



IN THE MATTER OF

BRITISH COLUMBIA TRANSMISSION CORPORATION

AND

**AN APPLICATION FOR APPROVAL OF A
TRANSMISSION SYSTEM CAPITAL PLAN F2010 AND F2011**

DECISION

July 13, 2009

Before:

**Liisa A. O'Hara, Commissioner and Panel Chair
Dennis A. Cote, Commissioner**

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COMMISSION ORDER G-87-09

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1.0 INTRODUCTION

1.1 Application

On November 21, 2008 the British Columbia Transmission Corporation (“BCTC”) filed its latest Transmission System Capital Plan (“Capital Plan”) F2010 and F2011 with the British Columbia Utilities Commission (“Commission,” “BCUC”). Regulatory approval of the F2010 Capital Plan is requested under sections 44.2 and 45 (6) of the Utilities Commission Act (“Act”). This Application is BCTC’s fifth application since the F2005 Capital Plan approved under Order G-103-04. The F2009 Capital Plan, the last one filed by BCTC, was approved under Order G-107-08.

In the current Application BCTC has requested approval for capital project funding in the amount of \$324.7 million including Emergency, Third Party funded projects and Third Party requested projects. This is broken into three categories: Growth Capital projects, Sustaining Capital projects and BCTC Capital projects as shown in the table below. Growth Project amounts reflect the BCTC portion of joint projects with British Columbia Hydro and Power Authority (“BC Hydro”). These projects in this category require an additional \$88.9 million for Substation Distribution Assets (“SDA”) which as per Master Agreement between BC Hydro and BCTC remain with BC Hydro.

Portfolio	Total Funding Requested (\$'000)	Prior Years (\$'000)	F2010 (\$'000)	F2011 (\$'000)	F2012 (\$'000)	F2013 (\$'000)
Growth ¹	57,581	1,609	19,198	18,999	16,450	1,325
Sustain	241,315		119,045	122,271		
BCTC	25,823	-	13,579	12,244		
TOTAL	324,719	1,609	151,821	153,514	16,450	1,325

Note 1: Approval for the Growth Portfolio is requested on a project basis and not just for two fiscal years. As a result, the total cash flow by year is shown for all projects requested in the F2010 Capital Plan.

(Exhibit B-6, BCUC 1.1.1)

1.2 Orders Sought

In the Application BCTC is seeking the following orders to be issued by the Commission:

- In accordance with section 44.2(3) of the *Act* the proposed projects and expenditures for approval in Growth, Sustaining and BCTC Capital portfolios are in the public interest as well as the emergency capital expenditures for F2008 and F2009.
- BCTC's F2010 Capital Plan meets the requirements of section 45(6) of the *Act*.
- BCTC is relieved of certain Commission Directives under sections 88(2) and/or 99 of the *Act*.

1.3 Context

Since BCTC's last Capital Plan there have been a number of events and occurrences which will have a significant impact on and directly affect the utility business and regulatory landscape. Chief among these are the following:

(i) Turbulent Economic Times

In the past year the world has slipped into what has been described as the worst recession since the Second World War. The size and scope of the economic problems being faced are global in nature and have impacted all nations. Both Canada and the United States have faced major economic downturns which have severely impacted the pace of business and growth forecasts for the period which lies ahead. Both countries have taken steps to stimulate the economy but it is still too early to determine whether the bottom has been hit and when the recovery will begin.

With this difficult economic backdrop, utilities must continue to move forward and undertake projects to ensure the needs of customers will be met in the future. The challenge facing each will be to plan projects in a manner which will not result in overcapacity but at the same time, ensure there is sufficient development to ensure the needs of customers are being met in the future. This

challenge will be most felt in the development of load forecasts which will be required to take into account the current situation while addressing the anticipated recovery (BCTC Argument, pp. 11-12).

(ii) First Nation Consultation

The recent British Columbia Court of Appeal decisions with respect to *Carrier Sekani Tribal Council v. British Columbia (Utilities Commission)*, 2009 BCCA 67 ("*Carrier Sekani*") and *Kwikwetlem First Nation v. British Columbia (Utilities Commission)*, 2009 BCCA 68 ("*Kwikwetlem*") confirmed the Commission has the obligation to assess the adequacy of Crown consultation within the scheme of its regulation. The Commission, as a quasi-judicial tribunal, does not itself have a duty to consult (*Carrier Sekani*, para. 56). Rather, it is the Crown who has a legal duty to consult with aboriginal people when making decisions that may affect aboriginal rights. In fulfilling its role, the Commission will need to develop tools to assess the adequacy of Crown consultation with First Nations. This will undoubtedly have an impact not only on this Application but also the type of information that must be included in future applications.

(iii) Amendments to the Utilities Commission Act

A number of amendments affecting regulatory requirements have been made to the *Act* by the Utilities Commission Amendment Act, 2008 which received Royal Assent on May 1, 2008. With respect to these amendments, subsections 45(6.1) and 45(6.2) were repealed, sections 44.1 and 44.2 were added and additional provisions were added to section 5. Of significance to this Application is the subsection 44.2(1)(b) which states a utility may file an expenditure schedule containing "a statement of public expenditures that the public utility has made or anticipates making during the period addressed by the schedule." This is similar to what was formally covered under subsection 45(6.1) of the *Act* with the exception that this is no longer a mandatory requirement. A utility is still bound by subsection 45(6) of the *Act* which requires a utility to file a statement (as prescribed by the Commission) of the extensions to its facilities it plans to construct at least once a year. Similarly, section 44.2 of the *Act* is not a major departure from the former

subsection 45(6.2) with the exception that amongst other things, the Commission must consider “the government’s energy objectives” and “the interests of persons in British Columbia who receive or may receive service from the public utility” in the context of its decision (Exhibit B-1, Section 1, pp. 3-6).

(iv) Section 5 Inquiry

Section 5(4) of the *Act* provides that the Commission must conduct an inquiry to make determinations as to British Columbia’s infrastructure for the period ending 20 years after the day the inquiry begins (the “Inquiry”). Section 5(5) of the *Act* states the Inquiry must begin by March 31, 2009 (Exhibit B-1, Section 1, p. 3). On December 11, 2008, the Minister of Energy, Mines and Petroleum Resources issued Terms of Reference for the Inquiry which identify that the general purpose of the Inquiry is for the Commission to make determinations with respect to British Columbia’s electricity infrastructure and capacity needs for a 30 year period commencing from the date the Inquiry begins. The Terms of Reference direct the Commission to draft a report of its determinations on or before June 30, 2010 and further direct the Commission to invite and consider submissions, evidence, presentations and argument from any interested person, including First Nations, communities, municipal and regional governments, other utilities, power producers, ratepayer groups and environmental organizations.

There has been significant interest with respect to participation in the Inquiry. To date there are in excess of 90 participants encompassing a wide divergence of groups including regional and municipal governments, Independent Power Producers (“IPPs”) and First Nation groups.

The Inquiry will engage the major electrical utilities and other participants in a transparent, effective and innovative process in the analysis of meaningful and focused information. The ultimate purpose will be to produce a clear and concise Review Report which outlines a planned and rational expansion of British Columbia’s transmission capabilities and takes into consideration current requirements as well as the needs which will arise in the future with consideration of the need to minimize the impacts of supplying these needs (www.bcuc.com/sectionfiveinquiry.aspx).

While it is very early in what will be a lengthy process, it is expected this will provide clear direction in moving to the future and will have a significant impact upon long term transmission requirements. The Inquiry will have limited impact on the current Application but must be considered in that it will provide significant direction to future Capital Plan applications.

1.4 Regulatory Process

The Regulatory Process is described in Appendix D. A complete list of Intervenor is provided in Appendix E. No First Nations filed evidence or intervened in the proceedings. A List of Exhibits filed during the proceeding is attached as Appendix F.

1.5 Overview of Decision

Through the proceeding a number of issues arose which will be identified and dealt with in the Decision. Some of these are more broad based in nature and encompass all capital portfolios while others are related to projects handled within a specific portfolio (Growth, Sustaining or BCTC Capital). Those in the latter group will be handled within the context of the appropriate capital portfolio request. Included in this group are the following:

- (i) Growth Capital Portfolio (Section 4.0)
 - (a) Current economic conditions and impact on load forecasts.
 - (b) Definition funding for transmission expansion policy guided projects.
 - (c) Management of growth capital contingency funds.
 - (d) Earned Value Reporting.
 - (e) Projects encompassing substation distribution assets.
 - (f) Inter-regional transmission relationships.

- (ii) Sustaining Capital Portfolio (Section 5.0)
 - (a) Asset Health Index.
 - (b) System Performance Metrics.
 - (c) The Sustainment Investment Model – Phase One and Two.
 - (d) Emergency Capital and Third Party funded projects.
- (iii) BCTC Capital Portfolio (Section 6.0)
 - (a) The Formulaic Approach to BCTC Capital.

Those more broad based issues in the former group will be handled in Section 2.0 of the Decision and include the following:

- Timing of Capital Plan filings.
- Inflation impact and calculation.
- Public interest and cost estimate accuracy.
- Use of CPCN thresholds.
- Reliability standards and system performance.

In the Decision, the identified macro issues will be fleshed out first, discussed in some detail and determinations outlined. Immediately following will be an outline of previous directives and discussion of the level of compliance, as well as determinations on those directives where relief is being requested. Following this, the three capital portfolios will be discussed in succession with respect to the projects, the issues and related determinations. Finally, in Section 7.0, assessment of adequacy of First Nations consultation as it relates to this Application will be reviewed and direction with respect to this Application provided.

2.0 MACRO ISSUES

2.1 Timing of Capital Plan Filings

The timing of BCTC Capital Plan filings has created challenges with respect to the logistics of the Commission's approval process. BCTC has filed Capital Plans on an annual basis since 2004. In the Application, BCTC states that starting with the current Application it plans to file Capital Plan applications on a bi-annual basis, as opposed to an annual filing which has previously been the case. Primarily, filings were rolling two-year plans which were updated annually. Through discussions with Intervenor and the Commission, BCTC states it has determined that biennial plans would be more administratively efficient. BCTC further states that the most recent transmission Revenue Requirement Application ("RRA") was also a two year application and that future RRA's would be scheduled to alternate with the filing of Capital Plan applications (Exhibit B-1, Section 1, p. 3).

BCTC's Argument states that this decision is now being reconsidered. The reasons for this include the following:

- The significant changes in the regulatory landscape, with primary reference to the Section 5 Inquiry and long term resource plan requirements of section 44.1 of the *Act*.
- The need to reflect on recent court decisions with respect to First Nation consultation, Commission approvals and the potential impact to the planning process.

In any case, BCTC submits that any changes to regulatory filings in the future are unlikely until after the Section 5 Inquiry has been completed (BCTC Argument, p. 47).

Notwithstanding the uncertainty with respect to annual versus bi-annual planning, the question arises as to how to best set the timing of future applications to ensure the Application review process is completed prior to the start of the fiscal year where the capital dollars are to be expended. Creating a challenge is the approval process for Capital Plan applications which is typically six months or more.

The recent practice of BCTC has been to file its Capital Plans late in the year; the last two annual plans being submitted on December 21, 2007 and November 21, 2008 respectively. The new fiscal year for BCTC begins April 1 of each year and ends on March 31 of the following year. Hence, the Capital Plan Application for F2010 and F2011 is designed to cover the period from April 1, 2009 to March 31, 2011. With the typical application process lasting in the order of six months, it is evident that the fiscal year and, potentially, the process of capital spending, have begun prior to the current Decision being made.

Under the current rolling two year plans, this was a slightly less serious problem due to the fact that 2010 capital requirements for Sustaining Capital were included in the previous year's Application. It is only additional dollars in excess of previously approved amounts for F2010 that are to be considered in the current Application. However, both Growth Capital and BCTC Capital Projects are filed on an annual basis and the new fiscal year is well underway before Commission approval is received. On the other hand, filing a capital plan every two years solves the problem in the second year but increases the level of problem in the first year as all three Capital categories are affected by the timing issue. Thus, if the current practice of filing Capital Applications late in the previous calendar year is to continue, BCTC is likely to be three or more months into the new fiscal year before Capital Plans have been approved for that year. This somewhat defeats the purpose of the regulatory approval process.

To alleviate this problem the Commission Panel directs BCTC to adjust the timing of future BCTC Capital Plan Applications to accommodate the time necessary for review. Accordingly, the Commission Panel directs that all future applications be filed no later than September 15 of the calendar year prior to the fiscal year to which the Capital application is to apply.

The Joint Industry Electricity Steering Committee ("JIESC") raised the issue as to the timing of BCTC's Capital Plan and RRA and questioned whether it might be appropriate to file both at the same time (Exhibit C-7-2, p.1). BCTC responded by stating the two applications are fundamentally different. It states the Capital Plan is a plan laying out the capital projects which are required to meet the needs of the system, while the RRA is a business model enabling the corporation to

finance its operations inclusive of capital financing requirements. BCTC notes that both require a high degree of scrutiny but because of the differences, processing two applications coincidentally would put a strain on resources and would not create any efficiency (Exhibit B-6, JIESC 1.1.1).

The Commission Panel is in agreement with BCTC's position with respect to synchronizing the timing of RRA and Capital Plan applications. While it would be compelling to be able to handle both at the same time it is recognized that to do this would require significant resources and put undue strain on the organization. The Commission Panel concludes that the current practice of separating the two application cycles can remain unchanged.

2.2 Inflation Impact and Calculation

Determining an appropriate rate of inflation has been a topic in a number of previous Commission decisions. Most recently, inflation as an issue was discussed and ruled upon by the Commission in the F2009 TSCP Decision. At that time the Commission determined there was insufficient persuasive evidence to support a movement away from relying upon an inflation adjustment equal to the BC Consumer Price Index ("BCCPI") (Order G-107-08, pp. 53-54).

In the current Application, BCTC reports an inflation adjustment rate of 2.1 percent per annum has been used for the F2010 to F2019 Sustaining Capital portfolio in accordance with the BCCPI (Exhibit B-1, Section 9, p. 40). BCTC states in spite of this, it has the perception that over the past number of planning cycles, the underlying cost escalation has been higher than the CPI rate. To deal with this, BCTC reports it has initiated a historical analysis of costs and the impact of inflation. The work being done is related specifically to the Sustaining Capital portfolio presumably because it is most susceptible to inflationary pressure. Through this process, BCTC hopes to arrive at a mechanism which has the potential to be used in resizing portfolio expenditures. BCTC is proposing using a simplified approach based on the consumer price index to calculate weighted baskets of goods and services which are specific to the Sustaining Capital portfolio (Exhibit B-1, Section 9, p. 40).

BCTC states it has begun to develop what it describes as a Sustaining Price Index which will be based on price changes in groups of goods which are actually used to undertake projects within the Sustaining Capital portfolio. Groups of goods or services were broken down into four major categories; Engineering (including project management), Materials, Construction and Other. In doing so, BCTC states the knowledge of both the quantity and cost of goods and services used for sustaining projects over a period of time is a key requirement. BCTC notes that theoretically, if this can be realized, an exact measure of inflation for the desired time period can be achieved. However, it notes, for a variety of reasons, the accessibility of data has not been ideal and as a result, has required assumptions be made within the model (Exhibit B-1, Appendix B, pp.3-4).

BCTC reports that in addition to challenges with data availability, it is also concerned with the impact of scope changes, technological changes and the changing nature of Sustaining Capital programs and the resultant impact on category weights based on historical expenditures. In spite of these challenges, BCTC reports it has compiled preliminary results which point to potentially higher inflationary numbers than that covered by the BCCPI. BCTC points out the process toward constructing a Sustaining Price Index remains in progress and that work will continue to refine and improve the model. BCTC states the purpose of the report is not to seek approval for its preliminary findings but, to provide an overview of the work done to date and explore the conceptual nature of the index. It welcomes comments from the Commission and anticipates a further report with its next Capital Plan (Exhibit B-1, Appendix B, pp. 5-6).

The Commission Panel is encouraged by the approach being taken by BCTC to better understand the impact of inflation on the costs directly associated with groups of goods and services which are used to undertake actual projects within the Sustaining portfolio. Restricting the view of inflation to one which is focused only on relevant products and services for projects which are to undertaken is intuitively logical and well founded. However, like most things the “devil is in the detail” and the model being developed must be defensible based on the facts and not be reliant on the development of assumptions to fill in missing gaps. BCTC has acknowledged that among the challenges it faces is the collection of data and assessment of the impact of scope change. Both of these are important components in transforming the Sustaining Price Index into a useful tool.

The preliminary results reported by BCTC are also interesting. While BCTC is in no way standing by the veracity of the numbers being presented, the magnitude of variance between these and what is being reported by the BCCPI is significant. If further refinement of the index supports the view that prices are subject to inflation in the four to eight percent range, then it is clear that over time, if unaddressed, this one factor will have a significant impact on buying power and the ability of BCTC to continue to maintain the transmission system at the level that is expected. In keeping with this, the Commission Panel would like to commend BCTC on its efforts to date in the development of the index and encourage further work on its refinement. In addition, the Commission Panel encourages BCTC to submit a copy of the model to the Commission for further review and discussion once sufficient refinement has occurred.

The Commission Panel directs BCTC to continue development of the Sustaining Price Index and expects a further report or working model to be provided in conjunction with the next Capital Plan Application. In the meantime, the Commission Panel directs that the current practice of relying upon the BC Consumers Price Index for inflation rate guidance on the Sustaining Capital portfolio be continued.

2.3 Public Interest and Cost Estimate Accuracy

Throughout the Proceeding, BCTC made various references to the point that the Commission Panel is not making a determination on the precise amount of the Capital expenditure but on the basis of its assessment of whether a project is in the public interest (BCTC Argument, para. 21-26, pp. 10, 11). In support of its position, BCTC states that section 44.2 of the *Act* makes this clear. BCTC further states that “In doing so, subsection 44.2(5) of the *Act* requires that the Commission consider, amongst other things, “the government’s energy objectives” and “the interests of persons in British Columbia who receive or may receive service from the public utility.” It is BCTC’s position that in being guided by this legislative framework, the Commission needs to consider a number of factors. Included in these are the need for the project, the alternatives which could potentially meet that need and available information with respect to each of these alternatives

(BCTC Argument, pp. 5-8).

BCTC states that an estimate of expenditures for a given project is only one of a number of factors which must be considered in the Commission's determination that a project is in the public interest. The first step in the process is to determine and confirm the need. Once this has been done, alternatives to satisfy the need are examined and the most appropriate alternative chosen. Where cost becomes the determining factor, BCTC contends that cost estimates must be sufficient to make a reasonable choice as to the best alternative. BCTC notes that taking the approach of relying upon only a reasonable estimate is in its view "a practical one in that projects approved are at various planning stages with varying levels of cost estimate accuracy, and actual costs are expected to vary" and "(t)he Commission has recognized this practicality in previous decisions" (BCTC Argument, p. 10).

The Commission Panel agrees with BCTC concerning section 42.2 of the *Act* and is mindful and supportive of the fact that decisions with respect to capital submissions are to be made on the basis of the public interest. However, the Commission Panel asserts that the public interest as outlined in the *Act* covers not only the need for a particular project, but also that a proposed project is effectively managed and represents a cost effective solution. The number of IRs which have been directed at the issue of accuracy are a reflection of the Commission Panel's concern for the level of accuracy and whether diligence is being undertaken in the estimation and ongoing management of projects. This was noted by the Commission Panel in its Decision on the F2009 TSCP where concerns were raised with respect to the number of projects with significant delays and cost increases within the Growth Capital Portfolio. At that time BCTC was encouraged to improve its estimating and planning processes (F2009 TSCP Decision, p. 74).

Of concern is BCTC's response to BCUC 2.3.1 which outlined the variance in costs between the original approved capital amount and that which was actually spent for projects scheduled to go into service in F2010-F2011 in the table below.

F2010-F2011 Transmission System Capital Plan
Changes to Approved Projects from the Original Capital Plan
(\$000's)

Description	BCUC Order	IS Date per Original Capital Plan	F2010 / F2011 IS Date	Project Total per Original Capital Plan	F2010/ F2011 Project Total	Change	% Change
	(a)	(b)	(c)	(d)	(e)	(e)-(d)	
1 Port Kells Substation - Shunt Capacitor Addition	G-107-08	Oct-2008	Apr-2009	1,939	1,904	(35)	-2%
2 Colwood - 138/25 kV Transformer Addition	G-69-07	Oct-2008	May-2009	7,513	10,764	3,251	43%
3 RAS - Vancouver Island	G-69-07	Oct-2008	Jun-2009	1,850	2,726	876	47%
4 Cathedral Square - 230/12 kV Transformer	G-103-04	Mar-2007	Jun-2009	8,605	15,192	6,587	77%
5 Murrin Fault Level Reduction - 230/12 kV Murrin Transformer Replacement	G-67-06	Oct-2007	Jun-2009	8,076	11,965	3,889	48%
6 RAS - Bridge River Generation Shedding Modifications	G-107-08	Oct-2008	Oct-2009	2,300	2,300	-	0%
7 Grief Point 12 kV Circuit Conversion	G-69-07	Oct-2008	Oct-2009	3,272	4,000	728	22%
8 Qualicum Substation - Reconfiguration	G-107-08	Oct-2008	Oct-2009	1,637	2,674	1,037	63%
9 Tumbler Ridge Substation - Transformer Replacement	G-107-08	Aug-2009	Oct-2009	8,219	8,101	(118)	-1%
10 500/230 kV Selkirk Transformer T4 Addition	G-69-07	Oct-2008	Mar-2010	17,756	25,600	7,844	44%
11 5L51 & 5L52 Thermal Upgrade Project	G-58-08	Oct-2009	Mar-2010	3,100	3,050	(50)	-2%
12 Selkirk - 500 kV 123 MVar Shunt Reactor	G-103-04	Oct-2006	Mar-2010	6,103	9,628	3,525	58%
13 Salmon Arm Substation 230/138 kV Transformer RAS	G-69-07	Oct-2007	Mar-2010	139	229	90	65%
14 Saanich Peninsula Transmission Project	G-69-07	Oct-2009	Jul-2010	13,607	29,898	16,291	120%
15 Central Vancouver Island Project (CVI) - Definition	G-69-07	Oct-2010	Oct-2010	2,500	2,848	348	14%
16 Kidd 1 - Substation Redevelopment	G-69-07	Oct-2009	Oct-2010	10,409	19,411	9,002	86%
17 Ashton Creek - 2x250 MVar - 500kV Switchable Shunt Capacitor	G-107-08	Oct-2010	Oct-2010	20,302	19,608	(694)	-3%
18 RAS - GMS Generation Shedding Modifications - Stage 2	G-107-08	Oct-2010	Oct-2010	2,090	2,090	-	0%
19 RAS - Revelstoke G5 Generation Shedding Modifications	G-107-08	Oct-2010	Oct-2010	1,677	1,677	-	0%
20 Highland - 138/69 kV Transformer Replacement	G-103-04	Oct-2006	Mar-2011	4,380	7,859	3,479	79%
21 Seventy Mile House - 69/25 kV Transformer Addition	G-91-05	Oct-2006	Mar-2011	1,205	5,410	4,205	349%
22 Growth Total				126,679	186,933	60,254	48%

(Exhibit B-8, BCUC 2.3.1)

In total, the costs were 48 percent above the amounts which had originally been approved. Furthermore, of the 21 projects listed, a total of 12 were over the original budget by in excess of 40 percent with some such as the Saanich Peninsula Transmission Project exceeding the original plan by in excess of 100 percent. While some of this may relate to projects which were originally approved in past applications, it does not provide the level of comfort the Commission Panel would desire (Exhibit B-8, BCUC 2.3.1).

A similar issue has been raised by the Independent Power Producers Association of British Columbia ("IPPBC"), which notes in its Argument that Table 5-3 (Exhibit B-1, Section 5, p. 11) shows the total changes to previously approved projects included in the F2009 TSCP amounted to \$15.7 million. This represents an increase of 7.7 percent in capital costs since last year's capital plan. In addition, it raised concerns with respect to the escalating cost of various projects since they were originally approved by the Commission with specific reference to both the Cathedral Square and the Saanich Peninsula Transmission Projects. IPPBC further submits that "early cost estimates that

are being presented to BCUC appear to be placeholders, with no accountability attached” and notes that they are presented to the Commission long before the estimates are sufficiently developed to present to BCTC’s Board (IPPBC Argument, pp. 2-3).

BCTC, in its Reply, states that at the time of approval projects will be in various stages of development and it would be reasonable to expect actual expenditures to vary from the estimates. In addition, it has noted the Commission Panel in previous decisions has acknowledged this fact. BCTC states that it could move programs and projects forward to a later stage prior to seeking Commission approval but this would add additional costs to the planning function in the event the project did not proceed and could also potentially impact the timing of projects. Finally, BCTC states that it does not believe these added costs and work would be justified citing support from Commercial Energy Consumers Association of British Columbia (“CEC”) which stated that the practice of establishing capital budgets based on information on various projects existing at different levels of detail is common utility practice (BCTC Reply, p. 3).

BCTC has acknowledged that it continuously strives to improve its capital investment planning project management process. BCTC states that in late 2007 and early 2008 it secured the services of Goto Sargent to assist with the identification and development of improvements in this area. It also reports that it engaged Black & Veatch to assist in developing capital management process improvements in the capital program delivery process (Exhibit B-1, Section 2, p. 7).

The Commission Panel is mindful of the steps BCTC has taken to begin the process of initiating process improvements to its capital planning and project management processes. However, it is also cognizant that although work has been undertaken to provide improvements to current processes, to date it has no knowledge of a formal plan that has been developed by BCTC to address the issues which have been raised. This is a concern of the Commission Panel as the variances which currently exist between approved project expenditures and actual completed project expenditures are simply too large to go unaddressed. **In accordance with this, the Commission Panel directs BCTC to submit a plan to the Commission within 90 days after the date of this Decision, detailing the initiatives that it is implementing to bring about improvements in**

what it describes as the priority areas of estimating, project controls, project teams and commercial management and resource management.

The Commission Panel may approve projects based on the public interest and in dollar terms, in accordance with the expected accuracy planning estimates which are provided by BCTC for each project. BCTC has provided its Cost Estimate Classification System which describes the five estimate class designations that are used to provide a basis for cost estimates (Exhibit B-8, BCUC 2.15.2) and the Commission Panel accepts these as being reasonable. However, the number of projects which exceed these estimates remains a concern. Once a project has started it would serve no useful purpose for BCTC to be required to resubmit the project to the Commission for approval if the project was forecasted to exceed the high end of the cost estimate. This would result in delays and would likely result in further cost overruns. For this reason the Commission Panel is suggesting no change to the current practice of providing the Commission information on projects with variances which exceed both 10 percent and \$100,000. **However, in those cases where a project has been delayed and will not be started within the approved Capital Plan period and is expected to exceed the upper limit of the cost estimate, the Commission Panel directs that the project be resubmitted for approval in the subsequent capital plan.**

BCTC has noted its recognition of the fact that in instances where there have been significant cost overruns with a project, a prudency review may follow. The Commission Panel acknowledges this fact but would like to comment on this further. In the view of the Panel, a prudency review is a last course of action to be considered only when other options have been exhausted. To subject a utility to a prudency review is a costly undertaking which will require significant person hours from both the Commission and the utility. At the end of the day, the money will have been expended and no review can undo that fact. The Commission Panel prefers to find ways to prevent the need for prudency reviews by encouraging utilities to be forthcoming with information which is as accurate as is reasonable and present it in a timely manner. This has led to the Commission Directives in the current capital plan as well as those which have preceded it. In this and other Capital Plan Applications the Commission has expressed concern with respect to estimate accuracy as it believes it is justified in doing so. **Accordingly, the Commission Panel directs BCTC to**

establish programs to address the lack of accuracy of project cost estimates and report on progress made with the filing of the next Capital Plan application.

2.4 CPCN Thresholds

In accordance with the Commission's F2005 TSCP Decision (Order G-103-04), BCTC states that it will make a CPCN application when one or more of the following five criteria are met:

- (a) Total project cost is expected to exceed \$50 million;
- (b) The impact on a particular community or constituency likely cannot be mitigated to its satisfaction;
- (c) The risk associated with a project, as established through BCTC's corporate risk management framework, is identified as High or Extreme;
- (d) The project establishes a precedent for significant future investment, where "significant" means \$50 million or more over either a ten-year period or the life of the asset; and
- (e) The Commission exercises its discretion to require a CPCN application (Exhibit B-1, Section 1, p. 10).

BCTC also submits that, at this point in time, there is no reason to adjust the CPCN criteria (Exhibit B-1, Section 1, p. 11).

Concern has been raised with respect to the threshold governing total project cost expenditures. The JIESC requested that BCTC explain why the \$50 million CPCN threshold should apply to projects that are for BCTC assets and why a CPCN or other review and approval process should not be implemented. BCTC replied that "setting the threshold lower than \$50 million would capture an unreasonable number of projects, including projects that are of a relatively routine nature, needlessly increasing the regulatory burden on and regulatory expenses of BCTC, the Commission and Intervenor" (Exhibit B-6, JIESC 1.5.1).

BCTC further explained that “for BCTC assets additional weight is given to the risk criteria as BCTC’s equity is small and has less risk tolerance than BC Hydro assets.” In addition, BCTC noted that there are four other CPCN criteria which are designed to capture significant BCTC projects that are under the \$50 million threshold (Exhibit B-6, JIESC 1.5.1).

BCTC stated that the exception projects detailed in Table 7.1 of the Application are not proceeding as a CPCN submission since they do not meet the CPCN criteria as currently laid out. Furthermore, BCTC noted that it is not proposing a change to the type of approval sought for exception projects and proposes that exception projects follow the same process as in the past (Exhibit B-8, BCUC 2.56.1).

The use of the \$50 million CPCN threshold for BCTC Capital portfolio projects is of concern to the Commission Panel given that BCTC’s Forecast Net Book Value of Fixed Assets Ending Balance F2011 \$148.4 million (Exhibit B-8, BCUC 2.10.2). An expenditure of \$50 million would represent 33 percent of BCTC’s Forecast Net Book Value of Fixed Assets in F2011. Commission Order G-53-94 states that “As a general guide line, a project would be deemed to be significant if the project cost is in the range of 1 percent of rate base.” **Accordingly, the Commission Panel directs BCTC to review if the \$50 million CPCN threshold with respect to BC Hydro’s net assets, BC Hydro’s net transmission assets and BCTC’s net assets is still appropriate for the Growth, Sustaining and BCTC Capital portfolios and include a report in its next Capital Plan.**

2.5 Reliability Standards and System Performance

BCTC states that one of its primary roles and responsibilities is the reliable operation of the BC Hydro-owned transmission assets and its first corporate goal is focused on reliability and service, which BCTC describes as achieving reliability improvements and delivering outstanding service (Exhibit B-1, Section 2, pp. 2-3). In this Application, BCTC describes the integration of reliability concerns into the capital planning processes and reports on various measures of the transmission system’s performance, both stand-alone and relative to others.

BCTC identifies four aspects of reliability that are used in the prioritization method to evaluate proposed investments within each of the Growth Capital, Sustaining Capital and BCTC Capital portfolios. These four aspects are: (i) reliability improvements, based on the pre- and post-investment reliability of the asset, and includes attributes such as frequency of failures, average duration of failures, and the criticality of the asset; (ii) maintainability, based on the pre- and post-investment assessment of the maintainability of the asset, and includes attributes such as availability of spares, availability of know-how, obsolescence (whether the asset is, or becoming obsolete), and the criticality of the asset; (iii) asset health, based on the pre- and post-investment assessment of the health of the asset and includes attributes such as remaining life, asset condition, and criticality of the asset; and (iv) Expected Energy Not Served (“EENS”) (Exhibit B-1, Section 4, p. 10). These criteria used in the prioritization methodology have changed significantly from the F2009 Capital Plan (Exhibit B-1, Section 4, p. 18). Specific to the Sustaining Capital portfolio, BCTC states that maintaining system reliability is dependent on both asset health and asset performance (Exhibit B-1, Section 4, p. 48-49).

BCTC provides the system performance trends over the last five years System Average Interruption Duration Index (“SAIDI”), System Average Interruption Frequency Index (“SAIFI”), and the Delivery Point Unreliability Index (“DPUI”) with comparisons against the Canadian Electricity Association (“CEA”) averages (Exhibit B-1, Section 3, pp. 71-76). BCTC also provides the results of its participation in International Transmission Operations and Maintenance Study (“ITOMS”) (Exhibit B-1, Appendix F). The SAIDI attributable to forced outages has been below the corporate target for SAIDI in each of the last five years except for F2007, when coincidentally, the SAIDI target was also at its lowest value during the five-year period, at 2.09 hours, while the actual was 3.82 hours (Exhibit B-6, BCUC 1.55.2). When planned outages are counted in the measure, the F2008 SAIDI was 2.43 hours, which exceeded the target of 2.16 hours. BCTC advised that the SAIDI target for F2009 is 2.23 hours but that it does not have corporate targets for SAIFI or DPUI (Exhibit B-6, BCUC 1.55.1; BCUC 1.55.2).

BCTC stated the reliability of the transmission system is high. For F2008, BCTC's corporate SAIDI reliability metric was 2.43 hours, which on average translates to 99.97 percent availability of service at each delivery point. BCTC explained that some delivery points have lower reliability than expected, and as the transmission system ages and load grows, capital investments need to be made in BCTC's Sustaining and Growth Capital portfolios in order to maintain this high level of reliability. As an example, BCTC identified that while radial lines supply about 30 percent of the delivery points, their outages contribute to 80 percent of the SAIDI. BCTC claimed that focusing attention on radial lines from a maintenance and investment perspective could allow BCTC to improve reliability to customers served by such lines and contribute significantly to BCTC's corporate metric (Exhibit B-6, CEC 1.9.1).

With respect to the ITOMS, BCTC stated that it was the only Canadian utility in the F2007 study, but that others had expressed interest in the F2009 study (Exhibit B-6, BCUC 1.165.2). BCTC stated the ITOMS results suggested that BCTC's performance demonstrated a lower than average composite service level, and after reviewing the performance of the transmission system, BCTC determined that the relatively poor composite service level performance was due to a higher number of forced and fault outages experienced in F2007 (Exhibit B-6, JIESC 1.24.1). The SAIDI performance target is currently calculated using the average of the previous five years of SAIDI results plus an improvement factor. BCTC stated that all outages, regardless of size and causation, are included in SAIDI results that are reported in BCTC's Service Plan and Annual Report, but that for calculation of performance targets, Management and the Board set specific conditions for the exclusion of large-scale outages beyond BCTC's control (Exhibit B-6, BCUC 1.55.1).

Commission Determination

An issue before the Commission Panel is the transmission system's performance, both stand-alone and relative to others. BCTC's description of the integration of reliability concerns into the capital planning process is both comprehensive and compelling, however the only corporate target reported against in this Application with respect to transmission system performance is SAIDI. The Commission Panel is concerned that this may reflect a lack of corporate vision and visibility with

respect to system performance, which it considers to be “mission critical” to BCTC’s mandate and therefore encourages BCTC to adopt more transmission system performance measures as corporate goals, for example Transmission System Average Interruption Frequency Index, and report on the performance of these measures against targets.

The Commission Panel notes that section 125.2 of the *Act* provides the Commission with the exclusive jurisdiction to determine whether a reliability standard is in the public interest and should be adopted in British Columbia.

The Commission Panel agrees with BCTC that the current system performance is acceptable when measured against the CEA average, and accepts BCTC’s explanation that the effects of outages on radial transmission lines contributed disproportionately to BCTC’s performance statistics. However, there was no evidence put forward to suggest this performance was caused by non-conformances to the reliability standards applicable to BCTC. The Commission Panel accepts such performance as a unique characteristic of the BCTC service territory and cautions BCTC against attempting to create “average” performance in all areas of its service territory by proposing Growth Capital projects to more closely integrate radially supplied service areas. The Commission Panel encourages BCTC to benchmark itself against accepted Canadian performance levels. As BCTC is the only Canadian utility participating in the ITOMS, the other utilities participating in the ITOMS may be subject to different reliability standards than BCTC and have far more integrated service territories. Therefore, the Commission Panel considers benchmarking provided by the ITOMS results to be of limited value, and encourages BCTC to seek out and participate in benchmarking groups that more closely reflect BCTC’s combination of service territory diversity and applicable reliability standards.

3.0 PREVIOUS COMMISSION DIRECTIVES

In the F2006 Transmission System Capital Plan Decision, the Commission directed BCTC to provide in each Capital Plan a section reporting on the compliance with Directives from previous capital plans. Furthermore, in the F2008 TSCP Decision, the Commission directed BCTC to comment on all Directives contained in past Decisions, even if such reporting confirms that no update is required, or the requested information is not applicable. BCTC provides the requested section and comments in this Application and requests relief from reporting on certain previous Directives it considered complete or superseded (Exhibit B-1, Section 9, p. 45).

3.1 Compliance

BCTC provides in Table 9-1 of the Application its assessment of whether a directive from a previous Capital Plan Decision is complete, ongoing, exempted, outstanding or superseded. However, BCTC does not always provide an assessment on whether full compliance has been achieved on those directives. For instance, and as will be discussed in Section 3.2 of the Decision:

- Order G-107-08, Directive 5
- Order G-91-05, Directive 28b

Another example of unclear compliance with past directives relates to an issue going back to a directive found on page 16 of Order G-103-04, which states, “(t)he Commission Panel expects that reliability-driven expenditures will be tracked so that the effectiveness of such expenditures at reducing outages or otherwise increasing reliability can be assessed” (F2005 TSCP Decision, p. 16). In recent TSCP Decisions, the Commission affirmed “its instructions to BCTC to continue monitoring the relationship between Sustaining Capital Expenditures and transmission reliability to determine whether increasing or decreasing spending levels have any discernible effect on reliability, or whether spending should generally increase or decrease in response to reliability trends” (F2009 TSCP Decision, page 84). Finally, in the current proceeding, BCTC stated that it has not been reporting on the effectiveness of reliability driven expenditures in the Sustaining Capital portfolio

because it is currently unable to do so and does not expect to be able to do so for a significant period of time, if ever (Exhibit B-6, BCUC 1.151.1).

Commission Determination

The Commission Panel notes that for those directives in Table 9-1 of the Application with a status of “ongoing” or “outstanding” an expectation exists that BCTC will continue reporting on those directives in future Capital Plans. For those directives listed in Table 9-1 with a status of “complete” or “superseded,” the Commission Panel agrees with that status, except as noted below:

(i) Order G-107-08

Directive 5 - The Commission Panel notes that although BCTC reported its compliance with the directives described in Sections 9.4, 9.6, 9.9, 9.13, 9.20, 9.29, 9.30, 9.34, 9.39, and 9.40 of the F2008 TSCP Application, the Commission Panel disagrees with the status assigned to certain of those directives. Each of the directives where disagreement exists is identified below.

Directive 7 - BCTC reports that this directive supersedes Order G-91-05, Directive 35. The Commission Panel considers the two directives do not address the same issue, and hence Order G-107-08, Directive 7 may be complete, but it does not supersede Order G-91-05, Directive 35.

Directive 11 - BCTC has requested comments from the Commission on a proposed approach to inflation adjustment based on weighted baskets of goods and services specific to the Sustaining Capital portfolio. The requested comments are provided in Section 2.2 of this Decision, Inflation Impact and Calculation.

Directive 12 - The Commission Panel notes that BCTC was encouraged to continue assessing how the existing transmission system can be best utilized through re-dispatch of Network Integrated Transmission services (“NITS”)-nominated resources. **The Commission Panel determines this to be an ongoing requirement that BCTC should consider and provide comment on in each future capital plan.**

Directive 16 - The Commission Panel notes that BCTC reported that it and/or FortisBC will be returning to the Commission at a later date to seek the necessary approvals of whatever arrangements are concluded for supply to Woods Lake (Exhibit B-6, BCUC 1.156.1). **Therefore, the Commission Panel determines the status of this directive to be “ongoing.”**

(ii) Order G-69-07

Directive 3 - BCTC reports that a portion of this Directive has been superseded by Order G-107-08, Directive 12. **However, as stated above, the Commission Panel determines BCTC's assessment of how the existing transmission system can be best utilized through re-dispatch of NITS-nominated resources to be an ongoing requirement to be considered in each future capital plan.**

Directive 7 - **The Commission Panel determines the requirement for BCTC to annually review specific projects and prepare reports as specified in the directive to be an ongoing obligation.**

Directive 10 - The Commission Panel disagrees that this directive supersedes Order G-91-05, Directive 29, and provides comment on the latter directive below.

Directive 13 - The Commission Panel notes that BCTC has revised the status of this directive from "complete" to "ongoing" (Exhibit B-6, BCUC 1.150.1).

Directive 16 – BCTC reports that this Directive is complete. **The Commission Panel determines the requirement for BCTC to include with its capital plan filings, tables for each of the Portfolios listing the projects brought for approval, their risk and value scores by category, and the priority numbers and quadrant values, where applicable to be an ongoing obligation.**

Directive 21 - **The Commission Panel determines the requirement for BCTC to report on potential Transmission Expansion Policy projects in its capital plans, and provide a detailed description of the highest ranked potential Transmission Expansion Policy project to be an ongoing obligation.**

Directive 22 - **The Commission Panel determines the requirement for BCTC to provide a detailed description of the highest ranked intertie expansion project in its capital plans to be an ongoing obligation.**

(iii) Order G-91-05

Directive 5 - **The Commission Panel determines the requirement for BCTC to report the indices applicable to it from Order G-103-04 and their associated trends for at least the past five years in its capital plans to be an ongoing obligation.** The Commission Panel expects the reporting period to grow beyond five years as the data set is compiled year over year.

Directive 12 - **The Commission Panel considers the use of a rigorous financial comparison of continued maintenance versus equipment replacement, including a comparison against options that were considered but not selected, to be a useful exercise when justifying a proposed program or project, and therefore determines this to be an ongoing obligation.**

Directive 28b - The directive requires BCTC to report future Sustaining Capital portfolios in a manner that preserves the ability to track and trend annual Sustaining Capital spending as far back as F2001. BCTC reports that it complies with the directive and references Table 6-2 of the Application, however the referenced table shows information back to F2006, and not F2001 as directed. **The Commission Panel determines the format and content of Table 6-2 to be useful in the context of the Application, and the information back to F2001 should be provided to give the context requested by the directive.**

Directive 29 - **The Commission Panel determines the requirement for BCTC to collect sufficient data to allow the identification of the worst performing asset classes by quantification of the effect of equipment failures on the reliability indices, and to present this data in support of future Sustaining Capital portfolios and programs has not been superseded by subsequent directives, and therefore determines this to be an ongoing requirement.**

Directive 35 - **The Commission Panel determines that the requirement for BCTC to continue to re-evaluate key driver criteria in order to yield an ongoing lower level of sustaining capital expenditures has not been superseded by subsequent directives, and therefore determines this to be an ongoing requirement.**

(iv) Order G-103-04

Directive from Page 16 - **The Commission Panel considers that tracking reliability-driven expenditures so that the effectiveness of such expenditures at reducing outages or otherwise increasing reliability can be assessed may still be useful in revealing longer-term trends, and therefore determines this to be an ongoing requirement.**

3.2 Relief

BCTC requests an Order under sections 88(2) and/or 99 of the *Act* relieving BCTC from certain Commission Directives discussed in Sections 5.3, 7.5 and 9.2.13 of the Application (Exhibit B-1, Section 1, p. 1).

(i) Directives 8 and 11 from Order G-69-07

Directive 8 from Order G-69-07 stated:

“The Commission Panel agrees with BCOAPO’s submission on variance reporting, and accepts BCTC’s proposal to provide information in its next capital plan filing regarding variances exceeding both 10 percent and \$100,000 of budgeted amounts submitted in this Application for approved projects, and to continue such reporting

in future capital plan filings until directed otherwise.”

Directive 11 from Order G-69-07 stated:

“In all future capital plan applications, BCTC is to provide a modified table in the format of the ‘Projects in Progress’ portion of Table 5-1 in this Application. For each year during the Implementation Phase of a project BCTC is to include the approved total annual expenditures, the revised total annual expenditures, and the difference between the approved and revised annual expenditures, as well as the approved and revised in-service dates. The Commission Panel further directs BCTC to provide a modified table in the format of Table 5-3 in this Application, modified to include the total dollar value for each project, as well as the priority ranking of the project when the project was approved.”

For future Capital Plan applications, BCTC proposes to continue to provide Table 5-4 in the format provided in this Application and to include in the accompanying notes variance explanations from the time of approval for those projects that have a variance exceeding both 10 percent and \$100,000. If this proposal is acceptable to the Commission, BCTC requests relief from Directives 8 and 11 in Order G-69-07 (Exhibit B-1, Section 5, pp. 8-9).

The CEC has reviewed BCTC's requested relief from Directives 8 and 11 of Order G-69-07. The CEC agrees with BCTC's proposal to continue to provide reporting as in Exhibit B-1, Table 5-4 and report on variances in excess of 10 percent and \$100,000. The CEC further agrees with BCTC's position that project to date expenditures reporting is not particularly useful to the regulatory process. Of far greater importance would be BCTC projections of likely changes to project total cost and what, if anything, BCTC is doing in regard to managing significant changes. The inclusion of total project to date amounts appears to the CEC to simply complete the cut-off of past from future projected expenditure enabling BCTC to reconcile to the total project. The CEC submits that this serves a purpose of completeness. The CEC would support the Commission retaining its directive if it believes completeness with respect to cut-off is useful and would support BCTC's requested relief if the Commission is only concerned about the usefulness of the information to participant review (CEC Argument, p. 10).

Commission Determination

For Growth Capital expenditures, the Commission Panel finds both Directives 8 and 11 from Order G-69-07 to be useful as the tables would show project cash-flows by year and project-to-date expenditures and variances by project and would provide a more comprehensive overview of individual project status within the Growth Capital portfolio. The Commission Panel would be willing to consider a proposal from BCTC to merge the two tables into a larger table showing the same data with project-by-project cash flow per year along the bottom and with project-to-date costs, estimated cost at completion, and variance along the right hand side including an explanation of the variance, if any. **The Commission Panel does not grant relief from Directives 8 and 11 from Order G-69-07.**

- (ii) Directives 16 and 34 from Order G-69-07, and Directive 37 from Order G-91-05.

These three Commission Directives presently apply to the BCTC Capital portfolio and direct BCTC to report on project detail for costs, prioritization results and to provide a summary of the previous three year's activities and expenses for each ongoing project whose annual costs exceed \$250,000.

Even though BCTC states, “the proposed formulaic approach provides a methodology for approval of an on-going capital expenditure base rather than a detailed justification on a project-by-project basis,” the Commission Panel view is that the additional reporting is beneficial to the review process as further discussed in Section 6.2 of the Decision.

The Commission Panel denies the relief sought.

- (iii) Directive from Order G-91-05, page 17

Order G-91-05, page 17, states “(f)uture applications should identify whether any capital projects are driven by the need to conform to Section I.A.M2 [NERC/WECC] during maintenance outages.”

BCTC lists the drivers for a project in the project justification supporting a request for approval, and explains that the information is included as part of a particular capital plan (Exhibit B-1, Section 9, p. 45). BCTC stated the NERC Planning Standards which contained Section I.A.M2 have been withdrawn, but that Section I.A.M2 has been carried over to the NERC Reliability Standards, Standard TPL-002-1, Requirement R1.3.12 (Exhibit B-6, BCUC 1.3.6). The request for relief from reporting on this directive was supported by the CEC (CEC Argument, p. 10).

Commission Determination

Regarding BCTC's request to be relieved of the requirement to specifically identify whether any capital projects are driven by the need to conform to Section I.A.M2, the Commission Panel considers an explicit statement in each capital plan to be useful as that condition would then highlight examination of that specific project. **Without the specific statement, the information may be inadvertently overlooked within the project justification, therefore the Commission Panel denies BCTC's request to be relieved of the requirement to specifically identify whether any capital projects are driven by the need to conform to Section I.A.M2, or its current equivalent in the NERC Reliability Standards, during maintenance outages.**

4.0 GROWTH CAPITAL PORTFOLIO

4.1 Introduction

4.1.1 Overview Growth Projects

The BCTC Growth Capital portfolio is described as being comprised of those investments which are required for reinforcing and expanding the transmission system to meet the growth in load, to provide power transfer from new generation sources in addition to accommodating transmission customer and generational interconnection requests. The Growth Capital portfolio is divided into five programs; bulk system reinforcements, regional system reinforcements, station expansion and modification projects, customer requested projects and generational interconnections (Exhibit B-1, Section 5, p. 1). BCTC states the objectives of the Growth Capital portfolio are as follows:

- Serving firm domestic load by meeting capacity requirements of its customers for most hours of the year under most common contingencies.
- Enabling economic generation dispatch by supporting the efficient dispatch of generation and providing customers with access to low cost capacity and energy.
- Enabling firm point to point power transfers by increasing transmission access, reliability and security.
- Maintaining affordability by providing benefits which are commensurate to the cost.
- Providing system performance which, at the minimum level is acceptable to stakeholders.
- Minimizing the impact on communities and First Nations to the extent possible.
- Maintaining environmental compliance by meeting applicable environmental legislation and common utility practices.

(Exhibit B-1, Section 4, p. 33)

In the current Application BCTC is seeking approval for Growth Capital projects which are being initiated in F2010 and F2011 currently estimated at \$146.5 million, including SDA-related expenditures. BCTC's Growth Capital expenditure portion of these projects total is \$57.6 million (Exhibit B-1, Section 5, Table 5-1, p. 3-4).

4.1.2 Key Drivers

BCTC states that in general, Growth Capital projects are customer and load driven. BCTC determines what transmission investments are needed to meet peak demand levels, Open Access Transmission Tariff ("OATT") requests and generation additions as have been identified and forecast by its customers. Projects can range from major transmission line projects to more minor facility enhancements. In Section 4 of the Application, BCTC outlines some of the key elements of the planning process which represents little or no change from previous years. In addition, it outlines the importance of service agreements in obliging the organization to meet the needs of customers and the steps which are taken to determine impacts on system performance of satisfying these needs. Finally, BCTC details the various sources which it relies upon to help forecast for load forecasts and future requirements for transmission services (Exhibit B-1, Section 4, pp. 34-42).

4.1.3 The Growth Capital Portfolio Prioritization

The Growth Capital portfolio projects considered for approval for F2010 and F2011 have been prioritized using the prioritization process described in Section 4.1 of the Application. Prioritization results are summarized in Table 5-5 of the Application. The Commission Panel accepts the prioritization process and its result as described in the Application.

4.2 Issues

4.2.1 Current Economic Conditions and Impact on Load Forecast

As noted previously, the economy is in severe recession with no clear picture emerging as to the timing or velocity of recovery. The challenge facing utilities is to determine the need and the timing for the various projects to be undertaken given the difficult economic circumstances. The question which must be addressed is whether the current problems will have a material effect on demand thereby impacting future load forecasts.

BCTC states that the December 2007 Bulk System load forecasts and the July 2008 Distribution Substation load forecast used when the projects for the F2010 TSCP were being studied and notes that energy sales for the period F2008 to F2010 are forecast to decline while the peak demand is expected to grow. BCTC submits it is appropriate to have relied on BC Hydro's July 2008 Distribution Substation load forecast and does not believe there is unusual uncertainty that exists with respect to the F2010 TSCP resulting from the timing of the load forecast provided by BC Hydro. BCTC further submits it would be impractical and inefficient for it to be required to base its Capital Plans on more recent updates and that it cannot delay its planning activities because of uncertainty with respect to the next forecast without risking the ability to reliably serve BC Hydro's load. In summary, BCTC believes that its existing internal processes are suitable for managing any uncertainty with respect to load forecasts. BCTC closes its argument by stating the new Distribution Substation forecast is expected in July of 2009. Upon receipt of the new forecast BCTC states it will review the impact of changes in that forecast in the context of the Regional System and Station Expansion modification projects that are in planning, pending approval or under construction and make adjustments where it is deemed required and practical (BCTC Argument, pp. 11-12).

The Commission Panel is mindful of the challenges faced by BCTC with respect to the current economic downturn. It is of the view that it would not be prudent to put existing plans on hold and await a further load forecast and agrees with BCTC's stated concern that such action would put at risk its ability to reliably serve BC Hydro's load. However, the Commission Panel is equally mindful of the need to carefully examine future load forecasts based on more recent information and to adjust plans accordingly if there is a significant change in demand. The Commission Panel could consider failure to respond to significant changes in load forecasts in an appropriate manner as imprudent. In this instance, any unjust and unreasonable costs incurred may be excluded from recovery in rates. **Accordingly, the Commission Panel directs BCTC, upon receipt of the July 2009 Distribution Substation load forecast, to review and provide an update within 90 days of this Decision to the Commission of upcoming projects and the impact of any load forecast changes.**

4.2.2 Definition Funding for Transmission Expansion Policy Guided Projects

The Transmission Expansion Policy ("TEP") enables BCTC to propose expanding the transmission system in anticipation of future needs. BCTC developed the TEP with stakeholder input in 2005, in response to the provincial government's Special Direction No. 9 ("SD9") to the Commission. The TEP sets out a framework that allows BCTC to plan and expand the system in the absence of firm customer contracts for transmission service, when it is in the best interests of ratepayers to do so. BCTC has requested \$10.0 million in definition funding for projects guided by the TEP to be used at its discretion based on an analysis of potential opportunities that are currently underway.

BCTC reports that a preliminary analysis of IPP-driven TEP projects was initiated in 2008. The purpose of this work was to identify potential projects that merited a more in depth evaluation based on their potential to provide a lower cost energy supply to ratepayers. To assess the relative merits of IPP-driven projects, BCTC states they conducted two layers of analysis. The first of these focuses on "Configuration" and "Generation Supply" attributes and is based on submitted information from IPP proponents and other parties. The second layer is focused on the development and evaluation of potential conceptual transmission solutions that could be required to access IPP clusters. BCTC reports that during this analysis potential interdependencies with

ongoing or planned projects are considered in addition to conducting conceptual level cost estimate studies (Exhibit B-1, Section 5, pp. 111-113).

BCTC states to date it has completed the first layer of preliminary analysis and has identified eleven potential projects which have been further segmented into two groups; Tier 1 projects and Tier 2 projects. BCTC describes Tier 1 projects as those which it has either advanced or will advance to the more rigorous second layer of analysis. Tier 2 projects are those that do not warrant advancement but will be reviewed at a later date as the TEP process progresses. BCTC reports that to date it has completed the second layer of preliminary analysis for about half of the Tier 1 projects and expects to complete the conceptual cost estimates for the remaining Tier 1 projects by mid 2009. It further reports that cost estimate studies have an accuracy of minus 50 percent to plus 100 percent and the work done will form the basis for preliminary Net Present Value ("NPV") analysis for the projects (Exhibit B-1, Section 5, pp.115-116).

There are two issues which emerge with respect to BCTC's request for \$10 million in TEP definition funding. Firstly, the question arises as to whether it is appropriate to approve funding which is not tied to a specific project or delay funding until the determination of what projects will be pursued is completed. A second issue is whether it is reasonable to recover these expenditures from rates when it is unclear as to the benefit to the ratepayer.

BCTC states that it expects to advance one or more IPP-driven TEP projects to Definition Phase during the F2010-F2011 period on the basis of these results. It notes that the Commission commended BCTC for bringing forward the Thermal Upgrade Project Application in its Decision on BCTC's F2009 TSCP and offered encouragement as to pursuing other potential TEP projects (Exhibit B-1, Section 5, pp. 115-116). BCTC states that to avoid a two year delay and await a future TSCP application, it has requested \$10 million in TEP Definition Phase funding to pursue the Definition Phase development work for one or more of these projects during the current Capital Planning schedule. Prior to making a final determination to pursue one or more projects, BCTC submits it will await the results of BC Hydro's Clean Power Call ("CPC") which will help "inform" BCTC's determination and provide information to enable the identification of new IPP clusters.

Finally, BCTC submits that if advanced under TEP, the costs of these transmission projects would be borne by ratepayers who would also realize the associated benefits (BCTC Argument, pp. 19-20).

In general, the Intervenor support BCTC's proposed \$10 million for TEP Definition Phase funding although a number of conditions were raised. The IPPBC is in support provided the funds are only used to gather information for the Section 5 Inquiry, and for post inquiry decision implementation, and to implement any decisions made by the inquiry. The IPPBC submits there is an urgent need for work relating to the TEP to continue in order to support and facilitate the Section 5 Inquiry and its outcome but not to be a substitute for it (IPPBC Argument, p. 8). The JIESC submits that only those studies with some linkage to a BC Hydro Call for Energy should be accepted at this time and that all others should be put off until the Commission's Section 5 Inquiry is complete (JIESC Argument, p. 2). Generally, the CEC supports the early Definition Phase work to shorten the time frame for response to a need for additional transmission facilities, with the provision there is a reasonable prospect that rate payers will benefit. The CEC supports BCTC's TEP request with the requirement for determining ratepayer benefit must be responsive to scenarios related to changing circumstances. Specifically, the CEC argues BCTC needs to be cognizant of the potential for Demand-Side Management ("DSM") opportunities to develop and replace these potential capital expenditures where there is potentially a more cost-effective result (CEC Argument, p. 6).

In response to IPPBC, BCTC submits they do not expect to seek Implementation Phase approval until the Section 5 Inquiry has been completed and as such, will be informed by the findings. Furthermore, BCTC states it believes waiting for the Province's response to the Section 5 Report would result in lost opportunities and foregone ratepayer benefit. In reply to the CEC and JIESC concerns, BCTC submits that the root of the matter appears to be that BCTC continue to coordinate its IPP-driven TEP opportunities with BC Hydro and the CPC process. BCTC further submits that the proceeding has provided ample evidence of its coordination with BC Hydro and its intention to continue to do so. Moreover, BCTC states that the responsibility for the acquisition of resources lies with BC Hydro and because ratepayer benefit is driven through its activities, BCTC would work with BC Hydro in the implementation of strategies to benefit ratepayers (BCTC Reply, pp. 10-12).

Commission Determination

The Commission Panel finds that the argument put forth by BCTC with respect to the approval of TEP definition funding of \$10 million is compelling. At this time the results of BC Hydro's Clean Power Call are not in and the work on second layer financial analysis has not been completed for all Tier 1 projects. Because of this, it would be premature to designate the requested funds to a particular project. The Commission Panel notes that while a number of Intervenor raised concerns with how the money would be spent there was little argument with respect to the need to move forward. It is the view of the Commission Panel that the process being undertaken by BCTC to choose appropriate projects for the expenditure of definition funds has merit and waiting until the Section 5 Inquiry has been completed will result in unwarranted, significant delays. While unnecessary delay will not benefit the ratepayer, the Commission Panel remains concerned that the choice of project ultimately has a positive impact for the ratepayer.

The Commission Panel approves a maximum of \$10 million in definition funding for IPP-driven Transmission Expansion Policy projects; however, the Commission Panel directs the proper allocation of these expenditures to be addressed by BCTC in the next Revenue Requirements Application.

4.2.3 Management of Growth Capital Contingency Funds

The Commission Panel is concerned about the amount and management of contingency on projects and would like to gain assurance that this money is being properly applied and any unused or unaccounted for amounts are returned rather than reallocated to other programs outside the projects. The Commission Panel notes BCTC's reliance on the Association for the Advancement of Cost Engineering ("AACE") statement: "Contingency is generally included in most estimates, and is expected to be expended." Although the Commission Panel does not disagree with the statement it would suggest that an expectation of the expenditure does not mean there should be no accounting of it.

By way of clarification, BCTC stated, “An allocated contingency is included in the project estimate of individual projects.” BCTC, in its response to BCUC 1.7.2 in Exhibit B-6, stated, “While the sum of individual contingencies should provide sufficient contingency for unplanned capital expenditures within the specific portfolio of projects, the sum will not provide sufficient buffer for total capital expenditures if unplanned capital expenditures are incurred from the addition of new projects or from unidentified risks” (Exhibit B-6, BCUC 1.7.1, 1.7.2).

In selecting the level of contingency for a project, BCTC applies the following industry-accepted definition:

“Contingency is an amount added to an estimate to allow for items, conditions, or events for which the state, occurrence, and/or effect is uncertain and that experience shows will likely result, in aggregate, in additional costs ... Contingency is generally included in most estimates, and is expected to be expended.”
(Exhibit B-8, BCUC 2.15.2, Attachment, p. 2)

The Commission Panel’s view is that contingency usually excludes:

- 1) Major scope changes such as changes in end product specification, capacities, building sizes, and location of the asset or project;
- 2) Extraordinary events such as major strikes and natural disasters;
- 3) Management reserves; and
- 4) Escalation and currency effects.

The Commission Panel finds that contingency is established to mitigate or eliminate the adverse impacts of the unforeseen or under-predicted events. As such, contingency should be utilized and managed exclusively within the framework for which it is established. While a project budget document might contain several different ‘Fund’ accounts as opposed to ‘Line’ allocations, contingency is very different in that it is a reserve and ‘hedge’ against risk. While allowances differ from contingency in that they are not risk-based or dependent, allowances are derived from events which are expected to occur, and are within the scope of the project.

The Commission Panel considers the over budgeting of contingency has two undesirable effects:

- The company is deprived of funds that might be better utilized in other ways or on other projects
- Unspent contingency monies will find their way to funding scope changes, enhancements, and other elements that should properly be purchased with Allowance or Reserve resources.

Furthermore, the Commission Panel view is that contingency funds should be used to address specific risks as they occur along the project execution schedule. Any unspent funds should be returned for possible use on other projects or to fund other activities. Based on the results of the project risk assessments, contingency drawdown plots (actual versus planned) could be used to manage the contingency funds and to improve the project budgetary process. The type of contract chosen for a project may shift the burden for contingency funding and management.

BCTC stated it “performs virtually all of its work on major capital projects through contracts with private sector suppliers and construction contractors. These contracts are typically fixed lump sum contracts or fixed construction unit price contracts. These are not cost reimbursable or ‘cost plus’ contracts. BCTC prepares project cost budgets and monitors all bidding and award of contracts and purchase orders to measure against the project budget.” (BCTC Central Vancouver Island Proceeding, Exhibit B-6-1, BCUC 2.106.1)

The Commission Panel understands that when BCTC engages in lump sum contracts, the contractor undertakes the project for a stipulated price and any expenditure exceeding this price (save for reimbursable scope changes) are the responsibility of the contractor and BCTC is not at risk. Also, when BCTC engages in a guaranteed maximum price (“GMP”) or fixed price contract, the contractor undertakes the project for a stipulated not to exceed price and any expenditures exceeding this price (save for reimbursable scope changes) are also the responsibility of the contractor but any underruns are returned to BCTC. BCTC, while not at risk of an overrun, has an opportunity risk of forfeiting potential underruns. In either instance, the Commission Panel believes the contingency should be minimal or not required after the award of the contract.

The Commission Panel finds that contingency could be expected to be spent but directs BCTC to establish and file a formal policy for portfolio and project cost contingency and manage contingency throughout the project and report contingency drawdowns on its Growth Capital portfolio (actual versus planned) for F2010 and F2011 in its next Capital Plan.

4.2.4 Earned Value Reporting

Earned Value Reporting is a systematic reporting approach employing the integration and measurement of project cost, schedule and technical scope accomplishments on projects. In the past, BCTC has resisted providing earned value reporting on several CPCN projects such as the Interior to Lower Mainland Project and the Central Vancouver Island Project. In light of the project variances on the existing Growth Capital projects, the Commission Panel has concerns regarding project cost control on both future CPCN projects and the current Growth Capital expenditures being applied for in the Application. Going forward, the Commission Panel has been considering earned value reporting as a method of reporting both schedule and cost performance for projects in order to provide the Commission with an improved view of the overall performance of any project.

In the Goto Sargent Report, the accuracy of the Progress Reporting and Project Management Procedures was examined. (Exhibit B-6, Attachment to BCUC 1.15.1.2, p. 24) The Goto Sargent Report stated that they “saw significant variation in the quality and frequency of reporting by Project Managers. Much of the cost and schedule ‘forecasting’ by Project Managers is in fact revision of costs after increased costs have been incurred, and revision of completion dates after delays have been suffered.” (Exhibit B-6, Attachment to BCUC 1.15.1.2, pp. 25-28)

The Commission Panel notes that, in the description of the Expenditure Authorization Request (“EAR”) Quality estimate, BCTC has the capability of earned value reporting for projects. (Exhibit B-8, Attachment to BCUC 2.15.2, p. 3-5)

The Commission Panel directs BCTC to file a report, within 90 days of this Decision being issued, on the incremental percentage cost increase of using earned value reporting when performed on capital projects between \$10 million and \$50 million and on CPCN projects equal to or greater than \$50 million through \$400 million.

4.2.5 Projects Encompassing Substation Distribution Assets

In November 2003, a Master Agreement was entered into by BCTC and BC Hydro. This agreement outlines the various responsibilities for the transmission and distribution systems including expenditures. BCTC under Article 19 is responsible for obtaining all regulatory approvals for enhancements as well as any sustaining and growth investments in the transmission system. BC Hydro is responsible for those SDAs which are directly related to power distribution. However, under Article 12 of the Master Agreement BCTC is responsible for the planning, management and maintenance of SDA's as a service to BC Hydro. BC Hydro is responsible for obtaining all regulatory approvals on any projects which involve SDA's. Because there are some projects in this Application that include capital expenditures which relate to both transmission and SDA's, it is unclear which party is responsible for cost estimation, obtaining regulatory approvals, project execution and potential cost overruns. Rather than divide these into transmission and distribution-related components, BCTC has identified the full scope of these combined projects in this Application but is only seeking approval for transmission related aspects of these projects (Exhibit B-1, Section 1, pp. 7-9). In the current Application, BCTC states that there 13 projects with an SDA component. Of the total project cost of \$117.8 million, the BCTC portion amounts to \$28.9 million (Exhibit B-8, BCUC 2.24.1).

There are two primary issues which arise as a result of this unique approach to managing capital project costs between the two companies:

- what happens in the event the BCTC capital is approved in its Application but BC Hydro's application for the project is turned down or the project is either delayed or cancelled?
- the sharing of costs between the two entities leads to duplication of effort from a

regulatory standpoint and the potential for confusion. Is there a better approach?

With respect to the first issue, BCTC stated that failure to receive BC Hydro's consent to fund the project would result in cancellation of the project or its deferral. In this event any Definition Phase expenditures would be expensed to transmission and related SDA per the estimated percentage of the project (Exhibit B-8, BCUC 2.24.2). BCTC further states that because the Commission approves that capital expenditures on Growth Capital projects are in the public interest but not for a precise amount associated with each project, it is consistent that the cancelled funds cannot be redirected to other Growth Capital projects. Were a cancellation to occur, BCTC reports that no further capital expenditures would take place, any expenditures to that time would be expensed and the Commission would be notified in a subsequent application (Exhibit B-8, BCUC 2.37.1).

With respect to the second issue regarding duplication of effort and potential confusion arising, the matter is much less defined. BCTC, in the current Application, asks the Commission to approve all non-SDA related costs of the Growth Capital projects. This, in effect, would mean that a project would be broken into pieces and parts of the project filed by either BCTC or BC Hydro when either chooses to do so. It would not be inconceivable that BCTC would file for approval of their costs in a given year and BC Hydro would file for the balance of the project at a much later date. In keeping with this, it is also conceivable that by the time this is done circumstances will have changed (cost, needs etc.) and the Commission no longer finds a given project to be in the public interest. Any funds expended by BCTC in this instance would be written off and would ultimately be borne by the public. In addition, the fact that the project has been split between two parties is bound to lead to some lack of clarity with respect to roles, responsibilities, and reporting, if not on the part of the entities, most certainly on the Commission itself.

For regulatory purposes, the Commission Panel would prefer that projects and related costs be kept intact and not divided between the two parties. If this is done, confusion will be kept to a minimum, both clarity and transparency will be maximized and costs minimized. Since BC Hydro will ultimately own the assets and is responsible for obtaining regulatory approval for these projects, it might be appropriate that it would take on the responsibility of filing for approval.

However, since BCTC is responsible for managing the assets and undertaking much of the planning an equally strong argument could be made with respect to it taking on responsibility for filing. The Commission Panel does not take a firm position with respect to the responsibility for filing such applications and believes it to be a matter to be determined by the management of BCTC and BC Hydro. In keeping with this, the Commission Panel has determined it will review and rule on non-SDA spending for joint projects in the current application. **However, the Commission Panel directs BCTC to work with BC Hydro to either accept this proposal or develop an alternative resolution to the problem and report back to the Commission within 90 days of this Decision.**

4.2.6 Inter-Regional Transmission Relationships

BCTC stated that as a system in corner of the of the WECC interconnected system, it has not found the need to join any subregional planning groups, however, it may engage in neighbouring systems or subregional planning groups for the purpose of regional transmission planning and investment. In such situations, BCTC will post on its public website information on such activities including notice of meetings, relevant materials and information on how interested parties may participate (Exhibit B-6, BCUC 1.16.2, Attachment K, pp. 12-13).

BCTC describes various Canada-U.S. transmission initiatives in which it participates and other initiatives that it tracks in the region (Exhibit B-1, Section 3, pp. 43-49).

The Commission Panel notes that although BCTC is engaging neighbouring systems and subregional planning groups for the purpose of regional transmission planning and investment it is not apparent that BCTC has made information on such activities available on its public website (Exhibit B-6, Attachment to BCUC 1.40.1). **The Commission Panel directs BCTC to post, on its public website, a listing of upcoming meetings with neighbouring systems and subregional planning groups to which it has been invited or is planning to send a representative as well as electronic copies of non-confidential information it may present or receive at such meetings.**

4.3 Growth Capital Projects for Approval

BCTC's proposed Growth Capital spending falls into four areas: Bulk System Reinforcements, Regional System Reinforcements, Station Expansion and Modification, and Customer-Requested projects. The Net Transmission Growth Funding requested is estimated at \$57.6 million. These Growth Capital projects are addressed in detail as follows:

4.3.1 Bulk System Reinforcements

BCTC has identified two projects for its Bulk System Reinforcements and requests an estimated \$2.3 million for these projects. The Series Compensation project is Definition Phase funding only and the Remedial Action Schemes' funding is for an allowance of \$1.0 million.

4.3.1.1 5L71/5L72 - Series Compensation Project – Definition Phase

This project is to perform the \$2 million definition work required to design and construct a series capacitor station on 5L71 and 5L72 estimated to cost \$65.3 million. To integrate the new generation from Mica Unit 5 and Mica Unit 6 into the transmission system it is necessary to reinforce the Mica to Nicola path, either with the addition of a new transmission line or by adding series and shunt compensation. With the addition of Mica Unit 5 and Mica Unit 6 and without reinforcement, BCTC Transmission Planning Criteria and NERC/WECC Planning Standards could not be met and the generation added by Mica Unit 5 and Mica Unit 6 would not be efficiently utilized. The preferred alternative is to build a series capacitor station and add a shunt capacitor because it has the lowest cost, a short lead time for implementation, and a simple system configuration that is straight forward for system operation.

BC Hydro's Contingency Resources Plans ("CRPs"), submitted as part of the 2007 NITS Update, indicate that Mica Unit 5 and Mica Unit 6 are to enter service in October 2013 and October 2014 respectively. The latest CRPs included in BC Hydro's 2008 LTAP indicate the in-service dates have been revised to October 2013 and October 2015, respectively (Exhibit B-1, Section 5, pp. 32-35).

The major risk for the Definition Phase of the project is the possible deferral of the associated generation additions of Mica Unit 5 and Unit 6. The Mica Units 5 and 6 are required in BC Hydro's CRPs rather than its Base Resource Plan ("BRP") and, at the time of filing of this application, the CRPs are still subject to Commission approval (Exhibit B-1, Section 5, p. 35). BCTC stated the integration of peaking units at Mica is required in only one of the CRPs (Exhibit B-6, BCUC 1.24.2).

BCTC provides the Integrated System Planning Assumptions as Appendix C to this Application, which was also provided as Appendix in BC Hydro's current Long-Term Acquisition Plan ("LTAP") application. The Integrated System Planning Assumptions describe the process for BCTC's consideration of BC Hydro's CRPs and the potential capital projects that may result. After the BRP and Commission-approved CRPs are submitted by BC Hydro to BCTC in a NITS Application, a more detailed study is conducted including generation versus transmission trade-off analyses that follow from the re-dispatch options that BCTC identifies in accordance with Section 32.3 of BCTC's OATT. The NITS studies culminate in a Facilities Study Report that identifies the costs and schedules of each transmission reinforcement project associated with each of the BRP and CRPs. The Capital Plan and CPCN processes provide further opportunities to optimize the transmission reinforcement plan and the parameters of specific projects (Exhibit B-1, Appendix C, p. 2).

BC Hydro supports the project and suggests that the Definition Phase work commence in late 2009 (BC Hydro Argument, p. 2). BCOAPO submits that "(t)he definition work will focus on the more cost-effective of the two alternatives to incorporating MICA 5 & 6, and the proposed project appears to be reasonable" (BCOAPO Argument, p. 2). In Argument, CEC submits the conditions under which BCTC stated it would proceed are reasonable (CEC Argument, p. 6). In their Arguments, neither the JIESC nor IPPBC discuss Definition Phase funding for 5L71/5L72 Series Compensation Project.

BCTC states that it "would prefer to start Definition Phase activities in late 2009 in order to allow some schedule float [the amount of time that a task in a project network can be delayed without causing a delay to the other project tasks] and flexibility. At the latest, BCTC believes that the Definition Phase should start in early 2010 so that BCTC can obtain CPCN approval, if necessary, by

the end of 2010. To minimize the risk associated with Definition Phase expenditures, BCTC will not proceed with definition-phase work until BC Hydro's Mica 5 project receives an Environmental Assessment Certificate and BC Hydro submits a CPCN application for Mica 5 to the Commission for approval" (BCTC Reply, pp. 13-14).

4.3.1.2 Provision for Unidentified Remedial Action Schemes

Provision for unidentified Remedial Action Schemes ("RAS") initiated during F2010 and F2011. BCTC's request is intended to ensure available funds, \$1.0 million, are on hand for definition and implementation work related to RAS that may be identified in F2010 and F2011. The alternative to RAS schemes is to increase reliability by increasing system capacity or redundancy with the addition of various system elements at a considerable additional cost (Exhibit B-1, Section 5, pp. 36-37).

4.3.2 Regional Reinforcement Projects

BCTC has identified eight Regional Reinforcement projects, five of which are Definition Phase projects for a gross funding request of \$40.5 million including the SDA amounts.

4.3.2.1 2L39 Como Lake Loop

BCTC is requesting funding of \$6.1 million to connect Circuit 2L39 (Meridian-Newell) into Como Lake Substation to form two circuits: 2L38 (Meridian-Como Lake) and 2L39 (Como Lake-Newell), and expand the 230 kV ring by adding two 230 kV circuit breakers. Circuits 2L39 and 2L52 are major circuits in the Metro North 230 kV transmission system. 2L52 delivers energy from Meridian Substation to Como Lake Substation in the northern area of Coquitlam, and ultimately to Burnaby and Downtown Vancouver. If Circuit 2L52 is not available, a heavy power flow occurs on the other 230 kV circuits in the Metro North 230 kV transmission system. The redistributed flow is especially high on Circuit 2L50 from Burrard to Murrin. With no generation at Burrard, Circuit 2L50 would start to overload by F2012 due to load growth in the Metro Vancouver area. If Burrard is

generating 450 MW (half of the generation capacity), the load would reach 112 percent of 2L50's emergency rating. If Burrard is generating its full output of 900 MW, 2L50 would be loaded to 125 percent of its emergency rating. If the Metro North system is not reinforced, it would be necessary to reduce generation at Burrard to zero and to shed 25 MVA of load to alleviate Circuit 2L50 overloading if 2L52 is forced out of service during heavy load periods. The alternates reviewed were to connect 2L39 into Como Lake Substation or replace 2L50 cable. The preferred alternative is to connect 2L39 into Como Lake Substation because it is a lower cost, simpler solution that alleviates potential 2L50 overloading (Exhibit B-1, Section 5, pp. 42–44).

4.3.2.2 60L19 – Re-conductor

BCTC is requesting funding of \$1.7 million to re-conductor a 2 km section of 60L19 between Stave Falls and Haney in the Fraser Valley to match the rating of the parallel circuit, 60L23, and increase the firm capacity of the 60L19/60L23 path. 60L19 is a 17 km 60 kV circuit running between Stave Falls and Haney Substations. Approximately 15 km of 60L19 has a conductor with a normal/emergency rating of 740 amperes/880 amperes, respectively. The remaining 2 km has conductor with a normal/emergency rating of 510 amperes/600 amperes, which limits the circuit to this rated current. The parallel circuit, 60L23, has the higher 740 amperes/880 amperes rating. When Stave Falls and Ruskin are generating their full output, a 60L23 outage would load 60L19 above its 510 amperes rating by winter 2010. As the area load grows, the overload would worsen and, in 2012, it is forecast to increase to 635 amperes under a 60L23 contingency. The alternates reviewed were to re-conductor the lower rated 2 km section of 60L19 with conductor that has normal/emergency ratings of 810 amperes/880 amperes or provide a generation shedding RAS scheme at Stave Falls which would cause additional stress problems on the generators. The preferred alternative is to re-conductor a 2 km section of 60L19 because it is a lower cost option that takes advantage of existing infrastructure and the existing right of way to serve load reliably (Exhibit B-1, Section 5, pp. 44-47).

4.3.2.3 Atchelitz Area Reinforcement

BCTC is requesting funding of \$3.0 million to expand Atchelitz Substation from 100 MVA to 200 MVA with an in-service date of October 2011 to provide additional transformation and distribution capacity to serve load growth in the Atchelitz-Chilliwack area. The July 2008 load forecast shows that load will exceed Atchelitz Substation's firm capacity of 100 MVA in October 2010 and already exceeds Chilliwack Substation's firm capacity of 56 MVA (Exhibit B-1, Section 5, pp. 47-51).

4.3.2.4 Dawson Creek Area Reinforcement - Definition Phase

BCTC is requesting Definition Phase funding of \$3.0 million to complete preliminary environmental, engineering and consultation work to reinforce the system in the Dawson Creek area. The winter firm capacity of Dawson Creek Substation is 21 MVA. As a result, this increase in load by the oil and gas development in the Dawson Creek area would consume any existing capacity to serve new load and would require further system reinforcements. Without these reinforcements, load curtailments would be necessary and service could not be provided to new customers (Exhibit B-1, Section 5, pp. 51-53).

4.3.2.5 Courtenay Area Reinforcement - Definition Phase

BCTC is requesting Definition Phase funding of \$1.8 million to complete a detailed project plan, a preliminary environmental assessment, First Nations and public consultation, and detailed engineering work to reinforce the transmission system in the Courtenay area. The July 2008 load forecast shows that load at Puntledge Substation will exceed the station's firm capacity of 68 MVA in F2011, which can be addressed in the short-term by transferring some Puntledge load to Comox Substation, as reflected in the load forecast tables (Exhibit B-1, Section 5, Tables 5-12, 5-13 and 5.14). However, as a result, the growing load at Comox would exceed the Comox firm capacity of 100 MVA in F2011, several years earlier than expected under the previous load forecast (Exhibit B-1, Section 5, pp. 53-56).

4.3.2.6 Fraser Valley West Area Reinforcement – Definition Phase

BCTC is requesting Definition Phase funding of \$1.5 million to complete a detailed project plan, a preliminary environmental assessment, First Nations and public consultation, and detailed engineering work to reinforce the transmission system in the Fraser Valley West area. Substations in the Fraser Valley West area impacted by this project include Balfour, Cloverdale, Harvie Road, McLellan, Port Kells, Surrey, Strawberry Hill, and Whalley. These substations are reaching their capacity limits and, in some cases, are forecast to exceed firm capacity limits by F2010. Substation expansions will be required to provide additional transformation and feeder distribution capacity. A long-term plan for the Fraser Valley West area is being developed in conjunction with BC Hydro and would drive the most cost effective staging of reinforcements in the area (Exhibit B-1, Section 5, pp. 56–59).

4.3.2.7 Westbank 138 kV System Reinforcement – Definition Phase

BCTC is requesting Definition Phase funding of \$1.5 million to complete a detailed project plan, a preliminary environmental assessment, First Nations and public consultation, and detailed engineering work to reinforce the existing radial 138 kV supply to Westbank. The Definition Phase is expected to begin in late 2009 following completion of a study examining alternatives to improve the reliability of supply to Westbank. This project is driven by reliability concerns associated with the single-circuit radial transmission system that presently supplies the Westbank area (Exhibit B-1, Section 5, pp. 59–61).

4.3.3 Station Expansion and Modifications

BCTC has identified nine Station Expansion and Modification projects, eight of which are Definition Phase projects for a gross funding request of \$96.8 million including significant SDA amounts.

4.3.3.1 Annacis Substation – Reconfiguration

BCTC is requesting project funding of \$1.5 million to add a tap from 60L31 to Annacis Substation, which would provide a second source of supply from Ingledow to Annacis. Annacis Substation is presently fed from Kidd #1 Substation to the north via Circuit 60L32 and from Ingledow Substation to the south via Circuit 60L71. A third circuit, 60L31 from Ingledow to Kidd #1 passes by Annacis Substation. Under the present configuration, an outage of 60L71 results in Annacis being supplied only by 60L32. In this scenario, the load growth at Annacis is forecast to overload 60L32 by 2010, which would require load shedding under single contingency if the supply is not reinforced (Exhibit B-1, Section 5, pp. 70-72).

4.3.3.2 Athalmer Substation Transformer Replacement

BCTC is requesting project funding of \$1.6 million to replace the existing 25 MVA and 28 MVA transformers at Athalmer Substation with two 50 MVA units to meet firm load requirements. Currently there are two 64/25 kV transformers (25 MVA and 28 MVA) at Athalmer Substation that supply load to the District of Invermere and surrounding area. The 2008 load forecast for Athalmer indicates that the firm transformer capacity of the station (34.6 MVA) will not meet the winter 2008/09 peak load (42.4 MVA) during an outage of one of the transformers, which would result in load shedding. The load is expected to grow rapidly to 44.5 MVA by F2010. The additional transformer is required to prevent load shedding and emergency overloading of the existing transformer during the winter peaks (Exhibit B-1, Section 5, pp. 72–75).

4.3.3.3 Golden Substation - 12/25 kV Voltage Conversion

BCTC is requesting project funding of \$ 1.3 million to add two new 25 kV feeder positions and convert all 12 kV loads to 25 kV at Golden Substation to increase station firm capacity and feeder capacity. Feeder 25F52 was beyond its maximum capacity and feeder 12F51 is close to its maximum capacity. Based on the 2008 load forecast for the Golden area, the 25 kV and 12 kV feeders would experience continued increases in loading. Without reinforcement of the

distribution capacity to meet load growth in the Golden area, load curtailment under peak load conditions would be required. The existing 12 kV feeders would also become loaded beyond the maximum load permitted (Exhibit B-1, Section 5, pp. 75-78).

4.3.3.4 Horne Payne 230/12 kV Transformer Upgrade

BCTC is requesting project funding of \$ 1.4 million to replace the two existing transformers at Horne Payne Substation with higher capacity units and reconfigure the low voltage bus into two rings to increase the station firm winter transformation capacity. Based on the 2008 expected load forecast, the load demand of the substation will exceed both the summer and winter firm capacity of the transformers by F2010, two years sooner than under last year's load forecast (Exhibit B-1, Section 5, pp. 79-81).

4.3.3.5 Mission Area Reinforcement

BCTC is requesting project funding of \$ 1.5 million to expand Mission Substation from 72 MVA to 100 MVA. The Mission and Maple Ridge areas are presently supplied by the Mission, Haney, Maple Ridge and Whonnock Substations. Whonnock serves a small pocket of 9 MVA load at 12 kV surrounded by the three other 25 kV stations. Mission has six fully loaded distribution feeders with one stand-by feeder. The Mission Substation load was 77.6 MVA in F2008, which exceeds the maximum capacity of 72 MVA for the existing six feeders. Additionally, a major housing and commercial development is planned for the Silverdale area in the Northwest sector of the Mission area which further justifies the need for the increase in transformer size (Exhibit B-1, Section 5, pp. 81-86).

4.3.3.6 North Vancouver Substation Upgrade

BCTC is requesting project funding of \$ 10.3 million to convert the North Vancouver Substation from 4 kV to 12 kV and increase the station capacity by replacing two transformers with higher capacity units and adding a new feeder section. North Vancouver equipment is approaching its

end-of-life, as it was installed in the early 1900's, and BCTC expects to replace most of it within the next 10 years (Exhibit B-1, Section 5, pp. 86-90). (Exhibit B-6, BCUC 1.36.1)

4.3.3.7 Radium Substation 12/25kV Voltage Conversion

BCTC is requesting project funding of \$ 1.5 million to convert Radium Substation from 12 kV to 25 kV. This proposed conversion should resolve the issues of exceeding the winter loading forecasts, to facilitate the field tie during an outage to the 25kV nearby Athalmer Substation and to resolve the past overloading of 12F51 feeder due to load growth (Exhibit B-1, Section 5, pp. 90–93).

4.3.3.8 Smithers Substation - Add Transformer

BCTC is requesting project funding of \$ 1.8 million to add a third 28 MVA transformer at Smithers Substation to serve forecast load. Smithers Substation has two 28 MVA transformers capable of supplying up to 35.0 MVA firm load at 0 degrees Celsius. The station load was 35.1 MVA in F2008 and is growing, has now exceeded the firm substation capacity during both summer and winter months, and additional firm capacity is required to meet the load. The forecast load grows to 40.8 MVA in F2010, and would result in load shedding of up to 5.8 MVA of forecast load for a transformer forced outage (Exhibit B-1, Section 5, pp. 94–96).

4.3.3.9 Vanderhoof Substation T1 Transformer Replacement

BCTC is requesting project funding of \$ 2.0 million to reinforce the transformation capacity at Vanderhoof Substation by replacing the existing 11.2 MVA transformer with a 41.6 MVA unit with an on-load tap changer. Until recently, the forecast load at Vanderhoof Substation could be met by the firm capacity of T1 (rated at 11.2 MVA), supplemented by the Northern Region mobile transformer (rated at 16.6 MVA). However, the recent review of contingency plans for the use of this mobile transformer at Vanderhoof substation indicates that it would take two days to connect the mobile unit, during which time only 11.2 MVA of load could be served. The actual peak load at Vanderhoof was 26.5 MVA in 2007/2008, and the P50 load is forecast to reach 28 MVA in the next

five years, which will exceed the firm station capacity of 27.8 MVA (based on T1 and the mobile transformer) (Exhibit B-1, Section 5, pp. 96-99).

4.3.4 Customer-Requested Projects

BCTC has identified two Customer-Requested projects for a funding request of \$6.2 million.

4.3.4.1 Load Interconnection Customer A

BCTC is requesting project funding of \$ 2.6 million to interconnect a new load customer via a tap off of Circuit 1L204, a 138 kV circuit in the Kamloops area. This project is required to meet construction load demand requirements (approximately 5 MW) for a new load in the Kamloops area. This load was nominated by BC Hydro under the BCTC's OATT. These mine production requirements will be identified in 2010 and constructed once contractual agreements are in place between BC Hydro and the customer to cover the customer portion of upgrade costs, which are currently estimated to be \$180,000 (Exhibit B-1, Section 5, pp. 102–104).

4.3.4.2 Load Interconnection Customer B

BCTC is requesting project funding of \$3.7 million to interconnect a new load customer's 230 kV transmission line to the Kennedy Substation. BCTC has been requested by BC Hydro to study a customer connection to serve approximately 87 MVA of load at a location approximately 100 km west of Mackenzie, B.C. The closest point of interconnection is the Kennedy Substation and the load would be connected via a 90 km transmission line. The customer portion of the upgrade costs is currently estimated to be \$3.7 million. This project is required to fund the interconnection facilities necessary to serve load nominated by BC Hydro under BCTC's OATT (Exhibit B-1, Section 5, pp. 104–105).

4.3.5 Growth Capital Expenditure Summary

Growth Capital expenditures are based on the 2007 Load Forecast and the 2008 Evidentiary Update load forecast. Because the updated load forecast from the BC Hydro 2008 LTAP is not yet available for use, there is some risk in basing the requirements from these dated load forecast but the Commission has directed elsewhere in this Decision that BCTC manage its Growth Capital expenditures in a prudent manner upon receipt of the new load forecasts.

BC Hydro in its Argument states, “BC Hydro supports BCTC's F2010 Growth Capital portfolio. BC Hydro submits that these projects are needed to serve domestic load growth, address reliability concerns, and integrate new generation resources under contract to BC Hydro pursuant to its calls for energy supply” (BC Hydro Argument, p. 1). In their Arguments, BCOAPO, CEC, IPPBC, and JIESC raised some issues with the TEP expenditures but otherwise supported or took no issue with the projects outlined in the Growth Capital portfolio.

In this Application, BCTC is requesting funding for the Growth Capital portfolio of \$57.6 million. The future Growth Capital projects, currently under consideration at the time of this Application, total approximately \$2.2 billion.

Commission Determination

The projects in the Growth Capital portfolio were unopposed by the Intervenor. The Commission Panel finds the general scopes, in-service dates, and estimated costs of Growth Capital projects as presented in the Application and subsequent information requests are reasonable.

The Commission Panel, however, has general concerns about expenditures on projects arising from the need to accommodate BC Hydro's CRPs. The CRPs are defined in a separate process, the LTAP, and the effects on the transmission system are then only visible to the Commission after BC Hydro's NITS application, BCTC's analysis of resource dispatch options, a Facilities Studies report, and finally a Capital Plan and/or CPCN application.

The Commission Panel considers the purpose of CRPs is to identify projects that may be required in the event load grows more quickly or other resources in the Base Resource Plan become unavailable. The CRPs provide the support to advance projects through the investigation and Definition phases in order to ensure they can be implemented at the time required in the CRPs. They may also be used to justify project implementation when there is insufficient lead time to maintain a contingency resource and there is sufficiently high likelihood the resource will be required and/or there is a high consequence arising from a possible shortage if the resource is not available. The CRPs provide necessary support for identifying and advancing projects, but they alone are not sufficient to justify the amount or timing of Definition phase expenditures or full project implementation. The actual need, timing and costs for projects driven by BC Hydro's approved CRP will still need to be identified and demonstrated in BCTC's Capital Plan and/or CPCN Applications. For example, evidence that BC Hydro has received or is likely to receive approval for investigation and definition expenditures or for actual implementation of CRP projects may be required to justify transmission-related expenditures associated with CRP projects. Where the lead time for transmission-related expenditures is greater than for the generation-related expenditures, BCTC may be required to provide evidence of the longer lead times, the likelihood the resource may be required by a certain date, and the consequences if it is not available by that date.

With respect to the current Application, the Commission Panel notes the only expenditures associated with CRP-driven projects in this Application are the \$2.0 million Definition Phase expenditures for the 5L71/5L72 Series Compensation Project, which is required for the implementation of Mica Unit 5 and Mica Unit 6. Although the Commission has not yet approved the CRPs in BC Hydro's 2008 LTAP, it has recently approved Definition phase work on Mica Units 5 and 6 (Order G-69-09). The Commission Panel, therefore, finds the \$2.0 million Definition Phase expenditures for the 5L71/5L72 Series Compensation Project are in the public interest.

In accordance with the above, and based on the load forecast filed with the Application, the Commission Panel accepts the Growth Capital expenditure schedule as set out in Appendix A of the Decision to be in the public interest subject to the following:

- **satisfaction of the adequacy of BCTC's duty to consult the potentially affected First Nations; and**
- **Commission approval of BC Hydro's Substation Distribution Asset portion of the Growth Capital projects; and**
- **BCTC filing, upon receipt of the July 2009 Distribution Substation forecast, an update to the Commission detailing upcoming projects and the impact of any load forecast changes within 90 days of issuance of this Decision.**

The Commission Panel notes that BCTC remains responsible for confirming the need and timing of accepted Growth Capital projects as new information on the load forecast becomes available.

BCTC will need to demonstrate it has taken into account such information, where available prior to proceeding, when seeking recovery for these costs within rates.

In future Capital Plan applications, the Commission Panel directs BCTC to identify more clearly those Growth Capital projects or expenditures that are not required for BC Hydro's Base Resource Plan but rather are driven by BC Hydro's approved or pending CRPs. For CRP-driven projects, the Commission Panel directs BCTC to provide clear rationale for proceeding with those expenditures. This would include the following: evidence of definition and implementation lead times relative to the required in-service dates, evidence BC Hydro is proceeding with associated generation-related expenditures, and/or evidence the lead time of the transmission-related project exceeds the lead time of the generation-related project and there is also a high probability of need and/or a significant impact of not proceeding with the transmission-related expenditures. BCTC should follow a similar approach when filing CPCN applications, where required, for CRP-driven projects.

5.0 SUSTAINING CAPITAL PORTFOLIO

BCTC seeks a determination from the Commission that Sustaining Capital expenditures of approximately \$119.0 million for F2010 and \$122.3 million for F2011 (Exhibit B-1, Section 6, Table 6-1, pp. 9-10) expressed in nominal dollars are in the public interest. BCTC states the Sustaining Capital portfolio includes capital for sustaining existing assets, risk mitigation programs, and Third Party requested projects (Exhibit B-1, Section 6, p. 2). According to Table 6-2 of the Application, BCTC also includes Third Party funded projects and fully committed Emergency Capital expenditures for F2010 and F2011 (Exhibit B-1, Section 6, Table 6-2, p. 11). This represents a \$12 million increase to the approved Sustaining Capital expenditures of \$107 million for F2010 approved by the F2009 TSCP Decision, and a further increase of \$3.3 million in F2011. BCTC suggests the \$3.3 million increase in F2011 is primarily to address approved inflation of \$2.5 million. BCTC states the requested expenditures are necessary to maintain the transmission system to acceptable levels of reliability, safety, and environmental performance, and are consistent with BCTC's Sustainment Investment Model ("SIM") (Exhibit B-1, Section 6, p. 2). As with previous Capital Plans, BCTC requests the Commission approve the full annual Sustaining Capital forecast of expenditures for F2010 and F2011, rather than provide project-by-project approvals (Exhibit B-1, Section 6, p. 28).

In order to put BCTC's request in context, it is helpful to review the regulatory approach to the Sustaining Capital portfolio, which is in transition and has evolved from a detailed review of specific initiatives and projects in BCTC's F2005 TSCP application to the current examination of programs within an overall portfolio. The progression of the Sustaining Capital portfolio from the first Capital Plan to the current Application is reviewed in the next section. Issues of particular concern are the attempts to find a correlation amongst asset condition, system performance and the level of Sustaining Capital expenditures, determining an appropriate level of Sustaining Capital, and the claim that there is a growing gap between the amount of Sustaining Capital approved by the Commission and the amount required to keep the asset base up-to-date. The content of the programs in the Sustaining Capital portfolios is examined to identify the components that should be adequately addressed by an asset replacement prediction model, and those that fall outside the

scope of such a model.

5.1 Background on Previous Plans and Decisions

In the first Capital Plan application submitted in May 2004, BCTC stated that project drivers in the Sustaining Capital portfolio tended to be internal and included such things as asset end-of-life issues, equipment maintainability, asset security and exposure to hazards, and system operability. BCTC believed that its approach to asset management incorporated risk-based methodologies to prioritize and reduce risk, but that unexpected failures could continue to occur and result in significant consequences and costs. In the F2005 TSCP Decision, the Commission noted the significant increase in Sustaining Capital since 1998, and directed BCTC to identify system problems using as evidence quantifiable reliability indicators. Furthermore, the Commission directed BCTC “to provide, in future Capital Plans, a classification of transmission failures by equipment type and age, as well as an indication of the impact of transmission failures on reliability indices. Statistics should be included for as many years in the past as are reasonably available in order that trends may be observed. Should the requested statistics not exist, BCTC is to file a plan for collecting the necessary data in the future.” (F2005 TSCP Decision, pp. 6, 15, 16)

In the second Capital Plan, BCTC’s F2006 Capital Plan application, BCTC restructured the Sustaining Capital portfolio to be more reflective of capital programs rather than individual projects. All projects were categorized within six major programs. BCTC also described a prioritization process that scored individual projects within each program to address higher priority items first. In the F2006 TSCP Decision, the Commission expressed the concern that reliability indicators identified in Order G-103-04 had not yet been prepared, and again directed BCTC to report the applicable indices in the next Capital Plan. The Commission expressed its intent to adjust the evaluative guidelines or key drivers that defined the overall size of the Sustaining Capital portfolio without interfering with BCTC’s expert judgment in prioritizing individual projects within each program, with the objective of providing BCTC with sufficient direction to achieve reductions in the F2006 and F2007 Sustaining Capital portfolio and to sustain those reductions in the forecast budgets for future years. The Commission anticipated that direct reductions of approximately 10 percent in

the F2006 and 15 percent in the F2007 Sustaining Capital portfolios would be sustainable through re-evaluation, re-prioritization and re-distribution of programs, and the Commission directed that the 15 percent reduction should apply to future years' forecasts until changes in the trends of the reliability indices or asset health assessments suggest the need for changes from the status quo in the size of the Sustaining Capital portfolio (F2006 TSCP Decision, pp. 9, 50).

BCTC submitted an updated F2006 Capital Plan in January 2006 (F2006 Capital Plan Update). The update proposed increases of less than \$1 million from the F2006 and F2007 amounts approved by Order G-91-05. There were no significant changes to the methodology underlying the total expenditures or prioritization of individual projects within the Sustaining Capital portfolio.

In BCTC's next Capital Plan application, the F2008 Capital Plan application submitted in December 2006, BCTC requested Sustaining Capital portfolio amounts of \$88.3 million for F2008 and \$94.7 million for F2009 (F2008 Capital Plan, p. 133). The format of the Sustaining Capital portfolio was changed to consist of eleven programs within two major categories - Stations and Lines. In part to address Commission Directive 35 from the F2006 TSCP Decision, BCTC developed the SIM and introduced it in the 2006 State of the Transmission System Report ("STSR"), which was included as an appendix to the F2008 Capital Plan. The SIM is intended to forecast long-term Sustaining Capital investment requirements, based on the estimated number of transmission system assets reaching the end of their useful life in each decade. In the 2006 STSR, BCTC stated that the level of Sustaining Capital expenditures recommended by the SIM would be \$87 million per year "in today's dollars" over all asset classes for each of the next ten years (F2008 Capital Plan, 2006 STSR, pp. 68-69). This amount was the mid-point of a \$72 million to \$102 million range predicted by the SIM. The Commission approved Sustaining Capital portfolio amounts of \$87.8 million for F2008 and \$88.5 million for F2009 (F2008 TSCP Decision, p. 83).

The most recent Capital Plan approved by the Commission was the F2009 Capital Plan application, which was submitted by BCTC in December 2007. The SIM was described in the body of the F2009 Capital Plan application, and appeared to be a more prominent tool in the development of the Sustaining Capital portfolio. The output of the SIM had not changed from the previous application,

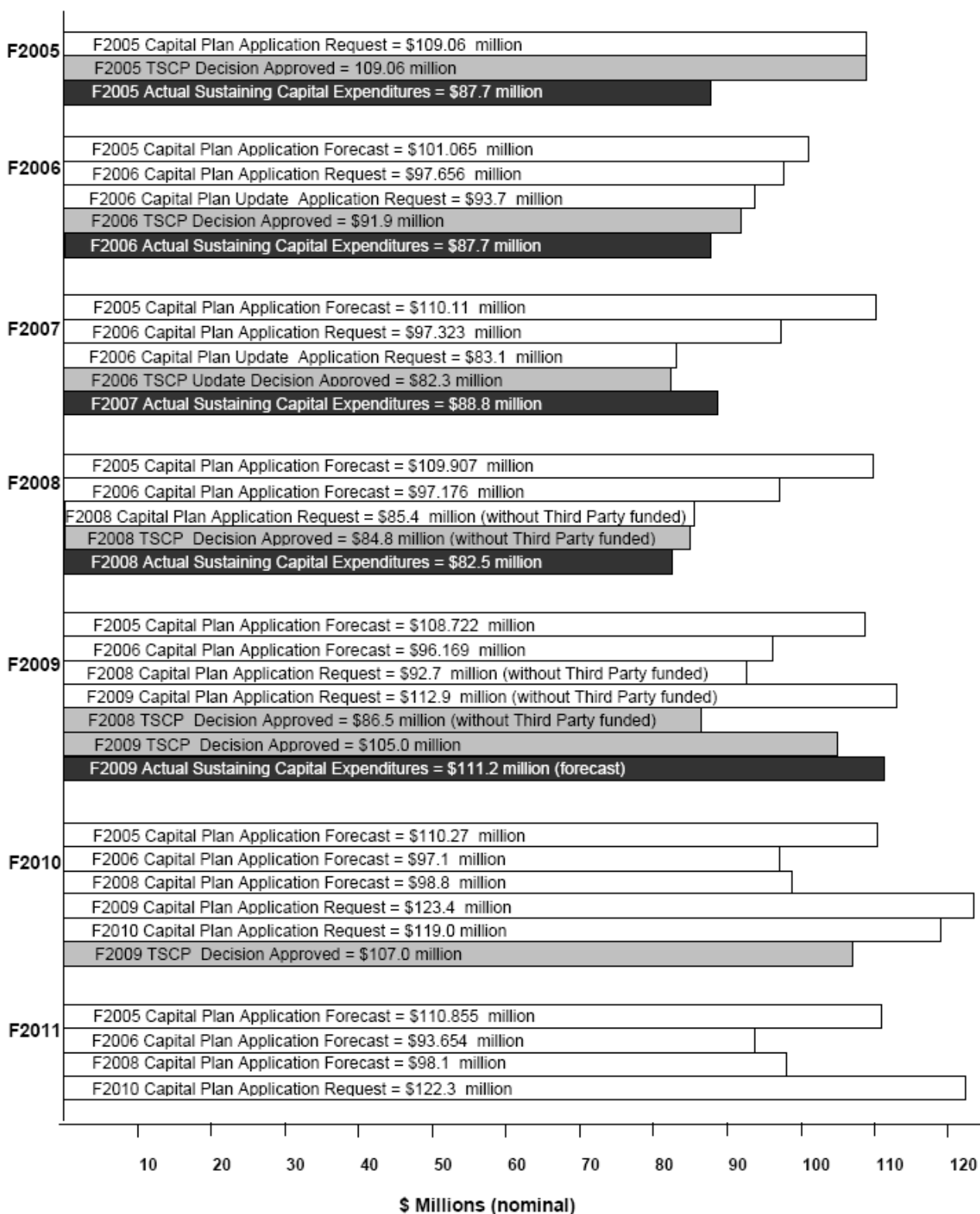
so the predicted average annual capital expenditure required to replace end-of-life assets was stated by BCTC to be \$87 million “in 2006 dollars” (F2009 Capital Plan, p. 90).

As part of its F2009 Capital Plan application, BCTC prepared a report in response to Item 10 of Appendix A of Order G-139-06, which required BCTC to report on the relationship amongst infrastructure spending, reliability metrics and customer impacts, and to consider a number of other issues. This report was also a response to Directive 13 from the F2008 TSCP Decision, which requested the status of BCTC’s progress in establishing correlations among asset class health index values, failure rates, suspected remaining lifetimes, and impacts on reliability (Exhibit B-1, Appendix H, p. 1). BCTC stated it still lacked evidence to directly correlate short-term trends of reliability to capital expenditures, and that it was difficult to demonstrate a correlation between Sustaining Capital expenditures and annual or even short-term improvements and/or deterioration in system reliability.

In the F2009 Capital Plan application, BCTC claimed increases in the amount of the Sustaining Capital portfolio were necessary to maintain the transmission system to acceptable levels of reliability, safety, and environmental performance, and requested approval for expenditures of \$112.9 million in F2009 and \$123.4 million in F2010, the increases being based partly on increased forecast rates of inflation (F2009 Capital Plan, pp. 89-90, 182). The Commission rejected the argument of increased inflation rates and approved Sustaining Capital portfolio amounts of \$105.0 million in F2009 and \$107.0 million in F2010 (F2009 TSCP Decision, p. 40).

A comparison of the requested, approved and actual amounts of Sustaining Capital expenditures since F2005 is provided in the table below.

COMPARISON OF REQUESTED, FORECAST, APPROVED AND ACTUAL SUSTAINING CAPITAL EXPENDITURES F2005 TO F2011



5.2 Issues Pertaining to the Sustaining Capital Portfolio

As discussed in the previous Section, past applications and associated Decisions have addressed the attempts to find relationships between the amount of the Sustaining Capital and the Asset Health Index (“AHI”) and system performance metrics, as well as the SIM and its development,. These issues are relevant to this Application and are addressed in this Section of the Decision.

5.2.1 Asset Health Index

The 2004 Asset Baseline study established a baseline measure of asset condition and proposed a framework of condition-based AHI values for 33 classes of transmission system assets (Exhibit B-1, Section 3, p. 50).

BCTC proposed, and the Commission endorsed, an update to the AHI to be undertaken every three years (F2006 TSCP Decision, pp. 21, 26). BCTC proposed to use the AHIs as inputs to planning and decision-making for present and future capital replacement and expensed maintenance requirements, however as noted by the Commission:

“The Commission Panel is concerned that an overly aggressively approach to equipment replacement that is based on asset health indicators rather than experienced defects or failures may be prone to premature capital investment if the health indicators are too conservative. Thus, the Commission Panel is reassured by BCTC's use of the condition rating as an indicator for further investigation rather than as a basis upon which to proceed to immediate equipment replacement” (F2006 TSCP Decision, p. 26).

Although the original intent was to update the AHI every three years, there were some gaps in the data for certain asset types, so BCTC states it and BC Hydro agreed that it would not be cost-effective to perform a full Asset Condition Assessment in 2007 and that a complete audit on transmission asset condition should not be required every three years. BCTC notes this was accepted by the Commission in Letter L-92-07, dated November 15, 2007. BCTC refers the Commission to Sections 3.6.2 and 3.6.3 of this Application that summarize the various initiatives

BCTC has undertaken to establish an AHI for all assets and to improve AHI management (BCTC Reply, p. 14).

BCTC considers asset health one of the key drivers for the Sustaining Capital portfolio. BCTC states asset health is a leading indicator of asset performance and reliability (Exhibit B-1, Section 4, p. 49). Disconcertingly, BCTC states that the condition of the transmission system assets is good but is deteriorating at an increasing rate (Exhibit B-1, Section 3, p. 50). In support of this claim, BCTC pointed to an increase in Corrective Work for 22 classes of equipment (Exhibit B-6, BCUC 1.44.1). However, equipment-related sustained forced outages in 2007, the last calendar year for which data is available, are lower, in both frequency and duration, than the Canadian Electricity Association (“CEA”) five-year average for all voltage classes of transmission cables, transformers and circuit breakers, with the sole exception of 230 kV circuit breakers (Exhibit B-1, Section 3, Table 3-2, p. 79). The five-year unavailability percentages provided in Table 3-2 do not indicate any obvious trend of degrading performance for any of the voltage classes of transmission cable, transformer and circuit breaker assets.

BCOAPO urges the Commission to direct BCTC to provide supporting evidence on asset health and on the changes in the condition/health of the assets over time (BCOAPO Argument, p. 5).

In Reply, BCTC notes it is currently updating the AHI database and supporting processes, which will enable BCTC to complete the next AHI Report in F2011. As a result, BCTC submits there is no need for a further directive from the Commission on this issue (BCTC Reply, p. 14).

Commission Determination

The Commission Panel agrees that asset health is a leading indicator of asset performance and reliability. The Corrective Work data supplied by BCTC may be an indicator of an increasing rate of deterioration of transmission assets, but that trend is not supported by the outages caused by defective equipment as reported to and by the CEA. The Commission Panel finds that the BCTC transmission system assets appear to perform well compared with those of the Canadian

comparison utilities reporting to the Canadian Electricity Association, and there is no clear evidence to indicate an increasing rate of deterioration of the BCTC transmission assets. The Commission Panel places much weight on any evidence that shows degrading asset health because of its ability to be a leading indicator of reliability, and encourages BCTC to advance any information regarding trends in asset health.

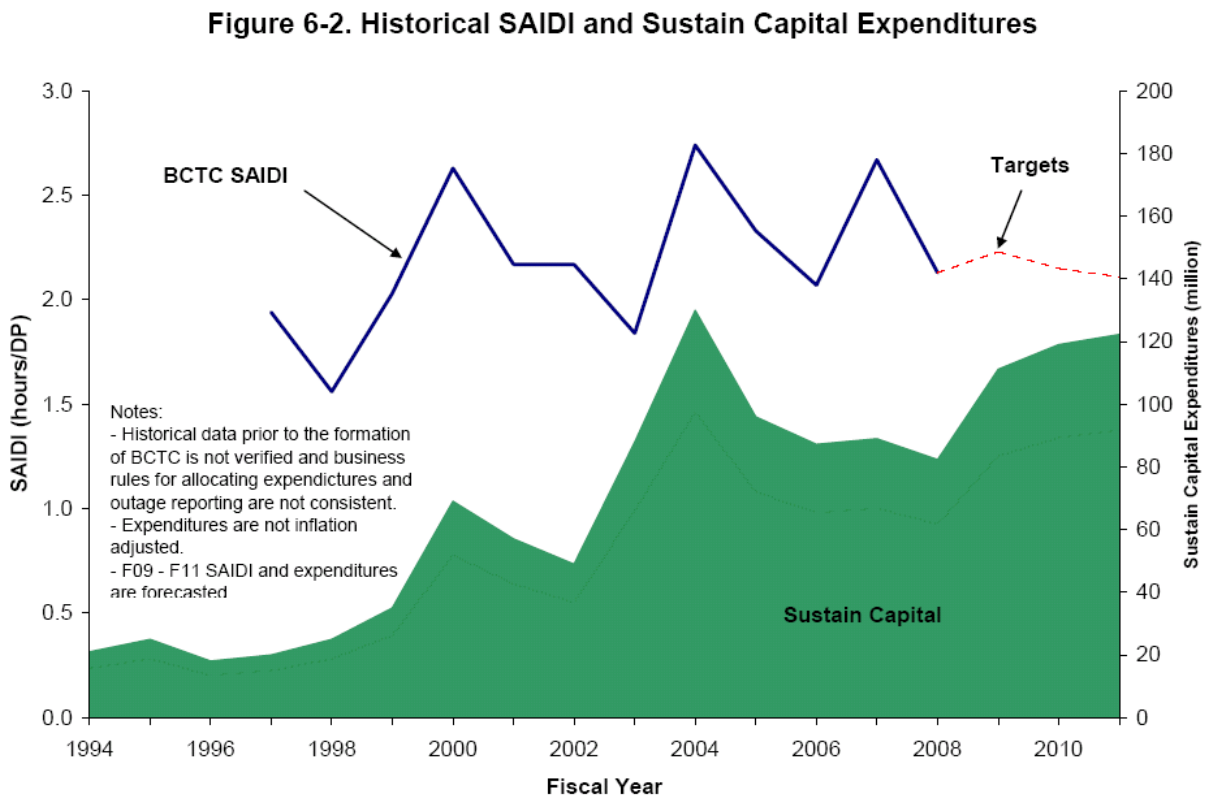
Notwithstanding the delay in the preparation of the next AHI Report as accepted by the Commission in Letter L-92-07, the Commission Panel is concerned that not enough emphasis is being placed on the use of asset health as a leading indicator. The Commission Panel expects the asset health indices will be incorporated as an input into the SIM as discussed later in this Section. As a leading indicator, the AHI may provide a more useful metric by which to determine whether greater or lesser amounts of Sustaining Capital are required. The Commission Panel notes that the next AHI Report is expected in F2011, but it is unclear whether the timing will coincide with another Capital Plan application. **The Commission Panel directs BCTC to submit to the Commission for review the Asset Health Index report as soon as it is completed, and no later than March 31, 2011. If the Asset Health Index report is not included as part of the next Capital Plan application, the Commission Panel directs BCTC to provide in the next Capital Plan application a summary assessment of the general trend of asset health, and a detailed explanation of how this leading indicator is being used as an input to the Sustainment Investment Model.**

5.2.2 System Performance Metrics

BCTC states it continues to recognize the value that a direct correlation between transmission system reliability and Sustaining Capital investments would provide to BCTC, the Commission, and other stakeholders. BCTC claims that the correlation of reliability and the need to replace assets is evidenced by increasing equipment failures and corrective activity on an asset by asset basis, and although equipment failures may or may not directly impact the System Average Interruption Duration Index (“SAIDI”), they will ultimately impact transmission system integrity (Exhibit B-1, Section 6, p. 66). However, BCTC also advised that it has not been reporting on the effectiveness of reliability-driven expenditures in the Sustaining Capital portfolio because it is currently unable to do

so and does not expect to be able to do so for a significant period of time, if ever (Exhibit B-6, BCUC 1.151.1).

In response to Commission Directive 11 from the F2008 TSCP Decision, BCTC continues to provide in Figure 6-2 of the Application, reproduced below, a graphical comparison of the ongoing trends in SAIDI and Sustaining Capital expenditures (Exhibit B-1, Section 6, p. 67). BCTC advises that the figure is provided for information purposes only as a response to a directive from the Commission, and that it does not rely in any way on this graph for planning purposes.



(Source: Exhibit B-1, Section 6, Figure 6-2, p. 67)

Commission Determination

The Commission Panel notes with some concern BCTC's assertion that it may not ever be able to demonstrate the effectiveness of reliability driven expenditures in the Sustaining Capital portfolio. In the absence of some measurable performance metric, it is difficult to assess whether the Sustaining Capital expenditures are of an appropriate amount.

The Commission Panel accepts that the reliability metrics are lagging indicators and may be more useful in identifying when Sustaining Capital expenditures are not enough rather than too much. The Commission Panel notes with some comfort that the reliability metrics are not degrading, which would suggest that Sustaining Capital expenditures have been high enough and have not impacted reliability. In the absence of being able to demonstrate the effectiveness of reliability driven expenditures in the Sustaining Capital portfolio through the observation of impacts on reliability metrics, the Commission Panel encourages BCTC to re-double its efforts to establish a measurable relationship between a leading indicator, such as asset health, and the amount of Sustaining Capital expenditures.

The Commission Panel finds the information supplied in Figure 6.2 to be a useful backward check of the trend in Sustaining Capital expenditures. The Commission Panel observes that Sustaining Capital expenditures are rising above inflation, indicating increasing asset replacements and/or real dollar escalation in replacement value. At the same time, the Commission Panel notes with concern that Figure 6.2 from the Application indicates that the SAIDI target will decrease in F2010 and F2011.

5.2.3 The Sustainment Investment Model – Phase One

BCTC has developed the SIM to help plan long-term sustaining capital investment strategies for Sustaining Capital. The Sustaining Capital portfolio is intended to maintain the transmission system to acceptable levels of reliability, safety, and environmental performance and to address other extreme or unusual risks such as seismic, life-safety, weather, fire, and security. In the F2005 TSCP

Decision, the Commission suggested that BCTC should re-evaluate key drivers in order to yield an ongoing lower level of Sustaining Capital expenditures (F2005 TSCP Decision, p. 50). In response, BCTC developed the SIM. The SIM provides a forecast of the long-term Sustaining Capital expenditures required to replace assets reaching the end of their estimated useful life. The SIM does not take into consideration expenditures that may be required to mitigate newly identified risks, such as seismic, life-safety, weather, fire, security, environmental or safety. In addition, it is not possible at this time to model failure events which have a significant degree of unpredictability (i.e., natural events with large periodic recurrences such as earthquakes or major storms). Therefore, investments to mitigate for these types of risks are not included in the expenditures predicted by the SIM (Exhibit B-1, Section 3, p. 52).

Phase One in the development of the SIM considered a number of factors including catastrophic failure rate, repair costs, and risk-based obsolescence. End-of-life estimates were developed from system data, industry studies, manufacturer provided data and expert judgment. These end-of-life estimates were used in combination with the age distribution of each asset class to predict retirements in each of the next ten decades. Replacement costs were initially calculated based on the historical purchase price of the assets and then inflated to current dollars using an average historical inflation of 3.5 percent. The required investment in each decade was then summed across all asset classes to derive the forecasted investment level for the Sustaining Capital portfolio. BCTC tested the SIM by applying it to 10 years of historical data on the asset base. The SIM predicted 5.9 percent of the asset base would reach end of life from 1995 to 2004 as compared to actual records showing that 6.1 percent of assets were replaced over the same time period. BCTC submits “that the results of the model are within acceptable forecast limits and validates the model” (Exhibit B-1, Section 3, p. 53).

BCTC states the average annual Sustaining Capital expenditure for the overall portfolio forecast provided by the SIM is \$87 million in “F2006 dollars” to replace assets that are at end of life, the midpoint of a range of \$72 and \$102 million (Exhibit B-1, Section 3, p. 53). BCTC indicated the current accuracy of the overall Phase One expenditure forecast is approximately ± 17 percent and it is expected this accuracy will improve as Phase Two of the SIM development is completed for more

asset classes (Exhibit B-6, BCUC 1.46.2). The expenditure investment range is based on a moving ten-year average. The model forecasts that 8.2 percent of transmission infrastructure assets are required to be retired over the period F2005 to F2014 (Exhibit B-6, BCUC 1.46.3). BCTC states that levels of investment need to be higher in future decades to maintain the current level of reliability. The projected investment curve has a peaked shape because assets added to the system during the high-growth period of the 1960's and 1970's need to be replaced as they reach end-of-life (Exhibit B-1, Section 3, pp. 53-54).

In the F2009 Capital Plan proceeding, BCTC claimed that if Sustaining Capital was capped per Directive 32 of the 2008 TSCP Decision, only 7.3 percent of forecasted retired assets would be addressed in the next ten years, suggesting that approximately 0.8 percent of forecasted asset retirements would have to be deferred to future years. BCTC stated this deferral will have negative impacts on reliability, future Sustaining Capital expenditures, and Emergency Capital expenditures. BCTC also noted that the expenditures forecast by the SIM do not include capital expenditures for risk mitigation, Third Party projects or enhanced performance (F2009 TSCP Decision, p. 80).

Commission Determination

In the absence of asset condition data to trend the state of the asset base, and given the system performance metrics are lagging indicators of the effect of system condition on performance, there are few choices for a tool based on leading indicators to help inform the appropriate level of the Sustaining Capital portfolio. The SIM is one such tool that has received regulatory scrutiny and has provided results largely consistent with current experience, therefore the Commission Panel has few options other than to rely on this tool to suggest an appropriate level of Sustaining Capital expenditures. The Commission Panel believes the SIM will be a fundamental tool in the future for estimating the appropriate long-term trend amount of Sustaining Capital investment required to replace existing transmission assets. The usefulness of the SIM will be enhanced by continued development, including increased clarity and understanding of the inputs and outputs.

The Commission Panel notes that the investment amount first suggested by the SIM has been variously stated by BCTC to be approximately \$87 million in “today’s dollars” in a report dated December 21, 2006 (F2008 Capital Plan, 2006 STSR, p. 69), “in 2006 dollars” (F2009 Capital Plan, p. 90), and “in F2006 dollars” (Exhibit B-1, Section 3, p. 53). The convention regarding the use of fiscal year designation to reference particular calendar year expenditures has been to interpret F2007 dollars to relate to the period between April 1, 2006 and March 31, 2007, that is, the use of the fiscal year designation precedes the calendar year by nine months. In order to apply an appropriate amount of inflation escalation to the investment amount suggested by the SIM, it is important to understand the correct reference year for the initial amount. The Commission Panel accepts that the investment amount first developed from the Sustainment Investment Model to be \$87.0 million in calendar 2006 dollars, and conversion to an F2007 expenditure amount requires the application of one quarter (three months) of the 2006 inflation rate of 2.0 percent to account for the period between January 1, 2006 to March 31, 2006, yielding a result of \$87.4 million. This amount may be subject to change based on further understanding and refinement of the Sustainment Investment Model, and specifically the use of historical inflation rates to escalate the original cost of the asset base. BCTC is invited to submit additional justification for a different base year investment calculation if it believes this interpretation to be in error. The Commission Panel accepts the amounts suggested by the SIM do not include amounts for emergency expenditures, Third Party funded projects, Third Party requested projects, risk mitigation projects or enhanced performance projects.

The Commission Panel determines that the amounts of Sustaining Capital investment exclusive of amounts for emergency expenditures, Third Party funded projects, Third Party requested projects, risk mitigation projects and enhanced performance projects, for the years following F2007 are defined by extrapolating from the base year amount suggested by the Sustainment Investment Model and applying the accepted values for inflation, as set out below:

Base Sustaining Capital Investment

Fiscal Year	F2007	F2008	F2009	F2010	F2011
Sustainment Investment Model Amount (nominal millions)	\$87.4	\$89.3	\$91.1	\$93.1	\$95.0
Inflation (percent)		2.1	2.1	2.1	2.1

The Commission Panel notes the inputs to the Phase One SIM are largely assumed or fixed data, such as life expectancy, failure rates, and replacement cost. “Feedback” elements, such as asset condition and system performance are described as future enhancements to the SIM. Given the Commission’s desire to rely on outputs of the SIM in assessing the appropriate level of Sustaining Capital expenditures, the Commission Panel expects BCTC will place a high priority on incorporating and demonstrating such feedbacks in the SIM. Specifically, the SIM forecast should be sensitive to recent asset replacements, including replacements of assets in advance of the end of their useful life as a result of standards-driven projects, risk-driven projects, Third Party requested projects or any other capital programs.

The Commission Panel determines BCTC is to continue to use the Sustainment Investment Model to suggest the expenditure level for the base Sustaining Capital portfolio for asset maintenance, and directs BCTC to provide separate and additional justification for exceptional projects within the Sustaining Capital portfolio driven by risk mitigation objectives, performance enhancement objectives, or Third Party requests. BCTC’s prioritization model should be used to identify and prioritize projects within the forecast funding envelope.

5.2.4 The Sustainment Investment Model – Phase Two

BCTC states that Phase Two of the SIM development is ongoing. BCTC is currently using historical data to calculate the end-of-life retirements. According to BCTC, these historical end-of-life calculations for most asset classes are found to be very similar to the end-of-life retirements predicted in Phase One, again validating the model’s consistency. Phase Two also involves calculating the end-of-life of assets within each asset class, using the historical failure data,

updating the estimates of replacement costs by including recent replacement cost data for asset type, voltage and manufacturer. The outcome of Phase Two will be a more accurate SIM. Further improvement is expected by including resolution in one-year increments. This finer resolution will allow for modeling of short term expenditures (Exhibit B-1, Section 3, p. 54).

BCTC states the asset classes that have been completed in Phase Two are primarily the station assets, which represent a large portion of the transmission assets reaching end-of-life in the near future, and that these assets typically have shorter life spans than transmission line assets (Exhibit B-1, Section 3, p. 55). BCTC also states it does not expect the SIM forecast for the first ten years to change significantly. In the longer term, BCTC expects improvements in data capture will result in better asset-related estimates.

BCTC states that future planned enhancements of the SIM consist of:

- “(a) Ongoing validation and calibration work to refine the model’s accuracy and consistency as more data becomes available;
- (b) Assets with longer term impact profiles (longer potential service life) than those already considered will also be modeled at a similar level of detail;
- (c) Risks will be included in the model to enhance the value of the Sustainment Investment Model;
- (d) Inclusion of asset health into the model to refine forecasts and further enhance the value of the Sustainment Investment Model.” (Exhibit B-1, Section 3, p. 57)

BCOAPO requests that the Commission direct BCTC to continue work to refine the SIM (BCOAPO Argument, p. 5).

Commission Determination

The Commission Panel supports BCTC’s ongoing improvement and validation of the SIM. **Further, the Commission Panel directs BCTC to hold a workshop with Commission Staff and stakeholders prior to the next and each future Capital Plan application that reviews the current methodology,**

inputs, outputs, and validation of the Sustainment Investment Model. BCTC's next and future Capital Plan applications should include a detailed report on the latest methodology, inputs, outputs and validation of the Sustainment Investment Model together with input received and refinements undertaken as a result of the pre-application workshops. In particular, the Commission Panel is interested in the validation of historical inflation rates used to escalate the original costs of the asset base.

5.3 Sustaining Capital Programs and Requested Sustaining Capital Expenditures

As stated previously, BCTC seeks a determination from the Commission that Sustaining Capital expenditures of approximately \$119.0 million for F2010 and \$122.3 million for F2011 are in the public interest. According to BCTC, the proposed additional expenditure of \$12 million above the previously Commission-approved funding level for F2010 is primarily due to deferred projects from F2009 to F2010, totaling approximately \$5 million; an increase in the funding of approximately \$2.3 million for acceleration of the Circuit Breaker replacement program; and an additional amount of approximately \$5 million to address new high-priority projects that were identified during F2009 and are proposed for initiation in F2010 and F2011 (BCTC Argument, p. 31). BCTC stated although the requested expenditures are greater than the amounts approved by the Commission in the F2009 TSCP Decision, the F2010 proposed expenditures are not greater than in previous plans (Exhibit B-6, CEC 1.12.1). BCTC suggests the proposed F2010 Sustaining Capital expenditures are in fact \$4.4 million less than the F2010 plan set out in BCTC's F2009 Capital Plan. BCTC indicates "the requested expenditures [are] necessary to maintain the transmission system to acceptable levels of reliability, safety, and environmental performance, and is consistent with BCTC's Sustainment Investment Model" (Exhibit B-1, Section 6, p. 2). BCTC submits the Sustaining Capital portfolio put forward for F2010 and F2011 assumes more risk of equipment and risk-related events than the proposed funding levels in the F2009 Capital Plan (BCTC Argument, p. 31).

The Sustaining Capital portfolio is comprised of 11 programs grouped into either Stations programs or Transmission Line programs, and includes capital for sustaining existing assets, risk mitigation programs, and Third Party requested and/or funded projects. According to Table 6-2 of the

Application, BCTC also includes \$0.7 million in F2010 for fully committed Emergency Capital expenditures for F2010 and F2011 (Exhibit B-1, Section 6, p. 11). Fully committed Emergency Capital expenditures include circuit breaker replacements at Rosedale, Cheekeye, Keogh, and Minette substations, and at Kootenay Canal.

Stations programs are categorized into Auxiliary Equipment, Circuit Breakers, Other Power Equipment, Stations Risk Mitigation, Protection and Control, and Telecommunications programs. Transmission Line programs are categorized into Cable Sustainment, Overhead Lines Life Extension, Overhead Lines Performance Improvements, Overhead Lines Risk Mitigation, and Right-of-Way Sustainment programs (Exhibit B-1, Section 6, pp. 7-8). Most of the projects in these programs were described in BCTC's F2009 Capital Plan application and are ongoing initiatives. Section 6.5 of the Application describes new projects in these programs and variances in expenditures relative to the F2009 Capital Plan.

BCTC states it “uses a number of tools and methods to support data collection, synthesis, and analysis to enable efficient and effective Sustaining Capital planning” (BCTC Argument, p. 25). In preparing the Sustaining Capital portfolio, BCTC indicates it used a bottom-up budgeting approach based on specific asset issues and risks that must be addressed. This bottom-up approach was then aligned with a top-down assessment of longer-term trends in asset health and end-of-life asset expectations. BCTC uses the prioritization model to determine when to replace or refurbish the assets in a manageable manner and to minimize negative effects on the transmission system (Exhibit B-1, Section 6, p. 2).

5.3.1 Stations Programs

The Stations Sustaining Capital expenditures proposed for F2010 and F2011 are over 20 percent greater than the F2009 forecast amount. BCTC states it is anticipating expenditures in the order of \$74 million and \$76 million for Stations-related projects for F2010 and F2011, respectively, as summarized in the table below (Exhibit B-1, Section 6, Table 6-2, p. 11):

Stations Programs Expenditures Including Third Party funded and Emergency Expenditures (Millions of Dollars)	F2010 (\$F2010)	F2011 (\$F2011)
Auxiliary Equipment	7.4	7.3
Circuit Breakers	28.4	38.0
Other Power Equipment	8.9	6.4
Protection and Control	16.7	12.7
Risk Mitigation	7.1	7.4
Telecommunications	5.4	4.4
Stations Programs Total	74.0	76.1

The amounts shown above include components for Emergency Capital projects and Third Party funded projects. With those components removed from the amounts above, the anticipated expenditures are in the order of \$73 million and \$76 million as shown in the table below (Exhibit B-6, BCUC 1.111.2):

Stations Programs Expenditures Excluding Third Party funded and Emergency Expenditures (Millions of Dollars)	F2010 (\$F2010)	F2011 (\$F2011)
Auxiliary Equipment	7.4	7.3
Circuit Breakers	27.7	38.0
Other Power Equipment	8.9	6.4
Protection and Control	16.7	12.7
Risk Mitigation	7.1	7.4
Telecommunications	5.4	4.4
Stations Programs Total	73.3	76.1

In the Application, BCTC provides a summary of the plan-over-plan changes in each of the programs for both F2010 and F2011, expressing the changes in constant F2010 dollars for both years, as summarized in the table below (Exhibit B-1, Section 6, pp. 29-46).

Variance in Proposed F2010 amounts from the F2009 Capital Plan (Millions of Dollars)	F2010 (\$F2010)	Variance from F2009 Capital Plan Application	F2011 (\$F2010)	Variance from F2010 (\$F2010)
Auxiliary Equipment	7.4	0.4	7.1	(0.3)
Circuit Breakers	28.4	3.5	37.2	8.8
Other Power Equipment	8.9	(5.8)	6.2	(2.7)
Protection and Control	16.7	5.5	12.4	(4.3)
Risk Mitigation	7.1	(1.2)	7.0	(0.1)
Telecommunications	5.4	0.1	4.3	(1.1)

For the Circuit Breaker program, BCTC states the amounts shown in the table above include a component of Emergency Capital expenditures to replace circuit breakers at Kootenay Canal and Barlow that pose an immediate safety risk (Exhibit B-1, Section 6, p. 32).

BCTC states the Stations Risk Mitigation program addresses safety, seismic, environment, severe weather, and security risk, and that each risk is evaluated based on business impact and probability of occurrence to determine the appropriate magnitude and duration of investment that is required to mitigate the risk to acceptable levels (Exhibit B-1, Section 6, p. 39).

For the Protection and Control program, BCTC states the increases in the anticipated F2010 and F2011 expenditures are partly attributable to deferral of some project from F2009 to F2010, such as the Programmable Logic Controller replacement, and partly attributable to increased activities in Third Party requested projects (BCTC Argument, pp. 27-28).

BCOAPO accepts BCTC's Stations programs but wishes to underscore the need for BCTC and the Commission to remain vigilant when it comes to testing the need for proposed spending on Sustaining Capital in future plans (BCOAPO argument p. 5).

The CEC in general supports BCTC's Stations programs, and specifically requests the Commission to "make it clear to BCTC" that certain projects which may help meet the government's objectives for self-sufficiency, such as the Voltage and VAR Optimization Project, should be undertaken and not deferred (CEC Argument, p. 7).

Commission Determination

The Commission Panel notes the Emergency Capital expenditures to replace circuit breakers at Kootenay Canal and Barlow are directed, in a planned fashion, to equipment that is still in service. The Commission Panel has difficulty understanding why the breaker replacement is an Emergency Capital expenditure, yet the Programmable Logic Controller Replacement project is not. The treatment of the application for approval of Emergency Capital expenditures embedded in the Stations programs is addressed in Section 5.3.3 of this Decision.

The Commission Panel determines that the projects addressed by the Stations Risk Mitigation program are not driven by the same considerations that apply to the output of the Sustainment Investment Model, and therefore, the proposed expenditures of \$7.1 million and \$7.4 million in F2010 and F2011 respectively on the Stations Risk Mitigation program category fall outside the suggested investment level provided by the Sustainment Investment Model. These amounts will be addressed in the approval of the overall Sustaining Capital portfolio in Section 5.3.5 of this Decision.

5.3.2 Lines Programs

The Lines Sustaining Capital expenditures proposed for F2010 and F2011 are lower than the F2009 forecast amount. BCTC states it is anticipating expenditures in the order of \$45 million and \$46 million for Lines-related projects for F2010 and F2011, respectively, as summarized in the table below (Exhibit B-1, Section 6, Table 6-2, p. 11):

Lines Programs Expenditures Including Third Party funded and Emergency Expenditures (Millions of Dollars)	F2010 (\$F2010)	F2011 (\$F2011)
Cable Sustainment	5.3	4.9
Overhead Lines Life Extension	16.0	16.4
Overhead Lines Performance Improvements	4.8	2.1
Overhead Lines Risk Mitigation	8.7	12.6
Right-of-Way Sustainment	10.3	10.1
Lines Programs Total	45.0	46.1

The amounts shown above include components for Emergency Capital projects and Third Party funded projects. With those components removed from the amounts above, the anticipated F2010 expenditures are in the order of \$43 million as shown in the table below (Exhibit B-6, BCUC 1.111.2):

Line Programs Expenditures Excluding Third Party funded and Emergency Expenditures (Millions of Dollars)	F2010 (\$F2010)	F2011 (\$F2011)
Cable Sustainment	5.3	4.9
Overhead Lines Life Extension	16.0	16.4
Overhead Lines Performance Improvements	4.8	2.1
Overhead Lines Risk Mitigation	8.7	12.6
Right-of-Way Sustainment	8.1	10.1
Line Programs Total	42.9	46.1

BCTC states there are no material variances between the F2009 Capital Plan and F2010 Capital Plan anticipated expenditure levels, and that in the F2010 Capital Plan, none of the projects within the Lines programs have an expenditure variance of more than \$1 million as summarized in the table below (Exhibit B-1, Section 6, pp. 29-63; BCTC Argument, p. 26).

Variance in Proposed F2010 amounts from the F2009 Capital Plan (Millions of Dollars)	F2010 (\$F2010)	Variance from F2009 Capital Plan Application	F2011 (\$F2010)	Variance from F2010 (\$F2010)
Cable Sustainment	5.3	(0.2)	4.8	(0.5)
Overhead Lines Life Extension	16.0	(0.9)	16.0	0.0
Overhead Lines Performance Improvements	4.8	(0.3)	2.1	(2.7)
Overhead Lines Risk Mitigation	8.7	(0.7)	12.4	3.7
Right-of-Way Sustainment	10.3	0.4	9.9	(0.4)

For the Overhead Lines Performance Improvements program, BCTC describes these projects as addressing deficiencies in transmission lines from the original design and construction, for example arising from localized climate issues which were not identified when the line was built, and require work to bring that section of the line back to the reliability level designed into the line as a whole

(Exhibit B-1, Section 6, p. 57). The only project identified in the program is the installation of arcing horns (Exhibit B-1, Section 6, p. 59).

BCTC states the Overhead Lines Risk Mitigation program addresses issues and potential events which could put the system at risk of a prolonged outage or pose safety concerns, such as pole-top fires, end-of-life overhead conductors, deficient transmission line-to-ground clearances, civil protective work to ensure the long-term stability of transmission structures, and potential low-probability high-consequence events, for example, seismic events and wind and ice storms. (Exhibit B-1, Section 6, p. 59)

For the Right-of-Way Sustainment program, there are expenditures identified as “Third Party” in both F2010 and F2011 (Exhibit B-1, Section 6, Table 6-18, p. 63).

BCOAPO has no objections to BCTC’s Sustaining Capital Lines programs (BCOAPO argument p. 4), and the CEC submits that the evidence is sufficient justification to approve the requested funding for the Lines programs (CEC Argument, p. 7).

Commission Determination

The Commission Panel notes the F2011 Right-of-Way Sustainment program amounts shown in response to BCUC 1.111.2 do not appear to have been reduced by the amount of Third Party funded expenditures as requested, as identified in Table 6-18 of the Application. The treatment of Third Party projects is addressed in Section 5.3.4 of this Decision.

The Commission Panel determines the projects addressed by the Overhead Lines Performance Improvements program are not driven by the same considerations that apply to the output of the Sustainment Investment Model, and therefore, the proposed expenditures of \$4.8 million and \$2.1 million in F2010 and F2011 respectively on the Overhead Lines Performance Improvements program category fall outside the suggested baseline asset maintenance investment level provided by the Sustainment Investment Model. These amounts will be addressed in the approval

of the overall Sustaining Capital portfolio in Section 5.3.5 of this Decision.

The Commission Panel determines the projects addressed by the Overhead Lines Risk Mitigation program, with the exception of those addressing end-of-life conductors, are not driven by the same considerations that apply to the output of the Sustainment Investment Model, and therefore, the proposed expenditures of \$8.7 million and \$12.6 million in F2010 and F2011 respectively on the Overhead Lines Risk Mitigation program category, with the exception of those addressing end-of-life conductors, fall outside the suggested baseline asset maintenance investment level provided by the Sustainment Investment Model. BCTC does not identify any specific projects in the Lines programs addressing conductor end-of-life, but mentions that certain ongoing activities, such as Copper Conductor Replacement, are included in this program (Exhibit B-1, Section 6, pp. 60-61). These amounts will be addressed in the approval of the overall Sustaining Capital portfolio in Section 5.3.5 of this Decision.

5.3.3 Emergency Capital Expenditures

BCTC requests approval for F2008 and F2009 Emergency Capital expenditures as well as \$0.7 million of F2010 Emergency Capital expenditures (Exhibit B-1, Section 1, p. 9; Section 6, p. 11).

BCTC defines an emergency as an unplanned event that results in a reduction or loss of service or presents an unsafe condition, or additionally it could be the possibility of an imminent loss of resource that creates a high risk of service interruption.

BCTC states:

“In the event of an emergency, BCTC’s first step is to establish a safe condition, and then carry out any repairs necessary to restore service. Where capital expenditures are involved, this process will involve the preparation of a plan, including cost estimates. Most emergency capital expenditures will not require Certificates of Public Convenience and Necessity (CPCN) and, therefore, absent other considerations, pre-approval of capital expenditures by the Commission is not required. In these circumstances, concurrent with the planning process, BCTC will request

funding from BC Hydro under Article 19.9.” (Exhibit B-1, Section 1, p. 9)

BCTC proposes in this Application to notify the Commission of an emergency and the intended response where it considers it appropriate, and BCTC will request approval of emergency capital expenditures in an application subsequent to the emergency to satisfy the requirements of Article 19.9 (Exhibit B-1, Section 1, p. 10).

BCTC states the \$0.7 million of Emergency Capital expenditures committed to for F2010 are needed to replace circuit breakers at Kootenay Canal and Barlow that pose an immediate life safety risk (Exhibit B-1, Section 6, p. 32).

In response to an Information Request from the CEC regarding BCTC’s ability to anticipate the frequency and or magnitude of Emergency Capital expenditures, BCTC replied that because it cannot anticipate the frequency or magnitude of future Emergency Capital expenditures, it does not include provisions for unidentified Emergency Capital expenditures in its Capital Plan (Exhibit B-6, CEC 1.6.1). BCTC went on to say the regulatory proceeding associated with the F2008 Capital Plan examined the issue of forecasting emergency expenditures and quoted the following from the F2008 TSCP Decision:

“The Commission Panel agrees that Emergency Capital Expenditures should not be forecast in capital portfolios and should continue to be the subject of requests for approval of expenditures subsequent to the completion of repairs.” (F2008 TSCP Decision, Order G-69-07, p. 19)

Commission Determination

The Commission Panel notes that in past Capital Plan Decisions, BCTC has received specific direction as to forecasting Emergency Capital expenditures and including these expenditures in the plan, but there has been limited direction regarding the disposition of such expenditures. **The Commission Panel rejects the request for approval of F2008 and F2009 Emergency Capital expenditures, and directs BCTC to use the following procedure for approval, recovery and**

reporting of Emergency Capital expenditures:

- **Seek approval for Emergency Capital expenditures by separate application to the Commission following the end of the fiscal year, including a detailed description or report to support the incurred expenditures.**
- **If the Emergency Capital expenditures are subsequently approved by the Commission, seek recovery of expenditures in the next Revenue Requirements application.**
- **Continue to report approved Emergency Capital expenditures as directed in previous Decisions.**

Consistent with the determination above, the Commission Panel rejects the request for approval of the \$0.7 million of committed F2010 Emergency Capital expenditures. However, the Commission Panel also notes the committed F2010 Emergency Capital expenditures appear to be of a planned nature, similar to previous applications for Emergency Capital expenditures denied by the Commission, and thus more appropriately allocated within other Sustaining Capital programs. This should be addressed by BCTC at such future time as it seeks approval and recovery of the F2010 Emergency Capital expenditures.

5.3.4 Third Party Projects

The Sustaining Capital portfolio includes Third Party requested projects and initiatives (Exhibit B-1, Section 1, p. 5). BCTC lists Third Party requested projects as a key driver of the Sustaining Capital portfolio (Exhibit B-1, Section 4, p. 48) and states that Third Party requested projects are normally funded in whole or in part by the Third Party (Exhibit B-1, Section 4, p. 52). BCTC identifies Third Party requested project expenditures of \$2.575 million and \$1.778 million in F2010 and F2011 respectively in the Stations Protection and Control program, and \$2.191 million and \$2.235 million in F2010 and F2011 respectively in the Lines Right of Way Sustainment program (Exhibit B-1, Section 6, Table 6-1, pp. 9-10). BCTC goes on to show however, that Third Party funded projects account for \$2.189 million in the F2010 Sustaining Capital portfolio and \$2.235 million in the F2011 Sustaining Capital portfolio (Exhibit B-6, BCUC 1.14.1).

BCTC continues to support BC Hydro strategic initiatives, such as Voltage and VAR Optimization. Where such projects require upgrades to the transmission protection and control systems, they are treated as Third Party requested projects (Exhibit B-1, Section 3, p. 60).

Third Party requested line relocations for which BCTC enters into an agreement with the Third Party who wishes to have transmission lines relocated and who will pay for all costs incurred under the project form part of the expenditures in the Lines Right of Way Sustainment program. BCTC states the payments from the Third Party result in an offsetting Contribution in Aid of Construction for the capital expenditure, and that BCTC is not exposed to any of the costs for Third Party funded projects (Exhibit B-1, Section 6, p. 64).

Commission Determination

It is apparent that not all Third Party requested projects are also Third Party funded projects. **The Commission Panel directs BCTC to separately report the status of Third Party funded projects in future Capital Plan applications, but to not include the expenditure amount as part of the past actual, the requested, or the future forecast Sustaining Capital portfolios.** As BCTC states, it is not exposed to any of the costs for Third Party funded projects, therefore such projects should not form part of the Sustaining Capital portfolio expenditures for which approval is sought.

With respect to Third Party requested projects in the Sustaining Capital portfolio for which there is no accompanying Third Party funding, the Commission Panel determines the cost of such projects shall be borne within the amount suggested by the Sustainment Investment Model unless BCTC makes an application with separate justification for alternative treatment. The Commission Panel notes that some Third Party requests may simply involve re-prioritization of Sustaining Capital expenditures. Where the request involves an upgrade to assets to increase reliability above current standards, these expenditures should be identified and justified separately, with inputs to the SIM adjusted accordingly.

5.3.5 Requested and Forecast Sustaining Capital Expenditures

BCTC forecasts required Sustaining Capital expenditures to increase from \$111.2 million in F2009 (including Emergency Capital and Third Party requested initiatives) to \$192.8 million by F2019. In addition to some top-down issues, BCTC notes the following key drivers for these increases:

- (a) A large number of circuit breakers originally installed in the mid-1960's and refurbished in the early 1990's are now reaching end of life conditions at the same time.
- (b) Transmission cable assets installed in the 1960s are now reaching end-of-life condition.
- (c) All existing assets will require programs to address end-of-life condition and programs will also have to be developed to address issues where the full program has yet to be defined, including programs associated with spacer dampers, bridges, access roads, corrosion, and other known risks. The full scope of these projects and the impact they will have on the TSCP in future years is unknown at this time.
- (d) BCTC has identified a number of other risks that threaten the integrity of the transmission system including life-safety, environment, extreme weather, fire, seismic, and security hazards that it believes need to be addressed to enable the transmission system to provide long-term safe, reliable, and secure service. (Exhibit B-1, Section 6, pp. 12-13)

BCTC states:

“Notwithstanding the request for additional funding, as mentioned above, BCTC has closely considered the Commission’s approved funding level and, to attempt to reduce Sustaining Capital expenditures as far as it considers reasonable, BCTC has closely reviewed and reprioritized the overall Sustaining Capital expenditures. As a result of these efforts, some projects have been reduced in scope, some have been cancelled and some have been postponed indefinitely. Therefore, the Sustaining Capital plan put forward for F2010 and F2011 assumes more risk of equipment and risk-related events than the proposed funding levels in last year’s TSCP.” (Exhibit B-1, Section 6, p. 7)

BCTC states that all potential projects that are considered for the Sustaining Capital portfolio are assessed for value and risk, where value and risk are measured relative to cost, providing a cost-weighted score. Projects with both high value and risk cost-weighted scores form part of the

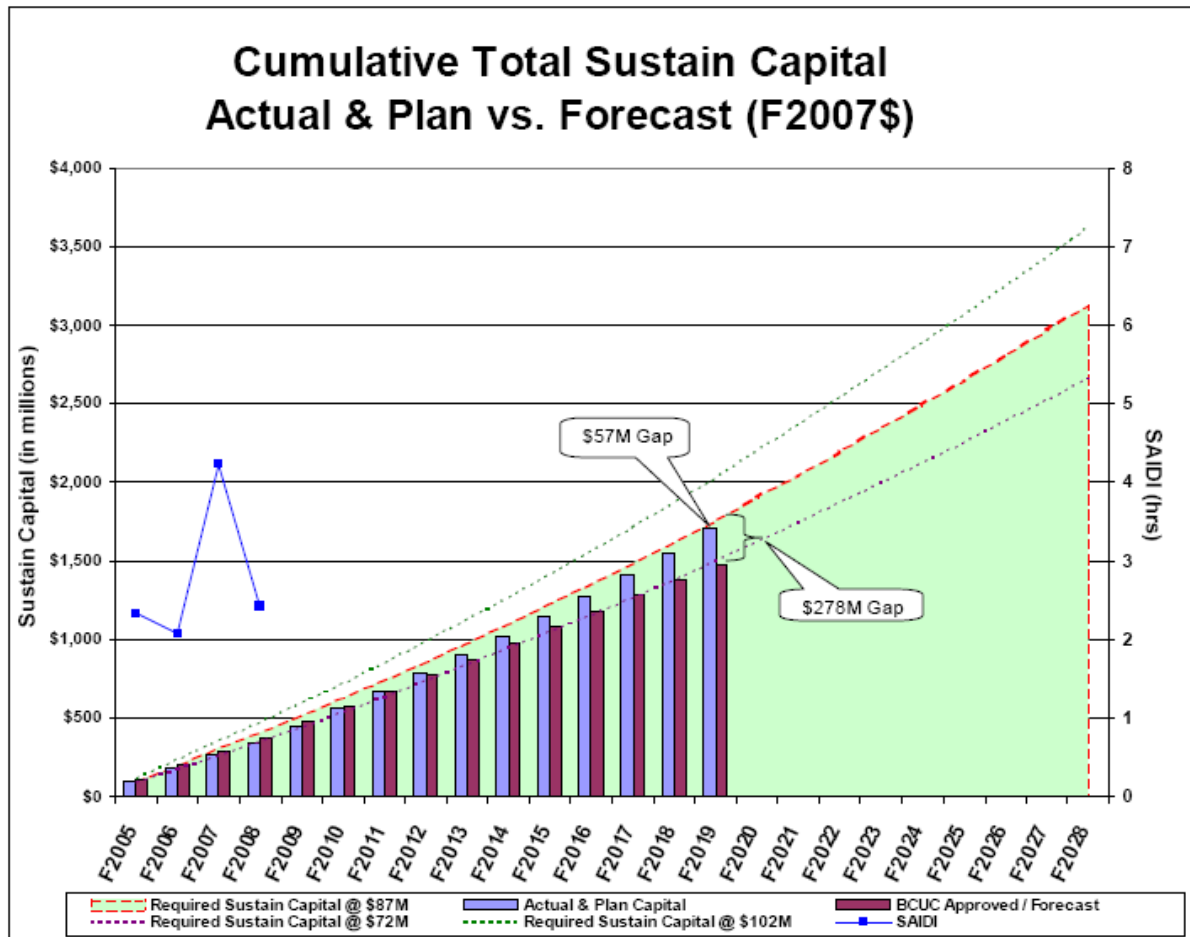
Sustaining Capital portfolio. Projects that score highly on only one of these attributes are considered to be marginal projects, which are then reassessed to determine whether they should be deferred to later periods. BCTC provides a list of those projects that would be considered by BCTC for deferral if the Commission were to reduce the Sustaining Capital expenditures from the requested amounts, due to their lower overall cost weighted scores (Exhibit B-1, Section 6, Table 6-5, p. 21). BCTC states that once the projects have been scored, it prepares a base case portfolio against which to perform optimization scenarios that take into account other constraints, such as capital expenditure levels, availability of resources, scheduled outages, lead time for materials and equipment purchases, strategic alignment with related or dependent projects, alignment with BC Energy Plan objectives, and BCTC strategic objectives. BCTC provides a list of projects partially or fully deferred at the requested Sustaining Capital portfolio expenditures of \$119.0 million and \$122.3 million for F2010 and F2011, respectively, as well as the results of the value and risk assessment scores for these projects. (Exhibit B-1, Section 6, Tables 6-6 and 6-7 pp. 22-27)

In its Application, BCTC predicts that, even ignoring risk-related, Third Party and Emergency Capital expenditures, the cumulative backlog of replacement or refurbishment Sustaining Capital activity could grow to approximately \$370 million by F2018 if the Sustaining Capital expenditures were held to the approved F2009 level, adjusted for inflation over the ten-year period (Exhibit B-1, Section 6, p. 4). As a result, BCTC suggests:

“...it will be facing a backlog of Sustaining Capital work that will result in a significant increase in assets reaching end of life that BCTC will be unable to address efficiently – or, depending on funding levels, may not be able to be addressed at all - resulting in the transmission system operating at a higher level of risk than what BCTC believes is acceptable, and resulting in higher cost. BCTC also believes that the magnitude of risks that materialize due to the deferral of projects may result in the need for more projects than BCTC is able to complete in time to maintain transmission system reliability because of resource availability, availability of long lead time equipment, and the availability of system outages to accommodate asset replacement without impacting service to customers.” (Exhibit B-1, Section 6, p. 5)

BCTC provided further clarification and an updated version of Figure 6-1 from the Application (Exhibit B-6, BCUC 1.112.1). The new Figure 6-1 shown below, provides a comparison, in \$F2007, of

actual and forecasted cumulative Sustaining Capital expenditures against expenditures forecasted by the SIM and against approved actual and forecasted Commission funding levels for the planning period F2005 through F2019, including the cumulative high, mid and low forecast expenditures from the SIM. As shown in the updated figure below, the Commission-approved expenditures for F2010 and F2011 are in line with the mid-point forecast from the SIM. Based on the mid-forecast from the SIM, the cumulative backlog in Sustaining Capital would be \$278 million, not \$370 million, as suggested in the Application. In addition, the predicted backlog is based on assumptions about future Commission approvals beyond F2010 and F2011. BCTC provided further clarification regarding the range of expenditures predicted by the SIM, noting the mid-point is more relevant in a long-term forecast because, over time, expenditures will tend to the mean value (Exhibit B-6, BCUC 1.112.2).



(Exhibit B-6, BCUC 1.112.1)

BC Hydro, BCOAPO, CEC and IPPBC each support BCTC's applied-for Sustaining Capital expenditure levels (BC Hydro Argument, p. 2; IPPBC Argument, p. 1; BCOAPO Argument, p. 5; CEC Argument, p. 8). The JIESC did not specifically comment on Sustaining Capital expenditures in its argument. BC Hydro expresses concerns about risk to customer service if the applied-for expenditures are not approved (BC Hydro Argument, p. 3). The CEC expresses concern that BCTC would be accepting more risk to the system if expenditures are constrained, and agreed with BCTC's description of the potential consequences of project deferrals and the need for increased expenditures (CEC Argument, p. 8). The CEC also expresses concerns that important projects, such as BC Hydro's Voltage and VAR Optimization project, have been deferred by BCTC to meet approved expenditure limits and requests the Commission find these projects must be undertaken and not deferred

under section 41 of the *Act* (CEC Argument, p. 7). In Reply, BCTC states it works closely with BC Hydro on its projects and that it views the Voltage and VAR Optimization projects to be a mandatory Third Party (BC Hydro) requested initiative (BCTC Reply, p. 13; Exhibit B-6, BCUC 1.126.1). BCTC also notes CEC did not raise this issue in Information Requests, nor has the decision to defer part of these expenditures affected the planned in-service date for this project. BCTC submits no direction in this regard is required from the Commission.

Commission Determination

The Commission Panel supports the ongoing transition towards a portfolio approach to BCTC's Sustaining Capital driven by overall asset base condition, asset replacement rates, and system performance metrics. To that end, the Commission Panel considers the SIM and AHI as pivotal tools in the development and approval of the Sustaining Capital portfolio.

Emergency Capital expenditures by their very nature cannot be predicted and the Commission Panel does not support their inclusion in the requested Sustaining Capital portfolio going forward. As discussed earlier, the Commission Panel does not approve the requested amounts for the committed Emergency Capital expenditures in the F2010.

Recognizing expenditures are expected to regress to the mean over time, the mid-point forecast of the SIM should be used for funding requests. Variances may be dealt with through a deferral account approach and deferral account balances should zero out over several years given BCTC's expectation that Sustaining Capital expenditures should regress to the mean over time.

The Commission Panel does not agree with BCTC's analysis of future funding gaps. The Commission Panel notes that requested expenditures for F2010 and F2011 are in line with the forecasts from the SIM. Assuming ongoing improvement and validation of the SIM, the Commission Panel expects BCTC would apply for increases in funding requirements in future applications where these can be justified by the SIM based on asset health and end-of-life predictions. The Commission Panel acknowledges drivers identified by BCTC that may increase funding requirements in the future

(e.g., lumpy replacements of large numbers of assets of a similar age and condition).

The Commission Panel is concerned about the lack of clear linkages between the SIM and the requested Sustaining Capital budget. Given its design, the SIM should predict core Sustaining Capital requirements to maintain current asset condition and performance standards. To increase transparency, any programs intended to increase system standards and/or address newly identified risks should be identified and justified as exception projects, separate from the core Sustaining Capital portfolio identified by the SIM. The Commission Panel also expects Third Party requested and/or funded projects should be identified and justified separately as exceptional projects. The Commission Panel sees value to streamlining the regulatory review of the core budget through the SIM and portfolio approval approach, but considers additional transparency is required in evaluating and approving incremental risk-driven and standards-driven projects or programs over and above the core Sustaining Capital programs.

The Commission Panel is concerned that the SIM does not include adequate feedback reflecting changes in asset condition as a result of other programs and projects. The Commission Panel expects that any growth-driven, risk-driven or standards-driven programs and projects that result in early replacement of assets should result in a reduction in forecast core Sustaining Capital budgets. **The Commission Panel directs BCTC to provide a clear demonstration of how the expected effect of early replacement of assets resulting in a reduction in the forecast core Sustaining Capital budgets is adequately reflected within the operation of the Sustainment Investment Model in its next Capital Plan application.**

The Commission Panel determines core Sustaining Capital expenditures as suggested by the Sustainment Investment Model of \$93.1 million and \$95.0 million in F2010 and F2011 respectively are in the public interest. These amounts reflect the Commission Panel's previous determination with respect to the baseline year for the Sustainment Investment Model outputs.

In addition to the core Sustaining Capital expenditures, the Commission Panel also finds amounts for the exceptional projects within Stations Risk Mitigation, Overhead Lines Performance Improvement, and Overhead Lines Risk Mitigation, totaling \$20.6 million and \$22.1 million in F2010 and F2011, respectively, are in the public interest. The Commission Panel's calculation of Sustaining Capital expenditures of \$113.7 million in F2010 and \$117.1 million in F2011, exclusive of Emergency Capital and Third Party funded expenditures is shown below:

Calculated F2010 and F2011 Sustaining Capital Portfolio (Millions of Dollars)	F2010 (\$F2010)	F2010 (\$F2010)	F2011 (\$F2011)	F2011 (\$F2011)
SIM Forecast		93.1		95.0
Programs Not Included in SIM Forecast				
Stations Risk Mitigation	7.1		7.4	
Overhead Lines Performance Improvements	4.8		2.1	
Overhead Lines Risk Mitigation	8.7		12.6	
Sub-Total Excluded Programs		20.6		22.1
Calculated Sustaining Capital Expenditures		113.7		117.1

The Commission Panel notes that when Emergency Capital and Third Party funded projects are removed from the Sustaining Capital portfolio, the requested \$119.0 million in F2010 decreases to \$116.1 million, and the requested \$122.3 million in F2011 decreases to \$120.1 million as shown below:

Reconciliation of BCTC-requested F2010 and F2011 Sustaining Capital Portfolio (Millions of Dollars)	F2010 (\$F2010)	F2010 (\$F2010)	F2011 (\$F2011)	F2011 (\$F2011)
BCTC Requested Amounts		119.0		122.3
Adjustments to Requested Amounts				
Emergency Capital	(0.7)			
Third Party Funded	(2.2)		(2.2)	
Sub-Total Adjustments		(2.9)		(2.2)
Adjusted BCTC Requested Amounts		116.1		120.1

The difference between the Commission Panel's calculation of the core Sustaining Capital requirement, based on the SIM output, and BCTC's adjusted requested amounts is likely due to the bottom-up budgeting approach used by BCTC to create the Sustaining Capital portfolio for this Application. Under section 44.2 of the Amended Act, the Commission may accept, reject, or partially reject an Application. Given the difference calculated above is not related to a specifically identified program, the Commission Panel is reluctant to reject the difference between BCTC's adjusted request and the amount estimated from the SIM. **Given the relatively small difference between the Commission Panel's calculation and BCTC's adjusted request, the Commission Panel therefore reluctantly accepts BCTC's adjusted request for Sustaining Capital requirement, subject to further modification for specific programs related to BCTC's duty to consult First Nations, as outlined in Section 7.0 of the Decision and further detailed in Appendix B.**

There are many reasons for the Commission Panel's reluctance in accepting BCTC's bottom-up budget:

- the significant increase in the Sustaining Capital expenditures compared to historical levels,
- no clear indication from system performance metrics or asset health benchmarks of declining performance or condition,
- reliance on the SIM and the untested inputs such as the historical rate of inflation,
- limited testing in this proceeding of the individual projects within the programs excluded from the SIM base amount, and

- BCTC's specific non-compliance with past Commission Directives to manage the Sustaining Capital portfolio within reduced spending levels.

Although the Commission Panel has accepted the bottom-up approach for the purposes of this Application, the Commission Panel expects future Sustaining Capital requests, exclusive of Emergency Capital and Third Party funded projects, will reflect the separation of core or baseline amounts, as determined by the top-down Sustainment Investment Model, from exceptional projects driven by risk mitigation objectives, new standards, or Third Party requests. The Commission Panel also expects future requests for core Sustaining Capital expenditures will be updated to reflect changes in asset ages and further refinements in the Sustainment Investment Model, including greater linkages between the Sustainment Investment Model and Asset Health Index. Finally the Commission Panel expects greater reliance on the Sustainment Investment Model in approving this core portfolio and separate justifications for future risk- or standards-driven projects within the Sustaining Capital portfolio.

6.0 BCTC CAPITAL PORTFOLIO

6.1 Overview

The BCTC Capital portfolio includes the Information Management and Facilities assets that BCTC requires for the operation of the transmission system and for supporting BCTC's business activities. The Application requests the approval of BCTC Capital portfolio expenditures of \$13.6 million in F2010 and \$12.2 million in F2011 (Exhibit B-1, Section 7, p. 2). BCTC forecasts Base Program expenditures of \$8.8 million in F2010 and \$9.0 million in F2011 (Exhibit B-1, Section 7, p. 9). The \$8.8 million in the F2010 base program is reduced by the \$5.1 million as previously approved by Order G-107-08, thus adjusting the F2010 base program request for approval to \$3.7 million. In addition to the Base Program expenditures, BCTC requests the approval of \$13.1 million for Exceptional Projects. BCTC is also requesting that BCTC Capital portfolio expenditures be determined using a formulaic approach (the "Formulaic Approach") (Exhibit B-1, Section 7, p. 7). The requested BCTC Capital portfolio is summarized below.

Total Requested BCTC Capital Portfolio for Approval (\$ millions)

Description	F2010	F2011	Total	% of
				Total
Base Program for Approval	\$3.7	\$9.0	\$12.7	49%
Total Exceptional Projects	9.9	3.2	13.1	51%
Total BCTC Capital Portfolio for Approval	<u>\$13.6</u>	<u>\$12.2</u>	<u>\$25.8</u>	<u>100%</u>

(Exhibit B-1, Section 7, pp. 2-3)

The Exceptional Projects and Base Program expenditures are all based on planning level estimates with limited cost breakdown and typical preparation effort of less than one week. BCTC stated it is reasonably confident that actual expenditures will be within the estimate accuracy ranges provided in Exhibit B-1, but believes it would be unreasonable to expect actual expenditures to correspond exactly to estimates (Exhibit B-8, BCUC 2.15.2 and BCUC 2.57.2).

6.2 Formulaic Approach

BCTC submits it developed the Formulaic Approach in response to a statement in the F2009 TSCP Decision (BCTC Argument, p. 36). In the F2009 TSCP Decision, the Commission suggested that:

“...BCTC consider, for future applications a formulaic approach to requesting approval for its capital portfolio, with significant projects being applied for on an exception basis...” (F2009 TSCP Decision, p. 90).

Regarding the Formulaic Approach, BCTC submits that there are two issues which need to be addressed:

- (1) Should the Formulaic Approach be adopted?
- (2) If Formulaic Approach is adopted, what is the appropriate Base Program amount?
(BCTC Argument, p. 36)

BCTC states Base Program expenditures would include projects that support or enhance BCTC’s ongoing business needs and sustain existing technologies and systems. Exceptional Projects would include projects that are non-routine or non-recurring relative to BCTC’s base expenditures and significant system or facility expansion or change (Exhibit B-1, Section 7, p. 7). Base Program expenditures are based on a 4-year average of the approved capital expenditures from F2006 to F2009, adjusted for inflation, with changes in the BCCPI used as the measure of inflation.

Regarding the selection of the 4-year timeframe, BCTC states that four years captures the longest of the BCTC Capital portfolio’s asset replacement cycles and that a shorter timeframe would understate the required base level expenditures (Exhibit B-1, Section 7, pp. 8-9).

In developing the Formulaic Approach, BCTC recognized the Commission’s suggestion to consider cut-off values for deferral risk and value, but concluded that this would not provide BCTC with flexibility to consider other factors in developing its portfolio. BCTC states that it will continue to use the prioritization method described in previous Capital Plans, but notes that the prioritization method is used in conjunction with other business considerations (Exhibit B-1, Section 7, p. 9).

BCTC believes the Formulaic Approach will reduce regulatory costs, increase efficiency and provide a consistent base to meet BCTC business needs. In addition, BCTC submits that the Formulaic Approach also provides BCTC with the flexibility to address exceptional projects (Exhibit B-1, Section 7, p. 6). Under the Formulaic Approach, BCTC would typically defer or cancel an existing project in order to keep expenditures within the base amount and implement a new project. If a project cannot be deferred without incurring risks to the ratepayer, BCTC will request approval of the new project in addition to the Base Program (BCTC Argument, p. 38). BCTC noted that the Formulaic Approach also takes productivity improvements into account, since support and replacement cost increases for older assets are generally higher than the rate of inflation (Exhibit B-6, BCUC 1.134.1).

BCTC states by accepting the Formulaic Approach, the Commission would confirm that BCTC Capital Base Program projects are relatively small expenditures, are of an ordinary or recurring nature and do not require detailed and repeated regulatory review at the Capital Plan stage. With respect to oversight over the BCTC Capital portfolio under the Formulaic Approach, BCTC states that the Commission has four years of experience in reviewing the BCTC Capital portfolio and that BCTC has proven itself capable of managing its BCTC Capital projects within the approved amount. Since BCTC's RRAs will continue to include project-by-project information, BCTC believes that the BCTC Capital portfolio will be fully transparent to the Commission (BCTC Argument, p. 39).

BC Hydro states it supports BCTC's F2010 TSCP and agrees that the use of the Formulaic Approach for similar recurring expenditures is intended to move away from providing and examining project-by-project detail (BC Hydro Argument, pp. 1, 3). The CEC considers the Formulaic Approach acceptable and finds the Base Program expenditures of \$8.8 million for F2010 and \$9 million for F2011 reasonable (CEC Argument, p. 9). The CEC also notes that periodic review of the Formulaic Approach should be conducted to ensure that expenditures detrimental to ratepayer's interests are not incurred (CEC Argument, p. 9).

The IPPBC believes the Formulaic Approach could be a reasonable method for determining the small amount of capital needed for the BCTC corporate capital portfolio, but it could lock in questionable management practices (IPPBC Argument, p. 4). IPPBC also expressed its concern that the Formulaic Approach may not include cost for the maintenance or replacement of the new System Control Modernization Project (“SCMP”) facilities. With the commitment from BCTC to absorb those costs within the formulaic base spend IPPBC supports and accepts the Formulaic Approach (IPPBC Argument, pp. 4-5).

BCOAPO states that it is prepared to accept the four year average for the calculation of the Base Program expenditures. However, BCOAPO also submits that the Transmission Desktop Services 4 (“TDS4”) Replacement project and the part of the Market Operations and Development (“MOD”) project should be treated as Base Program expenditures (BCOAPO Argument, p. 5).

The JIESC submits BCTC should be directed not to use the formulaic approach in the future (JIESC Argument, p. 2). A formulaic approach was used in the BC Hydro F2009 RRA and JIESC states that experience was unpleasant and highlighted problems with a formulaic approach such as the difficulty in determining an appropriate base period and defining appropriate exceptions (JIESC Argument, p. 1).

In response to JIESC’s criticism of the Formulaic Approach, BCTC’s submits that the Formulaic Approach is not equivalent to BC Hydro’s formula-based approach used to forecast operating costs. The Formulaic Approach proposed by BCTC is concerned with forecasting a relatively stable base of capital expenditures while BC Hydro’s formula-based approach is a cost control tool concerned with Operation, Maintenance and Administrative (“OMA”) growth driven by customer additions (BCTC Reply, pp. 15-16).

Commission Determination

The Commission Panel concurs with BCTC's view that the Formulaic Approach is not comparable to BC Hydro's formula-based approach. The Commission Panel also notes that BCTC's proposal to continued line-by-line reporting using the BCUC Uniform System of Accounts and the listing of individual BCTC Capital projects in its RRAs is similar to the Commission's directions to BC Hydro regarding cost reporting (BCTC Reply, p. 16; F09/F10 BCH RRA Decision, p. 98).

As noted by BCTC, the Formulaic Approach is a response to the Commission's suggestion that BCTC consider a formulaic approach to requesting approval for its capital portfolio.

Given the acceptance of the Formulaic Approach by the majority of Intervenor and the relatively stable historical cost of BCTC Capital additions, the Commission Panel considers the Formulaic Approach a reasonable method for determining base program additions to BCTC's Capital portfolio.

6.3 Base Program Expenditures

BCTC forecasts Base Program expenditures of \$8.8 million in F2010 and \$9.0 million in F2011 (Exhibit B-1, Section 7, p. 3). Using the Formulaic Approach, BCTC requests the approval of Base Program expenditures of an additional \$3.7 million in F2010 (over that previously approved) and \$9.0 million in F2011 (Exhibit B-1, Section 7, p. 3). There are two issues regarding the determination of the appropriate level of Base Program expenditures:

- (a) Are the amounts included in the proposed Base Program expenditures appropriate?
- (b) Are there other costs that should be included in proposed Base Program expenditures?

BC Hydro, the IPPBC, and the JIESC did not provide specific comments regarding the proposed Base Program expenditures. The CEC submits that the proposed Base Program expenditures are reasonable at this time, but notes that it will be useful to subject the process to deeper scrutiny on a periodic basis (CEC Argument, p. 9).

BCOAPO accepts the proposed Base Program expenditures, but considers that the TDS4 project and part of the MOD project should be treated as Base Program expenditures. Given the BCTC request for a four year average that reflects the replacement cycle for its assets, BCOAPO submits that the TDS4 project is “normal replacement” and should be treated as a Base Program expenditure (BCOAPO Argument, pp. 5-6).

BCOAPO also states that F2010 expenditure of \$0.3 million BCTC Capital attributed to “Other BCTC Projects” should be excluded from the approved spending since there are no details regarding these costs (BCOAPO Argument, p.6). Regarding the “Other BCTC Projects” expenditures listed in Table 7-2, BCTC submits that it is not asking for an additional \$0.3 million for “Other BCTC Projects” in its formulaic base expenditure (BCTC Reply, p. 16). The Commission Panel notes that the \$0.3 million for Other BCTC Projects is shown as a separate item in Table 7-2, Historical and Trend Explanations and are not included in Base Program expenditures (Exhibit B-1, Section 7, p. 3).

The Commission notes that the Base Program expenditures include \$749,000 for Definition Phase funding.

Definition Projects Included in Formulaic Base (\$000's)

	Definition Projects	F2010
1	Enterprise Asset Management Definition - F2010	\$156.0
2	Enterprise Business Intelligence Definition - F2010	156.0
3	Enterprise Document Management Definition - F2010	156.0
	Enterprise Project Management Tool - Definition	
4	F2010	156.0
5	Unified Communications Strategy Definition	125.0
		<u>\$749.0</u>

Exhibit B-6, BCUC 1.132.1

As noted in the Commission's May 21, 2009 letter to BCTC regarding Central Vancouver Island Transmission Project Quarterly Status Report, project cost and variance reports for the Implementation Phase of a project should not include Definition Phase costs (BCUC Log No. 29479).

6.4 Exceptional Projects

BCTC requests the approval of three Exceptional Projects: the International Financing Reporting Standards ("IFRS") project, the TDS4 project and the MOD project. Approval of the Exceptional Projects is sought on a project basis and not just for F2010 and F2011. In addition, BCTC requests the approval of the Exceptional Projects on a public interest basis, rather than for a precise expenditure (Exhibit B-6, BCUC 1.131.1).

Exceptional Projects (\$ millions)

Description	F2010	F2011	Total
International Finance Reporting Standards Project	\$1.2	\$0.0	\$1.2
Transmission Desktop Services 4 Replacement Project	1.1	0.7	1.8
Market Operations and Development Business System Upgrade Project	7.6	2.5	10.1
Total BCTC Capital Portfolio for Approval	<u>\$9.9</u>	<u>\$3.2</u>	<u>\$13.1</u>

Exhibit B-1, Section 7, Table 7-2, p. 3

BC Hydro, the IPPBC, and the JIESC did not provide specific comments regarding the proposed Exceptional Projects. BCOAPO also considers that many of BCTC's systems requiring replacement are likely to undergo some "upgrade" at the same time; therefore it would be unreasonable to have all such spending considered as exceptional (BCOAPO Argument, p. 5).

6.4.1 International Financing Reporting Standards Project

In February 2008, the Canadian Accounting Standards Board confirmed the requirement to adopt IFRS in 2011 for all publicly accountable enterprises, including BCTC and BC Hydro. BCTC will be required to comply with IFRS disclosure requirements for the years ending March 31, 2009 and 2010 and provide F2011 comparatives under IFRS for F2012 reporting. To comply with IFRS, BCTC states that it will implement and embed changes to the Oracle financial system. The estimated cost of the IFRS Project is \$1.24 million with an accuracy of -10 percent/+50 percent (Exhibit B-1, Section 7, pp. 13-14).

BCTC also states that the \$1.24 million for the IFRS project is a budgetary estimate based on the assumption that BCTC will maintain two sets of books. Furthermore, BCTC submits that anecdotal evidence provided by its service providers indicate that clients similar to BCTC have incurred costs of up to \$2.8 million or higher (Exhibit B-6, BCUC 1.145.2). BCTC is also states that it is undertaking a Definition Phase to better define the requirements for IFRS (Exhibit B-1, Section 7, p. 14).

The CEC submits that the IFSR project is an appropriate project for BCTC to be pursuing and accepts BCTC's categorization of the project as an exceptional project (CEC Argument, p. 9). BCOAPO also submitted that the IFRS project should be considered an exceptional and non-recurring project (BCOAPO Argument, p. 5).

6.4.2 Market Operations and Development Project

BCTC requests the approval of the estimated MOD project expenditures of \$10.1 million (\$7.55 million in F2010 and \$2.55 million in F2011) with an accuracy of -10/+10 percent (Exhibit B-1, Section 7, p. 19). The \$10.1 million estimated cost of the MOD project represents 6.8 percent of BCTC's Forecast Net Book Value of Fixed Assets Ending Balance F2011 \$148.4 million (Exhibit B-8, BCUC 2.10.2). Furthermore, BCTC states that the F2010 westTTrans upgrade of \$97,000 will be cancelled if the MOD project is approved (Exhibit B-6, BCUC 1.132.1).

BCTC states that the MOD Project is essential to allow BCTC to deliver open access to the transmission system and to invoice and collect NITS and Point-to-Point (“PTP”) revenue consistent with BCTC’s OATT. In addition, BCTC submits that the current MOD suite of applications have evolved over time, with new functionality and applications being added as required, while applications such as Transmission Scheduling System (“TSS”), Open Access Same-Time Information System (“OASIS”), Energy Trading System (“ETS/eTag”), Settlements and Billing System (“S&B/Lodestar”) were custom built in the late 1990’s.

Since 2001, BCTC has introduced many new transmission services and BCTC submits that the original TSS architecture design being pushed beyond its limits. Furthermore, BCTC states that the obsolete nature of the system has resulted in TSS requiring significant investment in capital and OMA resources to maintain stable operations of the system (Exhibit B-1, Section 7, pp. 20-21). BCTC proposes to replace and retire the MOD assets associated with the Transmission Scheduling System (“TSS”), S&B/Lodestar, Market Operations Data Warehouse, and Electrical Industry Data Exchange (“EIDE”) Interface (Exhibit B-6, BCUC 1.140.1).

BCTC states that BC Hydro, CEC and IPPBC support approval of the MOD project as an Exceptional Project (BCTC Reply, p. 19). The CEC notes that the MOD project is likely mission critical for BCTC and CEC submits that this project should also be categorized as an Exceptional Project. In addition, the CEC supports the expenditure request as proposed by BCTC (CEC Argument, p. 9).

BCOAPO submits that the proposed MOD project is both a replacement and an upgrade to the existing Market Operations Business Systems; therefore only the cost considered part of the upgrade should be considered “Exceptional.” Furthermore, BCOAPO states that the MOD replacement related cost should be viewed as routine and not qualify for “Exceptional” treatment. Given BCTC’s comment that off the shelf systems costing requiring some customization to meet its unique needs and costing roughly 75 percent of the total project costs are available, BCOAPO submits that at least 50 percent of the MOD project’s costs in each year should be considered Base Program spending (BCOAPO Argument, p. 5).

6.4.3 TDS4 Project

BCTC states that Microsoft is discontinuing support of all of the current Microsoft components of Transmission Desktop Services 3 (“TDS3”) by the calendar year 2010; therefore BCTC proposes to upgrade and implement new standard desktop software applications for all BCTC employees (Exhibit B-1, Section 7, pp. 16-17). The estimated cost of the TDS4 will be implemented over two years and the estimated cost of project is \$1.85 million with an accuracy of +/-25 percent (Exhibit B-1, Section 7, p. 16).

BCTC further states that the TDS4 project is expected to keep the corporate desktop computing environment sustained with proper support from Microsoft, to maintain independent software vendor support, and to remain compatible with BCTC’s business partners, such as BC Hydro. In addition, BCTC submits that the upgrade to TDS4 will facilitate file exchange between the BCTC and BC Hydro and minimize any potential file incompatibility issues. The estimated cost and timing of the software migration is based on BC Hydro proceeding with similar initiatives so that BCTC can leverage on the Accenture Business for Utilities (ABSU) work done for BC Hydro (Exhibit B-1, Section 7, p. 17).

Due to the complexity of the multi-product update and the inability to upgrade incrementally, BCTC considers this project to be “exceptional” (Exhibit B-6, BCUC 1.144.1). BCTC notes that most desktop components can be implemented independently from each other, and in various sequences, but the recommended sequence for the TDS4 project takes into account the impact on, and the needs of the end users. The expected retirement date for the existing software is March 31, 2010 for Microsoft Office 2003, Microsoft Outlook 2003, and Microsoft Exchange 2003. The current operating system Microsoft XP will be replaced by end of March 2011 (Exhibit B-6, BCUC 1.140.1).

Line No.	Component	Total Capital (in \$'000)	F2010 (in \$'000)	F2011 (in \$'000)
		(a)	(b)	(c)
1	Component A - Office 2007 & Outlook 2007	\$ 551	\$ 551	\$ -
2	Component B - Exchange 2007	\$ 563	\$ 563	\$ -
3	Component C - Operating System Upgrade	\$ 740	\$ -	\$ 740
4	Total	\$ 1,854	\$ 1,114	\$ 740

(Exhibit B-6, BCUC 1.146.1)

The CEC supports BCTC's proposed expenditures for the TDS4 project (CEC Argument, p. 9).

BCTC submits that categorizing the TDS4 project as an Exception Project resulted in lowering Base Program expenditures and that characterizing the TDS4 Upgrade as a base expenditure, would compromise BCTC's ability to meet its goals and strategies (BCTC Reply, p. 17). Furthermore, BCTC submits that the inclusion of the TDS4 costs into BCTC's proposed \$8.8 million base amount would increase the time and cost of implementing the TDS4 project and compromise BCTC's regular ongoing capital projects (BCTC Reply, p. 18).

BCTC also submits that if the TDS4 project is implemented within the proposed base spending, the time required to implement the project would need to be spread over several years and the costs of the project would increase (BCTC Reply, p. 18). The Commission Panel is of the view this is contradictory to BCTC's submission that the Base Program expenditures determined by the Formulaic Approach will allow BCTC to incorporate and normalize ongoing and cyclical spending requirements and to prioritize and schedule future initiatives, including multi-year programs (Exhibit B-1, Section 7, p. 9). Since BCTC can defer or cancel projects to keep within the approved spending levels, the Commission Panel is of the view that the inclusion of the TDS4 project in the Base Program should not result in higher costs or longer implementation times (Exhibit B-6, BCUC 1.3.2). Given that BCTC's F2010 and F2011 Base and Exception Compliance Projects total \$17.8 million (Exhibit B-8, BCUC 2.42.1) and its proposed F2010 and F2011 total capital portfolio is \$30.9 million, BCTC will not need to spread out the implementation of the TDS4 project over several years.

Commission Determination

The Commission Panel is mindful that updates for these types of products are common and incremental updates are usually implemented on a business-as-usual basis, one product at a time, and would normally be included in base level of spending.

The Commission Panel is not persuaded that the TDS4 project is an Exceptional Project. Base Program expenditures are based on the 4-year average of the approved capital expenditures from F2006 to F2009 (Exhibit B-1, Section 7, p. 8). The Base Program average includes F2006 expenditures of \$13.4 million that are 163 percent, 94 percent and 51 percent higher than F2007, F2008 and F2009 approved expenditures, but BCTC states that its F2006 and F2007 BCTC Capital expenditures were managed as a single portfolio and should be viewed together (Exhibit B-6, BCUC 1.134.3). Given that the F2006 expenditures included \$2.2 million for Computer Desktop Software Upgrade, the Commission Panel considers treatment of the TDS4 project as an Exceptional Project inconsistent with the Formulaic Approach (Exhibit B-8, BCUC 2.65.1). **Furthermore, the F2006 project comments state that the Computer Desktop Software Upgrade is expected to repeat every 4-5 years; therefore the TDS4 project does not qualify as non-routine or non-recurring and the expenditure is accordingly rejected as an Exceptional Project.**

As outlined in Appendix C, the Commission Panel approves BCTC's proposed Formulaic Approach, which would result in Base Program expenditures of \$8.7 million in F2010 increasing by inflation (BCCPI) thereafter, not including Exceptional Projects. The \$8.7 million of expenditures is comprised of \$5.1 million of expenditures approved in Order G-107-08 less \$0.1 million to reflect the cancellation of the westTTrans upgrade; and \$3.7 million of incremental F2010 expenditures. **The Commission Panel also accepts BCTC Base Program expenditure of \$9.0 million in F2011, based on baseline spending from the last four fiscal years.** The Commission Panel rejects the comparison JIESC makes with the formulaic approach used in BC Hydro's F2009 RRA. The Commission Panel finds the Formulaic Approach proposed in this Application applies to a very small and relatively stable capital budget and will assist in streamlining future regulatory reviews.

The Commission Panel directs BCTC to continue line-by-line reporting using the BCUC Uniform System of Accounts and listing of each individual BCTC Capital project in its RRAs. The Commission Panel directs BCTC to provide Definition Phase project costs and variances on a project by project basis in its next RRA.

Given the Formulaic Approach is new, the Commission may review the Formulaic Approach in the next Capital Plan application and the Commission Panel therefore directs BCTC to file a summary of approved versus actual BCTC Capital expenditures for F2010 and F2011 as part of its next Capital Plan application.

As stated above, the Commission Panel does not consider the TDS4 project an Exceptional Project and expects BCTC to include the cost of the TDS4 project in Base Program costs. The Commission Panel acknowledges that some BCTC Capital projects may be lumpy in nature. However, this is not a sufficient reason to treat these projects as exceptional. If BCTC cannot manage projects that recur only every three or four years within the annual spending caps provided by the Formulaic Approach, it may apply for deferral account treatment of such projects to shift dollars across individual years. However, average annual expenditures should still equal those allowed by the Formulaic Approach across a four-year period.

The Commission Panel accepts the IFRS Project of \$1.24 million with an accuracy of -10 percent/+50 percent.

Given previous Intervenor concerns regarding cost overruns related to Information Technology projects and the forecast \$10.1 million cost of the MOD project, the Commission Panel directs BCTC to apply for a CPCN for the MOD project (Order G-103-04, Appendix A, F2005 TSCP Decision, p. 39) and rejects the \$97,000 for F2010 westTrans upgrade.

7.0 ASSESSMENT OF ADEQUACY OF FIRST NATIONS CONSULTATION

7.1 Duty to Consult and Accommodate First Nations

With regard to this Application, the Commission must determine whether BCTC or BC Hydro, as agents of the Crown, have a duty to consult First Nations in respect of the expenditures for which approval is being sought in the Application, and if so, whether the Crown agent has fulfilled its duty.

The leading cases on the duty to consult and accommodate are *Haida Nation v. British Columbia (Minister of Forests)*, 2004 SCC 73 (“*Haida*”) and *Taku River Tlingit First Nation v. (British Columbia) (Project Assessment Director)*, 2004 SCC 74 (“*Taku*”). *Haida* provides a framework for assessing whether the consultation duty has been met. This framework includes the following sub-issues:

(1) Existence of a duty to consult

Haida directs the trigger for the duty to consult arises upon the Crown having knowledge, real or constructive, of the potential existence of aboriginal rights or title and contemplates conduct that might adversely affect them (para. 64). In effect, consultation must be initiated at the preliminary stages of Crown decision-making when strategic planning is first being discussed and implemented.

(2) Scope of the duty

(2.1) Strength of asserted or assumed claims

(2.2) Seriousness of the potential impact

Haida instructs the scope of the consultation is proportionate to a preliminary assessment of the strength of the case supporting the existence of the aboriginal right or title, and the seriousness of the potentially adverse effect upon the right or title claimed (*Haida*, para. 68). In all situations however, the conduct chosen must maintain the honour of the Crown and make efforts to effect reconciliation between the Crown and aboriginal interests (*Haida*, para. 16 and 17). On the lower end of the spectrum where the evidence to demonstrate aboriginal

rights or title is weak or the potential for infringement minor, the duty on the Crown may be focused upon providing notice, disclosing all relevant information and discussing any matters raised concerning the notice (*Haida*, para. 43). At the higher end of the spectrum lie cases where a strong prima facie case for the claim is established, the right and potential infringement is of high significance to the Aboriginal peoples and the risk of non-compensable damage is high (*Haida*, para. 44). In those cases, the Crown may be required to take steps to avoid irreparable harm or minimize the impact of infringement, including finding interim solutions, providing the opportunity to make submissions, formal participation in decision-making processes and providing written reasons to show that Aboriginal concerns were considered (*Haida*, para. 44).

(3) Whether the Crown fulfilled its duty?

This requires the Crown to provide an overall conclusion as to the reasonableness of the consultation process and whether the consultation duty has been discharged.

7.2 Strategic-Level Consultations with First Nations

In 2008 BCTC and BC Hydro continued to engage First Nations regarding the transmission system and BCTC's transmission system capital planning (Section 4.2.1.5, pp. 4-28 to 4-32 of the Application). For example, the First Nations Summit and British Columbia Assembly of First Nations were invited to attend a technical planning forum on June 16, 2008. Information on BCTC's overall strategic direction related to transmission system planning and preliminary information on the Application was provided at the forum. Presentations on BCTC's planning process were made to the Lil'wat and Ktunaxa Nation representatives. BC Hydro also led First Nation consultations for a number of major projects in 2008 (e.g., Saltery Bay substation, 5L71/5L72 Series Compensation Project etc.).

In response to issues raised by First Nations during consultation activities in 2008, BCTC developed a communications package aimed at First Nations, which includes information on BCTC, transmission planning and operations, and its Aboriginal Business Development Program (Section 4.2.3, p. 4-31 of the Application).

7.3 First Nations Consultations related to the Application

In accordance with Commission Order G-179-08, BCTC undertook further measures to ensure that interested parties, including First Nations, were made aware of the Application. Some First Nations received a copy of Order G-179-08 because they were registered as interveners for the F2009 to F2018 BCTC Transmission System Capital Plan and F2009 and F2010 Transmission Revenue Requirements and BC Hydro's 2008 Long-Term Acquisition Plan proceedings (Exhibit B-10, BCOAPA 3.1.1).

With respect to the expenditures in the Application, BC Hydro is responsible for carrying out any consultations with First Nations on the growth capital and sustaining capital projects as these projects involve BC Hydro-owned assets and BCTC is responsible for consultations with First Nations on BCTC capital projects (Exhibit B-10, BCUC 3.1.1 and 3.1.2).

7.3.1 Growth Capital Projects

Potential CPCN Projects

BCTC anticipates two growth capital projects (5L71/72 Series Compensation and Dawson Creek Area Reinforcement) will require a CPCN and is seeking approval for Definition Phase funding¹ for these projects. BCTC indicates these projects fall into the medium range of the *Haida* spectrum (BCTC Final Submission dated April 17, 2009, pp. 50, para. 149).

With respect to the 5L71/72 Series Compensation Project, BCTC initiated consultations with First Nations on potential capacitor station sites in January 2008² (section 4.2.1.5.4, p. 4-29 of the Application). The 5L71/5L72 Series Compensation Project is part of BCTC's proposed Mica Unit 5 Project, which is being reviewed under British Columbia's *Environmental Assessment Act*. The

¹ Definition phase funding may cover costs associated with environmental assessment, engineering studies, evaluating route options and First Nations and public consultations.

² The BC Environmental Assessment Office initiated the environmental assessment review on March 31, 2008 with the issuance of a section 10 order under the *Environmental Assessment Act*.

environmental assessment review was initiated on March 31, 2008. BCTC provides evidence of First Nations consultations up to the date of the filing of the Application (Exhibit B-10, BCUC 3.3.1.1). The potential site of the capacitor station is situated within traditional territories claimed by three First Nations: Adams Lake, Little Shuswap and Neskonlith. BC Hydro provided funding to these First Nations to undertake traditional use and knowledge studies, hold community meetings, participate in procedural and technical activities associated with the environmental assessment etc. These First Nations and other First Nations are being consulted on the project as part of the environmental assessment process.

With respect to the Dawson Creek Area Reinforcement Project, BC Hydro anticipates there could be impacts on aboriginal rights or interests that may require consultation with First Nations. BC Hydro submits it will identify the potentially affected First Nations and any necessary First Nation consultation on the project will begin in the Definition Phase (Exhibit B-10, BCUC 3.3.1.1).

BCTC submits the Commission should delay the assessment of the adequacy of First Nations consultation on the two potential CPCN projects until they are brought before the Commission for approval under sections 45 and 46 of the *Act* (BCTC Final Submission, April 17, 2009, page 51, para. 152). BCTC submits it will file BC Hydro's evidence on First Nations consultation in its CPCN applications for these two projects. **The Commission Panel agrees the assessment of the adequacy of First Nations consultation should be considered when BCTC files further evidence of First Nations consultation in its CPCN applications for the Dawson Creek Area Reinforcement and 5L71/72 Series Compensation projects. The Commission Panel notes the Definition Phase funding includes funding for First Nations consultation activities. The Definition Phase funding is accepted.**

Non-CPCN Projects

BCTC is seeking approval for Definition Phase expenditures for four non-CPCN, growth capital projects (Courtenay Area Reinforcement, Fraser Valley West Area Reinforcement, Westbank 138 kV System Reinforcement and Transmission Expansion Policy Future projects). BC Hydro anticipates First Nations consultations may be required for all of these projects and indicates consultations with First Nations will begin during the Definition Phase and may be continued in the Implementation phase.

For non-CPCN projects where BCTC is seeking approval for Definition Phase funding, BCTC requests the Commission assess the adequacy of First Nation consultations when BCTC seeks approval for Implementation phase funding (Implementation phase funding may cover costs associated with final engineering design, First Nations and public consultations and construction.) BCTC's application for Implementation phase funding for these projects will include expenditures related to First Nations consultations (Exhibit B-10, Response to BCUC 3.3.1.2). **The Commission Panel agrees the adequacy of Crown consultation with First Nations should be assessed when BCTC seeks approval for Implementation phase expenditures for the Courtenay Area Reinforcement, Fraser Valley West Area Reinforcement and Westbank 138 kV System Reinforcement and the Transmission Expansion Policy Future projects. The Commission Panel notes the Definition Phase funding includes funding for First Nations consultation activities. The Definition Phase funding is accepted.**

BCTC is also seeking approval for both definition and Implementation phase funding for several non-CPCN projects. BCTC requests the Commission approve the funding for these projects subject to BCTC not proceeding with the implementation of these projects until BCTC has provided a report to the Commission related to BC Hydro consultation efforts with First Nations and the Commission has confirmed consultation with First Nations has been adequate (BCTC Final Submission, April 17, 2009, pp. 53, para. 160). The Commission Panel notes section 44.2 of the *Utilities Commission Act* requires the Commission to accept or reject all or part of a schedule. The Act does not provide for conditional approval. Therefore the Commission Panel must assess the adequacy of consultation

with First Nations based on the evidence filed prior to the close of the evidentiary portion of the proceeding.

BCTC is seeking approval for funding for Remedial Action Schemes (RAS). Expenditures related to RAS include costs associated with microprocessors, communications systems and engineering and technician work to design and program the protection system. Specific RAS programs are not identified in the Application as they are contingent upon opportunities becoming available to implement them. BCTC anticipates the RAS programs will not generally impact First Nations aboriginal rights or interests because they involve changes to protection and communication equipment within existing facilities. **The Commission Panel agrees expenditures related to RAS are unlikely to impact aboriginal rights or interests. Therefore the Commission has determined that it need not assess the adequacy of Crown consultation with First Nations related to this expenditure. The RAS funding is accepted.**

BCTC is seeking approval for definition and Implementation phase expenditures for three non CPCN, growth capital projects (2L39 Como Lake Loop, 60L19 Re-conductor and Atchelitz Area Reinforcement). The 2L39 Como Lake loop involves connecting an existing transmission circuit (2L39) into the Como Lake substation in north Coquitlam. 60L19 is a 17 km 60 kV circuit running between the Stave Falls and Haney substations in the Fraser Valley. The 60L19 Reconductor Project involves replacing a conductor along a 2 km section of the circuit. The Atchelitz Area Reinforcement Project involves expanding the substation by adding one transformer, two 230 kV breakers, 100 megavolt ampere, 6 feeder line section and a feeder transfer tie and associated protection and control equipment.

BCTC anticipates potential impacts on First Nations rights or interests to be limited for these projects for the following reasons: 2L39 Como Lake Loop involves connecting an existing transmission circuit to the Como Lake substation within existing city streets and does not require new land to be acquired or create new visual effects around the substation; 60L19 Re-conductor involves upgrading a conductor to an existing transmission line within an existing right of way; and Atchelitz Area Reinforcement involves expanding a substation within the existing substation

footprint. No evidence was provided during the proceeding related to First Nations consultation.

The Commission Panel concludes the 2L39 Como Lake Loop project is unlikely to impact aboriginal rights or interests as the transmission circuit is in a developed area and in close proximity to the substation. The implementation funding for this project is accepted.

The Commission Panel concludes that given the potential for some, although limited, impact on aboriginal rights or interests a duty to consult does arise but it does not have any evidence to assess the adequacy of BCTC's or BC Hydro's efforts to consult First Nations with respect to the 60L19 Re-conductor and Atchelitz Area Reinforcement projects. Even though the Commission Panel could approve funding for Definition Phase expenditures for these projects, it is unable to do so because the amount of Definition Phase funding is not identified as a separate amount. Further evidence related to First Nations consultation is required before the Commission can approve Implementation phase funding. **The Commission directs BCTC to identify Definition Phase funding level; and provide evidence of consultation of potentially affected First Nations in the area of these projects, including an assessment of the potential effects of the project on assumed aboriginal rights or interests. The Commission Panel directs BCTC then resubmit its application for Definition and Implementation phase funding for these projects. The Commission will then assess the adequacy of the Crown's consultation efforts.**

BCTC is seeking approval for Implementation phase funding for expansions and modifications to nine substations (Athaimers substation transformer replacement, Horne Payne 230/12kv transformer upgrade, North Vancouver substation upgrade, Smithers substation transformer replacement, Vanderhoof substation T1 transformer replacement, Mission Area Reinforcement, Golden Substation 12/25kv voltage conversion, Radium substation 12/25kv voltage conversion and Annacis substation reconfiguration). Station expansion and modification projects involve replacing, upgrading, or adding capacity to existing substations to alleviate operational constraints or limitations resulting from local load growth. These projects affect transmission and distribution facilities within the substation, and may involve adding transformer capacity, switchgear, converting to higher voltages, and reconfiguring existing facilities to accommodate increased

capacity requirements.

BC Hydro anticipates no aboriginal rights or interests will be impacted by eight of the projects as they involve replacing or adding transformers, or converting voltage within existing substations or control facilities)(Exhibit B-10, BCUC 3.3.1.2). For the Mission Area Reinforcement Project, BC Hydro anticipates the Matsqui First Nation may wish to be consulted about this project and it will identify any other potentially affected First Nation (Exhibit B-10, BCUC 3.3.1.2). No evidence was provided during the proceeding related to First Nations consultation.

The Annacis substation reconfiguration project involves adding a tap from the 60L71 circuit to provide a second source of power supply from Ingledew to Annacis. **The Commission Panel concludes this project is unlikely to impact aboriginal rights or interests as the substation is located within a developed, industrialized area. The Implementation phase funding for the Annacis substation reconfiguration is accepted.**

The Mission Area Reinforcement project involves expanding the substation from 72 to 100 MVA by adding three additional feeder positions, one feeder transfer tie, one 25 kV bus tie breaker and constructing a new control building. To accommodate these changes, the station yard would be expanded on to neighbouring empty land owned by BC Hydro, a Crown agent. The Commission Panel concludes the project has the potential to impact aboriginal rights or interests as the use of neighbouring land owned by BC Hydro would change to accommodate the substation expansion and therefore a duty may arise. The Commission Panel requires evidence related to First Nation consultation before it can approve Implementation phase funding for the project. **The Commission Panel directs BCTC provide evidence of consultation with the First Nations asserting aboriginal rights in the area of this project, including an assessment of the potential effects of the project on assumed aboriginal rights or interests. The Commission Panel rejects the Sustaining Capital expenditure for the Mission Area Reinforcement project and directs BCTC to resubmit its application for Implementation phase funding for this project. The Commission will then assess the adequacy of the Crown's consultation efforts.**

Five projects (Athaimer substation transformer replacement, Horne Payne 230/12kv transformer upgrade, North Vancouver substation upgrade, Smithers substation transformer replacement and Vanderhoof substation T1 transformer replacement) involve upgrading transformers or replacing transformers with higher capacity units to accommodate future load growth. The Commission Panel concludes these projects are unlikely to impact aboriginal rights or interests as the physical work is within the existing substations or control facilities (e.g., rewiring transformers or circuit breakers and changing distribution connections to operate at a higher voltage). **The Implementation phase funding for the Athaimer substation transformer replacement, Horne Payne 230/12kv transformer upgrade, North Vancouver substation upgrade, Smithers substation transformer replacement and Vanderhoof substation T1 transformer replacement projects is accepted.**

The two voltage conversion projects (Golden substation 12/25 kV conversion and Radium substation 12/25kv voltage conversion) involve reinforcing capacity within the existing stations. The Commission Panel concludes the two voltage conversion projects are unlikely to impact aboriginal rights or interests as the work is within the existing substations. **The implementation funding for the Golden substation and the Radium substation 12/25kv voltage conversion projects is accepted.**

BCTC is seeking approval for implementation funding to undertake two customer-requested projects. BCTC submits the customer is responsible for First Nations and stakeholder consultation (Exhibit B-10, BCUC 3.3.1.2). No evidence of First Nations consultation was provided for either project.

Load Interconnection Customer A project involves installing a tap structure and disconnect switch in circuit 1L204 in the Kamloops area to facilitate the interconnection of a new 138 kV transmission line to be constructed by the customer. BC Hydro anticipates Load Interconnection Customer A will require First Nations consultation (Exhibit B-10, BCUC 3.3.1.2). The Commission Panel concludes that a duty to consult is likely to arise but it does not have any evidence to assess the adequacy of BCTC's BC Hydro's or the Crown's consultation efforts with respect to the Load Interconnection

Customer A Project. **The Commission Panel directs BCTC provide evidence of consultation with potentially affected First Nations and then resubmit its application for Implementation phase funding for this project. The Commission will then assess the adequacy of the Crown's consultation efforts. For these reasons, the Commission Panel rejects the Growth Capital expenditure - Load Interconnection Customer A project.**

Load Interconnection Customer B Project involves connecting the customer's 230 kV transmission line to the Kennedy substation. This requires installing a 230 kV circuit breaker, two disconnect switches and associated bus work. BC Hydro anticipates no First Nation consultation is required with respect to the Load Interconnection Customer B (Exhibit B-10, BCUC 3.3.1.2). **The Commission Panel concludes the project is unlikely to impact aboriginal rights or interests as the project is located within an existing substation. The Implementation phase funding for the Load Interconnection Customer B Project is accepted.**

7.3.2 Sustaining Capital Projects

BCTC is seeking implementation funding for six station programs (auxiliary equipment, circuit breakers, other power equipment, protection and control, risk mitigation and telecommunications) and five lines programs (cable sustainment, overhead lines life extension, overhead lines performance improvements, overhead lines risk mitigation and right of way sustainment). BCTC anticipates no First Nation consultation issues with respect to the six station programs as they involve like-for-like replacement within existing substations or adding new equipment such as security, fire alarms or oil containment systems within existing substations. (Exhibit B-10, BCUC 3.3.1.2) BCTC anticipates there may be First Nations consultation requirements for some individual projects in the overhead lines life extension, overhead lines risk mitigation and right of way sustainment programs. BCTC does not anticipate First Nations consultation requirements with respect to the cable sustainment or overhead lines performance improvement programs as these programs involve like-for-like replacements of existing equipment.

The Commission Panel concludes the six station programs and the cable sustainment line program are unlikely to impact aboriginal rights or interests as the work associated with these programs is within existing stations. The implementation funding for the six station programs and cable sustainment line program is accepted.

The Commission Panel concludes the four line programs (overhead lines life extension, overhead lines performance improvements, overhead lines risk mitigation and right of way sustainment) have the potential to impact aboriginal rights or interests as the programs involve activities within existing rights of ways which may interfere with aboriginal practices and therefore a duty to consult may be owed. The Commission Panel does not have any evidence to assess the adequacy of BCTC's or BC Hydro's consultation efforts with respect to the four line programs. **The Commission Panel directs BCTC to provide evidence of consultation with potentially affected First Nations and then resubmit its application for implementation funding for these projects. The Commission will then assess the adequacy of the Crown's consultation efforts. For these reasons, the Commission Panel rejects the following Sustaining Capital expenditures - overhead life extension, overhead lines performance improvements, overhead line risk mitigation and right of way sustainment.**

7.3.3 BCTC Capital Projects

BCTC anticipates no First Nations consultation requirements with respect to projects in the BCTC capital portfolio as all projects are internal to BCTC facilities and given their nature would not result in impacts to First Nations rights (Final Submission, April 17, 2009, pp. 53, para. 161). These projects involve upgrading and replacing office furniture. **The Commission Panel agrees BCTC capital projects do not trigger a duty to consult First Nations given the nature of the projects. The expenditures are accepted as set out in Section 6.0 and in Appendix C.**

8.0 SUMMARY OF DIRECTIVES & DETERMINATIONS

This summary is provided for the convenience of readers. In the event of any difference between the Directions in this Summary and those in the body of the Decision, the wording in the Decision shall prevail.

British Columbia Transmission Corporation

	Directive	Page
1.	The Commission Panel directs BCTC to adjust the timing of future Capital Plan Applications to accommodate the time necessary for review. Accordingly, the Commission Panel directs that all future applications be filed no later than September 15 of the calendar year prior to the fiscal year to which the Capital Application is to apply.	8
2.	The Commission Panel directs BCTC to continue development of the Sustaining Price Index and expects a further report or working model is to be provided in conjunction with the next Capital Plan Application. In the meantime, the Commission Panel directs that the current practice of relying upon the BC Consumers Price Index for inflation rate guidance on the Sustaining Capital portfolio be continued.	11
3.	The Commission Panel directs BCTC to submit a plan to the Commission within 90 days after the date of this Decision, detailing the initiatives that it is implementing to bring about improvements in what it describes as the priority areas of estimating, project controls, project teams and commercial management and resource management.	14
4.	Where a project has been delayed and will not be started within the approved Capital Plan period and is expected to exceed the upper limit of the cost estimate, the Commission Panel directs that the project be resubmitted for approval in the subsequent capital plan.	15
5.	The Commission Panel directs BCTC to establish programs to address the lack of accuracy of project cost estimates and report on progress made with the filing of the next Capital Plan application.	15

6	The Commission Panel directs BCTC to review if the \$50 million CPCN threshold with respect to BC Hydro's net assets, BC Hydro's net transmission assets and BCTC's net assets is still appropriate for the Growth, Sustaining and BCTC Capital portfolios and include a report in its next Capital Plan.	17
7.	For compliance with previous Commission directives, see Section 3.1.	21-24
8.	The Commission Panel does not grant relief from Directives 8 and 11 from Order G-69-07.	26
9.	The Commission Panel denies the relief sought from Directives 16 and 34 from Order G-69-07 and Directive 37 from Order G-91-05	26
10.	The Commission Panel denies BCTC's request to be relieved of the requirement to specifically identify whether any capital projects are driven by the need to conform to Section I.A.M2, or its current equivalent in the NERC Reliability Standards, during maintenance outages.	27
11.	The Commission Panel directs BCTC, upon receipt of the July 2009 Distribution Substation load forecast, to review and provide an update within 90 days of this Decision to the Commission of upcoming projects and the impact of any load forecast changes.	31
12.	The Commission Panel approves a maximum of \$10 million in definition funding for IPP-driven Transmission Expansion Policy projects; however, the Commission Panel directs the proper allocation of these expenditures to be addressed by BCTC in the next Revenue Requirements Application.	34
13.	The Commission Panel finds that contingency could be expected to be spent but directs BCTC to establish and file a formal policy for portfolio and project cost contingency and manage contingency throughout the project and to formally report contingency drawdowns on its Growth Capital portfolio (actual versus planned) for F2010 and F2011 in its next Capital Plan.	37
14.	The Commission Panel directs BCTC to file a report, within 90 days of this Decision being issued, on the incremental percentage cost increase of using earned value reporting when performed on capital projects between \$10 million and \$50 million and on CPCN projects equal to or greater than \$50 million through \$400 million.	38
15.	The Commission Panel directs BCTC to work with BC Hydro to either accept its proposal to have either BCTC or BC Hydro seek regulatory approval for the entire SDA project or develop an alternative resolution to the problem and report back to the Commission within 90 days of this Decision.	40

16.	The Commission Panel directs BCTC to post, on its public website, a listing of upcoming meetings with neighbouring systems and subregional planning groups to which it has been invited or is planning to send a representative as well as electronic copies of non-confidential information it may present or receive at such meetings.	40
17.	The Commission Panel accepts the Growth Capital expenditure schedule as set out in Appendix A of the Decision to be in the public interest subject to: satisfaction of the adequacy of BCTC's duty to consult the potentially affected First Nations; Commission approval of BC Hydro's Substation Distribution Asset portion of the Growth Capital projects; and BCTC filing, upon receipt of the July 2009 Distribution Substation forecast, an update to the Commission detailing upcoming projects and the impact of any load forecast changes within 90 days of issuance of this Decision.	52
18.	In future Capital Plan applications, the Commission Panel directs BCTC to identify more clearly those Growth Capital projects or expenditures that are not required for BC Hydro's Base Resource Plan but rather are driven by BC Hydro's approved or pending CRPs. For CRP-driven projects, the Commission Panel directs BCTC to provide clear rationale for proceeding with those expenditures.	53
19.	The Commission Panel directs BCTC to submit to the Commission for review the Asset Health Index report as soon as it is completed, and no later than March 31, 2011. If the Asset Health Index report is not included as part of the next Capital Plan application, the Commission Panel directs BCTC to provide in the next Capital Plan application a summary assessment of the general trend of asset health, and a detailed explanation of how this leading indicator is being used as an input to the Sustainment Investment Model.	61
20.	The Commission Panel determines BCTC should continue to use the Sustainment Investment Model to suggest the expenditure level for the base Sustaining Capital portfolio for asset maintenance, and directs BCTC to provide separate and additional justification for exceptional projects within the Sustaining Capital portfolio driven by risk mitigation objectives, performance enhancement objectives, or Third Party requests.	67
21.	The Commission Panel directs BCTC to hold a workshop with Commission Staff and stakeholders prior to the next and each future Capital Plan application that reviews the current methodology, inputs, outputs, and validation of the Sustainment Investment Model.	68

22.	<p>The Commission Panel determines that the projects addressed by the Stations Risk Mitigation program are not driven by the same considerations that apply to the output of the Sustainment Investment Model, and therefore, the proposed expenditures of \$7.1 million and \$7.4 million in F2010 and F2011 respectively on the Stations Risk Mitigation program category fall outside the suggested investment level provided by the Sustainment Investment Model.</p>	73
23.	<p>The Commission Panel determines the projects addressed by the Overhead Lines Performance Improvements program are not driven by the same considerations that apply to the output of the Sustainment Investment Model, and therefore, the proposed expenditures of \$4.8 million and \$2.1 million in F2010 and F2011 respectively on the Overhead Lines Performance Improvements program category fall outside the suggested baseline asset maintenance investment level provided by the Sustainment Investment Model.</p>	76
24.	<p>The Commission Panel determines the projects addressed by the Overhead Lines Risk Mitigation program, with the exception of those addressing end-of-life conductors, are not driven by the same considerations that apply to the output of the Sustainment Investment Model, and therefore, the proposed expenditures of \$8.7 million and \$12.6 million in F2010 and F2011 respectively on the Overhead Lines Risk Mitigation program category, with the exception of those addressing end-of-life conductors, fall outside the suggested baseline asset maintenance investment level provided by the Sustainment Investment Model.</p>	77
25.	<p>The Commission Panel rejects the request for approval of F2008 and F2009 Emergency Capital expenditures, and directs BCTC to use the following procedure for approval, recovery and reporting of Emergency Capital expenditures:</p> <ul style="list-style-type: none"> • Seek approval for Emergency Capital expenditures by separate application to the Commission following the end of the fiscal year, including a detailed description or report to support the incurred expenditures. • If the Emergency Capital expenditures are subsequently approved by the Commission, seek recovery of expenditures in the next Revenue Requirements application. • Continue to report approved Emergency Capital expenditures as directed in previous Decisions. <p>Consistent with the determination above, the Commission Panel rejects the request for approval of the \$0.7 million of committed F2010 Emergency Capital expenditures.</p>	78

26.	The Commission Panel directs BCTC to separately report the status of Third Party funded projects in future Capital Plan applications, but to not include the expenditure amount as part of the past actual, the requested, or the future forecast Sustaining Capital portfolios.	80
27.	With respect to Third Party requested projects in the Sustaining Capital portfolio for which there is no accompanying Third Party funding, the Commission Panel determines the cost of such projects shall be borne within the amount suggested by the Sustainment Investment Model unless BCTC makes an application with separate justification for alternative treatment.	80
28.	The Commission Panel directs BCTC to provide a clear demonstration of how the expected effect of early replacement of assets resulting in a reduction in the forecast core Sustaining Capital budgets is adequately reflected within the operation of the Sustainment Investment Model in its next Capital Plan application.	86
29.	<p>The Commission Panel determines core Sustaining Capital expenditures as suggested by the Sustainment Investment Model of \$93.1 million and \$95.0 million in F2010 and F2011 respectively are in the public interest.</p> <p>In addition to the core Sustaining Capital expenditures, the Commission Panel also finds amounts for the exceptional projects within Stations Risk Mitigation, Overhead Lines Performance Improvement, and Overhead Lines Risk Mitigation, totalling \$20.6 million and \$22.1 million in F2010 and F2011, respectively, are in the public interest.</p>	86/87
30.	Given the relatively small difference between the Commission Panel's calculation and BCTC's adjusted request, the Commission Panel reluctantly accepts BCTC's adjusted request for Sustaining Capital requirement, subject to further modification for specific programs related to BCTC's duty to consult First Nations, as outlined in Section 7.0 of the Decision and further detailed in Appendix B.	88
31.	The F2006 project comments state that the Computer Desktop Software Upgrade is expected to repeat every 4-5 years; therefore the TDS4 project does not qualify as non-routine or non-recurring and the expenditure is accordingly rejected as an Exceptional Project.	101
32.	As outlined in Appendix C, the Commission Panel approves BCTC's proposed Formulaic Approach, which would result in Base Program expenditures of \$8.7 million in F2010 increasing by inflation (BCCPI) thereafter, not including Exceptional Projects. The Commission Panel also accepts BCTC Base Program expenditure of \$9.0 million in F2011, based on baseline spending from the last four fiscal years.	101

33.	The Commission Panel directs BCTC to continue line-by-line reporting using the BCUC Uniform System of Accounts and listing of each individual BCTC Capital project in its RRAs. The Commission Panel directs BCTC to provide Definition Phase project costs and variances on a project by project basis in its next RRA.	102
34.	Given the Formulaic Approach is new, the Commission may review the Formulaic Approach in the next Capital Plan application and the Commission Panel therefore directs BCTC to file a summary of approved versus actual BCTC Capital expenditures for F2010 and F2011 as part of its next Capital Plan application.	102
35.	Given previous Intervenor concerns regarding cost overruns related to Information Technology projects and the forecast \$10.1 million cost of the MOD project, the Commission Panel directs BCTC to apply for a CPCN for the MOD project (Order G-103-04, Appendix A, F2005 TSCP Decision, p. 39) and rejects the \$97,000 for F2010 westTTrans Upgrade.	102
36.	The Commission Panel agrees the assessment of the adequacy of First Nations consultation should be considered when BCTC files further evidence of First Nations consultation in its CPCN applications for the Dawson Creek Area Reinforcement and 5L71/72 Series Compensation projects. The Commission Panel notes the Definition Phase funding includes funding for First Nations consultation activities. The Definition Phase funding is accepted.	106
37.	The Commission Panel agrees the adequacy of Crown consultation with First Nations should be assessed when BCTC seeks approval for Implementation phase expenditures for the Courtenay Area Reinforcement, Fraser Valley West Area Reinforcement and Westbank 138 kV System Reinforcement and the Transmission Expansion Policy Future projects. The Commission Panel notes the Definition Phase funding includes funding for First Nations consultation activities. The Definition Phase funding is accepted.	107
38.	The Commission Panel agrees expenditures related to RAS are unlikely to impact aboriginal rights or interests. Therefore the Commission has determined that it need not assess the adequacy of Crown consultation with First Nations related to this expenditure. The RAS funding is accepted.	108
39.	The Commission Panel concludes the 2L39 Como Lake Loop project is unlikely to impact aboriginal rights or interests as the transmission circuit is in a developed area and in close proximity to the substation. The implementation funding for this project is accepted.	109

40.	With respect to the 60L19 Re-conductor and Atchelitz Area Reinforcement projects, the Commission directs BCTC to identify Definition Phase funding level; and provide evidence of consultation of potentially affected First Nations in the area of these projects, including an assessment of the potential effects of the project on assumed aboriginal rights or interests. The Commission Panel directs BCTC then resubmit its application for Definition and Implementation phase funding for these projects. The Commission will then assess the adequacy of the Crown's consultation efforts.	109
41.	The Commission Panel concludes this project is unlikely to impact aboriginal rights or interests as the substation is located within a developed, industrialized area. The Implementation phase funding for the Annacis substation reconfiguration is accepted.	110
42.	The Commission Panel directs BCTC provide evidence of consultation with the First Nations asserting aboriginal rights in the area of this project, including an assessment of the potential effects of the project on assumed aboriginal rights or interests. The Commission Panel rejects the Sustaining Capital expenditure for the Mission Area Reinforcement project and directs BCTC to resubmit its application for Implementation phase funding for this project. The Commission will then assess the adequacy of the Crown's consultation efforts.	110
43.	The Implementation phase funding for the Athaimer substation transformer replacement, Horne Payne 230/12kv transformer upgrade, North Vancouver substation upgrade, Smithers substation transformer replacement and Vanderhoof substation T1 transformer replacement projects is accepted.	111
44.	The implementation funding for the Golden substation and the Radium substation 12/25kv voltage conversion projects is accepted.	111
45.	The Commission Panel directs BCTC provide evidence of consultation with potentially affected First Nations and then resubmit its application for Implementation phase funding for the Load Interconnection Customer A Project. The Commission will then assess the adequacy of the Crown's consultation efforts. For these reasons, the Commission Panel rejects the Growth Capital expenditure - Load Interconnection Customer A project.	112
46.	The Commission Panel concludes the project is unlikely to impact aboriginal rights or interests as the project is located within an existing substation. The Implementation phase funding for the Load Interconnection Customer B Project is accepted.	112

47.	The Commission Panel concludes the six station programs and the cable sustainment line program are unlikely to impact aboriginal rights or interests as the work associated with these programs is within existing stations. The implementation funding for the six station programs and cable sustainment line program is accepted.	113
48.	The Commission Panel directs BCTC to provide evidence of consultation with potentially affected First Nations and then resubmit its application for implementation funding for the four line programs. The Commission will then assess the adequacy of the Crown's consultation efforts. For these reasons, the Commission Panel rejects the following Sustaining Capital expenditures - overhead life extension, overhead lines performance improvements, overhead line risk mitigation and right of way sustainment.	113
49.	The Commission Panel agrees BCTC capital projects do not trigger a duty to consult First Nations given the nature of the projects. The expenditures are accepted as set out in Section 6.0 and in Appendix C.	113

DATED at the City of Vancouver, in the Province of British Columbia, this 13th day of July 2009.

Original Signed By:

LIISA A. O'HARA
PANEL CHAIR AND COMMISSIONER

Original Signed By:

DENNIS A. COTE
COMMISSIONER

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**BRITISH COLUMBIA
UTILITIES COMMISSION**

**ORDER
NUMBER G-87-09**

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**IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473**

and

**An Application by British Columbia Transmission Corporation
for Approval of a
Transmission System Capital Plan F2010 and F2011**

BEFORE: L.A. O'Hara, Panel Chair and Commissioner
D.A. Cote, Commissioner July 13, 2009

O R D E R

WHEREAS:

- A. Commission Order G-107-08 dated June 26, 2008 responded to the British Columbia Transmission Corporation ("BCTC") F2009 to F2018 Transmission System Capital Plan; and
- B. BCTC filed its F2010 and F2011 Transmission System Capital Plan ("F2010 Capital Plan") dated 21 November 2008 pursuant to Sections 44.2 and 45(6) of the Utilities Commission Act ("Act"); and
- C. BCTC in the filing applies for an Order which states that the Commission accepts the expenditure schedules identified in the F2010 Capital Plan pursuant to Section 44.2(3) of the Act, that the F2010 Capital Plan meets the requirements of Section 45(6) of the Act, and that BCTC is exempted from certain Commission Directives identified in the F2010 Capital Plan or these Directives are modified; and
- D. On December 8, 2008, the Commission, by Order G-179-08, established a written public hearing process and Regulatory Timetable for the review of the Application; and
- E. The written review process, including three rounds of Information Requests took place during January to March 2009; and
- F. The Written Argument phase of the proceeding was completed when BCTC filed its Reply Submission on April 1, 2009; and
- G. The Commission Panel has considered the Application, evidence, and submissions of Intervenor and the Applicant, and the Court of Appeal decisions in *Carrier Sekani Tribal Council v. British Columbia (Utilities Commission)* 2009 BCCA 67 and *Kwikwetlem First Nation v. British Columbia (Utilities Commission)* 2009

BCCA 68.

NOW THEREFORE pursuant to section 44.2 of the Act, the Commission, by this order and the attached Reasons for Decision, determines as follows:

1. The following expenditure schedules as set out in the Decision are accepted:
 - (a) Growth Capital expenditures as set out in the Decision and listed in Appendix A to the Decision;
 - (b) Sustaining Capital expenditures as set out in the Decision and listed in Appendix B to the Decision; and
 - (c) BCTC Capital Expenditures as set out in the Decision and listed in Appendix C to the Decision.
2. The following expenditure schedules as set out in the Decision are rejected:
 - (a) Emergency capital expenditures for F2008 and F2009 as set out in the Decision;
 - (b) Emergency capital expenditures for F2010 as set out in the Decision and listed in Appendix B to the Decision;
 - (c) Third party requested projects that are third party funded as set out in the Decision and listed in Appendix B to the Decision, and
 - (d) Growth Capital expenditures – 60L19 Reconductor, Atchelitz Area Reinforcement, Mission Area Reinforcement, and Load Interconnection Customer A as set out in the Decision and listed in Appendix A to the Decision with the right of BCTC to re-apply for approval.
 - (e) Sustaining Capital expenditures - overhead life extension, overhead lines performance improvement, overhead lines risk mitigation, and right-of-way sustainment programs as set out in the Decision and listed in Appendix B to the Decision with the right of BCTC to re-apply for approval.
 - (f) BCTC Capital expenditures of \$10.1 million for the MOD project and TDS4 expenditures of \$1.85 million as an Exceptional Project.
3. The Application subject to the qualifications above meets the requirements of Section 45(6) of the Act.

**BRITISH COLUMBIA
UTILITIES COMMISSION**

**ORDER
NUMBER G-87-09**

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4. Pursuant to sections 88(2) and/or 99 of the Act, the Commission denies BCTC relief from the Commission Directives indicated in Sections 5.3, 7.5 and 9.2.13 of the Application.
5. BCTC is directed to comply with all determinations and directives set out in the Reasons for Decision.

DATED at the City of Vancouver, in the Province of British Columbia, this 13th day of July 2009.

BY ORDER

Original Signed By:

L.A. O'Hara
Panel Chair and Commissioner

Growth Capital Expenditures Accepted

Cash Flow by Fiscal Year from Table 5-1 (\$ thousands)	SDA %	In-Service Date	Estimate Accuracy		Total Funding Approved	Lower Bound	Upper Bound
					(\$000's)	(\$000's)	(\$000's)
Projects for Approval, Section 5.5.1.1 (Table 5-1, Rows 13 and 14)							
5L71/5L72 Series Compensation Project - Definition	0	Oct-13	-20%	50%	1,977	-	-
RAS - Provision for Unidentified Additions	0	Mar-11	NA - ALLOWANCE		1,000	-	-
					2,977		
Regional System Reinforcements, Section 5.5.2 (Table 5-1, Rows 34-41)							
2L39 Como Lake Loop	0	Aug-11	-15%	35%	6,060	5,151	8,181
60L19 – Reconductor ^{NOTE 1}	0	Oct-10	-30%	30%	-	-	-
Atchelitz Area Reinforcement ^{NOTE 1}	80	Oct-11	-15%	35%	-	-	-
Courtenay Area Reinforcement - Definition	95	Oct-13	-20%	50%	1,800	-	-
Dawson Creek Area Reinforcement - Definition	0	Oct-13	-50%	100%	3,000	-	-
Fraser Valley West Area Reinforcement - Definition	75	Mar-12	-50%	100%	1,500	-	-
TEP Future Projects - Definition	0	Mar-11	NA - ALLOWANCE		10,000	-	-
Westbank 138 kV System Reinforcement - Definition	0	Oct-14	-50%	100%	1,500	-	-
					23,860		
Station Expansion and Modifications, Section 5.5.3 (Table 5-1, Rows 76-84)							
Annacis Substation Reconfiguration	0	May-10	-15%	35%	1,523	1,295	2,056
Athalmer Substation Transformer Replacement	84	Oct-11	-15%	35%	1,565	1,330	2,112
Golden Substation 12/25 kV Voltage Conversion	71	Oct-10	-15%	35%	1,204	1,024	1,626
Horne Payne 230/12kV Transformer Upgrade	90	Oct-12	-15%	35%	1,441	1,225	1,946
Mission Area Reinforcement ^{NOTE 1}	83	Oct-10	-15%	35%	-	-	-

Growth Capital Expenditures Accepted (Con't)

Cash Flow by Fiscal Year from Table 5-1 (\$ thousands)	SDA %	In-Service Date	Estimate Accuracy		Total Funding Approved	Lower Bound	Upper Bound
					(\$000's)	(\$000's)	(\$000's)
North Vancouver Substation Upgrade	76	Dec-11	-10%	10%	10,116	9,104	11,128
Radium Substation - 12/25 kV Voltage Conversion	67	Oct-10	-15%	35%	1,516	1,289	2,047
Smithers Substation - Transformer Replacement	62	Nov-10	-10%	10%	1,772	1,594	1,949
Vanderhoof Substation T1 Transformer Replacement	71	Oct-11	-15%	35%	1,966	1,672	2,655
					21,104	-	-
Customer Requested Projects, Section 5.5.4 (Table 5-1, Rows 104 and 105)							
Load Interconnection Customer A ^{NOTE 1}	0	Mar-10	-15%	30%	-	-	-
Load Interconnection Customer B	0	Dec-10	-25%	25%	3,676	2,757	4,595
					3,676	-	-
Accepted Growth Capital Expenditures - Growth Capital Portfolio					51,617	-	-

Notes:

1. Growth Capital expenditures rejected because of First Nation consultation issues – 60L19 Reconductor, Atchelitz Area Reinforcement, Mission Area Reinforcement and Load Customer A.
2. The numerical differences between text and table are rounding errors and the table takes precedence.

Sustaining Capital Expenditures Accepted

	Sustaining Capital Portfolio \$'000 (Escalated)	F2010	F2011	Comments
		(\$'000)	(\$'000)	
	STATIONS			
1	Auxiliary Equipment For Approval			
	Annual Program	7,450	7,261	
	Total for Auxiliary Equipment	7,450	7,261	
2	Circuit Breakers For Approval			
	Annual Program	28,430	37,976	
	Total for Circuit Breakers	28,430	37,976	
3	Other Power Equipment For Approval			
	Annual Program	8,901	6,358	
	Total for Other Power Equipment	8,901	6,358	
4	Protection and Control For Approval			
	Annual Program	14,131	10,931	
	Third Party Requested Projects	2,575	1,778	
	Total for Protection and Control	16,706	12,709	
5	Risk Mitigation For Approval			
	Annual Program	7,137	7,408	
	Total for Risk Mitigation	7,137	7,408	
6	Telecommunications For Approval			
	Annual Program	5,373	4,409	
	Total for Telecommunications	5,373	4,409	
	TOTAL Stations	73,997	76,121	

Sustaining Capital Expenditures Accepted (Con't)

	TRANSMISSION			
1	Cable Sustainment For Approval			
	Annual Program	5,254	4,852	
	Total for Cable Sustainment	5,254	4,852	
2	OH Lines Life Extension For Approval			
	Annual Program	16,017	16,366	
	Total OH Lines Life Extension	16,017	16,366	Adequacy Issues
3	OH Lines Performance Improvement For Approval			
	Annual Program	4,793	2,145	
	Total OH Lines Performance Improvement	4,793	2,145	Adequacy Issues
4	OH Lines Risk Mitigation For Approval			
	Annual Program	8,663	12,637	
	Total for OH Lines Risk Mitigation	8,663	12,637	Adequacy Issues
5	Right-of-Way Sustainment For Approval			
	Annual Program	8,129	7,914	
	Third Party Requested Projects	2,191	2,235	
	Total for ROW Sustainment	10,320	10,149	Adequacy Issues
	SUBTOTAL Transmission	45,047	46,149	

Sustaining Capital Expenditures Accepted (Con't)

	SUBTOTAL Requested SUSTAINING PORTFOLIO (before adjustments)	119,044	122,270	Requested
	Less EMERGENCY CAPITAL	-700	0	Rejected ^{Note 1}
	Less THIRD PARTY REQUESTED	-2,191	-2,235	Rejected
	SUBTOTAL SUSTAINING PORTFOLIO Adjusted	116,153	120,035	Adjusted
	Less FN Adequacy Adjustments	-37,602	-39,062	Rejected (FN) ^{Note 2}
	TOTAL SUSTAINING PORTFOLIO	78,551	80,973	Accepted

Notes:

1. Rejected as not part of the Sustaining Capital expenditures. Resubmit as per Master Agreement.
2. Rejected Sustaining Capital expenditures - overhead life extension, overhead lines performance improvement, overhead lines risk mitigation, and right-of-way sustainment programs because of First Nation consultation issues.

BCTC Capital Expenditures Accepted

BCTC Capital Portfolio	IS Date	Project Total (\$'000)	F2010 (\$'000)	F2011 (\$'000)
For Approval				
Base Program		12,425	3,666	8,959
IFRS Financial System Project	Mar 2010	1,249	1,249	0
Total BCTC Capital Portfolio Accepted		13,674	4,915	8,959

Note:

- The TDS4 Upgrade is rejected as an Exceptional Program and is to be included in the Base Program.
- The unapproved MOD project will be submitted as a CPCN and if the CPCN is denied the \$97,000 for westTTrans will be accepted.
- The \$8.7 million Base Program for F2010 is comprised of \$5.1 million previously approved and the \$3.6 million incremental expenditure.

The Regulatory Process

By letter dated December 1, 2008 the Commission established the Panel for the review of the BCTC Transmission System Capital Plan F2010 and F2011 Application (Exhibit A-1).

By Letter dated December 8, 2008 and Order G-179-08 the Commission established a Regulatory Timetable and Notice of Written Public Hearing. The Order established the following Regulatory Timetable:

ACTION	DATE (2008 & 2009)
Intervenor and Interested Party Registrations	Friday, December 19
Commission Information Request No. 1	Friday, January 16
Participant Assistance/Cost Award Budget Submissions	Tuesday, January 20
Intervenor Information Request No. 1	Friday, January 23
BCTC Response to Commission and Intervenor Information Requests No. 1	Friday, February 6
Commission and Intervenor Information Requests No. 2	Wednesday, February 18
BCTC Response to Commission and Intervenor Information Requests No. 2	Wednesday, March 4
BCTC Final Submission	Wednesday, March 11
Intervenor Final Submission	Wednesday, March 18
BCTC Reply Submission	Wednesday, March 25

By letters dated:

- March 6, 2009 and pursuant to the February 18, 2009 Court of Appeal decisions in Kwikwetlem First Nation v. British Columbia Utilities Commission, 2009 BCCA 68 and Carrier Sekani Tribal Council v. British Columbia Utilities Commission,

2009 BCCA 67, the Commission issued Order G-19-09 amending the Regulatory Timetable (Exhibit A-5).

- April 8, 2009 and the Commission amended the Regulatory Timetable extending the filing dates for Submissions as follows:

ACTION	DATES (2009)
BCTC Final Submission	Friday, April 17
Intervenor Final Submission	Monday, April 27
BCTC Reply Submission	Monday, May 4

(Exhibit A-7).

The Commission received Final Submissions from:

- BCTC on April 17, 2009,
- BCOAPO on April 24, 2009,
- CEC on April 27, 2009 and CEC revised Final Submission on April 27, 2009,
- BC Hydro on April 24, 2009,
- JIESC on April 27, 2009, and
- IPPBC on April 28, 2009.

BCTC submitted its Reply Submission responding to final submissions of BC Hydro, BCOAPO, CEC, IPPBC, and JIESC on May 04, 2009.

List of Intervenors

J. SOFIELD	British Columbia Hydro and Power Authority
J. QUAIL B. HARPER	B.C. Old Age Pensioners' Organization, <i>et al</i>
C. WEAVER	Commercial Energy Consumers of British Columbia
R. LEGGE	Plutonic Power Corporation
H. KAROW	Coalition to Reduce Electropollution
R.E. MILLER	Town of Golden and Area Initiatives Society
B. WALLACE D. POTTS L.G. GUENTHER	Joint Industry Electricity Steering Committee
G. MACINTYRE	Columbia Power Corporation
K. LAIL	EPCOR Utilities Inc.
D. AUSTIN S. DAVIS	Independent Power Producers Association of BC
T. LOSKI	Terasen Gas
M. WALSH	Selkirk Power Company Ltd.
W. ANDREWS	B.C. Sustainable Energy Association Sierra Club Of Canada, B.C. Chapter
R. TENNANT	Vanport Sterilizers Inc.

IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

British Columbia Transmission Corporation
Transmission System Capital Plan F2010 and F2011

EXHIBIT LIST

Exhibit No.

Description

COMMISSION DOCUMENTS

- | | |
|-----|---|
| A-1 | Letter dated December 1, 2008 establishing the Panel for the review of the Transmission System Capital Plan F2010 and F2011 Application |
| A-2 | Letter dated December 8, 2008 and Order G-179-08 establishing a Regulatory Timetable and Notice of Written Public Hearing |
| A-3 | Letter dated January 16, 2009 issuing Commission Information Request No. 1 to BCTC |
| A-4 | Letter dated February 18, 2009 and Commission Information Request No. 2 |
| A-5 | Letter dated March 6, 2009 and Order G-19-09 issuing an amended Regulatory Timetable |
| A-6 | Letter dated March 10, 2009 BCUC IR-3 |
| A-7 | Letter dated April 8, 2009 and amended Regulatory Timetable extending the filing dates for Submissions |

APPLICANT DOCUMENTS

- | | |
|-----|---|
| B-1 | Letter dated November 21, 2008 filing the application for the Transmission System Capital Plan for F2010 and F2011 |
| B-2 | Letter dated December 4, 2008 filing Errata to the application for the Transmission System Capital Plan for F2010 and F2011 |
| B-3 | Letter dated December 9, 2008 issuing an invitation to attend the December 18, 2008 Workshop |

Exhibit No.	Description
B-4	Letter dated December 22, 2008 issuing media Notice and publication schedule
B-5	Letter dated December 23, 2008 filing material from December 18, 2008 Workshop
B-6	Letter dated February 6, 2009 filing Information Requests Responses to the Commission and Registered Intervenors
B-6-1	CONFIDENTIAL – Letter dated February 6, 2009 filing confidential responses to Commission Information Requests
B-7	Letter Received February 20, 2009 Errata - Response to JIESC IR-1
B-8	Letter Received March 04, 2009 BCTC IR No. 2 Responses
B-8-1	CONFIDENTIAL – Letter dated March 04, 2009 BCTC IR No. 2 Responses
B-9	Letter dated April 01, 2009 BCTC request filing deadline for Final Submission be extended two days to April 17, 2009 and that the filing deadlines for the Intervenor Final Submission and BCTC Reply Submission be extended to April 24, and May 1, 2009 respectively.
B-10	Letter dated April 08, 2009 BCTC responses to BCUC IR No.3 and BCOAPO IR No.3

INTERVENOR DOCUMENTS

C1-1	BRITISH COLUMBIA HYDRO AND POWER AUTHORITY (BC HYDRO) – Web registration dated December 9, 2008 requesting Intervenor status
C1-2	Letter dated February 18, 2009 BCH-response_IR-1 to BCTC
C2-1	BC OLD AGE PENSIONERS ORGANIZATION ET AL. (BCOAPO) – Letter dated December 9, 2008 from the British Columbia Public Interest Advocacy Centre requesting Intervenor status on behalf of its client, BCOAPO
C2-2	Letter dated January 23, 2009 filing Information Request No. 1 to BCTC
C2-3	Letter dated February 18, 2009 Information Request No. 2 to BCTC
C2-4	Letter dated March 16, 2009 BCOAPO IR No. 3

Exhibit No.	Description
C3-1	COMMERCIAL ENERGY CONSUMERS OF BRITISH COLUMBIA (CEC) – Letter dated December 11, 2008 from Christopher Weafer, Owen-Bird, Counsel requesting Intervenor status
C4-1	PLUTONIC POWER CORPORATION (PPC) – Letter dated December 11, 2008 from Rupert Legge requesting Intervenor status
C5-1	COALITION TO REDUCE ELECTROPOLLUTION (CORE) – Letter dated December 17, 2008 from Hans Karow requesting Intervenor status
C5-2	Letter dated January 23, 2009 issuing Information Request No. 1 to BCTC
C5-3	Letter dated February 18, 2009 BCTC response to KAROW_IR-2
C6-1	GOLDEN AND AREA COMMUNITY ECONOMIC DEVELOPMENT SOCIETY (GACEDS) – Email dated December 18, 2008 from Rob Miller requesting Intervenor status
C7-1	JOINT INDUSTRY ELECTRICITY STEERING COMMITTEE (JIESC) – Letter dated December 17, 2008 from Brian Wallace, Bull Housser & Tupper, requesting Intervenor status
C7-2	Letter dated January 23, 2009 issuing Information Request No. 1 to BCTC
C8-1	COLUMBIA POWER CORPORATION – Web registration from Glenn MacIntyre requesting Intervenor status
C9-1	EPCOR UTILITIES INC. – Web registration from Kelly Lail, counsel, requesting Intervenor status
C10-1	INDEPENDENT POWER PRODUCERS ASSOCIATION OF BRITISH COLUMBIA (IPPBC) – Letter dated December 19, 2008 from David Austin, requesting Intervenor status
C10-2	Letter dated January 23, 2009 issuing Information Request No. 1 to BCTC
C10-3	Letter dated February 18, 2009 IPPBC response-to IR-2
C10-4	Letter dated April 01, 2009 Via Email supporting extension to Final Submissions
C10-5	Letter dated April 2, 2009 concerns with amending timetable

Exhibit No.	Description
C11-1	TERASEN UTILITIES (Terasen Gas Inc., Terasen Gas (Vancouver Island) Inc., Terasen Gas (Whistler) Inc.) – Letter dated December 19, 2008 from Tom Loski requesting Intervenor status
C12-1	SELKIRK POWER COMPANY LTD. – Letter dated December 22, 2008 request for Registered Intervenor status
C13-1	BC SUSTAINABLE ENERGY ASSOCIATION, SIERRA CLUB OF BRITISH COLUMBIA (BCSEA) – Letter dated December 23, 2008 request for Registered Intervenor status
C14-1	VANPORT STERILIZERS INC. (VANPORT) – Letter dated December 29, 2008 request for Registered Intervenor status
C14-2	Letter dated January 23, 2009 issuing Information Request No. 1 to BCTC

INTERESTED PARTY DOCUMENTS

D-1	ELLIOTT ENERGY SERVICES LTD. – Web registration from John Elliott requesting Interested Party status
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