



Telecom Decision CRTC 2006-22

Ottawa, 27 April 2006

Aliant Telecom, Bell Canada, MTS Allstream, SaskTel and TCI - Approval of rates on a final basis for Access Tandem service

Reference: 8638-C12-67/02

*The Commission **approves on a final basis** revised rates for the Access Tandem (AT) service of Aliant Telecom Inc., Bell Canada, MTS Allstream Inc., Saskatchewan Telecommunications and TELUS Communications Inc., retroactive to 1 June 2002. Consistent with Regulatory framework for second price cap period, Telecom Decision CRTC 2002-34, 30 May 2002, the applicable inflation minus productivity offset constraint is to be applied to final 2002 rates for the AT service for each subsequent year.*

Introduction

1. In *Regulatory framework for second price cap period*, Telecom Decision CRTC 2002-34, 30 May 2002 (Decision 2002-34), the Commission made the Access Tandem (AT) service rates of Aliant Telecom Inc. (Aliant Telecom), Bell Canada, MTS Communications Inc., now MTS Allstream Inc. (MTS Allstream),¹ Saskatchewan Telecommunications (SaskTel) and TELUS Communications Inc. (TCI) interim as of the date of the decision. The Commission also directed these incumbent local exchange carriers (ILECs) to file updated cost studies and revised rates for the AT service by 17 July 2002 and established a process to approve the revised AT rates on a final basis (the AT proceeding). The AT service provides for the exchange of originating and terminating toll traffic through the AT connection, which is the connection between an Alternative Provider of Long Distance Services' (APLDS) point of presence, and the ILEC's Class 4 AT switch.
2. In Decision 2002-34, the Commission also established two categories of Competitor Services in order to clarify the pricing treatment of these services. Category I Competitor Services are services in the nature of an essential service, and Category II Competitor Services are services developed for use by telecommunications service providers other than services in the nature of an essential service. The ILECs' AT service was classified as a Category I Competitor Service on a preliminary basis in Decision 2002-34 and on a final basis in *Follow-up to Regulatory framework for second price cap period, Telecom Decision CRTC 2002-34 - Service basket assignment*, Telecom Decision CRTC 2003-11, 18 March 2003, as amended by Telecom Decision CRTC 2003-11-1, 23 May 2003.

¹ Manitoba Telecom Services Inc., the parent company of MTS Communications Inc., acquired all of the issued and outstanding shares of Allstream Inc. effective 4 June 2004. As part of the transaction, MTS Communications Inc., MTS Media Inc., and Allstream Corp. amalgamated effective 4 June 2004 to form a company operating under the name MTS Allstream Inc.

Process and ILEC cost studies

3. The process established in Decision 2002-34 with respect to the Commission's review of the ILECs' rates for the AT service was supplemented and amended by Commission letters dated 6 August 2002, 27 November 2002, 16 December 2002, 20 December 2004 and 15 February 2005.
4. Bell Canada, Aliant Telecom and SaskTel (collectively, Bell Canada et al.), MTS Allstream, and TCI filed updated AT cost studies and proposed revised per-connect minute per-end (per-minute) rates dated 17 July 2002 (17 July 2002 cost studies). Aliant Telecom filed separate cost studies and rates for each of its operating regions: Aliant Telecom operating in New Brunswick (Aliant Telecom-NB), Aliant Telecom operating in Nova Scotia (Aliant Telecom-NS), Aliant Telecom operating in Prince-Edward-Island (Aliant Telecom-PEI) and Aliant Telecom operating in Newfoundland and Labrador (Aliant Telecom-NL). TCI filed separate cost studies and rates for each of its operating regions: TCI operating in Alberta (TCI-AB) and TCI operating in British Columbia (TCI-BC).
5. Bell Canada et al. filed updates, dated 23 July 2002, to its 17 July 2002 cost studies. The 17 July 2002 cost studies as revised for Bell Canada et al. in the 23 July 2002 cost study updates are referred to in this Decision as "the July 2002 cost studies."
6. In *Interim rates for Access Tandem service and Direct Connection service*, Telecom Order CRTC 2002-384, 24 September 2002 (Order 2002-384), the Commission approved revised AT rates for the ILECs on an interim basis, retroactive to 1 June 2002, based on the July 2002 cost studies.²
7. Bell Canada et al. and MTS Allstream filed revisions, dated 4 October 2002, to the July 2002 cost studies and proposed rates to correct errors in the July 2002 cost studies. The July 2002 cost studies as revised for Bell Canada et al. and MTS Allstream by the 4 October 2002 cost study updates are referred to in this Decision as "the October 2002 cost studies." In *Revised rates for Access Tandem service*, Telecom Order CRTC 2002-412, 31 October 2002 (Order 2002-412), the Commission approved, on an interim basis, revised AT rates based on the October 2002 cost studies for Bell Canada et al. and MTS Allstream, retroactive to 1 June 2002.
8. Bell Canada et al. and MTS Allstream filed revisions, dated 9 and 16 December 2002 respectively, to the October 2002 cost studies and proposed rates to correct errors in the October 2002 cost studies (9 December 2002 cost study updates and 16 December 2002 cost study update, respectively). TCI filed revisions, dated 9 December 2002, to its 17 July 2002 cost study. Bell Canada et al.'s and MTS Allstream's October 2002 cost studies, as revised for Bell Canada et al. by the 9 December 2002 cost study update and for MTS Allstream by the 16 December 2002 cost study update and TCI's July 2002 cost study as revised by its 9 December 2002 cost study update are referred to collectively as "the December 2002 cost studies".

² In *Interim rates for Access Tandem and Direct Connection service*, Telecom Order CRTC 2002-384-1, 30 September 2002, the Commission corrected the reference in paragraph 15 of Order 2002-384 to read TCI Tariff Notice 494 and 4182. TCI filed these Tariff Notices in the course of the AT proceeding.

9. The ILECs responded to interrogatories dated 30 October 2002, 16 December 2002, and 15 February 2005.
10. MTS Allstream submitted comments on behalf of itself and Call-Net Enterprises Inc., now Rogers Telecom Inc. (RTI), (collectively, the Competitors), dated 11 April 2005. Bell Canada et al. and TCI filed reply comments dated 28 April 2005.

General costing issues

Approach to updated costing methods and information

11. The Commission notes that Phase II costing methods (costing methods) may require adjustment over time. For example, in *Changes to the contribution regime*, Decision CRTC 2000-745, 30 November 2000, the Commission introduced a subsidy revenue-percent charge to be paid by certain telecommunications service providers. As a result of the introduction of the subsidy revenue-percent charge, the ILECs were subsequently required to include an explicit cost associated with the subsidy revenue-percent charge in their Phase II cost studies based on the use of this revenue-percent charge. Further, in *Primary inter-exchange carrier processing charge review*, Telecom Decision CRTC 2004-72, 9 November 2004 (Decision 2004-72), the Commission considered it appropriate to include marketing-related portfolio expenses in the ILECs' Phase II cost studies and required Bell Canada, Aliant Telecom, SaskTel and MTS Allstream to include portfolio expenses in their cost studies based on the use of a portfolio expense factor.
12. The Commission considers that in order to provide an accurate representation of the service cost over a study period, cost studies should generally use the most accurate cost information available and current costing methods, including ongoing changes to costing methodologies.
13. Accordingly, in this Decision, the Commission adjusts the December 2002 cost studies to reflect appropriate cost inclusions and costing methods, as set out below.

Structure cost factors (SCFs) and technology cost factors (TCFs)

Positions of parties

14. The Competitors noted that Bell Canada had provided updated SCFs and TCFs in its 2004 annual update of Phase II costing parameters, dated 24 September 2004 (updated SCFs and TCFs).³ The Competitors submitted that Bell Canada's updated SCFs and TCFs represented significant reductions in the Poles for Fibre SCF, Conduit for Fibre SCF, Towers SCF, Power TCF and the Fibre (overall) TCF relative to the 1998 values that Bell Canada had used in the AT cost studies. The Competitors noted the forward-looking nature of the Phase II costing methods and argued that Bell Canada's final rates for the AT service should be based on the updated SCFs and TCFs.

³ SCFs and TCFs are applied by the ILECs to estimate the capital cash flows and capital costs associated with support structures and certain technologies if the cost cannot be estimated directly or the effort required is not commensurate with the materiality of the costs.

15. Bell Canada et al. submitted that the AT cost studies were based on the best SCF and TCF related information available at the time. Bell Canada et al. submitted further that if the Commission were to implement the proposed adjustments, the ILECs would be asked to continually update the cost studies to reflect more recent information.

Commission's analysis and determinations

16. The Commission notes that most of Bell Canada's updated 2004 SCFs and TCFs show significant reductions when compared to the 1998 factors used in its 2002 cost studies. For example, the value for Poles for Fibre SCF dropped from 0.3345 in 1998 to 0.2784 in 2004 and the value for Fibre (overall) TCF dropped from 0.2285 in 1998 to 0.1606 in 2004. The Commission also notes that SCF and TCF values are typically determined based on a two- to three-year moving average of historical data results. The Commission considers it appropriate to rely on Bell Canada's updated SCFs and TCFs in its cost study for the 2002 to 2006 study period.
17. Accordingly, the Commission adjusts Bell Canada's December 2002 cost study to reflect the updated 2004 SCF and TCF values.

Subsidy revenue-percent charge

Positions of parties

18. The Competitors noted that in *Competitor Digital Network Services*, Telecom Decision CRTC 2005-6, 3 February 2005 (Decision 2005-6), the Commission determined that the final 2003 subsidy revenue-percent charge of 1.1 percent, as determined in *Final 2003 revenue-percent charge and related matters*, Telecom Decision CRTC 2003-84, 19 December 2003 (Decision 2003-84), should apply to ILEC Competitor Digital Network (CDN) cost estimates for the study period 2003 to 2007. The Competitors submitted that, on this basis and given that 2004 was the midpoint of the 2002 to 2006 study period for the AT cost studies, the final rates for the AT service should be based on the final subsidy revenue-percent charge for 2004.
19. Bell Canada et al. submitted that the 2002 AT cost studies were based on the best information available at that time with respect to the subsidy revenue-percent charge. Bell Canada et al. noted that in Decision 2005-6 the Commission adopted the final subsidy revenue-percent charge that applied at the beginning, not the middle, of the study period. Bell Canada et al. argued that to be consistent with Decision 2005-6, the Commission should use the final 2002 subsidy revenue-percent charge in the AT cost studies.

Commission's analysis and determinations

20. The Commission notes that although it approved, on a final basis, a subsidy revenue-percent charge of 1.3 percent for 2002 in Decision 2003-84, it also approved, on a final basis, a reduction in the subsidy revenue-percent charge from 1.3 percent for 2002 to 1.1 percent for 2003 and that subsequently, in *Final 2004 revenue-percent charge and related matters*,

Telecom Decision CRTC 2004-81, 9 December 2004, the Commission approved, on a final basis, a subsidy revenue-percent charge of 1.1 percent for 2004. The Commission also notes that in *Final 2005 revenue-percent charge and related matters*, Telecom Decision CRTC 2005-68, 10 November 2005, it approved, on a final basis, a subsidy revenue-percent charge of 1.03 percent for 2005.

21. The Commission notes that Bell Canada et al. and MTS Allstream used a subsidy revenue-percent charge of 1.3 percent, while TCI used a subsidy revenue-percent charge of 1.4 percent, in the December 2002 cost studies.
22. The Commission considers that the use of a subsidy revenue-percent charge of 1.1 percent represents a suitable average value for the subsidy revenue-percent charge over the study period of 2002 to 2006. Accordingly, the Commission applies a revenue-percent charge of 1.1 percent in each ILEC's cost study as the appropriate subsidy revenue-percent charge for the study period.

TCI 's inflation minus productivity (I-X) constraint

Commission's analysis and determinations

23. The Commission notes that in Commission letter, *Follow-up to 18 June 2003 letter concerning Phase II costing information requirements*, dated 14 July 2003 (14 July 2003 letter), it stated that ILECs were to file cost studies that excluded the application of inflation and productivity factors within the study period. In this letter, the Commission also stated that, following this approach, the resulting Competitor Service rates would be subject to the application of the annual I-X constraint.⁴ The Commission notes, however, that TCI's December 2002 cost study included the application of the inflation and productivity factors within the study period.
24. Accordingly, consistent with the approach set out in the 14 July 2003 letter, the Commission adjusts TCI's December 2002 cost studies to remove the application of the inflation and productivity constraint.

TCI's fibre cost factor

Positions of parties

25. The Competitors noted that although the other ILECs' fibre cost factors were based on only capital expenditures of inter-office cable, TCI's fibre cost factor was based on capital expenditures of all fibre cable, including the fibre in the access or loop network. The Competitors submitted that TCI's practice to include the fibre in the access or loop network in the calculation of the fibre cost factor would result in an overstatement of the associated costs. The Competitors noted that in *Bell Canada costing of inter-office fibre cable*, Telecom Letter Decision CRTC 93-1, 27 January 1993 (Letter Decision 93-1), the Commission stated that a cost factor based on only inter-office fibre could be expected to decline over time as demand

⁴ Decision 2002-34 adopted an "I-X" constraint to recognize the ILECs' productivity improvements (X), net of inflation (I). This constraint is applied in each year of the price cap period to certain ILEC rates, including rates for Category I Competitor Services.

growth in the inter-office network was increasingly met by changing or adding fibre transmission equipment, not by adding fibre. The Competitors submitted that a fibre cost factor that included access fibre would, therefore, not decline as quickly as a fibre cost factor based exclusively on inter-office fibre.

26. The Competitors proposed that the Commission use Bell Canada's updated 2004 overall fibre cost factor to establish final AT rates for TCI; direct TCI to revise the calculation of its fibre cost factor on a going-forward basis to comply with Letter Decision 93-1; and direct TCI to develop a fibre cost factor associated with inter-office fibre to comply with Letter Decision 93-1.
27. TCI requested that the Commission dismiss the Competitors' proposal. TCI submitted that its fibre cost factor was based on the combination of access fibre and inter-office fibre for all electronic and optical equipment deployed, and as a result, its fibre cost factor accurately reflected TCI's costs.

Commission's analysis and determinations

28. In Letter Decision 93-1, the Commission approved Bell Canada's proposed cost factor approach to determining the causal costs of inter-office fibre optic cable. The Commission notes that Bell Canada had proposed the approach for inter-office cable only, as the company considered it did not apply to the access portion of the network. The Commission notes that it did not, in Letter Decision 93-1, require the other ILECs to develop a separate fibre cost factor for inter-office cable.
29. Accordingly, the Commission accepts TCI's fibre costs as proposed in the December 2002 cost studies. The Commission notes, however, that it intends to address this costing methodology issue as it relates to ILECs other than Bell Canada in the next fiscal year.

Average working fill factors (AWFFs)

Positions of parties

30. The Competitors submitted that Bell Canada's cost studies implicitly reflected the use of 1993-vintage AWFFs for switching equipment and, for transmission equipment, that Bell Canada's technology conversion factor made use of 1997-vintage AWFFs. The Competitors submitted further that SaskTel's cost study used Bell Canada's AWFFs as proxies and therefore reflected the same AWFFs. The Competitors also submitted that the switching and transmission costs provided by MTS Allstream and Aliant Telecom reflected the AWFFs used to update their 1996 Toll Services Planning System (TSPS), and these AWFFs were not known. The Competitors argued that it was reasonable to infer that the vintage of the AWFFs used by MTS Allstream and Aliant Telecom were similar to those used in Bell Canada's 1996 TSPS model.

31. The Competitors noted that in *Review of Bell Canada's customer-specific arrangements filed pursuant to Telecom Decision 2002-76*, Telecom Decision CRTC 2003-63, 23 September 2003 (Decision 2003-63), the Commission advised Bell Canada that it should use actual AWWFs for equipment that had reached provisioning stability in the network and AWWFs of 80 percent for Central Office (CO) equipment and 70 percent for outside plant equipment. The Competitors stated that, consistent with that decision, the Commission had requested AT cost sensitivities using AWWFs of 80 percent for CO equipment and 70 percent for outside plant equipment.
32. The Competitors submitted that they supported the use of an 80 percent AWWF for CO switching and transmission equipment. The Competitors argued, however, that an 80 percent AWWF should be applied only as a minimum for facilities or equipment that used an AWWF lower than 80 percent, as they noted that TCI had forecast much higher AWWFs for switching equipment and certain transmission equipment. The Competitors argued that MTS Allstream and Aliant Telecom's capital costs should also be adjusted to reflect AWWFs of 80 percent for CO switching and transmission equipment and 70 percent for outside plant equipment even though the AWWFs used in the 1996 TSPS were no longer available. The Competitors proposed a methodology to adjust these ILECs' costs to reflect the AWWFs set out in Decision 2003-63 based on the percentage change to the relevant Bell Canada technology conversion factor arising from the proposed modified AWWFs.
33. Bell Canada et al. submitted that they had filed their cost studies for the AT service prior to the date of Decision 2003-63. Bell Canada et al. submitted that, in these cost studies, they had used the switch-related AWWFs reflected in their 1996 TSPS model because, in their view, their current switch-related AWWFs remained the same as those used in that model. Bell Canada et al. submitted further that transmission equipment-related AWWFs reflected in their transmission technology conversion factors reflected changes in the AWWFs where changes to AWWFs had occurred. Bell Canada et al. also submitted that the values of the AWWFs used by Aliant Telecom in the 1996 TSPS model were not known and that, therefore, it was not possible to adjust Aliant Telecom's costs to reflect the use of 80 percent AWWFs as per the Commission interrogatory that requested a cost sensitivity.

Commission's analysis and determinations

34. AWWFs are applied to the ILECs' capital cost estimates for equipment to recognize the spare capacity of the equipment in Phase II cost studies, by apportioning the average non-service producing capacity to the per unit cost of the service producing capacity. The Commission notes that the cost of a service varies inversely with the level of the AWWF.
35. The Commission notes that in Decision 2003-63 it generally established AWWF values of 80 percent for CO switching and transmission equipment and 70 percent for outside plant equipment. The Commission also notes that Bell Canada, SaskTel and TCI provided cost sensitivities in the AT proceeding based on these AWWF values (Decision 2003-63 AWWF cost sensitivities). The Commission further notes that Aliant Telecom and MTS Allstream did not provide Decision 2003-63 AWWF cost sensitivities on the basis that they could not identify the AWWFs used in their 1996 TSPS model update.

36. The Commission notes that Bell Canada's, SaskTel's and TCI's per-minute total capital cost estimates in the December 2002 cost studies were less than those provided in the Decision 2003-63 AWWF cost sensitivity, implying that the AWWFs used in the December 2002 cost studies were greater on average than the AWWFs set out in Decision 2003-63. The Commission notes, more specifically, that these ILECs' per-minute total capital costs in the December 2002 cost studies were on average less than the Decision 2003-63 AWWF cost sensitivity: specifically, by 3 percent for Bell Canada, 3.6 percent for SaskTel, 15.6 percent for TCI-AB and 12.5 percent for TCI-BC. Based on these results, the Commission estimates that the composite average AWWF proxy for the overall AT capital in Bell Canada's and SaskTel's December 2002 cost studies would be lower than those for TCI by at least approximately eight percent. The Commission notes that Bell Canada's and SaskTel's cost studies implicitly reflected the use of 1993-vintage AWWFs for switching equipment, and that TCI's cost studies did not rely on older-vintage AWWFs and unit costs. The Commission therefore considers that it would be appropriate to reflect greater AWWFs in the cost studies of Bell Canada and SaskTel.
37. The Commission considers that a reduction of approximately five percent in per-minute AT capital costs would equate to an increase in the composite average AWWFs used by Bell Canada and SaskTel to the mid-point between these composite average AWWFs and TCI's composite average AWWFs. Accordingly, the Commission reduces the per-minute capital costs in the December 2002 cost studies of Bell Canada and SaskTel by five percent in recognition of the low composite average AWWF values relative to TCI-AB and TCI-BC.
38. The Commission considers that the 1996 vintage AWWF values used by Aliant Telecom and MTS Allstream also do not reflect more current AWWF values similar to those used by TCI. Accordingly, consistent with its AWWF adjustments made to the December 2002 cost studies for Bell Canada and SaskTel, the Commission reduces the per-minute capital costs in the December 2002 cost studies of Aliant Telecom and MTS Allstream by five percent.

Equipment lives

Positions of parties

39. The Competitors noted that the ILECs were required to use approved accounting plant lives as equipment lives in their cost studies. The Competitors also noted that the most recently approved accounting lives were set out in *Implementation of price cap regulation and related issues*, Telecom Decision CRTC 98-2, 5 March 1998 (Decision 98-2). The Competitors noted that, in Decision 98-2, the Commission approved separate accounting plant lives for each of TCI-AB and TCI-BC.
40. TCI noted in reply that its December 2002 cost study used the accounting plant lives approved in Decision 98-2. Bell Canada et al. stated in reply that Bell Canada had used the life estimates and survivor curves approved in Decision 98-2 in the AT cost studies.

Commission's analysis and determinations

41. The Commission notes that consistent with costing practice, Bell Canada, TCI and the other ILECs used the accounting plant lives approved in Decision 98-2 in the December 2002 cost studies. Accordingly, the Commission considers that no adjustment is required.

Capital costing issues

AT demand and cost causality

Positions of parties

42. The Competitors noted that TCI's and MTS Allstream's demand forecasts projected declining demand over the study period, that Aliant Telecom's forecasts projected declining demand for certain years of the study period and a modest increase in demand over the study period, and that Bell Canada and SaskTel's demand forecasts projected significant growth in demand over the study period.
43. The Competitors submitted that demand levels for the AT service during the period 1998 to 2001 cast doubt on the validity of Bell Canada et al.'s AT demand forecasts over the study period because forecast demand levels did not exceed actual demand for that period. The Competitors argued that the following factors might have contributed to a decline in APLDS' demand during the study period: increased use of the ILECs' Direct Connection (DC) service as competitors' market shares grew; reduced proportion of toll traffic associated with circuit-switched technology as migration to voice over Internet protocol (VoIP) proceeded; and the potential for increasing use of wireless services to make long-distance calls. The Competitors argued that the ILECs' own use of the AT functionality was also declining and would continue to decline.
44. The Competitors submitted further that the all-carrier demand⁵ for the AT service would not grow over the study period in any ILEC territory and would be at or below demand levels prior to that period. The Competitors argued that, on this basis, demand growth would not cause the relief of certain capital components over the study period and that costs associated with certain capital components should not be included in the ILECs' cost studies for the AT service.
45. The Competitors proposed that all switch-related components used to provide the AT service be excluded from the costs used to establish the final rates for the AT service. The Competitors also proposed that appropriate reductions should be made to other capital and expense inclusions for items with cash flows driven by switch-related capital costs. The Competitors submitted that switch-related components used to provision the AT service were used only to provide AT functionality to competitors and the ILECs.

⁵ "All-carrier demand" refers to the APLDS' demand and the ILECs' own demand.

46. Bell Canada et al. submitted that switch-related components for the AT service, such as Spectrum Peripheral Model (SPM), Digital Trunk Controller (DTC) and Enhanced Network (ENet)⁶ had uses other than provisioning that service and that, therefore, these AT switching facilities were fungible.⁷ Bell Canada et al. argued that the cost studies properly included these switch-related components, even if it was assumed that demand for the AT service was declining.
47. Bell Canada et al. submitted that, contrary to the Competitors' submission, the APLDS' demand for the AT service had increased over the years 2002 to 2004, and that the growth was expected to continue over the remainder of the study period. Bell Canada et al. submitted that factors such as the shift by competitors to only use the DC service had been built into the ILECs' forecasts. Bell Canada et al. submitted further that VoIP was not expected to have a material impact on the demand for the AT service in 2005 and 2006, and that the trend of using wireless, instead of wireline, services to make long distance calls, which was implicit in the demand forecasts, would not change materially in the next two years.
48. TCI argued that, consistent with the Commission's costing methodology, it had considered the total demand for the AT service over the study period, not just the change in demand. TCI submitted that it had applied Commission-approved forward-looking traffic-driven costs for switch-related components in its cost studies. TCI argued that the Competitors' rationale for excluding switching costs was flawed, and, accordingly, the Commission should reject it.

Commission's analysis and determinations

49. The Commission notes that Class 4 AT switch components can be used for the Class 5 end-office switches, they can alternatively be used to provision other ILEC services and are therefore fungible. The Commission considers that, given that the switch-related components that ILECs use to provision the AT service are fungible, the cost studies should include the associated costs of these facilities.
50. Accordingly, the Commission finds that the switch-related components used to provision the AT service are fungible and, consistent with current costing practice for fungible facilities, the associated capital costs should be determined using forward-looking traffic-driven switching-related costs.

Bell Canada's 1996 TSPS model

Introduction

51. The Commission notes that Bell Canada et al. and MTS Allstream submitted that they determined their CO switching and transmission capital costs for the AT service based on

⁶ DTCs and SPMs are used to connect trunks between the toll Class 4 switches and local Class 5 switches. DTC is also used to connect the toll Class 4 switches to the APLDS' point of presence. The ENet is used to route traffic among the DTCs and SPMs within a toll switch.

⁷ A facility is fungible if there is use for the facility for other services offered by the company and therefore the use of the facility by the AT service would cause or advance the purchase of an additional new facility elsewhere in the company for other company services.

Bell Canada's 1996 TSPS model, as restated to the year 2002 using switching and transmission technology conversion factors. These factors reflected productivity gains due to the changes in growth technologies and changes in equipment prices over the period 1996 to 2002.

52. Bell Canada et al. noted that: (a) TSPS was a mainframe-based model used by ILECs to estimate the ILEC-specific capital costs for toll services; (b) this network costing model was last updated in 1996; (c) since then, due to the significant effort required to conduct a full update of the systems, updates had been performed using a proxy method to restate the 1996 TSPS results by applying switching and transmission technology conversion factors to reflect changes in growth technologies and changes in switching and transmission equipment prices over time; (d) detailed toll demand characteristics for 1992 and the toll network topology for 1991 were used in the TSPS model update; and (e) since the computer files used for the update were no longer available, the ILECs could not provide the detailed toll demand and network topology information used in the 1996 model update.

Switching and transmission-related productivity improvement changes

Positions of parties

53. The Competitors noted that Bell Canada et al. and MTS Allstream's capital cost estimates for the AT service were derived from the 1996 TSPS model, which was last updated in 1996. The Competitors further noted that Bell Canada et al.'s and MTS Allstream's 1996 results were restated to 2002 amounts using technology conversion factors to reflect changes in growth technology and equipment prices.
54. The Competitors noted that, prior to forbearance from the regulation of toll services, the TSPS model had been updated four times between 1990 and 1996, but noted that it had not been updated between 1997 and 2005. The Competitors noted that the TSPS update process allowed Bell Canada to reflect the latest changes in service provisioning, network topology, growth technology and updated costs. The Competitors noted that Bell Canada had indicated that updating the TSPS model was a rigorous and expensive process. The Competitors submitted that Bell Canada would not have undertaken such updates if it considered that a more superficial and less costly approach, such as the technology conversion factor approach used in the AT proceeding, would yield satisfactory results.
55. The Competitors noted Bell Canada et al.'s submission that the TSPS source code and the computer files used to update the TSPS model in 1996 no longer existed. The Competitors argued that, accordingly, Bell Canada et al. was not in a position to assert that the provisioning rules or network provisioning algorithms for switching and transmission components were the same as those that applied in 1996.
56. The Competitors submitted that, in these circumstances, it would be reasonable to reduce the switching and transmission costs estimated by the 1996 TSPS update by five percent to reflect productivity improvements resulting from changes in network topology and network provisioning algorithms between 1992 and 2002.
57. Bell Canada et al. argued that expectations of productivity improvement in network topology and network provisioning algorithms were not at issue in this proceeding and that the primary relevant issue in setting the AT rate was the change, if any, in the provisioning of toll connect

trunks and the relevant switching functionality in toll switches. Bell Canada et al. submitted that the toll-connect trunks and the relevant switching functionality were and had always been provisioned on the basis of the volume of toll traffic occurring in the busy hour.⁸ Bell Canada et al. argued that because there had been no changes to their provisioning rules since 1992, the Commission should dismiss the Competitors' submission that there were productivity improvements arising from changes in provisioning rules or network provisioning algorithms.

58. Bell Canada et al. noted that, since 1992, Bell Canada and Aliant Telecom had consolidated their toll switch networks into fewer toll centres. Bell Canada et al. submitted that, while the consolidation had increased the efficiency of the trunk groups connecting the ILECs' toll switches with the APLDS' point of presence, the efficiency gains had been offset by the need to use longer toll connecting trunks to connect ILEC local switches to ILEC toll switches. Bell Canada et al. submitted that, on balance, this likely resulted in an increase rather than a decrease to the cost per-minute for the AT service. Bell Canada and Aliant Telecom submitted further that the main benefits of the toll network consolidation related to reductions in switch software costs that were not sensitive to toll demand and which had therefore been excluded from the AT causal costs.

Commission's analysis and determinations

59. The Commission notes that TCI's cost studies relied on its current toll network topology and costs. The Commission considers, however, that Bell Canada et al.'s and MTS Allstream's use of the 1996 TSPS model with 1992 demand patterns and a 1991 network topology may not adequately reflect the efficiencies of their evolving toll networks and may, therefore, result in an overstatement of costs. The Commission notes Bell Canada et al.'s submission that the 1996 TSPS model's source code is no longer available, implying that the appropriateness of the detailed demand patterns and network topology inputs used in the 1996 TSPS model can no longer be verified.
60. The Commission also notes that, since the early 1990s, Bell Canada and Aliant Telecom have consolidated their toll switch networks into fewer toll centres. While this switch consolidation would lead to longer toll connecting trunks as reported by Bell Canada et al., the Commission considers this consolidation of the toll networks would also lead to fewer and larger trunk groups serving a smaller number of switches. The Commission notes Bell Canada et al.'s submission that efficiency gains associated with consolidation would likely be offset by the use of longer toll connecting trunks. The Commission, however, considers that it is reasonable to assume that the added trunking efficiencies of fewer but larger trunk groups would offset increased costs associated with the increased trunk length. As discussed below in connection with the significant increases in toll traffic volumes and significant changes to toll traffic patterns since the early 1990s, the Commission also expects that ILECs will have benefited from added trunking efficiencies gained as a result of handling increased toll traffic volumes.
61. The Commission considers that changes in network topology, toll traffic demand and demand patterns since the 1990s have had a significant impact on how the ILECs generally provisioned their toll network. The Commission notes that Bell Canada and Aliant Telecom had initially

⁸ "Busy hour" refers to the hour in the busy day in which the volume of toll traffic is greatest. "Busy day" refers to the day of the month in which the volume of toll traffic is greatest.

applied a cumulative productivity increase factor in the October 2002 cost studies. The Commission also notes that these ILECs subsequently removed this productivity factor in the December 2002 cost studies, arguing that the current growth technology costs included in the technology conversion factors reflected these productivity gains. In the Commission's view, Bell Canada et al.'s proposal to apply a switching technology conversion factor to capture changes in both growth technologies and switching equipment prices over the 1996 to 2002 study period would not adequately reflect the efficiencies associated with the evolution and changes in the overall toll network topology from 1992 to 2002.

62. The Commission further notes that the Competitors proposed a five percent reduction to the switching capital costs for the AT service to reflect productivity improvements resulting from changes in network topology and network provisioning algorithms over the period 1992 to 2002. The Commission considers that, in the absence of TSPS model updates since 1996, this represents an appropriate adjustment to proposed switching capital costs.
63. Accordingly, the Commission adjusts Bell Canada et al.'s and MTS Allstream's December 2002 cost studies to reduce switching capital costs by five percent to reflect expected productivity gains from changes in network topology and network provisioning improvements since 1992 that were not captured in these studies.

Transmission and switching technology conversion factors

Positions of parties

64. The Competitors noted that Bell Canada et al. had indicated that Bell Canada's December 2002 cost study updated its transmission technology conversion factor to account for changes in equipment prices from 2000 to 2002. The Competitors also noted that SaskTel had used Bell Canada's transmission technology conversion factor as a starting point but had decreased the value of this factor to account for price decreases available to SaskTel that were not captured in Bell Canada's transmission-related costs. The Competitors submitted that Bell Canada's technology conversion factor therefore did not fully reflect the reduced 2002 equipment prices available to both Bell Canada and SaskTel.
65. Bell Canada et al. submitted in reply that Bell Canada's transmission technology conversion factor fully captured the changes in transmission costs that Bell Canada experienced between 1996 and 2002. Bell Canada et al. submitted further that the reference to SaskTel's need to modify Bell Canada's transmission technology conversion factor was related to the fact that, prior to 2002, SaskTel's supplier prices for AT-related equipment were significantly higher than Bell Canada's. Bell Canada et al. submitted that as a result SaskTel adjusted Bell Canada's technology conversion factor to reflect the additional price change SaskTel experienced when its prices became equal to Bell Canada's.

Commission's analysis and determinations

66. The Commission considers that Bell Canada et al.'s reply addresses the Competitors' concern with respect to the appropriateness of the adjustments made to the transmission technology conversion factors in order to reflect changes in supplier prices between 1996 and 2002.

67. The Commission notes, however, that its review of the switching technology conversion factors proposed by Bell Canada et al. show an inconsistency with respect to certain revisions to these factors proposed by Bell Canada, Aliant Telecom and SaskTel. The Commission notes that, in their December 2002 cost studies, Bell Canada et al. proposed revisions to their switching technology conversion factors to correct errors and omissions detected in their October 2002 cost studies. In particular, Bell Canada et al. submitted that the DTC conversion factor in Bell Canada's, Aliant Telecom's and SaskTel's December 2002 cost studies reflected the DTC resource unit costs associated with DMS-200 switches, rather than DMS-100 switches as assumed in these ILECs' October 2002 cost studies.
68. A comparison of the DTC resource unit costs proposed by each of Bell Canada, Aliant Telecom and SaskTel in the October 2002 and December 2002 cost studies reveals significant changes to the assumed DTC resource unit costs in the December 2002 cost studies relative to the October 2002 cost studies. The Commission further notes that the per-minute switching capital costs for these ILECs increased by between 50 and 100 percent in their December 2002 cost studies relative to their October 2002 cost studies.
69. The Commission notes that Bell Canada et al. argued that the DTC component is fungible and can be used to provision the DC service. The Commission accepts that the DTC component is fungible. The Commission therefore considers that the DTC component cost should be the same whether this component is used with a DMS-100 or a DMS-200 switch. The Commission also considers that the DTC resource unit costs associated with the DMS-100 switch proposed in the October 2002 cost studies of Bell Canada, Aliant Telecom and SaskTel should not be replaced by higher DTC resource unit costs associated with the DMS-200 switch, as subsequently proposed in the December 2002 cost studies.
70. Accordingly, the Commission adjusts the switching capital costs in the December 2002 cost studies of Bell Canada, Aliant Telecom and SaskTel to reflect the use of DTC resource unit costs proposed by these ILECs in the October 2002 cost studies.

Impact of changing traffic distributions

Positions of parties

71. The Competitors noted that, in Bell Canada et al.'s and MTS Allstream's cost studies for the DC service, dated 20 May 2003, filed in the proceeding initiated by Decision 2002-34 (the DC proceeding), Bell Canada et al. and MTS Allstream submitted they had adjusted the busy-day-of-the-month factor by assuming that the busiest day of the month would be represented by 1/22 of the total month's traffic instead of the traditional factor of 1/20. The Competitors noted further that Bell Canada et al. had indicated that this adjustment was made to acknowledge that current toll calling demand may have been more uniform than implied by the traditional conversion factor. The Competitors argued that, consistent with the factor proposed in the DC proceeding, a busy-day-of-the-month factor of 1/22 should be adopted in the ILECs' cost studies for the AT service.

72. TCI noted that Bell Canada et al.'s adjustment to the busy-day-of-the-month factor had been made in relation to the DC service, not the AT service. TCI argued that a more detailed traffic study needed to be conducted before the proposed adjustment could be applied to the demand in the AT cost study.
73. The Competitors proposed further that the ILECs' busy-hour-of-the-day factor should be adjusted to reflect 15 percent growth in non-busy-hour traffic relative to busy hour traffic since the early 1990s. The Competitors argued this adjustment was required to reflect the changed distribution of peak and off-peak traffic since the early 1990s due to the introduction in 1998 of toll calling plans that initially provided unlimited, flat rate off-peak calling and the subsequent prevalence of plans that did not distinguish, from a rating perspective, between daytime and evening calling.
74. Bell Canada et al. argued that it was growth in the busy-hour traffic that would cause the requirement for additional facilities to be provisioned. Bell Canada et al. argued that the distribution of peak and off-peak traffic would only be relevant if changes in distribution affected the volume of traffic carried in the busy hour. Bell Canada et al. submitted further that the Competitors had not presented evidence that busy hour demand had declined relative to demand in other hours of the busy day. Bell Canada et al. also submitted that their review of their current busy hour traffic distribution, had found that the busy hour traffic of Bell Canada and SaskTel continued to contribute about 1/10 of the daily traffic volumes, and had therefore not changed since 1992.
75. Bell Canada et al. argued that, in light of the above, the Competitors' proposed adjustment for busy-hour-of-the-day distribution should not be adopted.
76. TCI submitted that detailed traffic studies would have to be done for the AT service to obtain the relevant data regarding the busy-hour-of-the-day distribution.

Commission's analysis and determinations

77. The Commission notes that ILECs provision their networks' switching and trunking facilities in a manner that meets growth in their peak calling periods, typically, demand in the busy-hour and generally determine the causal incremental capital costs associated with network services such as the AT service by estimating the costs of additional facilities to be provisioned to meet this demand growth in the busy hour. As part of this costing process, annual demand for the AT service is converted into busy hour demand by dividing the annual demand by 12 months, and then applying the busy-day-of-the-month factor and the busy-hour-of-the-day factor.
78. With respect to the busy-day-of-the-month factor, the Commission notes that the ILECs assumed a busy-day-of-the-month factor of 1/20 in their cost studies for the AT service. The Commission further notes that Bell Canada et al. and MTS Allstream proposed a revised busy-day-of-the-month factor of 1/22 in their May 2003 cost studies that were submitted in support of revised rates for the DC service. The Commission also notes that these ILECs indicated in that proceeding that the current distribution of demand within the month may be more uniform than implied by the traditional conversion factor of 1/20.

79. The Commission further notes that there have been significant changes in the toll market since the early 1990s, including reductions in toll rating plans and toll rates and, related to the rate reductions, significant increases in both peak and off-peak toll demand. The Commission considers it reasonable to assume there have been increases in the off-peak traffic relative to peak traffic. The Commission considers it likely that toll traffic patterns are more uniform across the days of the month now than they were in the early 1990s.
80. The Commission notes that the ILECs did not provide any evidence to demonstrate that Bell Canada et al.'s and MTS Allstream's proposed revisions to their busy-day-of-the-month factor in the DC service proceeding would not be appropriate for the AT service.
81. Accordingly, the Commission adjusts the December 2002 cost studies to reflect a busy-day-of-the-month factor of 1/22. The Commission notes that, as a result of its change to reflect a busy-day-of-the-month factor of 1/22, the ILECs' proposed AT capital costs have been reduced by 9.1 percent.
82. The Commission notes that the ILECs assumed a busy-hour-of-the-day factor of 1/10 in their cost studies for the AT service. This factor converts the busy day demand to the demand in the busy hour and, while a uniform distribution of demand throughout the day would imply a factor of 1/24, demand is not uniform throughout the day and tends to be greater during business hours. The Commission notes that, while the ILECs have traditionally assumed that the busy hour represented 1/10 of the day's total demand, the Competitors submitted that demand in the busy hour would decline relative to the total day demand if there was less growth in peak period traffic relative to off-peak period traffic.
83. While as noted above, the Commission considers it reasonable to assume there have been increases in the off-peak traffic relative to peak traffic since the early 1990s, this does not necessarily indicate that busy hour demand has declined relative to the other hours in the busy day. The Commission notes that the ILECs provided two recent traffic studies based on data using busy hour volumes that supported the continued use of the traditional busy-hour-of-the-day factor of 1/10. The Commission further considers that the Competitors did not demonstrate that the traffic studies submitted by Bell Canada and SaskTel do not provide a fair representation of the current percentage of busy hour traffic relative to the total day traffic.
84. Accordingly, the Commission has not adjusted the busy-hour-of-the-day factor of 1/10 of the day's traffic used by the ILECs in their cost studies for the AT service.

Growth technology costs for switch trunk terminations

Positions of parties

85. The Competitors noted Aliant Telecom's submission in response to interrogatories that the greater per-minute switching capital costs for Aliant Telecom-NB and Aliant Telecom-NS relative to Aliant Telecom-NL and Aliant Telecom-PEI resulted primarily from the difference in the trunk termination technologies that had been assumed between regions. The Competitors further submitted that Aliant Telecom had assumed a mix of DTC and SPM trunk termination technologies for Aliant Telecom-NB and Aliant Telecom-NS, while it had assumed the exclusive use of DTC technology for Aliant Telecom-NL and Aliant Telecom-PEI.

86. The Competitors submitted that, in an interrogatory response, Bell Canada et al. had implied that SPM trunk termination technology had been chosen as the growth technology because it was the least-cost technology for the expected capacity demand. The Competitors submitted that in light of the greater switching costs for Aliant Telecom-NB and Aliant Telecom-NS, SPM trunk termination technology was not the least-cost technology. The Competitors proposed that the Aliant Telecom-NL switching costs should be used for Aliant Telecom-NB and Aliant Telecom-NS.
87. Bell Canada et al. submitted in reply that SPM trunk termination technology performed the same function as DTC trunk termination technology, but had significantly greater capacity. Bell Canada et al. submitted that SPM trunk termination technology was the growth technology for connecting Aliant Telecom's DMS-200 switches to its DMS-100 switches, while DTC technology was the growth technology for connecting Aliant Telecom's DMS-200 switches to the APLDS' facilities. Bell Canada et al. submitted further that, since both DTC and SPM technologies were causal to the provision of the AT service, both technologies were included in the development of costs causal to the provision of this service for Aliant Telecom-NB and Aliant Telecom-NS. Bell Canada et al. submitted further that, while Aliant Telecom's decision to use SPM technology in these regions resulted in greater per-minute switching costs, this choice produced other savings, specifically, the preservation of building space and power consumption at Aliant Telecom's switching centres, that made the decision economic.

Commission's analysis and determinations

88. The Commission notes Bell Canada et al.'s argument that while Aliant Telecom-NB's and Aliant Telecom-NS's use of SPM trunk termination technology resulted in greater per-minute AT switching costs, that choice also produced savings related to building space and power consumption. The Commission notes, however, that ILECs do not generally experience space constraints in their COs, and considers that power consumption costs related to the trunk termination components would be small relative to the total trunk termination costs.
89. The Commission notes that the AT switching capital costs for Bell Canada, MTS Allstream and SaskTel were also developed based on an assumed mix of DTC and SPM trunk termination technologies. The Commission further notes that a comparison of these ILECs' resource unit costs for DTC and SPM technologies indicates that the DTC unit costs are less than the SPM unit costs. The Commission therefore considers that the trunk termination capital costs reflected in the switching capital costs in the December 2002 cost studies of Aliant Telecom-NB, Aliant Telecom-NS, Bell Canada, MTS Allstream and SaskTel are not appropriate at this time.
90. Accordingly, the Commission adjusts the switching capital costs in the December 2002 cost studies of Aliant Telecom-NB, Aliant Telecom-NS, Bell Canada, MTS Allstream and SaskTel to reflect the exclusive use of DTC trunk termination technology. The Commission considers that a comparable adjustment is not required for Aliant Telecom-NL, Aliant Telecom-PEI and TCI.

Sample size of Bell Canada et al. and MTS Allstream's transmission technology conversion factors

Positions of parties

91. The Competitors proposed that Bell Canada's transmission technology conversion factor be reduced by 25 percent on the basis that the sample size used to establish the factor was too small. The Competitors noted that Aliant Telecom and SaskTel made direct use of Bell Canada's transmission technology conversion factor and, therefore, the 25 percent reduction should also be applied in respect of these ILECs. The Competitors also noted that MTS Allstream used Bell Canada's transmission-related technology conversion factor in order to estimate MTS Allstream's fibre optic transmission system (FOTS) transmission technology conversion factor. The Competitors submitted therefore that a 25 percent reduction in Bell Canada's transmission technology conversion factor would also imply a reduction to MTS Allstream's FOTS transmission technology conversion factor.
92. Bell Canada et al. argued that although the sample size was small, the sample was randomly selected, and there was no mathematical expectation of bias.

Commission's analysis and determination

93. The Commission considers that Bell Canada et al.'s reply to the Competitors' proposal for an adjustment to Bell Canada's transmission technology conversion factor supports the approach taken by Bell Canada. Accordingly, in the Commission's view, the costing adjustments proposed by the Competitors for Bell Canada, Aliant Telecom, MTS Allstream and SaskTel are not required.

TCI's computer processing unit (CPU) upgrade costs

Positions of parties

94. The Competitors submitted that because TCI's forecast showed a decline in demand for its AT service, demand-driven growth would not cause the provisioning of future relief facilities or additional switches or switching capacity. The Competitors argued that CPU upgrade costs were therefore not causal to the AT service, but fixed and common costs. The Competitors also argued that the AT service was an entrant-only service and that the AT service costs driven by factors other than entrant demand, such as the annual CPU upgrade expense, were causal to the overall AT functionality, not to the entrants' AT service.
95. TCI disagreed that CPU upgrade costs were fixed and common costs. TCI submitted that it considered the manufacturer's annual CPU upgrade expense part of switching costs of the AT service, which TCI included in its cost studies as these costs applied to all AT traffic processed by the AT switch.

Commission's analysis and determinations

96. The Commission considers that CPU upgrade costs are incurred to permit the ongoing delivery of AT traffic. The Commission notes that TCI's cost studies for the AT service reflect an all-carrier demand approach, where the average cost is determined based on the combined APLDS and ILEC demand. The Commission therefore considers it appropriate to include CPU upgrade costs in TCI's cost studies for the AT service. The Commission notes, however, that TCI indicated that the manufacturer had discontinued CPU upgrade charges during 2004.
97. Accordingly, the Commission adjusts TCI's December 2002 cost study to remove CPU upgrade costs from mid-2004 to the end of the study period.

Vintage of general purpose computer (GPC) costs

Positions of parties

98. The Competitors submitted that Bell Canada et al. and MTS Allstream used 1989-vintage GPC costs in their cost studies. The Competitors submitted further that this approach was not reasonable in view of the technological changes since 1989 and requested that these costs be excluded from the cost studies.
99. Bell Canada et al. submitted in reply that, if updated GPC costs were used, the GPC costs would be lower by 5.6 percent for Aliant Telecom-NB, 7.4 percent for Aliant Telecom-NL, 6.3 percent for Aliant Telecom-NS, 8.8 percent for Aliant Telecom-PEI, 4.3 percent for Bell Canada, and 2.9 percent for SaskTel.

Commission's analysis and determinations

100. The Commission considers that the GPC costs used by Bell Canada et al. should be reduced to reflect the updated cost information provided by Bell Canada et al. The Commission also considers that the GPC costs used by MTS Allstream should be reduced. The Commission notes that updated GPC cost information was not provided for MTS Allstream. The Commission therefore considers it would be appropriate to reduce MTS Allstream's GPC costs by five percent, based on the average percentage reduction of the updated GPC costs for Aliant Telecom, Bell Canada and SaskTel. The Commission notes that TCI's cost studies did not rely on older-vintage unit costs. Accordingly, the Commission considers that a comparable adjustment is not required for TCI.
101. Accordingly, the Commission adjusts the December 2002 cost studies of Aliant Telecom, Bell Canada, SaskTel and MTS Allstream to reduce the GPC costs as follows: 5.6 percent for Aliant Telecom-NB, 7.4 percent for Aliant Telecom-NL, 6.3 percent for Aliant Telecom-NS, 8.8 percent for Aliant Telecom-PEI, 4.3 percent for Bell Canada, 2.9 percent for SaskTel, and 5 percent for MTS Allstream.

Expense costing issues

Portfolio expenses

Commission's analysis and determinations

102. The Commission notes that Bell Canada et al. and MTS Allstream did not include portfolio expenses in the cost studies. The Commission further notes that Decision 2004-72 required the ILECs except TCI to include portfolio expenses in their cost studies through the use of the portfolio expense factors set out in that decision. The Commission notes that the portfolio expense factors to be applied to their Phase II expenses are 3.6 percent for Bell Canada and Aliant Telecom, 1.78 percent for MTS Allstream and 8.25 percent for SaskTel. Consistent with its view that it is appropriate for the ILECs' cost studies to reflect, to the extent possible, the most current costing methods, including recent changes to costing methodology, the Commission considers it appropriate to adjust these ILECs' December 2002 cost studies to reflect the inclusion of portfolio costs based on their respective portfolio expense factors.
103. Accordingly, the Commission adjusts the December 2002 cost studies of Bell Canada et al. and MTS Allstream to apply the following portfolio expense factors: 3.6 percent for Aliant Telecom, 3.6 percent for Bell Canada, 1.78 percent for MTS Allstream and 8.25 percent for SaskTel. The Commission notes that Decision 2004-72 did not require TCI to use a portfolio expense factor as TCI included portfolio expenses in its direct and indirect expenses.

Maintenance expenses

Positions of parties

104. The Competitors proposed that the Commission apply a cap on maintenance expenses in respect of the AT service in the same manner that the Commission applied a cap on maintenance expenses for fibre-based accesses in Decision 2005-6. The Competitors submitted that, consistent with this decision, a cap on AT maintenance expenses equal to four percent of capital would be appropriate.
105. Bell Canada et al. noted that in *Inquiry into telecommunications carriers' costing and accounting procedures - Phase II: information requirements for new service tariff filings*, Telecom Decision CRTC 79-16, 28 August 1979 (Decision 79-16), the Commission directed the ILECs to include costs that were incremental to the service under study. Bell Canada et al. argued that capping maintenance expenses without any information that supported such a cap would not reflect the appropriate incremental costs of the service, and would thereby violate the principles of Decision 79-16. Bell Canada et al. argued that the maintenance factor determined in Decision 2005-6 associated with CDN services would not be appropriate for the AT service since the two services did not have the same mix of assets. Bell Canada et al. submitted, therefore, that the Commission should not adopt the Competitors' proposal.
106. TCI submitted that it had estimated its maintenance expenses for the AT service based on the actual maintenance expense results from its accounting records. TCI submitted that the use of maintenance expense factors applicable to capital where the capital equipment was based only on traffic-driven components would not capture the maintenance of other equipment that was

included in the costs causal to the service. TCI submitted that the use of a maintenance factor would determine the maintenance expense on only a portion of the equipment being maintained and would thus understate maintenance expenses. TCI submitted further that the maintenance factor developed in the context of the CDN service was not appropriate for the AT service.

Commission's analysis and determinations

107. The Commission has compared the ILECs' monthly maintenance expenses. As the maintenance expenses relate to comparable activities undertaken by all ILECs, the Commission considers that the significant differences in these estimates among ILECs, as expressed on a per-minute basis and as a percentage of capital, are not appropriate.
108. In light of the significant differences across the ILECs' maintenance expense estimates, the Commission considers it appropriate to apply a maintenance expense cap expressed as a percentage of the present worth of annual capital costs to ensure that maintenance expenses are reasonable. The Commission notes that this approach is consistent with the approach adopted in Decision 2005-6 where the proposed maintenance expenses of certain ILECs were considered inappropriate and were capped at a percentage level of the associated capital.
109. With respect to the maintenance expense cap of four percent of capital proposed by the Competitors, the Commission notes that this proposed cap level relies on a maintenance expense cap established in Decision 2005-6 for fibre-based access equipment. The Commission considers that a maintenance cap at this level would not be appropriate for the AT service given that the AT service consists primarily of switching and trunking equipment.
110. With respect to TCI's submission that its maintenance expenses were based on actual accounting results for toll switch maintenance, the Commission is not persuaded that, in the circumstances of this case, the use for TCI of accounting-based data reflects accurate estimates of the prospective incremental causal Phase II costs associated with the AT service. The Commission further notes that in TCI's cost studies for the AT service, filed in the proceeding that led to *Unbundled rates to provide equal access*, Telecom Decision CRTC 97-6, 10 April 1997, TCI estimated its maintenance expense based on percentages of capital costs. Finally, the Commission notes that TCI's maintenance cost estimate proposed in an earlier 2000 cost study for the DC service, which is a comparable toll interconnection service, was significantly lower than the estimate in this proceeding. The Commission therefore does not consider that the maintenance expense estimates filed by TCI in this proceeding are appropriate.
111. The Commission notes that the maintenance expenses proposed by TCI included portfolio expenses, while those of the other ILECs did not. The Commission notes further that, excluding TCI, the ILECs' maintenance expense estimates, when expressed as a percentage of capital, varied from 5.4 percent to 9.3 percent, with an average value of 7.4 percent. The Commission considers that a maintenance expense cap equal to an average maintenance expense level of 7.5 percent of capital costs would represent an appropriate maximum level of maintenance expenses for all ILECs, subject to an adjustment in the case of TCI.

112. With respect to TCI, the Commission considers it appropriate to adjust the maintenance expense cap for TCI to reflect TCI's inclusion of portfolio expenses in its maintenance expense estimates. The Commission notes that, in the context of the Commission's ongoing general review of ILEC Phase II costing information requirements, TCI estimated an average portfolio expense factor of 48.65 percent.⁹ The Commission therefore considers it appropriate to adjust TCI's December 2002 cost studies by applying a portfolio expense factor of 48.65 percent to the maintenance expense cap of 7.5 percent. The Commission notes that this adjustment has the effect of increasing TCI's maintenance expense cap to 11 percent of capital costs.
113. Accordingly, the Commission applies a maintenance expense cap of 7.5 percent of capital costs for the AT service of Aliant Telecom, Bell Canada, MTS Allstream and SaskTel and applies a maintenance expense of 11 percent of capital costs for TCI's AT service.

Bell Canada's satellite lease costs

Positions of parties

114. The Competitors noted that Bell Canada's satellite lease costs were the only component included in Bell Canada's service provisioning category and that these costs represented 28.8 percent of Bell Canada's total cost per-minute for the AT service. The Competitors noted further that, under Bell Canada's contract, the amount of the lease costs was fixed and did not vary with demand. The Competitors argued therefore that Bell Canada's satellite lease costs were not causal to the AT service or to the APLDS demand for this service.
115. The Competitors further argued that, by stating that the satellite leases were collectively causal to Bell Canada's and the entrants' demand, Bell Canada et al. had acknowledged that these costs would be considered as expenses causal to the service, not causal to demand, and then only in the case of a cost study that considered all-carrier demand. The Competitors therefore proposed that Bell Canada's service provisioning costs be excluded from the cost studies.
116. Bell Canada et al. argued that Bell Canada's satellite lease contract was negotiated based on the combined DS-0s required to transport Bell Canada traffic and APLDS traffic to and from communities in the far North of its serving territory. Bell Canada et al. argued further that the fact that the payment under this contract was fixed reflected the form of the contract, and not the nature of the cost. Bell Canada et al. argued that, if Bell Canada had forecast a different APLDS' demand requirement, the total cost of the contract would have been varied to reflect this different level of demand. Bell Canada et al. argued therefore that the satellite lease payment was causal to the APLDS demand and should be included in Bell Canada's cost studies.

Commission's analysis and determinations

117. The Commission notes that Bell Canada's satellite lease contract provides for the lease of transponder and satellite equipment and for associated operations. The Commission considers that a portion of the contract (e.g., a portion of the transponder, and some of the satellite

⁹ In response to Commission interrogatories dated 14 November 2003 regarding Phase II Costing Information Requirements, by letter dated 9 January 2004, TCI provided an estimate of a portfolio expense factor of 48.65% using Bell Canada's portfolio factor methodology.

equipment) would not vary depending on the traffic volumes. The Commission notes that services other than the AT service, such as data and private line services, may also make use of these facilities. The Commission considers it reasonable to assume that Bell Canada's traffic levels to and from communities in the far North significantly exceed the levels of the APLDS' traffic, and thus would have primarily dictated Bell Canada's satellite transmission requirements during contract negotiations.

118. The Commission therefore considers that it would not be appropriate to assume that all of Bell Canada's satellite lease costs are sensitive to demand for the AT service and equally causal to both Bell Canada's and the APLDS' AT demand. The Commission also notes that Bell Canada's proposed per-minute service provisioning cost of \$0.00049 constitutes nearly a third of its total per-minute AT cost. In the Commission's view, this is unreasonably high for this cost element. In light of these considerations, the Commission considers that it would be appropriate to assume that only half of Bell Canada's satellite lease costs are traffic-sensitive and causal to the APLDS' demand for the AT service.
119. Accordingly, the Commission adjusts Bell Canada's December 2002 cost study to reduce the service provisioning costs associated with its satellite lease costs by 50 percent.

SaskTel's billing and sales management costs

Positions of parties

120. The Competitors proposed that SaskTel's billing and sales management costs should be excluded from its cost study on the basis that SaskTel did not establish that these costs were causal to the AT service.
121. Bell Canada et al. argued that SaskTel's billing costs, which represent the majority of the costs in SaskTel's Billing and Sales Management category, were causal to the AT service because SaskTel paid separate invoice amounts to an external vendor for billings associated with the AT service. Bell Canada et al. indicated that no billing costs were included in the updated AT cost studies for Bell Canada, Aliant Telecom and MTS Allstream since all billing-related costs were recovered in the rate for the DC service. Bell Canada explained that since each AT call was also billed a DC charge for which Bell Canada incurred the billing activity costs, the incremental billing activity costs associated with calls routed via Bell Canada's AT service were not significant.

Commission's analysis and determination

122. The Commission considers that Bell Canada et al.'s reply to the Competitors' proposal for an adjustment to SaskTel's billing and sales management costs supports the approach taken by SaskTel. Accordingly, in the Commission's view, the costing adjustment proposed by the Competitors is not required.

Aliant Telecom's network provisioning costs

Positions of parties

123. The Competitors submitted that Aliant Telecom included costs associated with its network planning and provisioning activities as an expense causal to the AT service. The Competitors noted that the costs associated with this function were determined by using a competitor toll minute to total minute ratio to determine network planning and provisioning costs associated with the AT service. The Competitors further noted that Aliant Telecom's method assumed that all minutes, whether entrant AT minutes or ILEC retail toll minutes, caused an equal amount of toll network planning and provisioning costs. The Competitors argued that this could not be accurate given that ILEC minutes would use more elements of the toll network.
124. The Competitors further noted that, in contrast, Bell Canada had only reflected the network planning and provisioning activities relating to the required connections within the network to ensure that AT facilities were available to competitors when required. The Competitors also noted that Bell Canada had estimated these costs by estimating the resources required for this function multiplied by the appropriate labour rate. The Competitors argued that Aliant Telecom had neither provided evidence to justify the existence of a causal link of the costs in question with the APLDS' AT service nor provided a reasonable proxy method. The Competitors further submitted that even if the costs were to be considered as causal to demand, the method Aliant Telecom used to assign network planning and provisioning costs to the AT service would overstate those costs. The Competitors requested that Aliant Telecom exclude its network planning and provisioning expenses from its cost study.
125. Bell Canada et al. submitted that Aliant Telecom's network planning and provisioning expenses costs were associated with the provision of both the retail and wholesale functions collectively. Bell Canada et al. further submitted that the volume of resources dedicated to this collective task varied as a result of the total volume of traffic. Aliant Telecom submitted that given that the total volume of these costs was driven by the total volume of toll traffic, it was appropriate to apportion these costs across the toll services on the basis of traffic volumes.

Commission's analysis and determination

126. The Commission notes that Aliant Telecom's proposed proxy method to determine the APLDS' network planning and provisioning costs for the AT service assumes that all toll minutes cause an equal amount of toll network planning and provisioning costs. The Commission considers that Aliant Telecom's reply does not adequately respond to the Competitors' concerns that this assumption would over-estimate the network planning and provisioning activities caused by the APLDS' demand for the AT service. The Commission further notes that Aliant Telecom's per-minute estimate for costs causal to the service associated with network planning and provisioning is \$0.00015 for each of its regions, compared to \$0.00005 for Bell Canada and \$0 for MTS Allstream and SaskTel. The Commission therefore considers it appropriate to adjust downward Aliant Telecom's per-minute costs causal to the service associated with network planning and provisioning to the level of \$0.00005 per-minute for each of Aliant Telecom-NS, Aliant Telecom-NB, Aliant Telecom-NL and Aliant Telecom-PEI based on the per-minute cost estimate proposed by Bell Canada for these activities.

127. Accordingly, the Commission adjusts Aliant Telecom's per-minute costs causal to the AT service associated with network planning and provisioning in its December 2002 cost studies for each of Aliant Telecom-NS, Aliant Telecom-NB, Aliant Telecom-NL and Aliant Telecom-PEI by reducing them to \$0.00005 per-minute.

TCI's service provisioning costs

Positions of parties

128. The Competitors proposed that TCI's service provisioning costs should be reduced by 50 percent on the basis that TCI's use of an average cost per-minute for all toll network service provisioning activities overstated service provisioning costs causal to the AT service.
129. TCI argued that the costs in question related only to its service provisioning activities and so were driven by demand for the AT service. TCI argued further that the per-minute service provisioning cost for the APLDS had been determined on the basis of the all-carrier demand and costs, on the assumption that the per-minute service provisioning costs for APLDS' and TCI's demand were the same.

Commission's analysis and determination

130. The Commission considers that TCI's reply to the Competitors' proposal for an adjustment to TCI's service provisioning costs supports the approach taken by TCI. Accordingly, in the Commission's view, the costing adjustment proposed by the Competitors is not required.

SaskTel's service provisioning costs

Commission's analysis and determination

131. The Commission notes that SaskTel's proposed per-minute service provisioning costs of \$0.00020 per-minute were high compared to the per-minute service provisioning costs proposed by the other ILECs for comparable activities, which were between \$0 and \$0.00008. As the service provisioning expenses relate to comparable activities undertaken by all ILECs, the Commission considers that the significant differences in these estimates between ILECs, as expressed on a per-minute basis, are not appropriate.
132. The Commission notes SaskTel's submission that its proposed service provisioning expenses were based on actual accounting results. The Commission is not persuaded that, in the circumstances of this case, the use of accounting-based data reflects accurate estimates of the prospective incremental causal Phase II costs associated with SaskTel's service provisioning activities.
133. Therefore, the Commission considers it appropriate to adopt a lower service provisioning cost per-minute of \$0.00009 for SaskTel, having regard to the level of the per-minute cost estimates proposed by other ILECs for these activities.

134. Accordingly, the Commission adjusts SaskTel's December 2002 cost study to reduce its service provisioning costs to \$0.00009 per-minute.

Final rates and deferral account issues

Final rates and related issues

Positions of parties

135. Bell Canada et al. and TCI requested that final rates for the AT service be approved based on the December 2002 cost studies plus a 15 percent mark-up.
136. The Competitors, Bell Canada et al. and TCI submitted that rates for the AT service should be approved on a final basis, retroactive to 1 June 2002. These parties submitted further that AT service rates for each price cap year going-forward should be established through the application of the relevant I-X constraint.
137. TCI submitted that the demand for the AT service used in its 2002 cost study did not reflect changes to the interconnection regime in *Trunking arrangements for the interchange of traffic and the point of interconnection between local exchange carriers*, Telecom Decision CRTC 2004-46, 14 July 2004 (Decision 2004-46).¹⁰ TCI proposed that the Commission approve rates for the AT service on a final basis only for the period 1 June 2002 to 14 July 2004. TCI also proposed that the Commission make these rates interim effective 15 July 2004 and require each ILEC to file a new AT cost study to reflect Decision 2004-46 so that the Commission may determine final AT rates effective on and after 15 July 2004.
138. The Competitors submitted that TCI's proposal should be rejected. The Competitors noted that rates had been approved on an interim basis for almost three years and argued that it would be unacceptable to maintain rates on an interim basis from 15 July 2004 on a going-forward basis. The Competitors argued that the public interest in finality required that, after an extensive public proceeding, a decision be made based on the record available at that time. The Competitors noted that Decision 2004-46 had yet to be implemented or even fully specified in its final form. The Competitors submitted that the extent and pattern of the impact, if any, of the new regime on other existing interconnecting arrangements was not known or would not be known until after the regime had been implemented. The Competitors submitted that any changes in assumptions made in the context of new AT cost studies proposed by TCI would be speculative and that TCI's proposal would delay the finalization of AT rates by at least 18 months.
139. TCI submitted in reply that it did not intend to delay the implementation of new rates for the AT service. TCI submitted further that final rates for its AT service should be based on its cost studies for the AT service. TCI submitted that it would monitor the need to file updated cost studies for its AT service.

¹⁰ In Decision 2004-46, the Commission modified the regulatory framework for interconnection of local exchange carriers by consolidating exchanges to form larger local interconnection regions.

Commission's analysis and determinations

140. With respect to TCI's initial proposal that the Commission approve interim rates with an effective date of 15 July 2004, the Commission notes that TCI subsequently indicated in its reply comments that it would monitor the need to file updated cost studies for the AT service. The Commission further notes that ILECs may propose revised AT rates at any time in the future if cost changes associated with demand changes resulting from Decision 2004-46, or other cost changes, warrant it.
141. The Commission notes that the AT service is classified as a Category I Competitor Service and that its rate is established based on its Phase II costs, plus a mark-up of 15 percent. The Commission notes that it has therefore established rates based on the ILECs' December 2002 cost studies, as amended to reflect the cost adjustments in this Decision, plus a mark-up of 15 percent.
142. Accordingly, the Commission **approves on a final basis** the rates set out in the Attachment to this Decision for each ILEC's AT service, retroactive to 1 June 2002.
143. The Commission finds that, consistent with Decision 2002-34, the applicable I-X constraint should be applied to adjust the ILECs' final 2002 rates for the AT service for each year thereafter.
144. Accordingly, the Commission directs each ILEC to issue, with 20 days of the date of this Decision revised tariff pages for the AT service that reflect the Commission's determinations in this Decision. The Commission notes that TCI filed two Tariff Notices, Tariff Notice 494 and Tariff Notice 4182, in the course of this proceeding. The Commission directs TCI to withdraw these Tariff Notices within 20 days of the date of this Decision.

Deferral account issues

Positions of parties

145. The Competitors submitted that the ILECs' compensation from their deferral accounts should be limited to revenue losses associated with the reduction in the mark-up to 15 percent. The Competitors argued further that the amount of compensation the ILECs received from their deferral accounts for each of 2003 to 2005 should be reduced by the applicable annual I-X constraint.
146. Bell Canada et al. submitted that, while Decision 2002-34 compensated the ILECs from their deferral accounts for revenue losses attributable to the reduction in mark-up on most Category I Competitor Services to 15 percent, it did not appear to contemplate compensation for revenue losses attributable to cost reductions. Bell Canada et al. submitted that this approach was not consistent with determinations in that decision related to the treatment of exogenous events and to the treatment of rates at the outset of the price cap period. Bell Canada et al. submitted further that Decision 2002-34 made allowances for rate increases required to offset the negative financial impact of exogenous events that met the specified criteria, including Commission directives, and as an alternative to rate increases, contemplated compensation from the ILECs' deferral accounts. Bell Canada et al. submitted that the level of ILEC revenues at the start of the

price cap period were the appropriate overall going-in revenues and should not be affected by administrative initiatives. Bell Canada et al. submitted further that, if this were not the case, the Commission would not have made provision for adjustments due to exogenous events. Bell Canada et al. argued, therefore, that the entire amount of revenue losses attributable to reductions in the rates for the AT service should be eligible for compensation.

147. TCI agreed with Bell Canada that the total revenue loss associated with reductions to the going-in rates for the AT service should be compensated. TCI argued that it expected that the total revenue reduction resulting from any going-in rate changes (including rate changes for the AT service effective 1 June 2002 that would result from the Commission's determinations in this proceeding) would be eligible for compensation from its deferral account. TCI argued that a decision by the Commission to deny compensation for its total revenue reductions would amount to a retroactive decrease in its allowed going-in revenues.
148. Bell Canada et al. and TCI also argued that the deferral account compensation amounts associated with reductions in rates for the AT service should not be adjusted annually through the application of the annual I-X constraint. The ILECs submitted that these compensation amounts were based on 31 December 2001 demand levels and the change in rates for the AT service resulting from Decision 2002-34. The ILECs submitted further that this compensation was a one-time event and would have no ongoing effect on the balance of the deferral account.

Commission's analysis and determinations

149. In Decision 2002-34, the Commission directed the ILECs to reduce rates for Category I Competitor Services that had a mark-up of 25 percent or more to rates that reflected Phase II costs plus a mark-up of 15 percent. The Commission noted this would reduce the revenues ILECs derived from the relevant services and stated that, because these changes resulted from policy considerations as opposed to cost reductions, it was of the view that the ILECs should be compensated for the reduction in revenues. The Commission considered these policy considerations and the method of compensation balanced the interests of the customers, ILECs and competitors. In that decision, the Commission also stated, among other things, that the deferral account would be used to offset the reduction in revenues caused by the reduction in mark-up on Competitor Services.
150. The Commission notes TCI's submission that failure to compensate for revenue reductions attributable to cost reductions associated with provision of the AT service would amount to a retroactive decrease in the amount of their revenues at the commencement of the price cap period established in Decision 2002-34 and Bell Canada et al.'s position that revenues generated by the prices in place at the beginning of the current price cap period are the appropriate going-in revenues.
151. The Commission notes that the concept of going-in rates related to the objective of the initial price cap regime to provide incumbents with a reasonable opportunity to earn a fair return for their Utility Segments and involved establishing the appropriate Utility Segment rates at the outset of the initial price cap period. The Commission notes that in establishing the second price cap regime in Decision 2002-34, it concluded that the concept of a Utility Segment no

longer had relevance given the expanded scope of the pricing constraints the Commission had decided to impose, as well as the introduction of a Phase II-based subsidy requirement in 2002. In Decision 2002-34 the Commission concluded that it was neither necessary nor appropriate to retain a reference to ILEC Utility Segment earnings in the objectives for the next price cap regime, since the focus of price cap regulation is prices, not earnings. Therefore, the Commission considers that in the context of the current price cap regime the ILECs' submissions regarding going-in revenues are without merit.

152. Bell Canada et al. also submitted that failure to compensate the ILECs for revenue reductions associated AT service cost reductions would be inconsistent with the treatment of exogenous events in Decision 2002-34. The Commission's policy with respect to Category I Competitor Services has been that these services should generally be priced at Phase II costs plus a specified mark-up. The Commission considers that revenue reductions attributable to Phase II cost reductions are not legislative, judicial or administrative actions beyond the control of the company, and therefore do not qualify as an exogenous event.
153. Accordingly, consistent with Decision 2002-34, the Commission **denies** the ILECs' request to be compensated from their deferral accounts for revenue losses attributable to cost reductions for this service and confirms that the ILECs are to be compensated from their deferral accounts for revenue losses attributable to the reduction in mark-up on the AT service from 25 percent to 15 percent.
154. With respect to the Competitors' proposal to apply the annual I-X constraint to the amount received by the ILECs from their deferral accounts as compensation for allowed revenue losses, the Commission notes that the deferral account mechanism compensates ILECs for allowed Competitor Service revenue losses by adjusting the balances in those accounts with respect to this compensation on a one-time basis only. The Commission notes further that the I-X constraint is used to adjust Category I Competitor Service rates annually in order to recognize ongoing productivity improvements realized by the ILECs in each year of the price cap period and, as such, has a different regulatory purpose.
155. Accordingly, the Commission **denies** the Competitors' proposal to apply the I-X constraint to the amount of the ILECs' deferral account compensation related to the revenue losses associated with the AT rates approved in this Decision.

Secretary General

This document is available in alternative format upon request, and may also be examined in PDF format or in HTML at the following Internet site: <http://www.crtc.gc.ca>

Final AT 2002 Rates - per connect minute

ILEC	Final AT Rate
Aliant Telecom-NB	\$0.00144
Aliant Telecom-NL	\$0.00135
Aliant Telecom-NS	\$0.00123
Aliant Telecom-PEI	\$0.00115
Bell Canada	\$0.00126
MTS Allstream	\$0.00158
SaskTel	\$0.00146
TCI-AB	\$0.00175
TCI-BC	\$0.00178