

***RAPIDTRANSIT***  
***PROJECT 2000***

**PROJECT MANAGEMENT OVERSIGHT**  
**Report No. 5**

**February 19, 2000**

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## **I – INTRODUCTION**

### **1. OBJECTIVES OF REPORT NO. 5**

Quarterly Report No. 5 provides an independent view of the Millennium Skytrain Line Project status as of December 31, 2000. The primary focus is on overall Project budget and schedule. The team also examined the management approach in areas important to the continued success of the Project.

### **2. APPROACH FOR REPORT NO. 5**

The steps of this review included:

- Information gathering and document review
- Analysis of RTP 2000 reports
- Examination of Project schedule and budget status
- Follow-up on previously identified concerns

This report is limited to a high-level review rather than detailed audits or technical reviews. The Project Management Oversight (PMO) team worked with cost and schedule material for the period ending December 31, 2000. Budget and schedule were analyzed together with the reporting systems that provide management with information and trend analysis.

Project staff provided the PMO team with the following reports and supporting documents:

- Project Progress Reports (covering the periods October - December 2000)
- November and December Construction Reports
- Bombardier Progress Reports 15,16 & 17
- Cost Detail Report (December 2000)
- Contract Value and Pending Change Reports for Major Contracts
- Project Level 2 Detailed Schedule Report December 2000 Status

After reviewing these documents, the PMO team conducted interviews with contract administrators, owner's representatives and managers of key contracts, and met with Project staff to follow-up on issues identified in our last review.

The PMO team conducted independent analyses and evaluations of the following areas:

- Project Management Issues
  - Schedule Status Reporting
  - Budget and Commitment Controls
  - Trends in Changes and Claims
- Project Schedule
  - Current Schedule Status
- Project Budget
  - Baseline Budget
  - Major Systems and Civil Contracts
  - Design, Management and Administration Costs
  - Contingency.

### **3. SUMMARY OF FINDINGS**

Significant physical progress has been made again this quarter on the Project. The major elevated guideway for Phase I is substantially complete and 81% of the total Project spans have been erected. The management focus has begun to shift from the guideway to the stations and systems work, particularly for Phase I work to Braid.

The overall schedule status for Phase I, opening to Braid December 2001, is largely unchanged from last quarter. Work-arounds continue to be effective in mitigating interim slippage. The current schedule for Phase II shows opening at Commercial in fall 2002. Implementing the planned work-arounds (including providing the E&M Systems contractor with flexible access to special track areas and improving track-work productivity) could bring the opening back to June 2002. Project progress during the next quarter will continue to be critical to maintaining budget and schedule.

During this period, RTP 2000 conducted a detailed review of the final forecast cost to complete. Some budget and contingency transfers between task categories are expected to occur next quarter to more accurately reflect revised schedule and cost assumptions, particularly as they relate to Phase III. The review confirmed that the forecast final cost would remain within budget provided that certain financial cost mitigation measures related to Interest During Construction (IDC), GST and asset capitalization are successful.

Since the management focus has shifted more toward station and system work, we believe the schedule should be refined to better highlight interfaces. It has become increasingly important to have a thorough knowledge of how civil and systems interfaces progress. This is particularly important for planning work-arounds.

A very focused effort will be required to ensure that cost impacts and all contractual matters are finalized prior to starting work toward a new negotiated schedule.

## **II – MANAGEMENT**

### **1. SCHEDULE STATUS REPORTING**

The Project Summary Outline Schedule is the master schedule for the Project. It has served as a useful tool for tracking civil progress against contract requirements. During this quarter, the Elevated Guideway contractor has made considerable progress against schedule milestones. Since the guideway construction for Phase I is substantially complete management focus has been shifting somewhat to the station contracts and systems installation.

Refinements to schedule logic and added detail would provide management with a better tool for monitoring interfaces between the remaining civil works and systems contractors. After the E&M Systems contractor agreed to the re-baselined schedule this quarter, the revised access dates were incorporated as constrained dates in the schedule. The completion of certain civil work is also constrained. The use of constrained dates may lead to ambiguous and misleading schedule calculation results. (Due to the constraints in the December 2000 schedule, we were unable to compare progress this quarter against interface milestone progress in previous quarters. Therefore the section on the status of interfaces which appeared in previous reports has been excluded.) We recommend that use of these constraints be minimized wherever possible. It is important that everyone is clear when civil works are expected to be complete and ready for turnover and that the schedule serve as a critical tool for understanding the causes of delays.

At the time of our review, staff was incorporating more detail and reviewing the overall schedule logic to better highlight the interface activities. This detail will be critical to accurately assessing the need for work-arounds.

Based on experience with other Projects, we believe it would also be prudent at this point to add more detailed testing and commissioning activities to the schedule to keep ahead of potential problems in this area. Also, while escalators and elevators represent a small portion of Project budget, we have found that installation and testing can be problematic. Therefore, we recommend that detail regarding escalators and elevators also be tracked on the Project Summary Outline Schedule.

### **2. BUDGET AND COMMITMENT CONTROLS**

As discussed in previous reports, RTP 2000 management has been managing to Project Forecast Costs rather than Current Budget. Staff appears comfortable with the practice and is able to distinguish when transfers have been made from budget vs. forecast. However, the distinctions are not obvious to the audit team. Typically, we would expect forecast costs to drive the reallocation of budget.

When forecasts are tracking in a manner that exceeds current budget, procedures typically would require reallocations of budgets amongst various task codes. The reallocation of budget would then be reported in the monthly progress report. This procedure allows the forecast to incorporate trends that flag the need for budget transfers. The current RTP 2000 practice reallocates forecast and results in net budget variances in the Monthly Cost Report.

**3. TRENDS IN CHANGES AND CLAIMS**

The table below provides a comparison of change status on the major civil and systems contracts.

**Status of Changes**

	JUNE	SEPTEMBER	DECEMBER
Number of Approved Changes	88	129	200
Number of Pending Changes	97	88	103
Total Number of Changes	185	217	303
Total Net Value of Approved Changes	\$2 766,016	\$14,056,741	\$18,136,063
Total Net Value of Pending Changes	\$25,972,753	\$20,547,442	\$20,540,012
Total Net Value of Changes	\$28,738,769	\$34,604,183	\$38,676,075

(This table excludes \$48 million in approved changes associated with the Brownfield Options and approximately a \$7 million pending change for System contractor's sales tax.)

The value of pending changes has remained stable at \$20.5 million indicating that the RTP 2000 staff continues to keep abreast of the changes. Given, the current level of activity on the project with two large civil contracts (New Westminster Tunnel and Front Street Special Structure) winding down and the station contracts gearing up, the slight increase in overall volume is reasonable. However, we observed that there are a few significant pending changes for the systems contract that have remained open for several quarters. RTP 2000 should make some special efforts on these particular changes to ensure that adequate resources from both the contractor and owner are focused on resolving these pending changes in a timely manner.

We also continue to recommend that resources for all contracts be carefully monitored.

Last quarter, RTP 2000 provided the E&M Systems contractor with revised access dates that are later than the contract schedule. During this quarter, the E&M Systems contractor concurred with these revised dates and re-baselined the system schedule. At the time of this review, the contractor was considering another proposed activity schedule to maintain the current delivery dates to Commercial Station using the later access dates.

Given, the current level of activity on the Project, a focused effort will be necessary to finalize these changes in advance of implementing the work-arounds.

At the time of this review, RTP had adopted a new practice for tracking less-defined contract risks. Contract Administrators and Owner's Representatives are taking a conservative and prudent approach by identifying potential risks even when entitlement and cost magnitude may be vague. The potential risks were carried this period on the pending change log but not applied against the AFE. Linking these low probability risks to the pressures on contingency analysis is a

practical way to identify indistinct risks without unjustifiably raising contract AFEs. The rough order of magnitude for these risks is being carried as pressures on contingency. To date, this practice has only been applied to potential costs associated with delays. As the practice is further refined this quarter, we recommend that written procedures be revised to ensure consistent use of this method of accounting for less defined risks.

We recommend that RTP 2000 take this opportunity to review the effectiveness of current practices in defending these claims. Lessons learned from the handling of the Elevated Guideway contractor claims could be useful in the future.

**4. FOLLOW-UP ACTIONS**

Action No.	Action Item	Disposition
5-II-1	The use of constrained dates in the schedule should be minimized.	<i>Agreed. See 5-II-2</i>
5-II-2	The schedule should include more detail to explicitly point out the activities that need to be completed in order to turn over areas to follow-on contractors.	<i>Agreed. As noted in Section 11, paragraph 1.0, staff is currently incorporating more detail to better highlight the interface activities. The majority of station construction schedules has been finalized and can now be better incorporated with the systems construction schedule. At this stage of the Project and with direct input from the contractor schedule constraints will be minimized.</i>
5-II-3	Detailed Testing and Commissioning schedules should be added to the Summary Schedule.	<i>Agreed. The testing and commissioning schedule has, to date, been a separate schedule. As the Project enters the phase of stations and systems installations, it has been planned to incorporate the testing and commissioning schedule into the Summary Schedule.</i>
5-II-4	Elevators and escalators should be added to the Summary Schedule	<i>Agreed. See 5-II-2.</i>
5-II-5		

5-II-6	We recommend reviewing lessons learned about managing the Elevated Guideway claim.	<i>Agreed. A lesson-learned session is planned for the next quarter. Any action will be documented and implemented as required.</i>
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### III – SCHEDULE

#### 1. CURRENT SCHEDULE STATUS

##### Phase I

The schedule for Phase I continues to show that a December 2001 opening is achievable. While Sapperton Station completion has fallen slightly further behind this quarter it is not on the critical path. Significant construction progress was achieved by the Elevated Guideway contractor this quarter. The critical path currently runs through the completion of the guideway, and track work, cable, Lim rail and power rail installation. Also on the critical path for the next quarter is Braid Substation testing and commissioning.

##### Phase II

The December 2000 status schedule for Phase II is indicating an opening date of fall 2002, which is largely unchanged from last quarter. RTP 2000 is working toward bringing the opening date back to June 2002 through efficiencies in track work. RTP 2000 has implemented measures to mitigate the late completion of the Loughheed Highway by providing the E&M Systems contractor earlier access to the special track work areas. Progress next quarter on the finishing work on the special structures, Milestone 7 between Holdom and Sterling continues to be critical. Mitigation activities to address the changed soil conditions on the Grandview Cut will need to be carefully monitored and modified if necessary.

#### 2. FOLLOW-UP ACTIONS

Action No.	Action Item	Disposition
5-III-1	RTP 2000 staff should continue its efforts to monitor progress to ensure that schedule objectives can be achieved through planned work-arounds.	<i>Agreed. As per 4-III-1 work arounds to mitigate any schedule have been successful to date. Staff will continue to monitor progress to ensure schedule objectives.</i>
5-III-2		

**IV – BUDGET**

**1. CURRENT STATUS**

**Baseline Budget**

The Project forecast remains on budget at \$1,166.550 million.

As of December 31, 2000 the forecast cost and expenditures compared to budget are:

<b>Project Element</b>	<b>Budget</b>	<b>Expended</b>	<b>Forecast</b>	<b>Variance</b>
Construction and Systems	785,505,111	573,838,788	812,858,341	(27,353,230)
Property	48,000,000	25,244,513	43,000,000	5,000,000
Design, Mgmt and Admin	117,299,535	71,260,125	119,181,337	(1,881,802)
Other (includes interest)	122,931,287	70,587,340	147,155,596	(24,224,309)
Contingency	92,814,067	-	44,354,726	48,459,341
<b>Total</b>	<b>1,166,550,000</b>	<b>740,930,766</b>	<b>1,166,550,000</b>	<b>-</b>

**Major Systems and Civil Contracts**

The major-awarded construction and systems contracts examined this quarter are set out below:

<b>STATUS DECEMBER 2000</b>						
<b>Contract Awarded</b>		<b>Original Award</b>	<b>Current Value</b>	<b>Incurred</b>		
Elevated Guideway		208,753,524	228,975,484	222,213,127		
New Westminster Tunnel		24,048,145	26,375,164	26,375,164		
E& M Systems		204,990,129	262,453,335	226,823,573		
Front Street		5,145,000	5,218,606	5,217,024		
Loughheed Station Gwy		15,464,000	16,335,533	15,309,476		
Grandview Cut		15,955,312	16,137,207	6,256,509		
Sapperton Station		7,904,765	7,105,377	4,277,125		
Braid Station		5,150,700	4,466,057	2,018,353		

(This table provides a program-wide view of the major contracts and includes non-project 2000 costs. The Elevated Guideway figures also include utility and roadwork costs.)

**Contract Reserve Analysis**

	Percent Complete
Elevated Guideway	
Contract Reserve	93%
Permanent Roadwork	N/A
Utility Allowance	N/A
New Westminster Tunnel	99%
Grandview Cut Guideway	39%
Lougheed Station Guideway	94%
Braid Station	37%
Sapperton Station	52%
E&M Systems	24%

**Property**

**Design, Management and Administration**

Overall soft cost expenditures this quarter, including Construction Management and other RTP 2000 direct costs (although slightly higher than previous quarters averaging \$1.7 million a month) were within forecast expectations. At the time of this review, RTP 2000 staff was preparing a revised staffing plan to incorporate a December 2002 VCC opening and assumptions regarding winding down the Project by June 2003. It is commendable that RTP 2000 has begun planning this well in advance. Closing down a Project office effectively can be challenging and requires

taking an uncompromising approach. The revised plan is expected to be accomplished within available budget. Based on current expenditures we estimate the cost to be approximately \$5 million to extend administrative costs to June 2003. This is consistent with RTP 2000 estimates. Once the VCC opening schedule uncertainties have been resolved RTP 2000 may wish to consider accelerating the Project close out.

The major design, management and administration Project elements are set out below:

Project Element	Budget	Incurred	Forecast	Variance
Design	24,021,873	18,901,084	26,630,029	(2,608,156)
Value Engineering	500,000	181,712	253,000	247,000
Design Management	12,326,316	7,097,320	12,308,654	17,662
Construction Management	17,964,259	3,197,851	14,831,953	3,132,306
Project Administration	62,487,087	34,599,659	64,960,770	(2,473,683)
Total	117,229,535	63,977,626	118,984,406	(1,684,871)

**Other**

The other Project elements are set out below:

<b>Status December 31, 2000</b>				
Project Element	Budget	Expended	Forecast	Variance
Insurance	5,900,000	3,237,158	4,775,798	1,124,202
Interest	89,274,962	49,625,930	114,623,478	(25,348,516)
Provincial Sales Tax	416,374	492,127	496,374	(80,000)
Non-Recoverable GST	27,339,951	17,232,125	27,259,946	80,005
Total	122,931,287	70,587,340	147,155,596	(24,224,309)

As reported last period current expected interest costs continue to be a significant concern.

RTP 2000 continued to seek relief from GST expense. A ruling on this matter is pending.

**Contingency**

Based on the December cost report, the total transfers from contingency are \$ 30.9 million. The funds remaining in baseline contingency are \$44.4 million or 48% of the current contingency budget.

Approximately \$70.3 million in potential Project-related risks have been identified by RTP 2000 with different levels of probability of occurrence. The table below illustrates that the expected draw from contingency of Project-related risks is \$44.2 million. The impact of the province's IDC rate strategy has been excluded from the table this quarter and is addressed separately below.

<b>POTENTIAL CONTINGENCY PRESSURE ITEMS</b>				
	<b>A m o u n t</b>	<b>P r o b a b i l i t y</b>		
	<b>\$ M</b>	<b>H i g h</b>	<b>M e d i u m</b>	<b>L o w</b>
Total Potential Contingency Items	70.3	33.8	11.5	25
Probability %		95%	50%	25%
Expected Contingency Transfer	44.2	32.1	5.8	6.3

The expected \$44.2 million draw against the \$44.4 million remaining in baseline contingency leaves \$0.2 million available for non-forecasted events with more than 40% of the Project to complete.

Mitigation measures to offset expected costs will be necessary to maintain budget.

**2. FOLLOW-UP ACTIONS**

Action No.	Action Item	RTP 2000 Reported Disposition
5-IV-1	Staff needs to continue to assess both the estimated value of pending changes and the potential contract reserve requirements on both the Grandview Cut and the Elevated Guideway.	<i>Agreed. As per 4-II-3, the value of pending changes, and monitoring of same, is an ongoing management and control procedure. Adjustments to affected AFEs will be made if and when required. An AFE adjustment for the Grandview Cut was approved by the RPT Board in January.</i>
5-IV-2	Once the VCC schedule is finalized, staff may want to reevaluate the Project closeout schedule.	<i>Agreed. The project closeout schedule will be re-evaluated on a quarterly basis.</i>
5-IV-3	Budget forecast should be revised to reflect expected costs.	<i>As responded to previously in 2-II-6 and 2-IV-1 and as noted in Section II paragraph 2.0, staff is managing to forecast costs rather than current budget. Staff does manage to the Project's overall budget and does distinguish approved budget transfers, as required, from forecast transfers. These practice and procedures are in part driven by the constraints of the project's Oracle/P3 financial/scheduling software integration, which precludes line by line tracking to the "original budget". All budget transfers are separately tracked and reconciled to both the original and current budgets. The PMP and project procedures have been modified to ensure these practices comply with procedures</i>
5-IV-4	The proposed plans to offset IDC costs should continue to be implemented	<i>Agreed. As noted in 1-IV-2 and 4-IV-3 debt management is the responsibility of RTP 2000's fiscal agent, the Provincial Treasury Board. RTP staff is working with central agencies of government to implement the plan; Resolution is expected next quarter.</i>

**Follow up Items From Previous Quarters**

Action No.	Action Item	Disposition
1-II-1	Continued focus on Project Management by Contract. Up date and refine management reports to ensure that they continue to provide clear contract-by-contract views of Project progress and status of major contracts.	<p><i>Price water house Coopers confirmed that all 31 recommendations put forward in their May 1999 report have been implemented, either as proposed or appropriately modified or improved. This confirmation is set out in a letter dated December 1, 1999.</i></p> <p><i>The current management of the Project is very much focused in a contract basis. Construction management teams are in place and discrete progress reports provide the status of each contract on a monthly basis.</i></p>
2-II-1	Continued focus on ensuring that contract status reports are standardized; effectively linked to the financial system and provide accurate simple summary level information about contract status.	<p><i>Agree. Staff continues to ensure all reports comply with project procedures and also that potential changes are valued and committed in the Oracle System. RTP 2000 Quality Management group will also perform an internal audit to identify any anomalies and address any non-conformance to assist in ensuring continuing compliance.</i></p>
2-II-2	Reexamine Oracle system limitations in applying credit changes and develop consistent mitigation measures including credit change tracking.	<p><i>Oracle's inability to permit entry of credit change orders has been recognized since commencement of the project. Staff has developed effective work-arounds to this issue and is satisfied these procedures are an effective and efficient means of applying credit changes. RTP 2000 is a member of the Oracle User Group which ensures that RTP 2000 is both current with Oracle's software improvements, and that RTP 2000 experiences are incorporated into these ongoing improvements.</i></p>

Action No.	Action Item	Disposition
2-II-4	The Board should be formally notified of all changes to Contract AFE levels even if the change results from a scope transfer between authorized contracts.	<i>Staff recognizes the importance of tracking transfers of scope between contracts and has been monitoring them individually. Requests for change in the AFE have been, to date, on a periodic basis rather than on an event basis. The Board will be (and has Been) requested to authorize adjustment to the affected AFE's prior to commitment of project costs beyond approved levels.</i>
2-II-6	Changes to budget line items should be reflected in the forecast column leaving the actual line items within the budget unchanged.	<i>The Project budget has been frozen with the exception of scope changes. The budget will continue to be adjusted within the total approved amount of \$1.1665 billion when scope changes so warrant (such as future award of station contracts). Previously established and approved project procedures are being followed.</i>
3-II-1	The Monthly Project Progress Report should explicitly provide: <ul style="list-style-type: none"> <li>• Original Contract Value</li> <li>• Board Approved Authorized for Expenditure</li> <li>• Incurred Costs</li> <li>• Approved Changes</li> <li>• Pending Changes</li> <li>• Remaining Contract Reserve</li> <li>• Current Contract Value.</li> </ul>	<i>Agree. Reporting by Contract has been incorporated into the July month end reporting.</i>
3-II-2	Consider establishing a formal contract reserve usage threshold level (for example, 10% remaining reserves) that would trigger automatic senior-level assessments of the adequacy of contract reserves and consider requiring Project Manager's approval for change requests that reduce contract reserve below a set threshold.	<i>Staff has reviewed RTP's AFE policies and practices for monitoring and managing contract reserves and believe the current processes and controls in place are appropriate and sufficient. Staff do not believe the suggested added controls will add value.</i>
3-II-3	Continue to monitor the volume and duration of pending changes to ensure that adequate resources are employed.	<i>Agree. Monitoring of pending changes is an ongoing management and control procedure, which will be continued on a regular basis.</i>

Action No.	Action Item	Disposition
3-II-4	Ensure that common procedures are applied to reconcile contract information monthly to budget task records (Oracle 203 Report) and contract commitment records (Oracle 103 Report) in the financial system.	<i>Agree. The 103 and 203 reports generated from Oracle continue to be used effectively. In future, the reports will be reconciled to both the approved AFE amounts and to the Change Order Summary Reports.</i>
3-II-5	Maintain an off-line spreadsheet to track credit changes applied to the Oracle system.	<i>An off-line spreadsheet is being utilized to track changes. Credit Change Order items will be reconciled to the Oracle reference on the Contract Change Order Report Summary.</i>
3-II-6	RTP 2000 create a direct electronic link between the contract commitment data maintained in the Oracle system and the Contract Administrator Change Order Summary Reports (maintained in Excel).	<i>Staff have reviewed the need for an electronic link. While considered ideal, manual adjustments will continue to be required because of the inability of Oracle to track credit changes. Therefore, while less than ideal, the practice of manual reconciliation by the Project Controller must be continued. Staff are confident that this practice does provide accurate and reliable linkage.</i>
4-II-1	The Overall physical percent complete for each contract should be incorporated in the Monthly Project Progress Report.	<i>Agreed. The physical percent complete was incorporated in the October month end report.</i>
4-II-2	Float or variance indicators should be incorporated in the Summary Schedule for key milestones.	<i>Float and variance indicators are included in all detail schedules. The information is also noted on the Summary Schedule. Management believes the current level of reporting is adequate and does not support the further reporting of this information.</i>
4-II-3	The value of pending changes should be reassessed on the Loughheed Station and Elevated Guideway contracts. Increases in the AFE should be made if appropriate.	<i>Agreed. The value of pending changes and monitoring of same is ongoing management and control procedure. Adjustments to the affected AFEs will be made if and when appropriate.</i>
4-II-4	Continue to carefully assess the potential costs associated with proposed workarounds and issues relating to ownership of schedule float and entitlement prior to issuing changes.	<i>Agreed. This is ongoing.</i>

Action No.	Action Item	Disposition
1-III-1	Revised Master Schedule Detail PMO concurs with staff's intent to incorporate the system contractor's new schedule into a revised detail master schedule. The PMO will review this schedule with respect to assessing critical path items, the amount of float on non-critical items, interface milestones and impact on revenue operating dates.	<i>The Project schedule has been updated to include all impacts of the later than anticipated receipt of environmental approvals, access to railway property and municipal agreements. This incorporates re-sequencing of Elevated Guideway contract work and revised interfaces with all major contracts including systems. Gannett Fleming will review this revised schedule, together with up-to-date financials as part of its review of fourth quarter (to March 31, 2000)</i>
2-III-1	The detail schedule must be kept current.	<i>Agree. Staff will continue to ensure the detailed project schedule is kept current. This process is part of the comprehensive month end reviews and forms integral input into the management's weekly schedule review meetings.</i>
2-III-2	Staff should obtain a cost estimate from the E&M Systems contractor for the three separate testing and commissioning cycles in the revised schedule.	<i>Agree. Discussions are underway with the contractor to finalize the testing and commissioning schedule.</i>
2-III-3	Staff should report monthly on progress against interface schedule milestones,	<i>Agree. Staff considers reviewing, monitoring and managing interface milestones as an effective schedule control process. Staff will continue to report internally on interface milestones and roll this information up into its general schedule commentary and reporting to the Board. Unless requested by the Board, detailed interface reporting will not be incorporated as part of staff's monthly reporting to the Board.</i>
3-III-1	Continue to take proactive steps to mitigate delays in contract interfaces and foster cooperation among contractors.	<i>Agree. Staff is continuing with this practice. Formal changes to contract schedules are currently being finalized to recognize the concurrent and partial handovers.</i>
3-III-2	Take further steps to obtain a cost estimate from the E&M Systems contractor for the three separate testing and commissioning cycles.	<i>This recommendation is similar to 2-III-2 and will be concluded upon finalization of 3-III-1 above.</i>

Action No.	Action Item	Disposition
4-III-1	RTP 2000 staff should continue to monitor Guideway and station progress in order to coordinate the systems interfaces effectively.	<i>Agreed. Work-arounds to mitigate any schedule impacts have been successful to date. Staff will continue to monitor progress to ensure schedule objectives.</i>
4-III-3	A report outlining the full cost impact of the three openings should be prepared.	<i>Agreed.</i>
1-IV-1	Review Contract Reserves New Westminster Tunnel %usage ahead of %completion Elevated Guideways %usage ahead of %completion E&M Systems allow for revised access dates workplan	<i>Potential changes are entered into the contract reserve log as soon as contract administrators become aware of a potential issue. Contract reserves are tracked and monitored on a weekly basis for every contract.</i>
1-IV-2	Innovative Financing Pursue alternative financing strategies to mitigate rising interest rates	<i>Debt management is the responsibility of RTP 2000's fiscal agent, the Provincial Treasury. RTP 2000's CFO is currently discussing strategies to mitigate interest rate fluctuations with the provincial government.</i>
1-IV-3	Potential Contingency Item E&M Systems Revised Workplan Incorporate costs of revised workplan into potential contingency risk matrix, if the costs are beyond those planned to be handled by the contract reserve	<i>The potential for drawdown of the Electrical and Mechanical reserve relates more to schedule and guideway access than to design modifications. A six-month window exists within which access can be delayed without cost. The updated master schedule will aim to maintain completion within this six-month window.</i>
1-IV-4	Recognize in determining the VCC alignment that the ability of the Project contingency to absorb significant scope changes is limited	<i>The Commercial to VCC alignment has now been approved with a positive impact upon the Project contingency fund.</i>

Action No.	Action Item	Disposition
2-IV-1	Review budget transfer policy and implementation practices.	<i>Staff has reviewed RTP 2000's budget transfer policy and implementation practices. In addition, the budget transfer policy has been subject to previous audits and review (PwC) and staff is satisfied that the current practices comply with best practices and ensure effective controls and performance management are in place. As noted in 2-II-6 above, budget transfers will continue to be made within the total approved project budget until all major contracts (and particularly, stations) have been awarded.</i>
2-IV-2	Continue to monitor contract reserve usage on the major contracts.	<i>Agree. This is an ongoing process and will continue to be monitored weekly at all contractor co-ordination meetings and internal review sessions.</i>
2-IV-3	Positive steps should be taken to hold the line on the Project budget. Staff should continue to identify potential cost saving measures	<i>Agree. There is no room for upward scope changes. Ongoing value engineering of major uncommitted costs (stations) are underway and all cost centers, both direct and indirect, continue to be assessed for identification of potential cost savings. For example, staffing plans have been independently reviewed to ensure their appropriateness for the management of this project</i>
3-IV-1	Assess adequacy of contract reserves.	<i>Agree. As per disposition on 2-IV-2, this is an ongoing process and will continue to be monitored weekly at internal review sessions.</i>
3-IV-2	Support RTP 2000 planned effort to consider forecast final costs.	<i>The forecast project cost at completion is discussed at Board meetings. Further deliberation on the impacts of major pressures on contingency, including Interest During Construction and GST status, is expected in the next quarter.</i>

Action No.	Action Item	Disposition
3-IV-3	Soft costs should also be reassessed as part of a more detailed review of the budget implications of the revised schedule.	<i>Agree. Soft costs are a major component of the overall budget and are reassessed monthly. As well, the project-staffing plan is reviewed in detail on a regular basis. Upon finalization of the schedule assessment noted in 3-III-1, a detailed review of all soft costs will be undertaken.</i>
4-IV-1	Staff needs to further assess both the estimated value of pending changes and the potential contract reserve requirements on both Louhheed Station Guideway and the Elevated Guideway.	<i>Agreed. As per disposition 1-VI-1, 2-IV-2 and 3-IV-1 this is an ongoing process and will continue to be monitored weekly at internal review sessions.</i>
4-IV-2	Continue monitoring the property costs associated with construction impacts	<i>Agreed. Ongoing monitoring will continue.</i>
4-IV-3	The proposed mitigation plan to offset interest costs should be implemented.	<i>Agreed. Project staff are working with the central agencies of government to implement this plan and to report its positive impacts on project costs to Treasury Board by the end of November.</i>
4-IV-4	Given the current status of contract reserves and contingency RTP 2000 must continue to carefully assess all matters that have bearing on costs.	<i>Agreed. Staff continues to re-examine forecast project costs. As per disposition 3-IV-3 both hard and soft costs are being examined with respect to the current schedule.</i>