2056									1,373,854	567,424	34,539	-1,906,740	-22,350	-14,942,111
2057									1,314,143	584,447	35,575	-1,863,015	-20,141	-14,962,253
2058									1,250,213	601,981	36,642	-1,815,552	-18,104	-14,980,356
2059									-832,307	620,040	37,742	250,008	2,299	-14,978,057
2060	37820000								6,576,015	638,641	38,874	-7,175,782	-60,872	-15,038,929
2061									5,880,902	657,800	40,040	-6,498,662	-50,846	-15,089,775

Present Worth Analysis

Method Revised 01/03/26
Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital	8.42%
Escalation Rate	3%
PW Year	2001

New Stationary Generation Alternative - Twillingate

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmission 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	7,225,000					960,000		200,000	1,370,944	120,000	8,500	-1,482,444	-1,367,316	-1,367,316
2003									1,209,687	123,600	8,755	-1,324,532	-1,126,792	-2,494,108
2004									1,188,323	127,308	9,018	-1,306,613	-1,025,224	-3,519,332
2005									1,165,545	131,127	9,288	-1,287,384	-931,688	-4,451,020
2006									1,141,575	135,061	9,567	-1,267,069	-845,772	-5,296,792
2007									1,116,596	139,113	9,854	-1,245,855	-767,028	-6,063,820
2008									1,090,754	143,286	10,149	-1,223,890	-694,987	-6,758,807
2009									1,064,168	147,585	10,454	-1,201,299	-629,182	-7,387,989
2010									1,036,939	152,012	10,768	-1,178,183	-569,152	-7,957,141
2011									1,009,144	156,573	11,091	-1,154,627	-514,455	-8,471,596
2012									980,852	161,270	11,423	-1,130,699	-464,669	-8,936,264
2013									952,117	166,108	11,766	-1,106,459	-419,394	-9,355,659
2014									914,187	171,091	12,119	-1,073,159	-375,182	-9,730,841
2015								295,000	921,803	176,224	12,483	-1,085,544	-350,039	-10,080,879
2016									873,651	181,511	12,857	-1,042,305	-309,994	-10,390,873
2017									850,052	186,956	13,243	-1,023,765	-280,834	-10,671,708
2018									824,695	192,565	13,640	-1,003,620	-253,927	-10,925,635
2019									797,899	198,342	14,049	-982,191	-229,206	-11,154,841
2020									769,916	204,292	14,471	-959,738	-206,573	-11,361,415
2021									740,953	210,421	14,905	-936,469	-185,911	-11,547,326
2022									711,174	216,733	15,352	-912,555	-167,094	-11,714,420
2023									680,712	223,235	15,813	-888,135	-149,993	-11,864,413
2024									649,676	229,932	16,287	-863,322	-134,480	-11,998,893
2025									618,154	236,830	16,775	-838,208	-120,428	-12,119,321
2026									586,215	243,935	17,279	-812,872	-107,718	-12,227,038
2027									540,943	251,253	17,797	-774,399	-94,650	-12,321,688
2028								430,000	562,165	258,791	18,331	-802,625	-90,481	-12,412,169
2029									502,590	266,555	18,881	-750,264	-78,010	-12,490,180
2030									-401,794	274,551	19,447	146,690	14,068	-12,476,112
2031	16530000								2,840,883	282,788	20,031	-3,103,640	-274,530	-12,750,641
2032									2,540,856	291,271	20,632	-2,811,496	-229,375	-12,980,016
2033									2,487,973	300,010	21,251	-2,766,732	-208,193	-13,188,209
2034									2,433,177	309,010	21,888	-2,720,299	-188,802	-13,377,011
2035									2,376,730	318,280	22,545	-2,672,466	-171,077	-13,548,089
2036									2,318,844	327,829	23,221	-2,623,452	-154,897	-13,702,986
2037									2,259,695	337,663	23,918	-2,573,440	-140,144	-13,843,130
2038						2,785,000			2,542,815	347,793	24,635	-2,865,973	-143,954	-13,987,084
2039									2,476,404	358,227	25,374	-2,809,257	-130,147	-14,117,231
2040									2,392,201	368,974	26,136	-2,735,039	-116,868	-14,234,100
2041								635,000	2,405,896	380,043	26,920	-2,759,019	-108,737	-14,342,837
2042									2,299,353	391,445	27,727	-2,663,071	-96,805	-14,439,642
2043									2,245,515	403,188	28,559	-2,620,143	-87,848	-14,527,490
2044									2,187,754	415,284	29,416	-2,573,622	-79,587	-14,607,076
2045									2,126,758	427,742	30,298	-2,524,202	-71,996	-14,679,073
2046									2,063,080	440,574	31,207	-2,472,447	-65,043	-14,744,116
2047									1,997,167	453,792	32,144	-2,418,814	-58,691	-14,802,807
2048									1,929,378	467,405	33,108	-2,363,675	-52,899	-14,855,706
2049									1,860,006	481,427	34,101	-2,307,332	-47,628	-14,903,333
2050									1,789,288	495,870	35,124	-2,250,034	-42,838	-14,946,171
2051									1,717,417	510,746	36,178	-2,191,985	-38,492	-14,984,663
2052									1,644,549	526,069	37,263	-2,133,355	-34,553	-15,019,216
2053									1,542,883	541,851	38,381	-2,046,352	-30,570	-15,049,785
2054								930,000	1,585,034	558,106	39,533	-2,103,608	-28,985	-15,078,770
2055									1,452,101	574,849	40,719	-1,986,232	-25,242	-15,104,012
2056									1,396,913	592,095	41,940	-1,947,068	-22,823	-15,126,834
2057									1,336,517	609,858	43,198	-1,903,177	-20,576	-15,147,410
2058									1,271,897	628,154	44,494	-1,855,557	-18,503	-15,165,913
2059									-811,318	646,998	45,829	210,149	1,933	-15,163,980
2060	37820000								6,596,302	666,408	47,204	-7,215,506	-61,209	-15,225,189
2061									5,900,483	686,400	48,620	-6,538,264	-51,156	-15,276,345

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		**8.42%**
Escalation Rate		**3%**
PW Year	**2001**	

New Stationary Generation Alternative - Trepassey

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmission 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	7,225,000					905,000		180,000	1,359,083	132,000	12,000	-1,479,083	-1,364,216	-1,364,216
2003									1,200,117	135,960	12,360	-1,323,717	-1,126,098	-2,490,314
2004									1,178,537	140,039	12,731	-1,305,845	-1,024,622	-3,514,935
2005									1,155,650	144,240	13,113	-1,286,777	-931,249	-4,446,184
2006									1,131,657	148,567	13,506	-1,266,719	-845,538	-5,291,722
2007									1,106,724	153,024	13,911	-1,245,837	-767,017	-6,058,739
2008									1,080,983	157,615	14,329	-1,224,270	-695,202	-6,753,941
2009									1,054,545	162,343	14,758	-1,202,129	-629,616	-7,383,558
2010									1,027,497	167,214	15,201	-1,179,510	-569,793	-7,953,350
2011									999,915	172,230	15,657	-1,156,488	-515,284	-8,468,635
2012									971,858	177,397	16,127	-1,133,128	-465,667	-8,934,302
2013									943,378	182,719	16,611	-1,109,486	-420,542	-9,354,844
2014									906,598	188,200	17,109	-1,077,690	-376,766	-9,731,609
2015								265,000	910,699	193,846	17,622	-1,086,923	-350,483	-10,082,093
2016									864,708	199,662	18,151	-1,046,219	-311,158	-10,393,251
2017									840,751	205,652	18,696	-1,027,707	-281,916	-10,675,167
2018									815,195	211,821	19,256	-1,007,760	-254,975	-10,930,141
2019									788,326	218,176	19,834	-986,667	-230,251	-11,160,392
2020									760,372	224,721	20,429	-964,664	-207,633	-11,368,026
2021									731,518	231,463	21,042	-941,939	-186,997	-11,555,023
2022									701,914	238,407	21,673	-918,647	-168,210	-11,723,233
2023									671,680	245,559	22,324	-894,915	-151,138	-11,874,371
2024									640,914	252,926	22,993	-870,846	-135,652	-12,010,023
2025									609,695	260,513	23,683	-846,525	-121,623	-12,131,645
2026									578,087	268,329	24,394	-822,022	-108,930	-12,240,576
2027									534,487	276,379	25,125	-785,741	-96,036	-12,336,612
2028								390,000	551,265	284,670	25,879	-810,056	-91,319	-12,427,931
2029									494,539	293,210	26,655	-761,094	-79,136	-12,507,067
2030									-410,355	302,006	27,455	135,803	13,024	-12,494,043
2031	16530000								2,832,022	311,067	28,279	-3,114,810	-275,518	-12,769,561
2032									2,531,862	320,399	29,127	-2,823,133	-230,324	-12,999,885
2033									2,478,980	330,011	30,001	-2,778,990	-209,115	-13,209,001
2034									2,424,294	339,911	30,901	-2,733,304	-189,704	-13,398,705
2035									2,368,042	350,108	31,828	-2,686,322	-171,964	-13,570,669
2036									2,310,420	360,611	32,783	-2,638,249	-155,771	-13,726,440
2037									2,251,590	371,430	33,766	-2,589,254	-141,006	-13,867,446
2038						2,625,000			2,515,334	382,573	34,779	-2,863,127	-143,811	-14,011,257
2039									2,449,625	394,050	35,823	-2,807,852	-130,082	-14,141,339
2040									2,367,789	405,871	36,897	-2,736,763	-116,942	-14,258,281
2041								570,000	2,373,840	418,048	38,004	-2,753,684	-108,527	-14,366,808
2042									2,271,831	430,589	39,144	-2,663,275	-96,812	-14,463,620
2043									2,217,271	443,507	40,319	-2,620,459	-87,858	-14,551,479
2044									2,159,135	456,812	41,528	-2,574,419	-79,611	-14,631,090
2045									2,098,041	470,516	42,774	-2,525,783	-72,041	-14,703,131
2046									2,034,488	484,632	44,057	-2,475,062	-65,112	-14,768,244
2047									1,968,879	499,171	45,379	-2,422,670	-58,784	-14,827,028
2048									1,901,538	514,146	46,741	-2,368,943	-53,017	-14,880,045
2049									1,832,731	529,570	48,143	-2,314,158	-47,769	-14,927,813
2050									1,762,671	545,457	49,587	-2,258,542	-43,000	-14,970,813
2051									1,691,534	561,821	51,075	-2,202,281	-38,673	-15,009,486
2052									1,619,462	578,676	52,607	-2,145,531	-34,750	-15,044,236
2053									1,521,501	596,036	54,185	-2,063,352	-30,824	-15,075,059
2054								840,000	1,553,516	613,917	55,811	-2,111,622	-29,095	-15,104,154
2055									1,427,066	632,334	57,485	-2,001,915	-25,441	-15,129,596
2056									1,370,805	651,304	59,209	-1,962,900	-23,008	-15,152,604
2057									1,309,809	670,844	60,986	-1,919,666	-20,754	-15,173,358
2058									1,244,967	690,969	62,815	-1,873,121	-18,678	-15,192,036
2059									-838,166	711,698	64,700	191,168	1,758	-15,190,277
2060	37820000								6,569,781	733,049	66,641	-7,236,189	-61,384	-15,251,661
2061									5,874,484	755,040	68,640	-6,560,884	-51,333	-15,302,994

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RP to 2061

Weighted Average Incremental Cost of Capital		**8.42%**
Escalation Rate		**3%**
PW Year	**2001**	

New Stationary Generation Alternative - Old Perlican

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissio 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	7,225,000					585,000		150,000	1,305,323	135,000	12,500	-1,427,823	-1,316,937	-1,316,937
2003									1,153,881	139,050	12,875	-1,280,056	-1,088,956	-2,405,893
2004									1,132,494	143,222	13,261	-1,262,454	-990,575	-3,396,468
2005									1,109,970	147,518	13,659	-1,243,829	-900,167	-4,296,634
2006									1,086,479	151,944	14,069	-1,224,354	-817,259	-5,113,894
2007									1,062,161	156,502	14,491	-1,204,172	-741,365	-5,855,259
2008									1,037,129	161,197	14,926	-1,183,400	-671,995	-6,527,253
2009									1,011,475	166,033	15,373	-1,162,135	-608,669	-7,135,923
2010									985,276	171,014	15,835	-1,140,455	-550,926	-7,686,849
2011									958,594	176,144	16,310	-1,118,429	-498,327	-8,185,176
2012									931,481	181,429	16,799	-1,096,111	-450,455	-8,635,630
2013									903,982	186,872	17,303	-1,073,550	-406,921	-9,042,551
2014									869,534	192,478	17,822	-1,044,189	-365,054	-9,407,605
2015								220,000	868,974	198,252	18,357	-1,048,869	-338,213	-9,745,817
2016									826,845	204,200	18,907	-1,012,137	-301,022	-10,046,839
2017									802,978	210,326	19,475	-993,829	-272,622	-10,319,461
2018									777,756	216,635	20,059	-974,332	-246,517	-10,565,979
2019									751,415	223,134	20,661	-953,889	-222,602	-10,788,580
2020									724,149	229,828	21,280	-932,697	-200,753	-10,989,333
2021									696,110	236,723	21,919	-910,915	-180,838	-11,170,171
2022									667,425	243,825	22,576	-888,673	-162,721	-11,332,893
2023									638,193	251,140	23,254	-866,079	-146,258	-11,479,151
2024									608,497	258,674	23,951	-843,220	-131,348	-11,610,509
2025									578,405	266,434	24,670	-820,169	-117,836	-11,728,345
2026									547,969	274,427	25,410	-796,986	-105,613	-11,833,958
2027									507,557	282,660	26,172	-764,045	-93,384	-11,927,342
2028								325,000	517,469	291,140	26,957	-781,651	-88,117	-12,015,459
2029									466,041	299,874	27,766	-738,149	-76,750	-12,092,210
2030									-439,010	308,870	28,599	158,739	15,223	-12,076,986
2031	16530000								2,803,554	318,136	29,457	-3,092,233	-273,521	-12,350,507
2032									2,503,857	327,680	30,341	-2,801,197	-228,535	-12,579,042
2033									2,451,560	337,511	31,251	-2,757,920	-207,530	-12,786,572
2034									2,397,836	347,636	32,189	-2,713,284	-188,315	-12,974,887
2035									2,342,590	358,065	33,154	-2,667,501	-170,760	-13,145,646
2036									2,286,090	368,807	34,149	-2,620,748	-154,738	-13,300,384
2037									2,228,473	379,871	35,173	-2,573,171	-140,130	-13,440,514
2038						1,695,000			2,378,790	391,268	36,228	-2,733,829	-137,317	-13,577,830
2039									2,316,173	403,006	37,315	-2,681,863	-124,245	-13,702,075
2040									2,239,639	415,096	38,435	-2,616,300	-111,795	-13,813,870
2041								475,000	2,236,105	427,549	39,588	-2,624,066	-103,419	-13,917,289
2042									2,142,785	440,375	40,775	-2,542,385	-92,418	-14,009,706
2043									2,088,775	453,586	41,999	-2,500,362	-83,832	-14,093,538
2044									2,031,720	467,194	43,259	-2,455,655	-75,939	-14,169,477
2045									1,972,140	481,210	44,556	-2,408,793	-68,705	-14,238,181
2046									1,910,452	495,646	45,893	-2,360,205	-62,091	-14,300,272
2047									1,846,994	510,515	47,270	-2,310,240	-56,056	-14,356,328
2048									1,782,040	525,831	48,688	-2,259,183	-50,560	-14,406,889
2049									1,715,812	541,606	50,149	-2,207,269	-45,562	-14,452,451
2050									1,648,491	557,854	51,653	-2,154,691	-41,023	-14,493,473
2051									1,580,224	574,590	53,203	-2,101,611	-36,905	-14,530,378
2052									1,511,132	591,827	54,799	-2,048,161	-33,173	-14,563,551
2053									1,420,422	609,582	56,443	-1,973,561	-29,482	-14,593,033
2054								700,000	1,437,983	627,870	58,136	-2,007,717	-27,663	-14,620,697
2055									1,323,450	646,706	59,880	-1,910,275	-24,277	-14,644,973
2056									1,267,369	666,107	61,677	-1,871,799	-21,940	-14,666,914
2057									1,207,304	686,090	63,527	-1,829,867	-19,783	-14,686,697
2058									1,144,000	706,673	65,433	-1,785,240	-17,802	-14,704,498
2059									-937,109	727,873	67,396	276,632	2,544	-14,701,954
2060	37820000								6,473,255	749,709	69,418	-7,153,546	-60,683	-14,762,637
2061									5,780,692	772,200	71,500	-6,481,392	-50,711	-14,813,348

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

New Mobile Generation Alternative - Wesleyville

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissio 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	7,665,000					875,000		200,000	1,430,557	115,000	7,000	-1,538,557	-1,419,071	-1,419,071
2003									1,262,757	118,450	7,210	-1,374,007	-1,168,880	-2,587,951
2004									1,240,209	122,004	7,426	-1,354,787	-1,063,023	-3,650,974
2005									1,216,221	125,664	7,649	-1,334,236	-965,595	-4,616,569
2006									1,191,026	129,434	7,879	-1,312,581	-876,151	-5,492,721
2007									1,164,807	133,317	8,115	-1,290,008	-794,211	-6,286,932
2008									1,137,710	137,316	8,358	-1,266,668	-719,278	-7,006,210
2009									1,109,857	141,435	8,609	-1,242,683	-650,856	-7,657,067
2010									1,081,346	145,679	8,867	-1,218,157	-588,462	-8,245,529
2011									1,052,258	150,049	9,133	-1,193,173	-531,630	-8,777,159
2012									1,022,659	154,550	9,407	-1,167,802	-479,917	-9,257,075
2013									992,606	159,187	9,690	-1,142,104	-432,905	-9,689,981
2014									953,347	163,963	9,980	-1,107,330	-387,128	-10,077,109
2015								295,000	959,624	168,881	10,280	-1,118,226	-360,577	-10,437,686
2016									910,123	173,948	10,588	-1,073,482	-319,267	-10,756,952
2017									885,163	179,166	10,906	-1,053,424	-288,970	-11,045,922
2018									858,438	184,541	11,233	-1,031,746	-261,044	-11,306,966
2019									830,263	190,077	11,570	-1,008,771	-235,409	-11,542,375
2020									800,894	195,780	11,917	-984,756	-211,958	-11,754,333
2021									770,535	201,653	12,275	-959,913	-190,565	-11,944,899
2022									739,352	207,703	12,643	-934,412	-171,096	-12,115,995
2023									707,479	213,934	13,022	-908,391	-153,414	-12,269,409
2024									675,025	220,352	13,413	-881,964	-137,384	-12,406,793
2025									642,076	226,962	13,815	-855,224	-122,872	-12,529,665
2026									608,705	233,771	14,230	-828,247	-109,755	-12,639,420
2027									561,994	240,784	14,656	-788,122	-96,327	-12,735,748
2028								430,000	581,771	248,008	15,096	-814,683	-91,841	-12,827,588
2029									520,744	255,448	15,549	-760,644	-79,089	-12,906,677
2030									-438,737	263,112	16,015	191,641	18,379	-12,888,299
2031	17540000								3,002,084	271,005	16,496	-3,256,594	-288,059	-13,176,358
2032									2,683,954	279,135	16,991	-2,946,099	-240,356	-13,416,714
2033									2,628,159	287,509	17,501	-2,898,168	-218,083	-13,634,798
2034									2,570,407	296,135	18,026	-2,848,516	-197,701	-13,832,498
2035									2,510,960	305,019	18,566	-2,797,412	-179,076	-14,011,574
2036									2,450,033	314,169	19,123	-2,745,079	-162,079	-14,173,653
2037									2,387,803	323,594	19,697	-2,691,700	-146,585	-14,320,237
2038						2,535,000			2,636,884	333,302	20,288	-2,949,898	-148,170	-14,468,407
2039									2,567,832	343,301	20,897	-2,890,237	-133,899	-14,602,305
2040									2,490,723	353,600	21,523	-2,812,800	-120,191	-14,722,496
2041								635,000	2,491,489	364,208	22,169	-2,833,528	-111,674	-14,834,170
2042									2,381,995	375,134	22,834	-2,734,295	-99,394	-14,933,564
2043									2,325,184	386,388	23,519	-2,688,053	-90,125	-15,023,689
2044									2,264,430	397,980	24,225	-2,638,185	-81,583	-15,105,272
2045									2,200,422	409,919	24,952	-2,585,389	-73,742	-15,179,014
2046									2,133,712	422,217	25,700	-2,530,229	-66,564	-15,245,577
2047									2,064,749	434,884	26,471	-2,473,161	-60,009	-15,305,587
2048									1,993,893	447,930	27,265	-2,414,558	-54,038	-15,359,624
2049									1,921,438	461,368	28,083	-2,354,723	-48,606	-15,408,230
2050									1,847,620	475,209	28,926	-2,293,903	-43,673	-15,451,903
2051									1,772,634	489,465	29,794	-2,232,305	-39,200	-15,491,103
2052									1,696,636	504,149	30,687	-2,170,098	-35,148	-15,526,251
2053									1,591,826	519,274	31,608	-2,079,491	-31,065	-15,557,316
2054								930,000	1,630,820	534,852	32,556	-2,133,115	-29,391	-15,586,707
2055									1,494,716	550,897	33,533	-2,012,080	-25,570	-15,612,277
2056									1,436,345	567,424	34,539	-1,969,231	-23,082	-15,635,359
2057									1,372,754	584,447	35,575	-1,921,626	-20,775	-15,656,135
2058									1,304,927	601,981	36,642	-1,870,266	-18,650	-15,674,784
2059									-904,635	620,040	37,742	322,336	2,965	-15,671,819
2060	40125000								6,955,738	638,641	38,874	-7,555,505	-64,093	-15,735,912
2061									6,218,740	657,800	40,040	-6,836,501	-53,490	-15,789,402

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		**8.42%**
Escalation Rate		**3%**
PW Year	**2001**	

New Mobile Generation Alternative - Twillingate

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissior 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	7,665,000					960,000		200,000	1,443,429	120,000	8,500	-1,554,929	-1,434,172	-1,434,172
2003									1,274,177	123,600	8,755	-1,389,022	-1,181,654	-2,615,826
2004									1,251,435	127,308	9,018	-1,369,725	-1,074,744	-3,690,570
2005									1,227,258	131,127	9,288	-1,349,097	-976,350	-4,666,920
2006									1,201,871	135,061	9,567	-1,327,365	-886,020	-5,552,940
2007									1,175,456	139,113	9,854	-1,304,715	-803,266	-6,356,206
2008									1,148,160	143,286	10,149	-1,281,297	-727,585	-7,083,791
2009									1,120,105	147,585	10,454	-1,257,236	-658,478	-7,742,269
2010									1,091,388	152,012	10,768	-1,232,633	-595,455	-8,337,725
2011									1,062,092	156,573	11,091	-1,207,574	-538,046	-8,875,771
2012									1,032,282	161,270	11,423	-1,182,129	-485,804	-9,361,575
2013									1,002,015	166,108	11,766	-1,156,357	-438,308	-9,799,883
2014									962,539	171,091	12,119	-1,121,511	-392,086	-10,191,969
2015								295,000	968,596	176,224	12,483	-1,132,338	-365,127	-10,557,096
2016									918,873	181,511	12,857	-1,087,527	-323,444	-10,880,540
2017									893,689	186,956	13,243	-1,067,403	-292,805	-11,173,345
2018									866,738	192,565	13,640	-1,045,662	-264,565	-11,437,909
2019									838,334	198,342	14,049	-1,022,626	-238,642	-11,676,552
2020									808,734	204,292	14,471	-998,555	-214,926	-11,891,480
2021									778,142	210,421	14,905	-973,658	-193,294	-12,084,774
2022									746,725	216,733	15,352	-948,106	-173,604	-12,258,378
2023									714,615	223,235	15,813	-922,038	-155,719	-12,414,097
2024									681,922	229,932	16,287	-895,568	-139,503	-12,553,599
2025									648,734	236,830	16,775	-868,789	-124,821	-12,678,421
2026									615,121	243,935	17,279	-841,778	-111,548	-12,789,969
2027									568,167	251,253	17,797	-801,623	-97,977	-12,887,946
2028								430,000	587,699	258,791	18,331	-828,159	-93,360	-12,981,306
2029									526,426	266,555	18,881	-774,100	-80,488	-13,061,794
2030									-433,303	274,551	19,447	178,199	17,090	-13,044,705
2031	17540000								3,007,259	282,788	20,031	-3,270,027	-289,247	-13,333,952
2032									2,688,889	291,271	20,632	-2,959,529	-241,452	-13,575,404
2033									2,632,842	300,010	21,251	-2,911,601	-219,094	-13,794,498
2034									2,574,837	309,010	21,888	-2,861,959	-198,634	-13,993,132
2035									2,515,137	318,280	22,545	-2,810,872	-179,937	-14,173,070
2036									2,453,955	327,829	23,221	-2,758,563	-162,875	-14,335,944
2037									2,391,469	337,663	23,918	-2,705,215	-147,321	-14,483,265
2038						2,785,000			2,671,214	347,793	24,635	-2,994,372	-150,403	-14,633,668
2039									2,601,391	358,227	25,374	-2,934,243	-135,937	-14,769,606
2040									2,513,739	368,974	26,136	-2,856,577	-122,062	-14,891,667
2041								635,000	2,523,951	380,043	26,920	-2,877,074	-113,390	-15,005,057
2042									2,413,892	391,445	27,727	-2,777,609	-100,968	-15,106,026
2043									2,356,505	403,188	28,559	-2,731,134	-91,569	-15,197,595
2044									2,295,166	415,284	29,415	-2,681,034	-82,908	-15,280,503
2045									2,230,562	427,742	30,298	-2,628,006	-74,957	-15,355,460
2046									2,163,249	440,574	31,207	-2,572,616	-67,579	-15,423,139
2047									2,093,672	453,792	32,144	-2,515,320	-61,032	-15,484,171
2048									2,022,195	467,405	33,108	-2,456,492	-54,976	-15,539,147
2049									1,949,110	481,427	34,101	-2,396,436	-49,467	-15,588,614
2050									1,874,654	495,870	35,124	-2,335,400	-44,463	-15,633,077
2051									1,799,022	510,746	36,178	-2,273,591	-39,925	-15,673,002
2052									1,722,372	526,069	37,263	-2,211,178	-35,813	-15,708,815
2053									1,616,902	541,851	38,381	-2,120,372	-31,675	-15,740,491
2054								930,000	1,655,230	558,106	39,533	-2,173,804	-29,952	-15,770,443
2055									1,518,454	574,849	40,719	-2,052,585	-26,085	-15,796,528
2056									1,459,404	592,095	41,940	-2,009,559	-23,555	-15,820,083
2057									1,395,128	609,858	43,198	-1,961,788	-21,209	-15,841,292
2058									1,326,611	628,154	44,494	-1,910,271	-19,048	-15,860,340
2059									-883,647	646,998	45,829	282,477	2,598	-15,857,742
2060	40125000								6,976,025	666,408	47,204	-7,595,229	-64,430	-15,922,172
2061									6,238,321	686,400	48,620	-6,876,102	-53,799	-15,975,972

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

New Mobile Generation Alternative - Trepassey

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissior 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	7,665,000					905,000		180,000	1,431,568	132,000	12,000	-1,551,568	-1,431,071	-1,431,071
2003									1,264,607	135,960	12,360	-1,388,207	-1,180,960	-2,612,032
2004									1,241,649	140,039	12,731	-1,368,957	-1,074,142	-3,686,173
2005									1,217,363	144,240	13,113	-1,348,491	-975,911	-4,662,084
2006									1,191,953	148,567	13,506	-1,327,014	-885,786	-5,547,870
2007									1,165,584	153,024	13,911	-1,304,697	-803,255	-6,351,125
2008									1,138,390	157,615	14,329	-1,281,676	-727,801	-7,078,926
2009									1,110,481	162,343	14,758	-1,258,066	-658,913	-7,737,839
2010									1,081,947	167,214	15,201	-1,233,959	-596,096	-8,333,935
2011									1,052,862	172,230	15,657	-1,209,435	-538,876	-8,872,810
2012									1,023,288	177,397	16,127	-1,184,558	-486,803	-9,359,613
2013									993,276	182,719	16,611	-1,159,384	-439,455	-9,799,068
2014									954,951	188,200	17,109	-1,126,042	-393,670	-10,192,738
2015								265,000	957,492	193,846	17,622	-1,133,716	-365,572	-10,558,310
2016									909,930	199,662	18,151	-1,091,441	-324,608	-10,882,918
2017									884,389	205,652	18,696	-1,071,345	-293,886	-11,176,804
2018									857,237	211,821	19,256	-1,049,802	-265,612	-11,442,416
2019									828,761	218,176	19,834	-1,027,103	-239,687	-11,682,103
2020									799,189	224,721	20,429	-1,003,481	-215,988	-11,898,091
2021									768,707	231,463	21,042	-979,128	-194,380	-12,092,471
2022									737,465	238,407	21,673	-954,198	-174,719	-12,267,191
2023									705,583	245,559	22,324	-928,818	-156,864	-12,424,055
2024									673,160	252,926	22,993	-903,092	-140,675	-12,564,729
2025									640,275	260,513	23,683	-877,106	-126,016	-12,690,746
2026									606,993	268,329	24,394	-850,929	-112,761	-12,803,506
2027									561,711	276,379	25,125	-812,964	-99,364	-12,902,870
2028								390,000	576,799	284,670	25,879	-835,589	-94,197	-12,997,067
2029									518,375	293,210	26,655	-784,930	-81,615	-13,078,682
2030									-441,864	302,006	27,455	167,313	16,046	-13,062,636
2031	17540000								2,998,408	311,067	28,279	-3,281,196	-290,235	-13,352,871
2032									2,679,895	320,399	29,127	-2,971,166	-242,402	-13,595,273
2033									2,623,850	330,011	30,001	-2,923,859	-220,017	-13,815,290
2034									2,565,954	339,911	30,901	-2,874,964	-199,536	-14,014,826
2035									2,506,448	350,108	31,828	-2,824,729	-180,824	-14,195,650
2036									2,445,531	360,611	32,783	-2,773,360	-163,748	-14,359,399
2037									2,383,365	371,430	33,766	-2,721,028	-148,182	-14,507,581
2038						2,625,000			2,643,733	382,573	34,779	-2,991,527	-150,261	-14,657,841
2039									2,574,611	394,050	35,823	-2,932,839	-135,872	-14,793,713
2040									2,489,327	405,871	36,897	-2,858,301	-122,135	-14,915,849
2041								570,000	2,491,695	418,048	38,004	-2,871,738	-113,180	-15,029,028
2042									2,386,369	430,589	39,144	-2,777,814	-100,976	-15,130,004
2043									2,328,262	443,507	40,319	-2,731,450	-91,580	-15,221,584
2044									2,266,547	456,812	41,528	-2,681,831	-82,933	-15,304,517
2045									2,201,846	470,516	42,774	-2,629,588	-75,002	-15,379,519
2046									2,134,657	484,632	44,057	-2,575,231	-67,747	-15,447,266
2047									2,065,384	499,171	45,379	-2,519,176	-61,126	-15,508,392
2048									1,994,355	514,146	46,741	-2,461,760	-55,094	-15,563,486
2049									1,921,834	529,570	48,143	-2,403,262	-49,608	-15,613,094
2050									1,848,037	545,457	49,587	-2,343,908	-44,625	-15,657,719
2051									1,773,140	561,821	51,075	-2,283,886	-40,106	-15,697,825
2052									1,697,286	578,676	52,607	-2,223,354	-36,010	-15,733,835
2053									1,595,520	596,036	54,185	-2,137,371	-31,929	-15,765,765
2054								840,000	1,623,712	613,917	55,811	-2,181,818	-30,062	-15,795,827
2055									1,493,418	632,334	57,485	-2,068,268	-26,284	-15,822,111
2056									1,433,295	651,304	59,209	-2,025,390	-23,741	-15,845,852
2057									1,368,420	670,844	60,986	-1,978,277	-21,388	-15,867,240
2058									1,299,681	690,969	62,815	-1,927,835	-19,224	-15,886,463
2059									-910,494	711,698	64,700	263,496	2,423	-15,884,040
2060	40125000								6,949,504	733,049	66,641	-7,615,912	-64,605	-15,948,645
2061									6,212,322	755,040	68,640	-6,898,722	-53,976	-16,002,621

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

New Mobile Generation Alternative - Old Perlican

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissior 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	7,685,000					585,000		150,000	1,377,808	135,000	12,500	-1,500,308	-1,383,792	-1,383,792
2003									1,218,371	139,050	12,875	-1,344,546	-1,143,818	-2,527,610
2004									1,195,605	143,222	13,261	-1,325,566	-1,040,095	-3,567,705
2005									1,171,683	147,518	13,659	-1,305,542	-944,829	-4,512,534
2006									1,146,775	151,944	14,069	-1,284,650	-857,507	-5,370,041
2007									1,121,021	156,502	14,491	-1,263,032	-777,603	-6,147,645
2008									1,094,536	161,197	14,926	-1,240,807	-704,593	-6,852,238
2009									1,067,411	166,033	15,373	-1,218,071	-637,966	-7,490,203
2010									1,039,725	171,014	15,835	-1,194,905	-577,230	-8,067,433
2011									1,011,541	176,144	16,310	-1,171,376	-521,918	-8,589,351
2012									982,911	181,429	16,799	-1,147,541	-471,590	-9,060,941
2013									953,880	186,872	17,303	-1,123,448	-425,834	-9,486,775
2014									917,886	192,478	17,822	-1,092,542	-381,958	-9,868,733
2015								220,000	915,767	198,252	18,357	-1,095,663	-353,301	-10,222,035
2016									872,066	204,200	18,907	-1,057,359	-314,471	-10,536,506
2017									846,616	210,326	19,475	-1,037,467	-284,593	-10,821,099
2018									819,798	216,635	20,059	-1,016,374	-257,154	-11,078,253
2019									791,850	223,134	20,661	-994,324	-232,038	-11,310,291
2020									762,966	229,828	21,280	-971,514	-209,108	-11,519,399
2021									733,299	236,723	21,919	-948,104	-188,221	-11,707,620
2022									702,975	243,825	22,576	-924,224	-169,231	-11,876,851
2023									672,096	251,140	23,254	-899,982	-151,994	-12,028,845
2024									640,744	258,674	23,951	-875,466	-136,371	-12,165,216
2025									608,985	266,434	24,670	-850,749	-122,229	-12,287,446
2026									576,875	274,427	25,410	-825,892	-109,443	-12,396,889
2027									534,781	282,660	26,172	-791,269	-96,712	-12,493,600
2028								325,000	543,002	291,140	26,957	-807,184	-90,995	-12,584,596
2029									489,876	299,874	27,766	-761,984	-79,229	-12,663,824
2030									-470,519	308,870	28,599	190,248	18,245	-12,645,579
2031	17540000								2,969,940	318,136	29,457	-3,258,620	-288,238	-12,933,818
2032									2,651,890	327,680	30,341	-2,949,230	-240,612	-13,174,429
2033									2,596,530	337,511	31,251	-2,902,789	-218,431	-13,392,861
2034									2,539,497	347,636	32,189	-2,854,944	-198,147	-13,591,008
2035									2,480,997	358,065	33,154	-2,805,908	-179,620	-13,770,627
2036									2,421,200	368,807	34,149	-2,755,859	-162,715	-13,933,342
2037									2,360,248	379,871	35,173	-2,704,946	-147,306	-14,080,648
2038						1,695,000			2,507,189	391,268	36,228	-2,862,228	-143,766	-14,224,414
2039									2,441,160	403,006	37,315	-2,806,850	-130,035	-14,354,450
2040									2,361,177	415,096	38,435	-2,737,838	-116,988	-14,471,438
2041								475,000	2,354,160	427,549	39,588	-2,742,121	-108,071	-14,579,509
2042									2,257,324	440,375	40,775	-2,656,924	-96,581	-14,676,090
2043									2,199,765	453,586	41,999	-2,611,353	-87,553	-14,763,643
2044									2,139,132	467,194	43,259	-2,563,068	-79,260	-14,842,904
2045									2,075,944	481,210	44,556	-2,512,598	-71,665	-14,914,569
2046									2,010,620	495,646	45,893	-2,460,373	-64,726	-14,979,295
2047									1,943,500	510,515	47,270	-2,406,745	-58,388	-15,037,683
2048									1,874,857	525,831	48,688	-2,352,000	-52,638	-15,090,330
2049									1,804,915	541,606	50,149	-2,296,373	-47,401	-15,137,732
2050									1,733,857	557,854	51,653	-2,240,057	-42,648	-15,180,380
2051									1,661,829	574,590	53,203	-2,183,216	-38,338	-15,218,717
2052									1,588,955	591,827	54,799	-2,125,984	-34,433	-15,253,151
2053									1,494,442	609,582	56,443	-2,047,581	-30,588	-15,283,739
2054								700,000	1,508,179	627,870	58,136	-2,077,913	-28,631	-15,312,369
2055									1,389,803	646,706	59,880	-1,976,628	-25,120	-15,337,489
2056									1,329,859	666,107	61,677	-1,934,290	-22,673	-15,360,162
2057									1,265,915	686,090	63,527	-1,888,478	-20,417	-15,380,579
2058									1,198,714	706,673	65,433	-1,839,954	-18,347	-15,398,926
2059									-1,009,438	727,873	67,396	348,960	3,209	-15,395,716
2060	40125000								6,852,977	749,709	69,418	-7,533,269	-63,904	-15,459,621
2061									6,118,530	772,200	71,500	-6,819,231	-53,355	-15,512,975

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

Relocate Greenhill GT to Wesleyville

	CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE													
	Generation	Generation	Generation	Generation	Transmissior	Substation	Distribution	Telecomm	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
	Thermal	Hydro	Thermal	Hydro										
	28.19 yrs	49.50 yrs	28.19 yrs	49.5	29.59 yrs	36.36 yrs	29.59 yrs	12.90 yrs						
	4% CCA	4% CCA	30% CCA	30% CCA	4% CCA	4% CCA	4% CCA	20% CCA						
YEAR														
2002	2,125,000					475,000		200,000	457,328	55,000	3,000	-509,328	-469,773	-469,773
2003									397,090	56,650	3,090	-450,650	-383,372	-853,145
2004									392,753	58,350	3,183	-447,920	-351,457	-1,204,602
2005									387,256	60,100	3,278	-444,078	-321,382	-1,525,984
2006									380,811	61,903	3,377	-439,337	-293,259	-1,819,242
2007									373,589	63,760	3,478	-433,872	-267,119	-2,086,362
2008									365,730	65,673	3,582	-427,821	-242,938	-2,329,300
2009									357,343	67,643	3,690	-421,296	-220,654	-2,549,954
2010									348,518	69,672	3,800	-414,390	-200,182	-2,750,136
2011									339,327	71,763	3,914	-407,175	-181,421	-2,931,557
2012									329,829	73,915	4,032	-399,713	-164,265	-3,095,822
2013									320,071	76,133	4,153	-392,051	-148,604	-3,244,425
2014									301,293	78,417	4,277	-375,433	-131,253	-3,375,678
2015								295,000	328,231	80,769	4,406	-404,595	-130,463	-3,506,142
2016									299,562	83,192	4,538	-378,217	-112,486	-3,618,628
2017	8550000								1,704,117	85,688	4,674	-1,785,131	-489,688	-4,108,316
2018									1,543,185	88,259	4,814	-1,626,630	-411,556	-4,519,872
2019									1,509,539	90,907	4,959	-1,595,487	-372,327	-4,892,199
2020									1,474,456	93,634	5,107	-1,562,982	-336,415	-5,228,614
2021									1,438,151	96,443	5,261	-1,529,333	-303,609	-5,532,223
2022									1,400,799	99,336	5,418	-1,494,717	-273,692	-5,805,914
2023									1,362,543	102,316	5,581	-1,459,279	-246,451	-6,052,366
2024									1,323,500	105,386	5,748	-1,423,137	-221,682	-6,274,048
2025									1,283,765	108,547	5,921	-1,386,392	-199,187	-6,473,234
2026									1,243,419	111,804	6,098	-1,349,124	-178,779	-6,652,013
2027									1,189,550	115,158	6,281	-1,298,426	-158,698	-6,810,712
2028								430,000	1,201,994	118,613	6,470	-1,314,137	-148,145	-6,958,857
2029									1,133,468	122,171	6,664	-1,248,975	-129,864	-7,088,721
2030									841,703	125,836	6,864	-960,675	-92,131	-7,180,852
2031									966,908	129,611	7,070	-1,089,450	-96,366	-7,277,218
2032									937,899	133,499	7,282	-1,064,117	-86,816	-7,364,034
2033									907,220	137,504	7,500	-1,037,224	-78,050	-7,442,084
2034									875,167	141,630	7,725	-1,009,072	-70,034	-7,512,118
2035									841,979	145,878	7,957	-979,901	-62,728	-7,574,846
2036									807,848	150,255	8,196	-949,907	-56,086	-7,630,932
2037									772,930	154,762	8,442	-919,251	-50,061	-7,680,993
2038						1,380,000			907,559	159,405	8,695	-1,058,270	-53,156	-7,734,148
2039									868,839	164,187	8,956	-1,024,071	-47,443	-7,781,591
2040									811,758	169,113	9,224	-971,646	-41,518	-7,823,110
2041								630,000	852,154	174,186	9,501	-1,016,839	-40,075	-7,863,185
2042									773,977	179,412	9,786	-943,603	-34,301	-7,897,486
2043									748,511	184,794	10,080	-923,225	-30,954	-7,928,439
2044									719,558	190,338	10,382	-899,514	-27,817	-7,956,256
2045									-354,540	196,048	10,694	169,185	4,826	-7,951,430
2046	19500000								3,469,351	201,930	11,014	-3,660,266	-96,292	-8,047,722
2047									3,112,486	207,988	11,345	-3,309,129	-80,294	-8,128,016
2048									3,047,487	214,227	11,685	-3,250,029	-72,735	-8,200,751
2049									2,980,481	220,654	12,036	-3,189,099	-65,829	-8,266,580
2050									2,911,720	227,274	12,397	-3,126,597	-59,527	-8,326,107
2051									2,841,412	234,092	12,769	-3,062,736	-53,782	-8,379,889
2052									2,769,730	241,115	13,152	-2,997,693	-48,552	-8,428,441
2053									2,669,105	248,348	13,548	-2,903,907	-43,380	-8,471,821
2054								930,000	2,712,103	255,799	13,953	-2,953,949	-40,701	-8,512,522
2055									2,579,267	263,473	14,371	-2,828,368	-35,944	-8,548,467
2056									2,523,852	271,377	14,802	-2,780,426	-32,591	-8,581,057
2057									2,462,916	279,518	15,246	-2,727,188	-29,484	-8,610,541
2058									2,397,457	287,904	15,704	-2,669,656	-26,621	-8,637,162
2059									2,328,275	296,541	16,175	-2,608,641	-23,992	-8,661,154
2060									2,256,017	305,437	16,660	-2,544,794	-21,587	-8,682,742
2061									2,181,202	314,600	17,160	-2,478,643	-19,393	-8,702,135

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

Relocate Greenhill GT to Twillingate

	CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE													
	Generation	Generation	Generation	Generation	Transmissior	Substation	Distribution	Telecomm	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth
	Thermal	Hydro	Thermal	Hydro										
	28.19 yrs	49.50 yrs	28.19 yrs	49.5	29.59 yrs	36.36 yrs	29.59 yrs	12.90 yrs						Benefit
YEAR	4% CCA	4% CCA	30% CCA	30% CCA	4% CCA	4% CCA	4% CCA	20% CCA						
2002	2,125,000					560,000		200,000	470,200	60,000	4,500	-525,700	-484,874	-484,874
2003									408,500	61,800	4,635	-465,665	-396,145	-881,019
2004									403,979	63,654	4,774	-462,858	-363,178	-1,244,198
2005									398,293	65,564	4,917	-458,939	-332,137	-1,576,335
2006									391,656	67,531	5,065	-454,121	-303,127	-1,879,462
2007									384,239	69,556	5,217	-448,578	-276,173	-2,155,635
2008									376,180	71,643	5,373	-442,450	-251,246	-2,406,881
2009									367,591	73,792	5,534	-435,849	-228,276	-2,635,157
2010									358,560	76,006	5,700	-428,866	-207,175	-2,842,332
2011									349,161	78,286	5,871	-421,576	-187,837	-3,030,169
2012									339,451	80,635	6,048	-414,039	-170,152	-3,200,321
2013									329,479	83,054	6,229	-406,304	-154,006	-3,354,328
2014									310,485	85,546	6,416	-389,615	-136,211	-3,490,539
2015								295,000	337,203	88,112	6,608	-418,707	-135,014	-3,625,553
2016									308,313	90,755	6,807	-392,261	-116,663	-3,742,216
2017	8550000								1,712,643	93,478	7,011	-1,799,110	-493,523	-4,235,739
2018									1,551,485	96,282	7,221	-1,640,546	-415,077	-4,650,816
2019									1,517,610	99,171	7,438	-1,609,343	-375,560	-5,026,376
2020									1,482,296	102,146	7,661	-1,576,781	-339,385	-5,365,761
2021									1,445,758	105,210	7,891	-1,543,078	-306,337	-5,672,098
2022									1,408,172	108,367	8,128	-1,508,411	-276,199	-5,948,297
2023									1,369,679	111,618	8,371	-1,472,926	-248,756	-6,197,053
2024									1,330,398	114,966	8,622	-1,436,741	-223,801	-6,420,854
2025									1,290,423	118,415	8,881	-1,399,957	-201,136	-6,621,990
2026									1,249,834	121,968	9,148	-1,362,655	-180,572	-6,802,562
2027									1,195,722	125,627	9,422	-1,311,927	-160,349	-6,962,911
2028								430,000	1,207,922	129,395	9,705	-1,327,613	-149,564	-7,112,575
2029									1,139,149	133,277	9,996	-1,262,431	-131,264	-7,243,838
2030									847,137	137,276	10,296	-974,117	-93,420	-7,337,258
2031									972,093	141,394	10,605	-1,102,883	-97,554	-7,434,813
2032									942,834	145,636	10,923	-1,077,547	-87,911	-7,522,724
2033									911,904	150,005	11,250	-1,050,658	-79,061	-7,601,785
2034									879,598	154,505	11,588	-1,022,515	-70,967	-7,672,752
2035									846,156	159,140	11,936	-993,361	-63,590	-7,736,342
2036									811,770	163,914	12,294	-963,391	-56,882	-7,793,224
2037									776,596	168,832	12,662	-932,765	-50,797	-7,844,020
2038						1,620,000			940,375	173,897	13,042	-1,101,229	-55,313	-7,899,333
2039									901,055	179,114	13,434	-1,066,735	-49,420	-7,948,753
2040									843,453	184,487	13,837	-1,014,103	-43,333	-7,992,086
2041								630,000	883,317	190,022	14,252	-1,059,087	-41,740	-8,033,826
2042									804,598	195,722	14,679	-985,641	-35,829	-8,069,655
2043									778,579	201,594	15,120	-965,053	-32,356	-8,102,011
2044									749,065	207,642	15,573	-941,133	-29,104	-8,131,115
2045									-325,605	213,871	16,040	127,774	3,644	-8,127,470
2046	19500000								3,497,706	220,287	16,522	-3,701,472	-97,376	-8,224,846
2047									3,140,252	226,896	17,017	-3,350,131	-81,289	-8,306,135
2048									3,074,656	233,703	17,528	-3,290,831	-73,648	-8,379,783
2049									3,007,046	240,714	18,054	-3,229,706	-66,667	-8,446,450
2050									2,937,672	247,935	18,595	-3,167,012	-60,296	-8,506,746
2051									2,866,745	255,373	19,153	-3,102,965	-54,489	-8,561,235
2052									2,794,437	263,034	19,728	-3,037,743	-49,201	-8,610,436
2053									2,693,178	270,925	20,319	-2,943,784	-43,976	-8,654,412
2054								930,000	2,735,536	279,053	20,929	-2,993,661	-41,248	-8,695,660
2055									2,602,055	287,425	21,557	-2,867,923	-36,447	-8,732,107
2056									2,545,988	296,047	22,204	-2,819,832	-33,053	-8,765,159
2057									2,484,395	304,929	22,870	-2,766,454	-29,909	-8,795,068
2058									2,418,273	314,077	23,556	-2,708,794	-27,011	-8,822,079
2059									2,348,424	323,499	24,262	-2,647,660	-24,351	-8,846,430
2060									2,275,493	333,204	24,990	-2,583,706	-21,917	-8,868,347
2061									2,200,000	343,200	25,740	-2,517,460	-19,697	-8,888,044

Present Worth Analysis

Method Revised 01/03/25

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		8.42%
Escalation Rate		3%
PW Year	2001	

New Refurbished Generation Alternative - Trepassey

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissior 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	4,915,000					905,000		180,000	978,536	132,000	12,000	-1,098,536	-1,013,223	-1,013,223
2003									861,546	135,960	12,360	-985,146	-838,073	-1,851,296
2004									847,202	140,039	12,731	-974,510	-764,642	-2,615,937
2005									831,655	144,240	13,113	-962,782	-696,772	-3,312,709
2006									815,104	148,567	13,506	-950,165	-634,237	-3,946,947
2007									797,708	153,024	13,911	-936,821	-576,767	-4,523,713
2008									779,598	157,615	14,329	-922,884	-524,061	-5,047,774
2009									760,879	162,343	14,758	-908,464	-475,809	-5,523,583
2010									741,637	167,214	15,201	-893,650	-431,701	-5,955,283
2011									721,942	172,230	15,657	-878,515	-391,431	-6,346,714
2012									701,852	177,397	16,127	-863,122	-354,706	-6,701,420
2013									681,414	182,719	16,611	-847,522	-321,246	-7,022,667
2014									652,749	188,200	17,109	-823,840	-288,019	-7,310,685
2015								265,000	665,034	193,846	17,622	-841,258	-271,267	-7,581,952
2016									627,294	199,662	18,151	-808,805	-240,549	-7,822,501
2017									611,653	205,652	18,696	-798,609	-219,070	-8,041,571
2018									594,474	211,821	19,256	-787,039	-199,130	-8,240,701
2019									576,041	218,176	19,834	-774,383	-180,712	-8,421,413
2020									556,581	224,721	20,429	-760,873	-163,770	-8,585,183
2021									536,275	231,463	21,042	-746,696	-148,237	-8,733,419
2022									515,271	238,407	21,673	-732,005	-134,034	-8,867,454
2023									493,688	245,559	22,324	-716,924	-121,078	-8,988,532
2024									471,621	252,926	22,993	-701,554	-109,281	-9,097,813
2025									449,148	260,513	23,683	-685,978	-98,556	-9,196,369
2026	9700000								2,024,295	268,329	24,394	-2,268,230	-300,574	-9,496,944
2027									1,813,268	276,379	25,125	-2,064,521	-252,333	-9,749,277
2028								390,000	1,808,536	284,670	25,879	-2,067,327	-233,053	-9,982,330
2029									1,729,900	293,210	26,655	-1,996,455	-207,585	-10,189,916
2030									1,084,321	302,006	27,455	-1,358,872	-130,318	-10,320,234
2031									1,406,491	311,067	28,279	-1,689,279	-149,424	-10,469,658
2032									1,374,658	320,399	29,127	-1,665,930	-135,914	-10,605,572
2033									1,341,136	330,011	30,001	-1,641,146	-123,494	-10,729,066
2034									1,306,201	339,911	30,901	-1,615,211	-112,103	-10,841,170
2035									1,270,077	350,108	31,828	-1,588,357	-101,678	-10,942,848
2036									1,232,943	360,611	32,783	-1,560,772	-92,153	-11,035,001
2037									1,194,948	371,430	33,766	-1,532,611	-83,463	-11,118,464
2038						2,625,000			1,479,859	382,573	34,779	-1,827,652	-91,801	-11,210,265
2039									1,435,636	394,050	35,823	-1,793,863	-83,106	-11,293,371
2040									1,375,594	405,871	36,897	-1,744,568	-74,545	-11,367,916
2041								570,000	1,403,532	418,048	38,004	-1,783,575	-70,294	-11,438,210
2042									1,324,092	430,589	39,144	-1,715,536	-62,361	-11,500,571
2043									1,292,173	443,507	40,319	-1,695,361	-56,842	-11,557,412
2044									1,256,938	456,812	41,528	-1,672,221	-51,712	-11,609,124
2045									1,218,995	470,516	42,774	-1,646,737	-46,969	-11,656,093
2046									1,178,832	484,632	44,057	-1,619,407	-42,602	-11,698,695
2047									1,136,844	499,171	45,379	-1,590,635	-38,596	-11,737,291
2048									1,093,346	514,146	46,741	-1,560,751	-34,929	-11,772,220
2049									1,048,593	529,570	48,143	-1,530,020	-31,582	-11,803,803
2050									1,002,792	545,457	49,587	-1,498,662	-28,533	-11,832,336
2051									956,108	561,821	51,075	-1,466,855	-25,758	-11,858,094
2052									908,678	578,676	52,607	-1,434,747	-23,238	-11,881,332
2053									835,538	596,036	54,185	-1,377,389	-20,576	-11,901,908
2054								840,000	-289,972	613,917	55,811	-268,134	-3,694	-11,905,603
2055	19145000								3,495,037	632,334	57,485	-4,069,886	-51,722	-11,957,324
2056									3,154,094	651,304	59,209	-3,746,189	-43,911	-12,001,235
2057									3,096,530	670,844	60,986	-3,706,488	-40,072	-12,041,307
2058									3,034,733	690,969	62,815	-3,662,887	-36,525	-12,077,832
2059									2,969,142	711,698	64,700	-3,616,140	-33,258	-12,111,090
2060									2,900,451	733,049	66,641	-3,566,859	-30,257	-12,141,347
2061									2,829,145	755,040	68,640	-3,515,545	-27,506	-12,168,853

Present Worth Analysis

Method Revised 01/03/26

Added multiple generation types as well as extended RR to 2061

Weighted Average Incremental Cost of Capital		**8.42%**
Escalation Rate		**3%**
PW Year	**2001**	

New Refurbished Generation Alternative - Old Perlican

CAPITAL EXPENDITURE IN YEAR BY ASSET TYPE

YEAR	Generation Thermal 28.19 yrs 4% CCA	Generation Hydro 49.50 yrs 4% CCA	Generation Thermal 28.19 yrs 30% CCA	Generation Hydro 49.5 30% CCA	Transmissio 29.59 yrs 4% CCA	Substation 36.36 yrs 4% CCA	Distribution 29.59 yrs 4% CCA	Telecomm 12.90 yrs 20% CCA	Capital Revenue Requirement	Operating Costs	Operating Benefits	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit
2002	5,215,000					585,000		150,000	974,198	135,000	12,500	-1,096,698	-1,011,527	-1,011,527
2003									859,281	139,050	12,875	-985,456	-838,336	-1,849,864
2004									844,189	143,222	13,261	-974,149	-764,359	-2,614,223
2005									828,052	147,518	13,659	-961,911	-696,141	-3,310,364
2006									811,036	151,944	14,069	-948,911	-633,401	-3,943,764
2007									793,277	156,502	14,491	-935,288	-575,823	-4,519,587
2008									774,885	161,197	14,926	-921,156	-523,079	-5,042,666
2009									755,948	166,033	15,373	-906,608	-474,837	-5,517,503
2010									736,540	171,014	15,835	-891,720	-430,768	-5,948,271
2011									716,721	176,144	16,310	-876,556	-390,558	-6,338,829
2012									696,541	181,429	16,799	-861,170	-353,904	-6,692,733
2013									676,039	186,872	17,303	-845,607	-320,521	-7,013,254
2014									648,651	192,478	17,822	-823,307	-287,832	-7,301,086
2015								220,000	655,213	198,252	18,357	-835,108	-269,284	-7,570,371
2016									620,263	204,200	18,907	-805,556	-239,582	-7,809,953
2017									603,632	210,326	19,475	-794,483	-217,939	-8,027,892
2018									585,700	216,635	20,059	-782,276	-197,925	-8,225,816
2019									566,700	223,134	20,661	-769,174	-179,496	-8,405,313
2020									546,824	229,828	21,280	-755,372	-162,586	-8,567,898
2021									526,223	236,723	21,919	-741,028	-147,111	-8,715,010
2022									505,021	243,825	22,576	-726,270	-132,984	-8,847,994
2023									483,317	251,140	23,254	-711,203	-120,112	-8,968,106
2024									461,191	258,674	23,951	-695,914	-108,402	-9,076,509
2025									438,708	266,434	24,670	-680,472	-97,765	-9,174,274
2026	10295000								2,111,905	274,427	25,410	-2,360,922	-312,858	-9,487,131
2027									1,892,107	282,660	26,172	-2,148,595	-262,609	-9,749,741
2028								325,000	1,877,493	291,140	26,957	-2,141,675	-241,435	-9,991,175
2029									1,801,106	299,874	27,766	-2,073,214	-215,566	-10,206,742
2030									1,115,719	308,870	28,599	-1,395,990	-133,878	-10,340,620
2031									1,457,618	318,136	29,457	-1,746,298	-154,467	-10,495,087
2032									1,424,283	327,680	30,341	-1,721,623	-140,458	-10,635,545
2033									1,369,457	337,511	31,251	-1,695,717	-127,601	-10,763,146
2034									1,353,375	347,636	32,189	-1,668,822	-115,824	-10,878,970
2035									1,316,224	358,065	33,154	-1,641,135	-105,057	-10,984,027
2036									1,278,160	368,807	34,149	-1,612,818	-95,226	-11,079,253
2037									1,239,307	379,871	35,173	-1,584,005	-86,262	-11,165,515
2038						1,695,000			1,408,701	391,268	36,228	-1,763,740	-88,590	-11,254,105
2039									1,365,462	403,006	37,315	-1,731,152	-80,201	-11,334,306
2040									1,308,595	415,096	38,435	-1,685,256	-72,011	-11,406,317
2041								475,000	1,325,007	427,549	39,588	-1,712,967	-67,511	-11,473,828
2042									1,251,899	440,375	40,775	-1,651,498	-60,033	-11,533,861
2043									1,218,356	453,586	41,999	-1,629,943	-54,648	-11,588,509
2044									1,182,014	467,194	43,259	-1,605,950	-49,662	-11,638,172
2045									1,143,383	481,210	44,556	-1,580,037	-45,066	-11,683,238
2046									1,102,871	495,646	45,893	-1,552,624	-40,845	-11,724,084
2047									1,060,806	510,515	47,270	-1,524,051	-36,980	-11,761,064
2048									1,017,453	525,831	48,688	-1,494,596	-33,449	-11,794,512
2049									973,027	541,606	50,149	-1,464,484	-30,230	-11,824,742
2050									927,700	557,854	51,653	-1,433,901	-27,300	-11,852,042
2051									881,612	574,590	53,203	-1,402,999	-24,637	-11,876,679
2052									834,876	591,827	54,799	-1,371,905	-22,220	-11,898,899
2053									766,692	609,582	56,443	-1,319,831	-19,716	-11,918,615
2054								700,000	-448,114	627,870	58,136	-121,620	-1,676	-11,920,291
2055	20315000								3,584,165	646,706	59,880	-4,170,991	-53,007	-11,973,298
2056									3,222,142	666,107	61,677	-3,826,573	-44,863	-12,018,161
2057									3,161,945	686,090	63,527	-3,784,508	-40,915	-12,059,066
2058									3,097,867	706,673	65,433	-3,739,107	-37,285	-12,096,351
2059									3,030,530	727,873	67,396	-3,691,008	-33,947	-12,130,298
2060									2,960,440	749,709	69,418	-3,640,731	-30,884	-12,161,182
2061									2,888,003	772,200	71,500	-3,588,704	-28,078	-12,189,260

Appendix C
Capital Cost Estimates

Salt Pond GT Relocation - Estimates

Location	1	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC = 8.42%

	Total Capital	Budgeted	Incremental Capital
Civil	515000		515000
Mechanical	696000	150000	546000
Electrical	875000	500000	375000
Substations	480000		480000
Communications	190000		190000
IDC	50000		50000
Contingency	100000		100000
Total	2906000	650000	2256000

Salt Pond GT Relocation - Estimates

Location	2	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	590000	81166	508834
Electrical	913000	562000	351000
Substations	553000		553000
Communications	175673		175673
IDC	50000		50000
Contingency	76567		76567
Total	2868240	643166	2225074

Salt Pond GT Relocation - Estimates

Location	3	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	590000	81166	508834
Electrical	913000	562000	351000
Substations	500000		500000
Communications	155666		155666
IDC	50000		50000
Contingency	74567		74567
Total	2793233	643166	2150067

Salt Pond GT Relocation - Estimates

Location	4	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	590000	81166	508834
Electrical	913000	562000	351000
Substations	170000		170000
Communications	137400		137400
IDC	50000		50000
Contingency	72740		72740
Total	2443140	643166	1799974

Salt Pond GT Relocation Project
Transmission Estimates

Location	1	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	10000	0	10000
Mechanical	0	0	0
Electrical	5925000	0	5925000
Substations	1072000	0	1072000
Communications	177548	0	177548
IDC	40000	0	40000
Contingency	0	0	0
Total	7224548	0	7224548

Salt Pond GT Relocation Project
Transmission Estimates

Location	2	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	10000	0	10000
Mechanical	0	0	0
Electrical	4800000	0	4800000
Substations	1404000	0	1404000
Communications	175673	0	175673
IDC	40000	0	40000
Contingency	0	0	0
Total	6429673	0	6429673

Salt Pond GT Relocation Project
Transmission Estimates

Location	3	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	10000	0	10000
Mechanical	0	0	0
Electrical	6525000	0	6525000
Substations	864000	0	864000
Communications	155666	0	155666
IDC	40000	0	40000
Contingency	0	0	0
Total	7594666	0	7594666

Salt Pond GT Relocation Project
Transmission Estimates

Location	4	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	10000	0	10000
Mechanical	0	0	0
Electrical	3300000	0	3300000
Substations	173000	0	173000
Communications	137400	0	137400
IDC	40000	0	40000
Contingency	0	0	0
Total	3660400	0	3660400

Salt Pond GT Relocation Project
New Stationary Diesels Estimate

Location	1	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	5725000	0	5725000
Electrical	843000	0	843000
Substations	944000		944000
Communications	177548		177548
IDC	100000		100000
Contingency	0		0
Total	8299548	0	8299548

Salt Pond GT Relocation Project
New Stationary Diesels Estimate

Location	2	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	5725000	0	5725000
Electrical	843000	0	843000
Substations	1031000		1031000
Communications	175673		175673
IDC	100000		100000
Contingency	0		0
Total	8384673	0	8384673

Salt Pond GT Relocation Project
New Stationary Diesels Estimate

Location	3	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	5725000	0	5725000
Electrical	843000	0	843000
Substations	976000		976000
Communications	155666		155666
IDC	100000		100000
Contingency	0		0
Total	8309666	0	8309666

Salt Pond GT Relocation Project
New Stationary Diesels Estimate

Location	4	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	5725000	0	5725000
Electrical	843000	0	843000
Substations	645000		645000
Communications	137400		137400
IDC	100000		100000
Contingency	0		0
Total	7960400	0	7960400

Salt Pond GT Relocation Project
New Mobile Diesels Estimate

Location	1	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	210000		210000
Mechanical	6505000	0	6505000
Electrical	843000	0	843000
Substations	934000		934000
Communications	177548		177548
IDC	70000		70000
Contingency	0		0
Total	8739548	0	8739548

Salt Pond GT Relocation Project
New Mobile Diesels Estimate

Location	2	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	210000		210000
Mechanical	6505000	0	6505000
Electrical	843000	0	843000
Substations	1021000		1021000
Communications	175673		175673
IDC	70000		70000
Contingency	0		0
Total	8824673	0	8824673

Salt Pond GT Relocation Project
New Mobile Diesels Estimate

Location	3	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	210000		210000
Mechanical	6505000	0	6505000
Electrical	843000	0	843000
Substations	966000		966000
Communications	155666		155666
IDC	70000		70000
Contingency	0		0
Total	8749666	0	8749666

Salt Pond GT Relocation Project
New Mobile Diesels Estimate

Location	4	1=	Wesleyville
		2=	Twillingate
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	210000		210000
Mechanical	6505000	0	6505000
Electrical	843000	0	843000
Substations	635000		635000
Communications	137400		137400
IDC	70000		70000
Contingency	0		0
Total	8400400	0	8400400

Greenhill GT Relocation - Estimates

Location	1	1=	Wesleyville
		2=	Twillingate
		3=	N/A
		4=	N/A

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	660000		660000
Mechanical	944000	0	944000
Electrical	913000	509000	404000
Substations	452000		452000
Communications	177548		177548
IDC	50000		50000
Contingency	112155		112155
Total	3308703	509000	2799703

Greenhill GT Relocation - Estimates

Location	2	1=	Wesleyville
		2=	Twillingate
		3=	N/A
		4=	N/A

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	660000		660000
Mechanical	944000	0	944000
Electrical	913000	509000	404000
Substations	539000		539000
Communications	175673		175673
IDC	50000		50000
Contingency	111967		111967
Total	3393640	509000	2884640

Salt Pond GT Relocation Project
Refurbished Stationary Diesels Estimate

Location	3	1=	N/A
		2=	N/A
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	3450000	0	3450000
Electrical	843000	0	843000
Substations	941000		941000
Communications	155666		155666
IDC	100000		100000
Contingency	0		0
Total	5999666	0	5999666

Salt Pond GT Relocation Project
Refurbished Stationary Diesels Estimate

Location	4	1=	N/A
		2=	N/A
		3=	Trepassey
		4=	Old Perlican

WAICOC 8.42%

	Total Capital	Budgeted (w/timing adj.)	Incremental Capital
Civil	510000		510000
Mechanical	2800000	0	2800000
Electrical	843000	0	843000
Substations	610000		610000
Communications	137400		137400
IDC	100000		100000
Contingency	0		0
Total	5000400	0	5000400

Appendix D
Operating Cost Estimates

Wesleyville
Operating Costs

Alternative	Costs						Benefits			Net
	Labour/Parts	Fuel	Telecomm	Total	Current	Incremental	Generation	Capacity Credit	Total	
Relocation	75000	30000	10000	115000	60000	55000	3000	0	3000	52000
Transmission	80000	0	10000	90000	0	90000	0	0	0	90000
New Stationary Diesels	75000	30000	10000	115000	0	115000	7000	147000	154000	-39000
New Mobile Diesels	75000	30000	10000	115000	0	115000	7000	147000	154000	-39000

Twillingate
Operating Costs

Alternative	Costs						Benefits			Net
	Labour/Parts	Fuel	Telecomm	Total	Current	Incremental	Generation	Capacity Credit	Total	
Relocation	75000	35000	10000	120000	60000	60000	4500	0	4500	55500
Transmission	70000	0	10000	80000	0	80000	0	0	0	80000
New Stationary Diesels	75000	35000	10000	120000	0	120000	8500	147000	155500	-35500
New Mobile Diesels	75000	35000	10000	120000	0	120000	8500	147000	155500	-35500

Trepassey
Operating Costs

Alternative	Costs						Benefits			Net
	Labour/Parts	Fuel	Telecomm	Total	Current	Incremental	Generation	Capacity Credit	Total	
Relocation	75000	47000	10000	132000	60000	72000	8000	0	8000	64000
Transmission	85000	0	10000	95000	0	95000	0	0	0	95000
New Stationary Diesels	75000	47000	10000	132000	0	132000	12000	147000	159000	-27000
New Mobile Diesels	75000	47000	10000	132000	0	132000	12000	147000	159000	-27000

Old Perlican
Operating Costs

Alternative	Costs						Benefits			Net
	Labour/Parts	Fuel	Telecomm	Total	Current	Incremental	Generation	Capacity Credit	Total	
Relocation	75000	50000	10000	135000	60000	75000	8500	0	8500	66500
Transmission	45000	0	10000	55000	0	55000	0	0	0	55000
New Stationary Diesels	75000	50000	10000	135000	0	135000	12500	147000	159500	-24500
New Mobile Diesels	75000	50000	10000	135000	0	135000	12500	147000	159500	-24500

Appendix E
Levelizing Worksheets

Salt Pond GT Relocation Project
Levelizing Worksheet

Time Horizon (years)	60
Weighted Average Cost Of Capital	8.44%

Wesleyville Site

Alternative	Relocate SPT	Transmission	Stationary Diesel	Mobile Diesel	Relocate GRH
NPV (Y60)*	$8,001,212.00	$12,552,000.00	$15,090,000.00	$15,789,000.00	$8,702,000.00
Levelized**	$680,568.54	$1,067,650.29	$1,283,527.96	$1,342,983.62	$740,176.29
Cust Minutes	1111062	1443009	1366747	1366747	1051600
$/CM	**$0.6125**	**$0.7399**	**$0.9391**	**$0.9826**	**$0.7039**

Twillingate Site

Alternative	Relocate SPT	Transmission	Stationary Diesel	Mobile Diesel	Relocate GRH
NPV (Y60)*	$8,035,000.00	$11,138,000.00	$15,276,000.00	$15,976,000.00	$8,888,000.00
Levelized**	$683,442.49	$947,378.02	$1,299,348.78	$1,358,889.50	$755,997.12
Cust Minutes	1033329	1427951	1289014	1289014	973900
$/CM	**$0.6614**	**$0.6635**	**$1.0080**	**$1.0542**	**$0.7763**

Trepassey Site

Alternative	Relocate SPT	Transmission	Stationary Diesel	Mobile Diesel	Refurbished 10MW
NPV (Y60)*	$8,062,000.00	$13,212,000.00	$15,303,000.00	$16,003,000.00	$12,169,000.00
Levelized**	$685,739.06	$1,123,788.69	$1,301,645.35	$1,361,186.08	$1,035,073.01
Cust Minutes	1024873	1274457	1280558	1280558	1280558
$/CM	**$0.6691**	**$0.8818**	**$1.0165**	**$1.0630**	**$0.8083**

Old Perlican Site

Alternative	Relocate SPT	Transmission	Stationary Diesel	Mobile Diesel	Refurbished 8MW
NPV (Y60)*	$7,572,000.00	$6,582,000.00	$14,813,000.00	$15,513,000.00	$12,189,000.00
Levelized**	$644,060.55	$559,852.95	$1,259,966.84	$1,319,507.57	$1,036,774.17
Cust Minutes	1676847	1922608	1932533	1932533	1932533
$/CM	**$0.3841**	**$0.2912**	**$0.6520**	**$0.6828**	**$0.5365**

Notes:

* NPV Y60 value taken from Appendix A, Cumulative Net Present Worth in Year 60 of each alternative.

Levelized value calculated from annual payment required over study time horizon to match NPV Y60 value.