BRITISH COLUMBIA TRANSMISSION CORPORATION

INTERIOR TO LOWER MAINLAND (ILM) TRANSMISSION PROJECT

COST ESTIMATE REVIEW

PREPARED BY SNC-LAVALIN T&D
REVISION 3, NOVEMBER 1, 2007

TABLE OF CONTENTS

1 INTRODUCTION AND BACKGROUND

BCTC requested that SNC-Lavalin review the "ILM Implementation Phase Cost Estimate" as prepared by BCHydro Engineering Services for the 500 kV ILM (Interior-to-Lower Mainland) Transmission Reinforcement Project from Nicola to Meridian substations.

The estimate review encompassed the aspects of the BCHydro estimate which had the greatest potential for market and other influences. These included engineering, material, construction, and escalation.

The review was performed for the following portions of the project scope:

- 5L83RC – Series Capacitor Compensation on 5l83 – Ruby Creek
- 5L8314/B – 500 kV Transmission Line from Nicola to Meridian (240 km)
- N4MDNL83 – Meridian Substation (MDN) Work 5L83
- N4NICL83 – Nicola Substation (NIC) Work 5L83

The evaluation was performed for the single project option estimate provided. Two other options were referred to in the documentation provided by BCTC, but estimates for these options were not provided for review.

The following documents and information were provided by BCTC as input to the review:

- ILM Project Description Rev 2 Mar 13 07.pdf
- ILMENG Conceptual Design – Study Report DRAFT 9 Apr-07.pdf
- ILM 5L83 Option Cashflow 11 Apr 07.pdf
- Orthophoto maps

These documents provided an overview of the project and a high-level breakdown of the estimated price. Documents that did not form part of the review include transmission line or substation layouts and detailed engineering scope and assumptions. The documents provided allowed SNC-Lavalin to review the BCHydro estimate and provide general feedback regarding the costs of similar projects and information regarding current industry and market trends. Due to the limited nature of the information, however, a detailed investigation, as would be required to prepare a thorough cost estimate for the project, was not possible.

The costs for each portion of the project scope have been analyzed at current prices, with a discussion of project escalation consolidated separately in the escalation section.

The next step in this process, a variance review between BCHydro, SNC-Lavalin, and BCTC, will allow for further definition of the assumptions made by both parties during the estimating and review process, thus defending or altering the variances noted.

2 CATEGORIES NOT REVIEWED

The review considered only the implementation phase portions of the estimate. This did not include the following definition phase activities, which were assumed to be either in progress or already complete.

- ILMBCTC – ILM Definition Phase – BCTC and Environmental
- ILMENG – ILM Definition Phase – BCH Engineering & Properties
- ILMFN – ILM Definition Phase – BCHydro First Nations

Within the scope of the estimate review, services provided by BCTC or BCHydro, such as Land and Property Services, Forest Engineering, Legal Services, and Community and Aboriginal Relations, were not evaluated. These include the following cost estimate categories:

- S100 – System Performance
- S1511 – SCC Operations
- S1514 – SIC Operations
- S152 – SCC/LMC Telecontrol
- S1524 – SIC Telecontrol
- S153 – SCC EMS SCADA Database
- S210 – Property Services
- S220 – Property Acquisition
- S400 – Public Relations
- S500 – BCTC PMO
- S500A – BCTC PMO
- S600 – Environmental Services
- S700 – First Nations Consultation
- S700A – First Nations Benefits Agreements
- S850 – Forest Engineering
- Overhead
- IDC

The review does not include alternate transmission routes or the cost of relocating existing transmission lines as a result of the project. It does not address environmental requirements or additional system improvements required as a result of the ILM project implementation.

3 5L8314/B 500KV TRANSMISSION LINE FROM NICOLA TO MERIDIAN

3.1 PROJECT MANAGEMENT AND ENGINEERING

The execution schedule for the implementation phase of the project is seven years (overall project years three through eight). SNC-Lavalin has reviewed probable manpower requirements such as could be expected for a project of this magnitude and has come to the recommendation that the estimated amounts for project management and engineering activities be increased.

Based upon the manpower deployment statement prepared by SNC, the expected costs are as follows:

Project Management

Management	$4.7M
Scheduling	$0.5M
Cost control	$0.9M
Procurement	$0.4M
Contracts	$0.3M
Project support	$0.9M
Expenses	$0.5M
Total	$8.2M

Engineering & Drafting:

Engineering	$6.0M
Drafting	$0.6M
Engineering support	$0.2M
Expenses	$0.5M
Total	$7.3M

This value is compared to similar items in corresponding Cash flow statement as follows:

BC Hydro				SNC	Difference
A100	Project management	2.122M	7.3M	8.2M	+ 0.9M
P400	QA services	4.118M			
P110	Equip contracts mgmt	1.034M			
B230	Design	1.988M	5.6M	7.3M	+ 1.7M
B400	Design	3.640M			

The corresponding costs for the Definition Phase activities were not part of the review. These costs comprise front-end and high-level engineering and are mentioned as part of cash flow report ILMENG (ILM Definition Phase-BCH Engineering & Properties). The corresponding Definition Phase value is approximately $4 million.

3.2 SURVEY AND TESTING

3.2.1 SURVEY

Survey activities will likely require LiDAR data collection, legal markings, ground data collection and staking of tower locations throughout the 240 kilometre proposed route. The route is composed of various terrains.

According to budgetary quotes provided by ground survey and LiDAR survey suppliers, the approximate costs of these activities are:

- Survey and staking - $20,000 per km ($4,800,000 for 240 km)
- LiDAR data collection – lump-sum value of $300,000

This review assumes that LiDAR survey will be suitable for the project. However, the survey accuracy would need to be reviewed for acceptability, due to the mountainous terrain in portions of the route.

The estimate amount of $0.210m for land survey activities is reasonable, given the assumption that a significant portion of the right-of-way has already been obtained, and therefore that the additional land survey requirements are minimal.

The total value of $5.1 million is compared to the BCHydro estimate below:

BC Hydro				SNC	Difference
S810	Engineering Survey	1.671M	2.2M	5.1M	+ 2.9M
S820	Land survey	0.210M			
S830	Photogrammetric Survey	0.281M			

3.2.2 GEOTECHNICAL INVESTIGATION

The expectation for this terrain is that geotechnical drilling will not be required at every tower location. A field reconnaissance will be carried out and potential locations for drilling will be identified. The potential drilling locations would be soft-soil locations, angle points and locations having side-slope problem.

Based on this assumption, the estimate amount of $1.5m is appropriate for this activity.

BC Hydro				SNC	Difference
B240	Geotechnical invest.	1.527M	1.5M	1.3M	(-) 0.2M

3.3 MATERIAL

3.3.1 TOWER MATERIAL

SNC reviewed the Orthophoto maps on a section-by-section basis. While there were some queries regarding routings at some sections, those queries did not affect this high-level estimate review.

The approximate quantities for towers as per above review are:

Guyed tangent	110
Rigid tangent	404
Rigid LA	29
Rigid MA	37
Rigid DE	47
Heavy DE	8
DC tangent	19
DC MA	2
DC DE	2
Total	658

The approximate weight of these towers would be 15,000 metric tonnes.

SNC-Lavalin's Global Procurement group has recently obtained low-cost tower material from global sources for a comparable Canadian 500 kV transmission line project. Considering the current international prices available and the total tonnage required for this project, we would strongly recommend that the towers for this project be procured globally. Should this recommendation be accepted, a reasonable expected rate would be $2600 per metric tonne or lower. This rate should be inclusive of design charges by manufacturer. Additional costs would be incurred towards full-scale load tests for the towers.

Using conservative pricing for global tower sources, the approximate cost for this category would be:

Tower design and supply	=$39.0M
Tower load testing (tangents)	=$0.1M
Tower load testing (angles)	=$0.9M

The total value of $40 million is compared to the BCHydro estimate below:

BC Hydro				SNC	Difference
P344	Structure material	55.017M	55.0M	40.0M	(-) 15.0M

3.3.2 INSULATOR, HARDWARE AND CONDUCTOR ACCESSORIES

Insulators, insulator hardware, and conductor accessory costs were not separately identified in the cash flow provided for the ILM estimate. They were most likely considered by BCHydro under the 'Structure Material (P344)' and/or 'Conductor (P345)' categories. They have been identified separately here for convenience only.

A high level approximation for insulator quantities would be 150,000pcs.

The estimated costs towards Insulators, hardware and conductor accessories would be:

Insulators	=$9.0M
Insulator hardware	=$4.0M
Spacer dampers	=$5.2M
Conductor accessories (dead-ends, clamps, splices)	=$1.5M
Misc accessories (grounding, markers etc)	=$0.5M

The total value of $20.2 million is compared to the BCHydro estimate below:

BC Hydro			SNC	Difference
	Insulators, etc.	Not available	20.2M	+ 20.2M

3.3.3 CONDUCTOR

The conductor type identified in documents provided is 926.7kcmil 45/7 ACSR. Budgetary pricing from our suppliers has indicated a total cost of $7.50 per meter for the conductor. This budgetary quote was in line with our recent estimates for 1590kcmil ASCR conductor at $11.00 per meter.

We have estimated the conductor required at 3,000 km. The approximate cost for this category would be 3,000km at $7500/km. The total value of $22.5 million is compared to the BCHydro estimate below:

BC Hydro				SNC	Difference
P345	Conductor material	29.850M	30.0M	22.5M	(-) 7.5M

3.3.4 MATERIAL SUMMARY

As mentioned above, the costs identified by SNC-Lavalin for insulators, insulator hardware, spacer dampers, conductor accessories, and miscellaneous accessories were likely included by BCHydro in the Tower Material or Conductor categories. For this reason, we have provided the following summary of the material differences highlighted above.

BC Hydro				SNC	Difference
P344	Structure material	55.017M	84.9M	82.7M	(-) 2.2M
P345	Conductor material	29.850M			
	Insulators, etc.	N/A			

3.4 CONSTRUCTION

3.4.1 CONSTRUCTION MANAGEMENT

The construction time-line fro the project is 5 years. This would require a full-time construction management team, which could consist of the following:

Construction manager	1 person full-time
	1 additional person for 3 years during peak construction period
Supervisors/QC/Inspectors	2 persons full time
	Up to 6 additional persons during peak construction period

In our opinion, the $8.0m estimate is appropriate for these activities.

BC Hydro				SNC	Difference
H100	Const. contract mgmt	7.973M	8.0M	8.0M	-

3.4.2 ROW PREPARATION

Clearing requirements are varied over the route, from very light requirements at the Nicola end to more costly requirements in the dense growth and rough terrain sections of the coastal mountains. Unit costs vary from $10,000/ha through easy terrain in the guy tower section to $25,000/ha in rough or helicopter sections.

The clearing width changes according to ground slope, tree height, growth factors, and security level standards. The ability to pre-log merchantable timber can reduce clearing cost. This review was based on cleared widths in similar terrain and tree heights with 100% security level.

The access cost will likely be lower than estimated as most of the new circuit will parallel existing lines. Removal of hazard trees was included in our assessment but the cost is minimal as we allowed for one time removal of a danger tree strip in the clearing.

Based on our high-level overview, the estimate for ROW preparation is reasonable.

BC Hydro				SNC	Difference
H210	ROW preparation	22.223M	22.2M	22.8M	0.6M

3.4.3 FOUNDATION, TOWER ERECTION AND STRINGING

Based on our assessment of current construction industry costs, we recommend an increase for estimated line construction costs. SNC reviewed the estimate using unit prices available from recent contracts for comparable 500 kV construction projects in Canada. The unit prices were adjusted for British Columbia terrain, topography, and access.

There has been a significant escalation experienced in the transmission construction industry over the last few years. Some component costs have increased more than 40%. Continued cost increases are expected for the next five years due to the volume of projects and a shortage of contractors and skilled labor. Since construction costs represent a significant portion of the overall project costs, additional discussion of these anticipated increases is included in the sections of this review that deal with escalation and contingency.

The total value of $146.7 million is compared to the BCHydro estimate below:

BC Hydro				SNC	Difference
H224	Foundation	116.395M	116.4M	74.6M	+ 30.3M
	Tower Erection			50.4M	
	Stringing			21.7M	

3.4.4 RESTORATION

Most of the restoration should be completed during construction. The restoration allowance would cover costs that arise after the construction contractor has left the project. Restoration would include decommissioning of roads.

Based on our high-level overview, the estimate for restoration is reasonable.

BC Hydro				SNC	Difference
H240	Restoration	1.000m	1.0m	1.0	-

3.5 TRANSMISSION LINE SUMMARY

Section	Description	BCTC/BCH	SNC	Difference
3.1	Project mgmt	7.3M	8.2M	+ 0.9M
3.1	Design	5.6M	7.3M	+ 1.7M
3.4.1	Construction mgmt	8.0M	8.0M	-
3.2.1	Survey	2.2M	5.1M	+ 2.9M
3.2.2	Geotechnical	1.5M	1.3M	(-) 0.2M
	Engineering Subtotal	**24.6M**	**29.9M**	**+ 5.3M**
3.3.1	Tower material	55.0M	40.0M	(-) 15.0M
3.3.2	Insulators, etc.	-	20.2M	+ 20.2M
3.3.3	Conductor	30.0M	22.5M	(-) 7.5M
	Material Subtotal	**85.0M**	**82.7M**	**(-) 2.3M**
3.4.2	ROW preparation	22.2M	22.8M	+ 0.6M
3.4.3	Foundation	116.4M	74.6M	+ 30.3M
	Tower erection		50.4M	
	Stringing		21.7M	
3.4.4	Restoration	1.0M	1.0M	-
	Construction Subtotal	**139.6M**	**170.5M**	**+ 30.9M**
	Line Total	**249.2M**	**283.1M**	**+ 33.9M**
2	Categories not reviewed	150.6M		-
	TOTAL	399.8M		

4 N4NICL83 NICOLA SUBSTATION AND N4MDNL83 MERIDIAN SUBSTATION

Overall, SNC's evaluation of the substation estimates recommends a general budget increase. However, it should be noted that this review was developed at a very high level, in accordance with the guidelines discussed in section 1.0 of this report. Due to the absence of layout drawings, engineering assumptions, and information about the type and quantity of studies included in the original estimate, this review should be accepted as roughly equal to an Order Of Magnitude estimate (+/- 30% accuracy). In light of this fact, the differences between the original estimate and the review figures could be seen as a result of the additional information and attention required at the detailed estimate level.

4.1 PROJECT MANAGEMENT AND ENGINEERING

Please refer to section 3.1 for a detailed discussion of project management and support activities recommended. While the additional amounts were indicated on the line portion of the project, the implementation of the project management and support team would impact the implementation of the substations as well.

An increase for engineering budget is recommended as follows:

BC Hydro – Nicola				SNC	Difference
	Project mgmt/design	0.768M	0.8M	1.1M	+ 0.3M

BC Hydro – Meridian				SNC	Difference
	Project mgmt/design	0.674M	0.7M	1.1M	+ 0.4M

4.2 MATERIAL

Budgetary quotes were obtained from vendors for pieces of major equipment (such as the reactor bank for Nicola substation). Prices for other equipment were obtained from our current pricing records on recent comparable projects. These figures indicate that an increase in material pricing would be recommended for both Nicola and Meridian substations.

In general, the differences may be a result of escalation and other market factors from the time of the original estimate to now. For example, in the case of Nicolas substation, budgetary quote for the reactor bank indicates a price of $3.0m for this equipment alone.

BC Hydro – Nicola				SNC	Difference
	Material	3.403M	3.4M	4.5M	+ 1.1M

BC Hydro – Meridian				SNC	Difference
	Material	2.138M	2.1M	3.0M	+ 0.9M

4.3 CONSTRUCTION

4.3.1 CONSTRUCTION MANAGEMENT

Please refer to section 3.3.1 for a discussion of construction management resources. These resources would apply to the substation work as well.

As a result, we believe the current estimates are appropriate for these activities.

BC Hydro – Nicola				SNC	Difference
	Construction mgmt	0.3M	0.3M	0.3M	-

BC Hydro – Meridian				SNC	Difference
	Construction mgmt	0.29M	0.3M	0.3M	-

4.3.2 SUBSTATION CONSTRUCTION

Due to the market factors discussed in section 3.4, above, including the escalation experienced since the time of the original estimate, SNC recommends an increase in construction estimates for both Nicola and Meridian substations, as follows.

BC Hydro – Nicola				SNC	Difference
	Construction	1.427M	1.4M	1.7M	+ 0.3M

BC Hydro – Meridian				SNC	Difference
	Construction	1.212M	1.2M	1.7M	+ 0.5M

4.4 SUBSTATION SUMMARY

Nicola Substation				
Section	Description	BCTC/BCH	SNC	Difference
4.1	Project mgmt, eng, support	0.8M	1.1M	+0.3M
4.3.1	Construction mgmt	0.3M	0.3M	-
	Engineering Subtotal	**1.1M**	**1.4M**	**+0.3M**
4.2	Material	3.4M	4.5M	+1.1M
	Material Subtotal	**3.4M**	**4.5M**	**+1.1M**
4.3.2	Construction	1.4M	1.7M	+0.3M
	Construction Subtotal	**1.4M**	**1.7M**	**+0.3M**
	Substation Total	**5.9M**	**7.6M**	**+1.7M**
2	Categories not reviewed	3.9M		
	TOTAL	9.8M		

Meridian Substation				
Section	Description	BCTC/BCH	SNC	Difference
4.1	Project mgmt, eng, support	0.7M	1.1M	+0.4M
4.3.1	Construction mgmt	0.3M	0.3M	-
	Engineering Subtotal	**1.0M**	**1.4M**	**+0.4M**
4.2	Material	2.1M	3.0M	+0.9M
	Material Subtotal	**2.1M**	**3.0M**	**+0.9M**
4.3.2	Construction	1.2M	1.7M	+0.5M
	Construction Subtotal	**1.2M**	**1.7M**	**+0.5M**
	Substation Total	**4.3M**	**6.1M**	**+1.8M**
2	Categories not reviewed	2.9M		
	TOTAL	7.2M		

5 5L83RC – SERIES CAPACITOR COMPENSATION (RUBY CREEK)

Overall, our evaluation of the Series Capacitor Compensation portion of the project evaluated the costs as slightly lower than the original estimate.

The difference could indicate several possibilities:

- The project is not as common to our experience as the line and substation portions. Therefore, there may be certain project complexities that were not discovered under this high-level estimate review, but would have come to light during the more detailed BCHydro estimating process and as a result increased the estimate price.
- The single most significant cost is the series capbank. Since this is not a piece of equipment in high demand at this time, there is a possibility that costs have decreased for this equipment since the time of the original estimate.

Section	Description	BCTC/BCH	SNC	Difference
5	Project mgmt, eng, support	2.0M	1.7M	(-) 0.3M
5	Construction mgmt	0.4M	0.4M	-
	Engineering Subtotal	**2.4M**	**2.1M**	**(-) 0.3M**
5	Material	12.0M	11.3M	(-) 0.7M
	Material Subtotal	**12.0M**	**11.3M**	**(-) 0.7M**
5	Construction	8.6M	7.0M	(-) 1.6M
	Construction Subtotal	**8.6M**	**7.0M**	**(-) 1.6M**
	Substation Total	**23.0M**	**20.4M**	**(-) 2.6M**
2	Categories not reviewed	15.4M		
	TOTAL	38.4M		

6 CONTINGENCY AND ESCALATION

6.1 CONTINGENCY

A contingency allocation of 20% was included in the original ILM estimate over and above the amounts allocated for inflation/escalation. Given our understanding of BCTC's risk management practices, which use probability of potential risk event occurrences as a basis for allocating contingency amounts, this percentage seems high. We would normally expect contingency amounts of 10 to 15% instead.

That said, a project of this magnitude and complexity may raise additional risks which would not be covered in the regular 10 or 15% contingency amount. Some of the unusual and additional risks that could potentially affect the project include major increases to construction labour costs as a result of market congestion, schedule delays and resulting cost increases as a result of land, aboriginal, or community delays, and so on. For this reason, SNC has not recommended a change to the contingency percentage.

6.2 ESCALATION

Escalation has been approximated for a high-level cash flow based on the 7-year project schedule, including the 5-year construction schedule.

Project management, engineering, and associated support functions are estimated to experience 10% escalation per year from project start until after the 2010 Olympics, which is expected influence labour availability and resulting cost between now and 2010. After 2010, labour escalation is reduced to 5% per year.

Escalation for major electrical equipment (shunt reactors, series capacitors, etc.) is estimated at 10% per year. Escalation on other equipment and material is estimated at 5% per year.

Construction escalation is estimated at 15% per year for the 2008 and 2009, and is then reduced to 5% per year after the major Olympic construction work is completed.

Escalation schedules follow:

Transmission Line									
In millions	2008	2009	2010	2011	2012	2013	2014	2015	Total
Project management, engineering, construction management									
Cash Flow	$ -	$ 6.19	$ 4.49	$ 4.70	$ 4.70	$ 3.93	$ 3.15	$ 2.75	$ 29.90
Escalation per Annum	10%	10%	5%	5%	5%	5%	5%	0%	
Cumulative Escalation	10%	21%	27%	33%	40%	47%	54%	54%	
Escalation $	$ -	$ 1.30	$ 1.21	$ 1.57	$ 1.88	$ 1.85	$ 1.71	$ 1.50	$ 11.03
Line Material									
Cash Flow	$ -	$ -	$ 4.00	$ 20.81	$ 22.81	$ 22.81	$ 12.27	$ -	$ 82.70
Escalation per Annum	5%	5%	5%	5%	0%	0%	0%	0%	
Cumulative Escalation	5%	10%	16%	22%	22%	22%	22%	22%	
Escalation $	$ -	$ -	$ 0.63	$ 4.48	$ 4.92	$ 4.92	$ 2.64	$ -	$ 17.59
Line Construction									
Cash Flow	$ -	$ -	$ 24.04	$ 38.46	$ 33.90	$ 29.34	$ 29.34	$ 15.42	$ 170.50
Escalation per Annum	15%	15%	5%	5%	5%	0%	0%	0%	
Cumulative Escalation	15%	32%	39%	46%	53%	53%	53%	53%	
Escalation $	$ -	$ -	$ 9.34	$ 17.62	$ 18.00	$ 15.58	$ 15.58	$ 8.19	$ 84.30
Escalation Total for Transmission Line $	$ -	$ 1.30	$ 11.19	$ 23.67	$ 24.80	$ 22.34	$ 19.94	$ 9.68	$ 112.92

Substation NICOLA									
In millions	2008	2009	2010	2011	2012	2013	2014	2015	Total
Project management, engineering, construction management									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ 0.25	$ 0.63	$ 0.38	$ 1.27
Escalation per Annum	10%	10%	5%	5%	5%	5%	5%	5%	
Cumulative Escalation	10%	21%	27%	34%	40%	47%	54%	62%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.35	$ 0.24	$ 0.70
Major Material for Nicola									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ 2.60	$ -	$ -	$ 2.60
Escalation per Annum	10%	10%	10%	10%	10%	10%	0%	0%	
Cumulative Escalation	10%	21%	33%	46%	61%	77%	0%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ 2.00	$ -	$ -	$ 2.00
Other Material for Nicola									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ 1.64	$ -	$ -	$ 1.64
Escalation per Annum	5%	5%	5%	5%	5%	5%	0%	0%	
Cumulative Escalation	5%	10%	16%	22%	28%	34%	0%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ 0.56	$ -	$ -	$ 0.56
Nicola Sub Construction									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.66	$ -	$ 1.66
Escalation per Annum	15%	15%	5%	5%	5%	5%	5%	0%	
Cumulative Escalation	15%	32%	39%	53%	61%	69%	77%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.27	$ -	$ 1.27
Escalation Total $	$ -	$ -	$ -	$ -	$ -	$ 2.68	$ 1.62	$ 0.24	$ 4.53

Substation MERIDIAN									
In millions	2008	2009	2010	2011	2012	2013	2014	2015	Total
Project management, engineering, construction management									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.63	$ 0.50	$ 1.25
Escalation per Annum	10%	10%	5%	5%	5%	5%	5%	5%	
Cumulative Escalation	10%	21%	27%	34%	40%	47%	54%	62%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ 0.06	$ 0.34	$ 0.31	$ 0.71
Major Material for Meridian									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Escalation per Annum	10%	10%	10%	10%	10%	10%	0%	0%	
Cumulative Escalation	10%	21%	33%	46%	61%	77%	0%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other Material for Meridian									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ 2.83	$ -	$ -	$ 2.83
Escalation per Annum	5%	5%	5%	5%	5%	5%	0%	0%	
Cumulative Escalation	5%	10%	16%	22%	28%	34%	0%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ 0.96	$ -	$ -	$ 0.96
Meridian Sub Construction									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.64	$ -	$ 1.64
Escalation per Annum	15%	15%	5%	5%	5%	5%	5%	0%	
Cumulative Escalation	15%	32%	39%	53%	61%	69%	77%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.26	$ -	$ 1.26
Escalation Total $	$ -	$ -	$ -	$ -	$ -	$ 1.02	$ 1.60	$ 0.31	$ 2.93

Substation RUBY									
In millions	2008	2009	2010	2011	2012	2013	2014	2015	Total
Project management, engineering, construction management									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.66	$ 0.40	$ 1.32
Escalation per Annum	10%	10%	5%	5%	5%	5%	5%	5%	
Cumulative Escalation	10%	21%	27%	34%	40%	47%	54%	62%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.36	$ 0.24	$ 0.73
Major Material for Ruby									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ 9.00	$ -	$ -	$ 9.00
Escalation per Annum	10%	10%	10%	10%	10%	10%	0%	0%	
Cumulative Escalation	10%	21%	33%	46%	61%	77%	0%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ 6.93	$ -	$ -	$ 6.93
Other Material for Ruby									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ 1.69	$ -	$ -	$ 1.69
Escalation per Annum	5%	5%	5%	5%	5%	5%	0%	0%	
Cumulative Escalation	5%	10%	16%	22%	28%	34%	0%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ 0.58	$ -	$ -	$ 0.58
Ruby Sub Construction									
Cash Flow	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.80	$ -	$ 3.80
Escalation per Annum	15%	15%	5%	5%	5%	5%	5%	0%	
Cumulative Escalation	15%	32%	39%	53%	61%	69%	77%	0%	
Escalation $	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.92	$ -	$ 2.92
Escalation Total $	$ -	$ -	$ -	$ -	$ -	$ 7.63	$ 3.28	$ 0.24	$ 11.16

In millions	2008	2009	2010	2011	2012	2013	2014	2015	Total
Escalation Total for Transmission Line $	$ -	$ 1.30	$ 11.19	$ 23.67	$ 24.80	$ 22.34	$ 19.94	$ 9.68	$ 112.92
Escalation Total for Nicola Substation $	$ -	$ -	$ -	$ -	$ -	$ 2.68	$ 1.62	$ 0.24	$ 4.53
Escalation Total for Ruby Substation$	$ -	$ -	$ -	$ -	$ -	$ 7.63	$ 3.28	$ 0.24	$ 11.16
Escalation Total for Meridian Substation$	$ -	$ -	$ -	$ -	$ -	$ 1.02	$ 1.60	$ 0.31	$ 2.93
Total Escalation for ILM Estimate	$ -	$ 1.30	$ 11.19	$ 23.67	$ 24.80	$ 33.67	$ 26.44	$ 10.48	$ 131.54