



**Lemay-Yates
Associates
Inc.**

Monitoring the Canadian
Telecommunications Industry
CRTC PN 2000-175

BACKGROUND REPORT

Presented to



VERSION 2 – May 2001



This Background Report has been prepared by Lemay-Yates Associates Inc. on behalf of the Canadian Radio-television and Telecommunications Commission (CRTC). The purpose of the Report is to recommend appropriate mechanisms to collect information from the Canadian telecommunications industry to monitor the state of competition and the deployment and accessibility of advanced telecommunications infrastructure and services in all regions of the country. The first version of the Report was intended to stimulate discussion amongst interested parties in advance of a public consultation held on 18 April 2001 with the telecommunications industry, consumer groups and other interested persons (see CRTC Public Notice 2000-175). This second version of the Report incorporates comments from the Consultation as well as discussions and assessment of appropriate mechanism held with CRTC staff.

Any opinions, analysis, conclusions and recommendations expressed herein are solely those of Lemay-Yates Associates Inc. and do not necessarily reflect the views of the CRTC.



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1

2 Monitoring the Canadian

3 Telecommunications Industry

4 Background Report

5

6 **1. Introduction**

7

8 The telecommunications industry world-wide as in Canada is characterised by a high level
9 of risk both in terms of technology and markets. The current major forces and trends
10 shaping the industry include both technology issues – as service providers are subject to a
11 plethora of choice regarding how to best access and serve their customers – and new
12 services and business models – e-commerce, broadband data, high-speed Internet.

13

14 The telecom industry is being re-shaped by (1) a profound re-organisation and re-structuring
15 of the major players and new entrants, (2) a world-wide trend towards de-regulation, and
16 (3) advances in technologies (broadband, wireless, Internet, etc.) that create basic cost shifts
17 in and allow for the creation of new products and services.

18

19 Consumers and businesses are benefiting from these changes in ways never seen before in
20 what once was a slow-moving and staid industry. Entire new market segments are
21 emerging – e.g. mobile e-commerce – and customers are benefiting not only from increased
22 technical options, but increasing numbers and flavours of service providers, declining costs
23 and increased capabilities and options.

24



25 Broadband capabilities in particular stimulate consumers to re-define their basic needs for
26 telecommunications and they now continually demand “more” and “faster”. In addition, all
27 levels of government in Canada are examining means to increase citizens and business
28 access to broadband capabilities, linking such access to economic prosperity.

29
30 ***1.1 CRTC Action Plan 2000-2003***

31
32 The CRTC, in its Action Plan covering the years 2000 to 2003 has identified a number of
33 monitoring initiatives in the telecommunications and broadcasting sectors. Insofar as the
34 telecom industry is concerned, these include:

- 35
36 ♦ Monitor the telecommunications industry structure,
37 ♦ Monitor effectiveness of telecommunications competition,
38 ♦ Monitor the effectiveness of telecommunications competition on services provided to
39 consumers.
40 ♦ Monitor international competition (i.e., the monitoring of competition in international
41 telecommunications services in Canada), and
42 ♦ Ensure compliance of telecommunications carriers with respect to foreign ownership
43 and control requirements.¹

44
45 ***1.2 Order in Council P.C. 2000-1053***

46

¹ CRTC, Action Plan 2000-2003.



47 On June 26, 2000, the Governor-in-Council issued a direction to the CRTC under Section 14
48 of the Telecommunications Act. This direction:

- 49
- 50 ♦ “(a) requires the Commission to submit ... a report to the Governor in Council on the
51 status of competition in Canadian telecommunications markets and on the deployment and
52 accessibility of advanced telecommunications infrastructure and services in urban and rural
53 areas in all regions of Canada,
 - 54 ♦ (b) requires that the report include
 - 55 ♦ (i) an examination of promising means for accelerating private sector investment in rural
56 broadband infrastructure, such as initiatives to aggregate local demand for advanced
57 telecommunications services, and
 - 58 ♦ (ii) relevant data and analyses, and
 - 59 ♦ (c) specifies that the first report be submitted to the Governor in Council no later than
60 September 28, 2001.”²
- 61

62 ***1.3 Public Notice CRTC 2000-175***

63

64 In order to implement industry monitoring, as part of the CRTC Action Plan and to fulfil
65 the Governor-in-Council’s request, the CRTC issued Public Notice CRTC 2000-175.³

66

67 Among other things, the Public Notice set out the Commission’s reasons for initiating a
68 process for monitoring the Canadian telecommunications industry, including:

² Order-in-Council P.C. 2000-1053, June 26, 2000.



69

- 70 ♦ Determining more effectively the state of competition;
- 71 ♦ Determining the effect of telecommunications competition on services to consumers;
- 72 ♦ Determining service providers' compliance with legal and regulatory requirements.

73

74 In addition, the Commission stated that the information gathered during this process would
75 assist them in fulfilling the requirements of the Order-in-Council, which were to issue a
76 report once in each year for the next five years on:

77

- 78 ♦ The status of competition in Canadian telecommunications markets; and
- 79 ♦ The deployment and accessibility of advanced telecommunications infrastructure and
80 services in urban and rural areas in all regions of Canada.

81

82 ***1.4 Report scope and methodology***

83

84 This report was prepared in the context of Public Notice CRTC 2000-175, which identified a
85 “Background Report” which would recommend appropriate monitoring mechanisms for review
86 by industry.

87

88 This report presents an overview of the different monitoring mechanisms in use in selected
89 telecommunications markets around the world. This information includes interviews with key
90 individuals within regulatory agencies and government departments in those countries. The
91 results of this survey and interviews are presented in Section 2.

³ Telecom Public Notice 2000-175, Monitoring the Canadian Telecommunications Industry, 15 December



92

93 Based on this information, Section 3 presents recommendations on industry characteristics and
94 parameters that should be monitored by a regulatory agency. Recommendations are provided
95 for both monitoring telecommunications competition and the deployment of broadband
96 infrastructure.

97

98 Section 4 provides an assessment of the various methods used by other regulatory agencies and
99 government departments in the telecommunications markets surveyed and examines them from a
100 Canadian context. Recommendations concerning the specific mechanisms that could be used in
101 the Canadian context to fulfil the twin requirements of the CRTC are then made.

102

103 It should also be noted that no discussion is included concerning the resources, either at the
104 CRTC or within the industry, that would be required on an ongoing basis to fulfil monitoring
105 objectives or to implement particular mechanisms. The intent of this Report is to provide a
106 broad context for monitoring and a list of parameters and mechanisms. This is to promote
107 discussion and comment on the importance and relevance of various subject matter areas,
108 obtain feedback on the types of information that could be made available to the CRTC, and to
109 identify possible approaches to monitoring the industry.

2000.



110

111 **2. Survey of Methods Used to Monitor Telecommunications**

112

113 Industry monitoring is a core activity of regulators world-wide. The telecommunications industry
114 is often monitored by both regulatory agencies and by government departments.

115

116 In examining a number of jurisdictions,⁴ it becomes clear that countries with well developed
117 telecommunications markets go to great efforts to monitor and collect information concerning
118 their telecommunications industry, as well as to monitor what happens outside their national
119 markets and how this may impact their domestic market.⁵

120

121 Monitoring thus plays a role in making and in validating and tracking the effects of regulatory
122 decisions, as well as in facilitating assessment of the relative competitiveness of the industry.

123

124 2.1.1 Status of competition in telecom markets

125

126 Regulatory agencies and government departments for some time have gathered information on
127 the telecom industry. In the case of the FCC for example, they have required the carriers to file
128 detailed financial and operational data since the 1950.⁶

129

⁴ In conducting a review of what regulatory agencies and government departments monitor, LYA examined the following jurisdictions: the United States, the United Kingdom, Canada, European Union and Australia.

⁵ See for example OFTEL's International benchmarking studies and the FCC, which monitors the competitiveness of foreign telecommunications markets.



130 However, such information was gathered to fulfil specific regulatory requirements, such as for
131 rate of return regulation. It was not necessarily specifically designed to monitor the state of
132 competition.

133
134 In Canada, concerns have been expressed over the status of competition in telecom markets.
135 This concern – whether competition is developing in a healthy and viable manner – underlies and
136 provides a driver for the present discussion of monitoring mechanisms.

137
138 2.1.2 Deployment and accessibility of advanced telecom infrastructure

139
140 Broadband deployment, and the monitoring of such deployment, is a relatively new
141 phenomenon, only begun in earnest in the latter half of the 1990's.

142
143 However, the promise of what broadband could bring to residential and commercial customers,
144 and its potential use as a platform for economic development, has fuelled a debate concerning
145 those who have access to broadband and those who cannot due to geographic location or
146 economic circumstance.

147
148 As such, there is a keen interest on the part of policy-makers to measure, with some degree of
149 certainty, the actual and future deployment of broadband infrastructure in Canada.

150

⁶ See, for example, FCC, Statistics of Common Carriers, in which certain historical data begins in the year 1950. Certain other information – e.g. on AT&T Long Lines – is available for years prior to 1950.



151 In particular, the focus on the deployment of broadband is on finding ways to extend such
152 deployment to all regions of Canada, and to ensure availability of advanced telecommunications
153 services at affordable prices.

154 155 **2.2 Canada**

156
157 These sections provide an overview of the data collection activities of the main
158 agencies/departments in Canada and include a review of the mechanisms used to collect data
159 from industry.⁷

160 161 2.2.1 Statistics Canada – Telecommunications Industry Surveys

162
163
164 Statistics Canada, as Canada’s national statistics agency, is specifically empowered to collect
165 data from a wide range of sources on a wide range of subject matter.⁸

166
167 Data collection concerning the telecommunications industry in Canada by Statistics Canada is
168 done on an annual basis through the issuance of questionnaires to players in distinct market
169 segments. Statistics Canada uses the North America Industry Classification System (NAICS) to
170 classify carriers in Canada. This classification system breaks down the industry in the following
171 categories:

⁷ The Telecom Branch of the CRTC is not explicitly covered here, since the survey is of monitoring methods and approaches of other agencies. The Telecom Branch has access to various regulatory filings (in proceedings and pursuant to tariff applications), StatsCan reports, etc.

⁸ Statistics Act, 1985, c. S-19.



- 173 ♦ Wireline – comprised of businesses primarily engaged in operating and maintaining switching
174 and transmission facilities to provide direct communication via land lines, microwave, or a
175 combination of land lines, microwave and satellite link-ups.⁹
- 176 ♦ Wireless – comprised of businesses engaged in the operating and maintaining switching and
177 transmission facilities to provide direct communications via the airwaves, including cellular,
178 personal communications services (PCS), enhanced specialised mobile radio (ESMR), and
179 messaging (paging).
- 180 ♦ Reseller – comprised of businesses primarily engaged in the purchase of access and
181 network capacity from owners and operators of telecommunications networks and reselling
182 telecommunications services to their clients.
- 183 ♦ Satellite – comprised of businesses primarily engaged in operating, maintaining and
184 providing access to fixed and mobile satellite telecommunications facilities for the
185 transmission of voice, data, text, sound and full motion video.
- 186 ♦ Other – includes companies providing services not in the previous four categories (such as
187 telemetry, satellite tracking and radar station operations).

188

189 For the Wireline industry, the survey includes the incumbent local exchange carriers (ILECs),
190 competitive long distance providers, competitive access providers and independent providers of
191 telecommunications services, such as Prince Rupert Telephones and Ontario Northland.

192

⁹ Statistics Canada definitions of the NAICS industry classifications taken from Telecommunications in Canada, Catalogue no. 56-203-XIB, 1997.



193 For the Wireless industry, the survey includes the four major cellular and PCS carriers (Rogers
194 AT&T Wireless, Telus Mobility, Bell Mobility, Microcell) as well as smaller mobility companies
195 such as Sogetel Mobilité and Thunder Bay Cellular, and paging companies.

196
197 For resellers, Statistics Canada sends its questionnaires to all providers of resold long distance
198 and paging and has used the CRTC list of registered resellers to expand the scope of its survey
199 coverage.

200
201 Satellite carriers include resellers of satellite capacity as well as Telesat, while all other providers
202 are sent questionnaires to gauge what their level of telecommunications activity is in Canada.

203
204 The annual surveys demand a range of information from carriers, organised in the questionnaires
205 in modules. The following example is taken from the Long version of the Wireline Survey
206 questionnaire:

- 207
208 ♦ Module One: Telecommunications operating revenues – including retail revenues (from such
209 services as local, payphones, LD, packet switched, wideband services, broadband
210 services, calling features and connection services, all of which is split by residential and
211 business customers), wholesale revenues (contribution, interconnection, circuit rentals,
212 circuits and wholesale minutes), non-telecommunications services revenues (such as terminal
213 equipment rentals, sales of telecommunications goods, directory services, retail Internet
214 access, installations, repairs, late payment charges and other);
- 215 ♦ Module Two: Operating Expenses – which includes telecom network expenses (such as
216 network operations, maintenance and repairs, circuit rentals, wireless capacity rentals,



217 purchased LD services, contribution payments), commercial and administrative expenses
218 (such as selling and marketing, customer servicing, billing and collections, corporate
219 administration, professional and business fees, amortisation, depreciation, licenses costs and
220 other), occupancy costs (land and building rentals, utilities, property taxes) and other
221 expenses;

222 ♦ Module Three: Income Statement – which is a summary of the information presented in
223 Module’s One and Two and records all other revenues which are not part of the company’s
224 operating activity;

225 ♦ Module Four: Balance Sheet – which provides the company’s current assets, fixed assets,
226 financial investments, deferred charges and other, current liabilities, long-term liabilities and
227 shareholder’s equity;

228 ♦ Module Five: Capital Expenditures – which includes expenditures in two broad categories –
229 construction and machinery and equipment;

230 ♦ Module Six: Employment – which includes labour costs broken down by salaries and wages
231 and fringe benefits, as well as itemising the number of full-time employees and part-time
232 employees;

233 ♦ Module Seven: International Transactions in Commercial Services – this section is in two
234 parts: part A, which covers international transactions in telecommunications services:
235 interconnection expenses and other telecommunications services; part B, which covers
236 international transactions in non-telecommunications services.

237 ♦ Module Eight: Network Infrastructure – which includes data on PSTN access lines (such as
238 individual, party lines, ISDN, public telephone, Centrex, official telephone service lines and
239 other, the extent of PSTN digitalisation, PSTN access line churn, high speed access through



240 PSTN lines, non-PSTN lines broken down by analogue and digital including xDSL, wireline
241 network kilometres, microwave relay systems and the number of switches;
242 ♦ Module Nine: Traffic Statistics – which includes billed calls and messages, outbound calls
243 and messages, international incoming calls and messages and transit traffic.¹⁰

244

245 While the information collected by Statistics Canada is extensive, products and services are not
246 segregated by geographic area.

247

248 The time between when the data is collected and when it is published can be quite lengthy. In
249 some cases, this delay can be as long as two to three years, which reduces significantly the
250 timeliness of the information.

251

252 In addition to annual surveys, Statistics Canada also sends shortened versions of the its
253 questionnaires for the Wireline and Wireless industry to those two industry segments on a
254 quarterly basis. The information that Statistics Canada collects using the quarterly questionnaires
255 is:

256

- 257 ♦ Telecommunications operating revenue;
- 258 ♦ Non-telecommunications operating revenue;
- 259 ♦ Non-operating revenue;
- 260 ♦ Telecommunications operating expenses;
- 261 ♦ Non-telecommunications operating expenses;

¹⁰ Statistics Canada, Annual Survey of Telecommunications Service Providers, 1999, Wireline (Long), April 2000.



- 262 ♦ Non-operating expenses;
- 263 ♦ Employment;
- 264 ♦ Capital expenditures;
- 265 ♦ Traffic.

266

267 For the Wireless quarterlies, Statistics Canada also asks for the number of subscribers by type
268 of wireless service (such as digital cellular, analogue cellular, PCS, ESMR, Paging, Radio
269 Common Carriage and other).

270

271 The results of the surveys are published in two different documents – an annual publication
272 entitled “Telecommunications in Canada”¹¹ and a quarterly publication entitled “Quarterly
273 Telecommunications Statistics”¹².

274

275 2.2.2 Statistics Canada – Consumer and Pricing Surveys

276

277 In addition to the surveys of the telecommunications industry, Statistics Canada performs an
278 annual survey of household expenditures.¹³ In this survey, household expenditures for such
279 telecommunications services as wireline local and long distance, purchase of telephone
280 equipment, installation and repairs, cellular services, Internet services and postal and other
281 communications services.

¹¹ Catalogue No. 56-203-XIB. The most recent publication in this series is for 1997 and was published in February 29, 2000.

¹² Catalogue No. 56-002-XIB. The most recent publication in this series is for second quarter 2000, published January 30, 2001.

¹³ Catalogue no. 62-202-XIE. The most recent publication in this series is for the year 1998, released September 2000.



282

283 This annual survey collects data concerning the number of telephones, whether the household
284 has a cellular phone, cablevision into the home, the number of computers in the home and how
285 many modems per household.

286

287 Statistics Canada also produces a price index of telephone services, which is contained within
288 the consumer price index publication.¹⁴ Statistics Canada produces a telephone services index
289 as a sub-set of the total consumer price index.

290

291 The pricing data collected by Statistics Canada for the telephone services price index is limited,
292 as it is restricted to information received from two companies: Bell Canada and Telus. Pricing is
293 obtained for both business long distance services and residential local services. Some
294 information is provided by AT&T Canada on long distance services.

295

296

297 2.2.3 Industry Canada

298

299

300 Industry Canada collects data from published sources, such as Statistics Canada, the CRTC,
301 Annual Reports and others. Using such data, Industry Canada produces a publication called
302 “The Canadian Telecommunications Service Industry”.¹⁵

303

¹⁴ Catalogue No. 62-001-XIB. This publication is monthly, the most recent being for January 2001, released on February 15, 2001.

¹⁵ See for example, “The Canadian Telecommunications Services Industry: An Overview 1997-1998”, Industry Canada, published in July 1999.



304 In addition, Industry Canada does produce ad-hoc or task force-based reports on different
305 aspects of the telecommunications industry. Recent examples include the report from the
306 Information Highway Advisory Council.¹⁶

307
308 Through the new National Broadband Task Force (NBTF), Industry Canada has made specific
309 requests of both the cable industry and the incumbent local exchange carriers for information
310 concerning the deployment of cable modems and the location of CO's which are capable of
311 supporting xDSL services, respectively.

312
313 In keeping with the mandate of the NBTF, to “map out a strategy and advise the Government
314 on best approaches to make high-speed broadband Internet services available to businesses
315 and residents in all Canadian communities by the year 2004”,¹⁷ Industry Canada is attempting to
316 collect such data and map it to Census Metropolitan Areas (CMAs), the large urban
317 agglomerations defined by Statistics Canada.

318 319 320 2.2.4 CRTC Broadcasting Analysis Branch

321
322
323 The CRTC Broadcasting Analysis Branch collects data from the broadcasters and broadcast
324 distribution undertakings (cable television companies) it licenses.

¹⁶ Industry Canada also produces an annual report called the Information and Communications Technologies Statistical Review, which provides statistics on the Canadian Information and Communications Technologies sector.

¹⁷ Industry Canada, Mandate Statement, National Broadband Task Force.



326 The data are collected through a process managed by Statistics Canada. Statistics Canada
327 sends questionnaires to the various broadcasters and distribution licensees based on lists
328 furnished by the CRTC.

329

330 Completed questionnaires are sent back to the CRTC first, which makes copies and sends the
331 originals to Statistics Canada. The CRTC then enters the data into a database, which it then
332 uses to produce its annual publications on the broadcast distribution industry.

333

334 The data are divided into four major sections – basic tier services, all services, contributions to
335 the creation and production of Canadian programming and a section on MDS/DTH services.¹⁸

336 Each of these four sections contains the following broad categories of data:

337

- 338 ♦ Subscriber and System Information – includes subscriber counts, total cable kilometres,
339 density, households served, penetration rates, etc.;
- 340 ♦ Revenues – from direct, indirect, installation, community cable stations and other cable
341 revenues;
- 342 ♦ Expenses – for a number of discreet parts of the business, such as programming, sales and
343 promotion, administration/general;
- 344 ♦ Operating Income, profit before interest and taxes, pre-tax profit, salaries, staff;
- 345 ♦ Profitability Statistics – including information on net fixed assets.¹⁹

346

¹⁸ See “Broadcast Distribution: Statistical and Financial Summaries”, Industry Statistics and Analysis, Broadcast Analysis Branch, CRTC.

¹⁹ Ibid.



347 In addition, the information is divided into sections that include all of Canada, regionally and
348 provincially and is presented historically. Finally, the data can be separated out by company,
349 which aids the CRTC in its deliberations for license renewal. The forms are usually sent out in
350 the Fall, with a deadline of November 30 and the Broadcasting Branch then publishes its report
351 by April or May of the following year.

352 353 **2.3 *United States***

354
355
356 A significant amount of telecommunications industry information is published on an annual basis
357 by various agencies of the US Government.

358
359 The most important ones are the Federal Communications Commission (FCC), State
360 Regulators, and the National Telecommunications & Information Administration (NTIA).

361 2.3.1 Federal Communications Commission

362
363
364 The Federal Communications Commission (FCC) collects data on different market segments of
365 the US telecommunications industry. In turn, these data are used to generate a number of
366 reports which fall broadly into the category of monitoring the telecommunications industry,
367 including:
368

- 369
- 370 ♦ Local Telecommunications Competition
- 371 ♦ International Circuit Status Report
- 372 ♦ International Telecommunications Data
- 373 ♦ International Telecommunications Trends



- 374 ♦ Statistics of Common Carriers
- 375 ♦ Trends in Telephone Service
- 376 ♦ Telephone Subscribership
- 377 ♦ Telecommunications Industry Revenue Report
- 378 ♦ State of Wireless Competition
- 379 ♦ State-by-State Revenue and Universal Service Data
- 380 ♦ Telephone Penetration and Income by State

381

382 For the broad category of monitoring the rollout and deployment of broadband services and
383 infrastructure, the FCC publishes an annual report called the Report on Advanced
384 Telecommunications Capability. It also has published one-time reports on broadband, including
385 Broadband Today, Infrastructure Report and a report on the High Speed Internet market.

386

387 Other reports are produced as a result of statutory filing requirements or research requirements
388 and include:

389

- 390 ♦ Annual Assessment – Competition in the Market for Delivery of Video Programming
- 391 ♦ Report on Cable Industry Prices

392

393 The Communications Act provides the FCC with the power to collect information from
394 carriers.²⁰ In addition, the FCC has come to decisions regarding the necessity to collect
395 information on particular market segments through the issuance of a Notice of Proposed

²⁰ See for example, sections 205, 225, 251, 254, 258, 623 and 706.



396 Rulemaking or Notice of Inquiry,²¹ which is then made a part of FCC procedure. Data are
397 published by various Bureaus within the FCC, such as the Wireless Bureau, the Common
398 Carrier Bureau, the International Bureau and the Cable Bureau being the four principal bureaus.

399

400 Recently, the Consumer Information Bureau, whose mandate is to provide information to
401 consumers to make informed choices for their telecommunications services providers, has
402 issued its first annual report.²²

403

404 The current methods by which the FCC collects and publishes data, by Bureau, and the kind of
405 information published, are summarised below.

406

407 *2.3.1.1 Common Carrier Bureau*

408

409 The Common Carrier Bureau (CCB) collects data from a number of sources notably:

410

- 411 ♦ Automated Reporting Management Information System (ARMIS) – is a system set up in
412 the late 1980's to collect financial and operational data from the regulated Local Exchange
413 Carriers, or LECs. ARMIS provides the FCC with the basic data to generate the annual
414 Statistics of Common Carriers. In addition, the public can access five reports directly from
415 the ARMIS Data Retrieval System – Basic Financial Data, Holding Company Rates of
416 Return (current and historical corporate structure), Regulatory/Non-regulated Revenues and

²¹ See for example, Second Notice of Proposed Rulemaking, Local Competition and Broadband Reporting, FCC, CC Docket 99-301, January 19, 2001.

²² “Putting People in the Picture”, Consumer Information Bureau, Federal Communications Commission, Foreword, page i.



417 Costs (current and historical corporate structure), Re-Submissions Received (anyone filing
418 amendments to their original ARMIS reports) and a Filing History Report.

419 ♦ Forms – the CCB uses two principal forms to collect data: Form 477 and Form 499. Form
420 477 is the Local Competition and Broadband Reporting form (for those carriers providing
421 more than 250 broadband or wireless lines in a state over their own facilities and for those
422 local carriers providing more than 10,000 local lines in a state) and requires such qualifying
423 carriers to file basic corporate information, the number of lines and/or channels used to
424 provide broadband and local services, the number of mobile subscribers in service and
425 breakouts by residential and business as well as identification in which zip codes such
426 service is offered. Form 499 is an annual form that is required to be filled in by all interstate
427 telecommunications service providers and payphone operators. This Form requires the
428 respondents to submit to the FCC basic corporate data, information on where the carrier
429 offers services (at the State level), the revenues the carrier receives from various
430 telecommunications services it might offer (such as fixed local, mobile, long distance) as well
431 as revenue breakouts on a regional basis. Other forms are sent to carriers from different
432 divisions of the FCC to cover off such items as contributions to Universal service funding
433 and contributions to the national Telecommunications Relay Services fund.²³

434 ♦ Pricing Survey – the CCB conducts an annual pricing survey. Forms are sent to a selection
435 of the largest LECs and they are required to send to the FCC pricing information for a
436 variety of services in a total of 95 cities across the United States. This survey is conducted
437 by the Bureau of Labour Statistics with the FCC adding and modifying questions on an
438 annual basis.



439

440 The information from the basic filing areas are often analysed and compiled into topical reports
441 (e.g. “Trends in Telephone Service”). These reports in some cases rely on information filed in
442 other contexts (e.g. access tariff filings, proceedings, etc.) or from other bureaus (e.g. Section
443 43.61 data that is collected by the International Bureau).

444

445 2.3.1.2 *Wireless Bureau*

446

447 The Wireless Bureau’s annual Status of Wireless Competition report is put together exclusively
448 using published sources.

449

450 For example, they acquire information from the private sector, other US Government agencies
451 and public sources (such as the association for wireless service providers).

452

453 The Wireless Bureau also obtains information from wireless carriers on a periodic basis from
454 other, institutionalised sources. These include the following:

455

- 456 ♦ Short-form application – prior to an auction, the FCC will require certain information from
457 prospective licensees, such as historical revenue information, ownership information and a
458 minimal set of corporate information to ascertain the legitimacy of a particular prospective
459 bidder.

²³ For example, Form 159-W (Interstate Telephone Service Provider Worksheet); Form 431 (TRS Fund Worksheet); Form 457 (Universal Service Worksheet); Form 492 (Rate of Return Report); Form 492A (Price Cap Regulation Rate of Return Monitoring Report).



- 460 ♦ Long-form application – once a spectrum auction is completed and a bidder has won some
461 spectrum, the Wireless Bureau has established an automated licensing system known as the
462 Universal Licensing System (ULS). The ULS is used to determine the market reach of
463 prospective bidders by containing such information as the population covered per market.
- 464 ♦ Form 601 – this form is used by licensees to report back to the Wireless Bureau on a
465 periodic basis to report the progress of their network build-out commitments, as well as to
466 report their technical parameters concerning the network they are constructing.
- 467 ♦ Form 603 – this form is used to request a disaggregation of spectrum by a particular
468 licensee, as well as to transfer or assign spectrum from one licensee to another entity.

469
470 Using the information generated from the ULS and the various forms, the Wireless Bureau is
471 able to track the deployment of wireless networks, the transfer of licenses, the consolidation of
472 the industry (for PCS, only within the confines of the existing spectrum cap) and the markets
473 served by licensees across the United States.

474
475 In terms of pricing and service offerings, the Bureau tracks such information but does not make
476 a concerted effort to acquire pricing or service data from the wireless carriers.

477 478 *2.3.1.3 Cable Services Bureau*

479
480 The Cable Services Bureau (CSB) is required under the Cable Television Consumer Protection
481 and Competition Act of 1992 (1992 Cable Act) to publish an annual statistical report that



482 compares prices charged by cable operators facing ‘effective competition’²⁴ with those of
483 operators not facing effective competition for the delivery of basic service, other programming
484 services and equipment.

485

486 The CSB acquired the data through a survey of randomly selected cable operators²⁵, which the
487 CSB defined as representative of the entire industry as a whole. The survey is sent out via a
488 FCC Order in July with a response date no later than August 15. The data collected is for one
489 year. The survey collected information from each respondent concerning each operator’s
490 regulatory status, monthly charges for the basic service tier and cable programming service tiers,
491 monthly charges for equipment, installation fees, reconnect fees and fees for tier changes as well
492 as additional information concerning subscribers, channel line-up, whether the operator is facing

²⁴ The FCC Cable Services Bureau describe effective competition as follows: “Under the 1992 Cable Act, effective competition is defined to exist: (1) where the franchise area is served by at least two unaffiliated multichannel video programming distributors (“MVPDs”), each of which offers comparable video programming to at least 50% of households, and at least 15% of households subscribing to programming services offered by an MVPD subscribe to services other than those offered by the largest MVPD (referred to herein as head-to-head competition or the “overbuild test”); (2) where fewer than 30% of the households in the franchise area subscribe to the cable service of a cable system (the “low penetration test”); or (3) where a municipal cable system offers service to at least 50% of the households in the franchise area (the “municipal test”). The Telecommunications Act of 1996 added a fourth prong, finding that effective competition exists where a local exchange carrier (“LEC”) or its affiliate (or any MVPD using the facilities of such carrier or its affiliates) offers video programming services (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator, but only if the services so offered are comparable to the services provided by the cable operator (the “LEC test”). Communications Act, § 623(l)(1)(D), 47 U.S.C. § 543(l)(1)(D).” From: Report on Cable Industry Prices, MM Docket No. 92-266, February 14, 2001.

²⁵ The CSB randomly selects cable operators of differing sizes and in differing markets for a total of about 800-850 operators.



493 competition from other operators or Direct Broadcast Systems and what their revenues are
494 from specialty services.²⁶

495

496 In addition, the CSB also produces a report on the status of competition in the cable markets
497 called “Annual Assessment – Competition in the Markets for Delivery of Video Programming”.
498 The report uses a variety of public sources, such as reports from the private sector, Cellular
499 Telecommunications Industry Association figures and others. It is designed to provide the FCC
500 with a high-level overview of the competitive landscape with respect to cable in the United
501 States.

502

503 *2.3.1.4 International Bureau*

504

505 The International Bureau develops, recommends and administers policies, standards,
506 procedures and programs for the regulation of international telecommunications facilities and
507 services and the licensing of satellite facilities under its jurisdiction.

508

509 The Bureau advises and recommends to the Commission, or acts for the Commission under
510 delegated authority, in the development and administration of international telecommunications
511 policies and programs. The International Bureau assumes the principal representational role for
512 Commission activities in international organisations.

513

²⁶ FCC, Statistical Report on Average Rates for Basic Service, Cable Programming Services, and Equipment, Released February 14, 2001, MM Docket No. 92-266, page 2.



514 The International Bureau collects the following information from carriers which it licenses to
515 provide international telecommunications voice, data and satellite services between the United
516 States and foreign countries, including Canada:

517

- 518 ♦ International Traffic Data – this information is collected as minutes of use on a country-by-
519 country basis for international message telephone and private line data. In addition, the
520 FCC also asks carriers to identify the amount of voice minutes routed over transit services,
521 through resale services, hubbing, international simple resale arrangements and alternative
522 settlement arrangements.²⁷ This information is further broken down by facilities-based and
523 resale carriage.
- 524 ♦ Circuits – the international bureau also collects information on the numbers of circuits used
525 by carriers licensed to carry voice and data services between the United States and foreign
526 points. This information is presented in 64 kbps equivalent circuits, both active and inactive,
527 as well as broken down by terrestrial and satellite.

528

529 This information is collected from licensed international carriers on an annual basis as a condition
530 of license.

531

532 The International Bureau requires international carriers to fill out a form to report such data.
533 Forms required filling out and returned to the FCC by March 31, and are to contain data from
534 the previous year to the December 31. Carriers are permitted to file amendments to their March
535 31 data by October 31. The International Bureau issues a preliminary report in June and a final
536 report in December.



537

538 *2.3.1.5 Consumer Information Bureau*

539

540 The Consumer Information Bureau (CIB) is the newest Bureau of the FCC. It was created in
541 1999 and has the following mission:

542

- 543 ♦ To provide consumers with information about telecommunications services and devices, and
544 to ensure that this information is accessible to everyone, including Native Americans, the
545 Hispanic Community, individuals with disabilities and other underserved communities.²⁸

546

547 The CIB's principal role is to deal with consumer complaints concerning the services provided
548 by telecommunications carriers in the United States. In addition, it provides information
549 concerning slamming (the practice of a carrier choosing a customer without his/her consent),
550 telecommunications bills, Radio Frequency emission information, cell phone tips and a range of
551 additional information designed to inform consumers about a variety of issues related to
552 telecommunications.

553

554 The CIB has just issued its first report, which it intends to do on an annual basis. In this report,
555 the CIB reports on the following accomplishments:

556

- 557 ♦ Organisational Structure
- 558 ♦ Its 'outreach' and educational initiatives (to better advertise the existence of the Bureau);

²⁷ FCC, 1999 International Telecommunications Data, December 2000, pages 3-7.

²⁸ "Putting People in the Picture", FCC, Foreword, page i.



- 559 ♦ Operations, where it describes its consumer complaints and inquiries activities, consumer
560 centres, disability inquiries, representations to Congress and consumer reference materials;
561 ♦ Policy initiatives.

562

563 While not immediately applicable to the issues of monitoring competition, the existence of such a
564 Bureau at the FCC may herald the trend of further data gathering activities on issues directly
565 related to consumers.

566

567 2.3.2 State Regulatory Agencies

568

569

570 In addition to the information-gathering activities of the FCC, each US State has a regulator
571 responsible for the regulation of intra-state telecommunications and local service competition.

572

573 In fulfilling their regulatory requirements, each State requires information from carriers for a
574 variety of functions, such as:

575

- 576 ♦ Certificate of Public Convenience and Necessity – this is essentially a license to operate as a
577 carrier within a particular State to provide telecommunications services.²⁹ In fulfilling the
578 requirement to apply for a Certificate, a carrier must file basic corporate information with
579 the State regulator, which is typically updated, on an annual basis.

²⁹ See for example Section 99 of the New York State Public Service Law. Obtaining a Certificate in the State of New York applies to local exchange carriers, inter-exchange carriers, alternative operator service providers, as well as other service providers who use their own facilities or resell facilities of others.



580 ♦ State Universal Service funding requirements – in addition to the federal programs to
 581 provide universal service funding for such programs as service in high cost areas,
 582 telecommunications services for the deaf and others, many States have funding programs to
 583 address specific State needs or to mirror existing federal universal service programs.³⁰ In
 584 order to administer and fund such programs, the State regulators require basic revenue
 585 information from each of the carriers in order to apply the funding mechanism that applies in
 586 that State.

587

588 Many states monitor information on how many competitive local exchange carriers (CLECs) are
 589 in operation (CLECs are generally required to register with and be approved by the State
 590 regulator), how many Central Offices have been co-located, etc.

591

592 The table below provides an overview of the types of information published by six US State
 593 regulators.

594

595 Table 1 – Summary of Information Published by Six US States

Information Published								
State	Tariffs	Annual Competitive Assessment	Annual Report	Pricing Summary	Operational Statistics	Consumer Information	Fact Sheets	Lists of Carriers
Illinois	•		•	•		•	•	•
Maine	•		•			•	•	•
Missouri	•		•			•		•
Nebraska	•		•	•	•	•		•
New York	•	•	•		•	•	•	•
Virginia	•		•		•	•	•	•

596

597

³⁰ See for example the State of California, California Public Service Commission, “Universal Service Report to the Governor and the Legislature”, December 2000.



598 Further, Table 2 provides an overview of the types of monitoring activities each of the six states
 599 is currently conducting.

600

601 Table 2 – Summary of Monitoring Activities by Six US States

Monitoring Activities						
State	Monitor Competition	Monitor Broadband Deployment	Monitor Local Competition	Monitor IX Competition	Monitor Prices	Monitor Service Quality
Illinois	●		●	●	●	●
Maine			●	●	●	●
Missouri			●			●
Nebraska			●	●	●	●
New York	●		●	●	●	●
Virginia			●	●		●

602

603

604 The data collection activities of each State vary, but most use the tariff information and carrier
 605 registration requirements to publish a range of data to fulfil either an explicit monitoring objective
 606 or a statutory requirement to report to the State legislature.

607

608 In many cases, however, the information is only available at the level of the State in total, and
 609 does not provide disaggregation to assess market competition in particular areas.

610

611 2.3.3 National Telecommunications and Information Administration

612

613 The National Telecommunications and Information Administration (NTIA) is an agency of the
 614 Department of Commerce, which is a department of the Executive Branch of the US
 615 Government. As the principal advisor to the Executive Branch on domestic and international
 616 telecommunications issues, the NTIA has amongst its objectives to ensure universal access to
 617 telecom services.



618

619 In the context of this objective, the NTIA works towards ensuring that US citizens have access
620 to affordable phone and cable television service; encouraging the implementation of broadband
621 communications technologies in rural and under-served areas of the country and providing
622 hardware that helps extend the reach of their programming.

623

624 The NTIA collects data for its series of reports entitled “Falling Through the Net”, which is
625 oriented to monitoring consumer access to the Internet in all parts of the country. It publishes
626 this on an annual basis.

627

628 To collect data to measure the extent of penetration of broadband services and facilities for the
629 “Falling Through the Net” reports, the NTIA relies on some of the data produced by the FCC.
630 In addition, it also inserts questions into a regular survey of households conducted by the US
631 Census Bureau called the Current Population Survey. This survey contacts 50,000 US
632 households on a monthly basis.

633

634 All other information collected by the NTIA in support of its telecommunications analysis is
635 drawn from a vast array of internal sources at the Department of Commerce, the FCC, the
636 Census Bureau and other agencies which are already actively engaged in the collection and
637 dissemination of data concerning the telecommunications industry.

638

639

640 **2.4 United Kingdom**

641



642 In the United Kingdom, the telecom regulator is the Office of Telecommunications (OFTEL).
643 This is the principal agency that monitors the telecommunications industry OFTEL collects data
644 from carriers and also surveys consumers and businesses directly.

645

646 The government department responsible for telecommunications policy and licensing, the
647 Department of Trade and Industry (DTI) does not itself collect information about the industry.
648 Instead, it relies on data supplied through OFTEL as well as consultant reports, analyst reports
649 and other public sources.

650

651 2.4.1 Office of Telecommunications (OFTEL)

652

653

654 OFTEL collects data on a variety of telecommunications industry segments. OFTEL has the
655 general power under the UK Telecommunications Act to review the activities of the
656 telecommunications industry, both domestically and internationally.

657

658 In addition, the Telecommunications Act specifically provides the Director General of OFTEL
659 with the power to require the production of any documents related to a telecommunications
660 purpose. Further, license holders are required to furnish the Director General with specific
661 information which is used to verify that the licensee is complying with its license conditions and
662 for other statistical purposes.

663

664 There are four principal means by which OFTEL acquires data on the UK telecommunications
665 industry:

666



- 667 ♦ Forms – which are sent out to all licensed wireline and wireless carriers operating in the
668 UK;
- 669 ♦ Market Research – in the form of telephone surveys and/or focus groups conducted on a
670 quarterly basis of both residential and business customers;
- 671 ♦ Third Parties – such as consultant reports, financial analyst reports and others; and
- 672 ♦ Stakeholders – players in the industry regularly provide OFTEL, through one-on-one
673 meetings or industry conferences with information concerning the services industry.

674

675 In addition, OFTEL encourages and promotes the creation of Web-based information services
676 such as Phonebills.org that provides consumers with tools to compare their current phone
677 charges with that offered by competitors, as well as identifying for consumers the identity of
678 competitive providers that serve their particular neighbourhood.

679

680 Other examples of such Web sites include cpi.org.uk, which provides quality of service
681 information and telecomsAdvice.org.uk, which provides information for small businesses about
682 telecommunications and Internet services.

683

684 OFTEL uses forms sent to licensed fixed and mobile carriers³¹ on both a quarterly and annual
685 basis to collect data on the UK telecommunications industry. Smaller carriers are not included in
686 the survey for statistical purposes. The basic market information collected from fixed carriers
687 includes:

688

³¹ In the UK, all carriers providing domestic and international services are required to acquire a license from the Department of Trade and Industry. Even Internet service providers and resellers operate under a standard Telecommunications Services License.



- 689 ♦ Retail call revenues;
- 690 ♦ Retail call minutes;
- 691 ♦ Retail revenues and minutes – by charge rate band for local and national calls;
- 692 ♦ Transactions with other carriers (transit service revenues, wholesale revenues, split by
- 693 domestic and international services);
- 694 ♦ Retail rental and connection revenues, broken down by service type (business exchange
- 695 lines, residential exchange lines, ISDN, xDSL); and
- 696 ♦ Access and enhanced services.³²

697

698 The basic market information which is obtained from wireless carriers includes:

699

- 700 ♦ Retail call and rental revenues;
- 701 ♦ Short messaging services (revenues and messages);
- 702 ♦ Independent service provider revenues;
- 703 ♦ Total wholesale call and rental revenues;
- 704 ♦ Wholesale short messaging services (revenues and messages);
- 705 ♦ Subscriber numbers;
- 706 ♦ WAP (wireless application protocol) handsets;
- 707 ♦ Retail connection;
- 708 ♦ Incoming calls to a WAP portal; and
- 709 ♦ Transactions with other carriers.³³

710

³² OFTEL Quarterly Market Information Form – Fixed Operators, Q3 2000/01.

³³ OFTEL Quarterly Market Information Form – Mobile Operators, Q3 2000/01.



711 In addition, OFTEL also conducts periodic reviews of different market segments. Examples of
712 such reviews include:

713

- 714 ♦ Dial-up Internet Market Overview
- 715 ♦ Mobile Market Overview
- 716 ♦ Calls to Mobile Pricing Review
- 717 ♦ National Leased Lines (pricing, capacity and availability)
- 718 ♦ Wholesale Pre-paid Mobile Services
- 719 ♦ International Benchmarking Survey – Business Services
- 720 ♦ Public Payphones Review
- 721 ♦ Retail Price Control Review
- 722 ♦ Inbound Calls Review³⁴

723

724 Information for these reviews is either taken from the data collected from the carriers
725 themselves, or through the use of surveys of specific users of telecom services.

726

727 For example, the OFTEL study on the benchmarking of mobile services and dial-up PSTN
728 Internet access was done directly via a commissioned survey.³⁵ Additional information is drawn
729 from third parties and from stakeholder meetings.

730

³⁴ OFTEL Draft Management Plan 2001/02, December 2000.

³⁵ See “International Benchmarking Study of Mobile Services and dial-up PSTN Internet Access”, December 2000. Other benchmarking studies have been conducted in this manner, such as a May, 2000 study concerning the benchmarking of Telecommunications Services (PSTN, Internet & Mobile for Residential and Business Customers), May 2000 and an additional International Benchmarking Study covering DSL Services, April 2000.



731 In addition, OFTEL monitors elements of British Telecom's operations, such as the rollout of
732 ADSL service, the provision of co-location space and the provision of unbundled local loops.

733

734 2.4.2 Department of Trade and Industry

735

736 The UK Department of Trade and Industry (DTI) relies on published sources of data, such as
737 other national government agencies (US Department of Commerce, OECD) and the private
738 sector.

739

740 One recent example is an annual publication benchmarking the UK against other countries
741 regarding the take-up of information and communications technologies. In the 2000 report, the
742 UK was compared to France, Germany, Italy, Sweden, the US, Canada and Japan.³⁶

743

744 **2.5 Other Jurisdictions**

745

746 2.5.1 European Union

747

748 The European Union (EU) compiles statistics on a regular basis as a way to track the
749 development of competition in member states and to track the implementation of competition
750 directives.

751

³⁶ "Business in the Information Age: International Benchmarking Study 2000", Department of Trade and Industry.



752 It has an annual program to collect data concerning the implementation of competition, and
753 more specifically, the implementation of a new regulatory framework for all the member states
754 of the EU.

755

756 The EU approach is to hold meetings with representative groups of national telecommunications
757 service providers, pan-European telecommunications services providers and associations,
758 consumer and user groups, incumbent operators and representatives of national regulatory
759 agencies and relevant ministries covering all fifteen Member States.³⁷

760

761 In addition, market information is collected from the national regulatory agencies (NRAs) to
762 supplement the information received from the meeting process.

763

764 The information received from the NRAs and the industry is then compiled into a report, which
765 provides a summary analysis of the implementation of the regulatory framework.

766

767 The report also contains market data for the industry, by state, type of service provider and for
768 Europe as a whole; an overview assessment of the implementation of the various regulatory
769 statutes by member state; European Commission assessment of the implementation of the
770 General Agreement on Trade in Services by certain third countries; and other general data.

771

³⁷ Commission of the European Communities, Communications from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, Sixth Report on the Implementation of the Telecommunications Regulatory Package, December, 2000, pages 5-6. The EU also uses data from published sources.



772 In some cases, the European Commission will also issue questionnaires to carriers to ascertain
773 the extent of the deployment of a particular service, such as unbundled loops.³⁸

774

775 This questionnaire asked specific questions of incumbent operators concerning their current
776 provision of unbundled access to the local loop, the roll-out of xDSL services, the financial
777 aspects of the provision of the company's xDSL services and the provision of shared access to
778 the local loop.

³⁸ Local Loop Sector Enquiry, Questions Addressed to Incumbent Operators, COMP. 37640. This form was issued after the European Commission received complaints on three different market segments: leased line prices, mobile roaming tariffs and local loop access conditions and decided to launch inquiries into each of these particular segments to ascertain in greater detail just what the issues were.



779

780 2.5.2 Australia

781

782 Part of the mandate of the Australian telecommunications regulator, the Australian
783 Communications Authority (ACA), is to monitor and report on the status of the
784 telecommunications industry in Australia on an annual basis to the Minister responsible for the
785 ACA. This mandate is derived from the Australian Telecommunications Act.³⁹ In particular, the
786 ACA is required to report to the Minister on the performance of the carriers as well as on
787 consumer satisfaction, consumer benefits and quality of service.⁴⁰

788

789 The ACA Report to the Minister has grown considerably over the years and now includes a
790 number of sections designed to provide the Australian Parliament with a complete picture of the
791 Australian telecommunications industry.

792

793 The latest report includes, amongst other things, the following:

794

- 795 ♦ Developments and trends in fixed network services;
- 796 ♦ Customer Service Guarantee (which refers to legislative consumer safeguards related to
797 performance of carriers in regard to connection and fault rectification, connection
798 timeframes and keeping appointments for connection services);
- 799 ♦ Consumer Benefit, which is measured as a change in the consumer surplus, based on
800 revenue and traffic data of the major carriers in Australia. In particular, ACA measures

³⁹ “Telecommunications Act 1997”, Section 104.

⁴⁰ Ibid., section 105. Sections 520 to 531 also contain specific language regarding the extent of the ACA’s information gathering powers under the act.



801 changes in price and changes in certain non-price factors, such as service quality, innovation
802 and interoperability;

- 803 ♦ Universal Service Regime, which provides an overview of the obligation placed on a
804 designated universal service provider to ensure that designated services are available on an
805 equitable basis to all citizens of Australia. In 1999 the definition of what services were to be
806 provided on all citizens was expanded to include the availability of 64 kbps digital capability;
- 807 ♦ Mobile services, providing trends and developments in the mobile industry;
- 808 ♦ Provision of Service to Customers, which outlines the types of customer service provided
809 by the regulated carriers;
- 810 ♦ Number portability, which reports on the progress in implementing number portability during
811 the 1999/2000 time period;
- 812 ♦ Consumer Issues, which provides a review of the relevant consumer issues dealt with that
813 particular year; and
- 814 ♦ Industry Developments, which provides a compendium of information on events in the
815 telecommunications industry not discussed elsewhere in the report.⁴¹

816
817 In addition, ACA commissions an annual telephone survey of consumers to ascertain their
818 satisfaction with the services provided by wireline and wireless telecommunications companies,
819 Internet service providers, Pay TV service providers and payphone services.

820
821 Further, with respect to customer satisfaction, the ACA commissioned a survey of 1,200
822 residential customers and 327 business customers to ascertain their awareness of

⁴¹ Telecommunications Performance Report 1999-00, Australian Communications Authority, December 2000.



823 telecommunications services, their rights and options under existing law and regulation and to
824 identify any informational needs they might have. This survey has thus far only been conducted
825 once.

826

827 ACA also produces on a regular basis a range of consumer information bulletins, fact sheets and
828 other publications to continually keep consumers updated on various issues.

829

830 2.5.3 International Telecommunications Union (ITU)

831

832 The International Telecommunications Union (ITU) publishes a range of data on the
833 telecommunications industry world-wide. For example, they publish on an annual basis a series
834 of Telecommunications Indicators documents for different regions of the world.⁴²

835

836 In addition, the ITU also publishes a yearly book of statistics.⁴³ The ITU obtain data from a mix
837 of published sources, such as the World Bank, the International Monetary Fund and the United
838 Nations. Supplementary data is collected by sending questionnaires to government
839 departments⁴⁴ and to national statistical agencies, regulators and government departments
840 responsible for telecommunications.

841

⁴² See for example: ITU, Americas Telecommunications Indicators 2000; Asia-Pacific Telecommunications Indicators 2000.

⁴³ ITU, Yearbook of Statistics 2001: Chronological Time Series 1990-1999.

⁴⁴ In Canada, such questionnaires are sent to Industry Canada, who then solicits inputs from telecommunications carriers.



842 The ITU yearbook contains a statistical snapshot of 167 countries and includes demographic
843 information as well as information on each country's telecommunications services industry,
844 broadcasting industry and information technology.⁴⁵

845

846 While the ITU information provides broad national figures and can assist in comparison of many
847 different countries and economies, it is not designed to monitor competitive developments.

848 There are long time series of information available to track overall trends, however with the
849 number of countries involved, the time required to produce the report is quite long.

850

851 2.5.4 Organisation for Economic Co-operation and Development (OECD)

852

853 The OECD publishes its Communications Outlook every two years.⁴⁶ In this publication, the
854 OECD gathers data from published sources (such as the ITU and others) as well as from
855 sending a questionnaire to national governments to collect information from statistical agencies,
856 regulators and operators of telecommunications services. The OECD also develops tariff
857 comparisons.

858

⁴⁵ Information on telecommunications includes, among others: main lines in operation, main lines per 100 inhabitants, % households with a telephone, residential main lines per 100 households, % digital lines, % residential main lines, public payphones, waiting list for main lines, cellular mobile telephone subscribers, digital cellular subscribers, cellular subscribers per 100 inhabitants, radio paging subscribers, estimated facsimile machines, videotext subscribers, ISDN subscribers, ISDN B channel equivalents, telex subscribers, total telephone traffic, total national telephone traffic, local telephone traffic, national trunk telephone traffic, international outgoing telephone traffic, international inbound telephone traffic, international bothway telephone traffic, full-time telecommunications staff, faults per 100 main lines per year, connection fee for residential telephone service, connection fee for business telephone service, monthly subscription for residential telephone service, monthly subscription for business telephone service, cost of a 3-minute local call (peak), cost of a 3-minute local call (off-peak), revenue and capital expenditure break-downs.



859 The Outlook provides a statistical snapshot of each of the OECD's 27 member countries and is
860 similar in some respects to the ITU data noted above. However, the OECD also provides
861 information on major policy and regulatory developments in each of the countries as well as
862 information on the Internet market.

863

864 Other distinguishing features of the OECD Communications Outlook include investment in
865 telecommunications networks, tariff basket comparisons (both residential and business,
866 domestic and international and mobile) and links with the data to produce productivity statistics.

⁴⁶ OECD, Communications Outlook 1999.



867

868 **3. What should be collected in the Canadian context**

869

870 Regulators regularly collect an abundance of information on the telecom industry. There
871 are many sources of information that can be used to monitor the state of the telecom
872 industry. In other countries, the information that regulators and policy-makers rely on is a
873 mix of statutory reporting, industry and consumer surveys, and information from the private
874 sector (via associations, publishers, consultants, etc.).

875

876 There is not one information source or collection mechanism that can provide a complete
877 picture of the industry.

878

879 **3.1 *Potential impacts on industry development and competitiveness***

880

881 Awareness of the state and impact of competition and of the deployment of advanced
882 infrastructure is important for a variety of reasons:

883

- 884 • **Industry** – It is in all industry stakeholders' interest to ensure that the industry's long-
885 term viability is not in jeopardy. A healthy competitive industry can be promoted by
886 ensuring that the state of the industry is part of the public record. This would also
887 provide a feedback mechanism for industry in terms of overall performance.
- 888 • **Consumers** – It is also in the general public's interest to ensure that the industry is
889 viable from the point of view of ensuring that customers are getting the best possible
890 service prices and packages, and could assist in identifying anomalies and disparities
891 (e.g. amongst geographic regions). Also it is important in terms of ensuring that Canada



892 is “state of the art” in terms of innovation, deployment of advanced services, coverage,
893 technology, etc.

894 • Regulation – The effect of regulatory decisions is ultimately reflected in industry
895 performance and development. It is thus important for the regulator to track the industry
896 players under its jurisdiction, even players that are not facilities-based or that have been
897 forborne. It can also assist in identification of areas that can be forborne, and in tracking
898 the results of forbearance.

899 • Policy and program initiatives – From a broader governmental perspective industry
900 monitoring assists policy choices and helps define program initiatives. For example, in
901 the present context one objective of considering broadband deployment and
902 infrastructure is to assist in defining “promising means for accelerating private sector
903 investment in rural broadband infrastructure”.⁴⁷

904 • Benchmarking with other countries – Comparisons of telecommunications service,
905 pricing, and consumption patterns, along with industry structure, with different
906 countries can provide important information on a variety of relevant issues. For
907 example, telecom is an increasingly important component of the economy and it is in
908 the public interest to ensure that Canadian industry is competitive relative to that in
909 other countries.

⁴⁷ Governor in Council, P.C. 2000-1053, June 26, 2000, page 2



910

911 **3.2 Key monitoring parameters – state of competition in the telecom industry**

912

913 The following sections discuss potential parameters that the CRTC could consider
914 monitoring in order to ensure that competition in the telecom industry is developing in a
915 viable and sustainable manner.⁴⁸

916

917 *Note – The intent of this Background Report was to provide the industry with a set of*
918 *proposed monitoring parameters and mechanisms. Thus the list of parameters is long to*
919 *provide for comments and discussion of key points and issues, without necessarily drawing*
920 *conclusions. The specific list of information to be collected and the mechanisms by which*
921 *information is to be obtained are being finalised following consultation with the industry.*
922 *Industry comments received during the Consultation process have been identified in places*
923 *and certain suggestions have been incorporated into the Recommendations section of the*
924 *Report. Industry Comments and Reply Comments are discussed in the Appendix.*

925

926 **3.2.1 Non-dominance and industry concentration**

927

928 Industry concentration is a key element of understanding the degree to which an industry is
929 competitive. Industry concentration can be measured in a variety of ways.

⁴⁸ The list of parameters to be monitored is based primarily on research of regulatory activities in Canada, the US and the UK. In Canada a number of parties have submitted suggestions about monitoring that the CRTC should conduct (a number of which were during the Price Cap proceedings). A review of these has been done to ensure completeness of the list presented herein. For example see: “AGT Price Cap Report”, Attachment 1, June 10, 1996 (submitted in the PN 96-8 proceeding), Response to Interrogatory FNACQ et al(CRTC)16Sept96-5 PCR, page 3 of 4; See also Telus, Reply Comments, Public Notice CRTC 2000-99, Proceeding to Determine the Scope of the Price Cap Review, paragraphs 26 & 92.



930

931 *3.2.1.1 Industry ownership*

932

933 Ownership of the main players is something that the CRTC tracks to some extent at
934 present. Since most of the large players are publicly traded, this information is available for
935 the bulk of the industry.

936

937 While ownership could reveal the percentage of the entire industry that is controlled by
938 particular entities, it would not necessarily provide an indication of the extent to which
939 specific product or geographic markets are controlled by those same entities.

940

941 *3.2.1.2 Index of market concentration*

942

943 In the US, the FCC makes use of an index to measure changes in market share pre and post
944 mergers.⁴⁹ Use of an index of this nature relies on a clear definition of the relevant market in
945 both product and geographic terms.

946

947 *3.2.1.3 Measure of consumer surplus*

948

949 Another possible mechanism could be to develop a measure of consumer surplus.⁵⁰

⁴⁹ The “Herfindahl-Hirschman Index” (HHI) is described in “Mergers in Mobile Telecommunications Services: A primer on the analysis of their competitive effects”, John W. Berresford, 48 Federal Communications Law Journal 247 (1996), March 1996.

⁵⁰ Consumer surplus is present in markets where pricing falls below what consumers would normally be willing to pay. In other words, if consumers are willing to pay \$100 for a particular service, but the industry offers it at \$80, then consumers have benefited in the amount of \$20. The \$20 is the “surplus” economic value that has accrued to consumers.



950

951 As markets become more competitive, and less dominated by a single large player,
952 consumers should reap greater benefits. This could possibly be quantified and used as a
953 measure from year to year on the development of competition.

954

955 For example, based on pricing changes occurring in price-capped services, Bell Canada has
956 stated that “customers will have benefited from net price reductions totalling in excess of
957 \$250 million”.⁵¹

958

959 Consumer surplus would thus be indicative of declining prices, which could be a result of
960 increasing non-dominance and increasing competition. However, declining prices may also
961 occur for other reasons, making the use of consumer surplus as an indicator in and of itself
962 somewhat tenuous.

963

964 3.2.2 Pricing and demand elasticity – price competition

965

966 Consumers benefit from competition in a number of ways. The most obvious initial benefit
967 is declining prices. Assuming that services are price elastic, lower prices result in increased
968 demand. Increased demand can lead to better scale economies, which in turn assist
969 competitors in developing broader service offerings.

970

⁵¹ Reply Comments, Bell Canada et al, Telecom Public Notice 2000-99, Proceeding to Determine the Scope of the Price Cap Review, 2 October 2000, paragraph 68.



971 On the other hand, if prices decline too far, then consumer take up may not increase. If
972 prices are too low, this can lead to market failures, meaning that competition at those price
973 levels is not viable.⁵²

974

975 De-regulating pricing does not mean that pricing does not need to be monitored. The FCC,
976 for example, continues to monitor AT&T's long distance prices, even though it no longer
977 approves tariffs. Under price cap regulation, the FCC also continues to monitor rate of
978 return of Local Exchange Carriers (LECs) whose prices have been capped.⁵³

979

980 Oftel in the UK allows consumers to monitor pricing themselves by providing typical
981 phone bills and product/price information on consumer-oriented Web sites.

982

983 3.2.3 Innovation – new services, range of services, bundles, convergence

984

985 Consumers will be benefiting from competition if prices are falling, but also if the range
986 and variety of services are increasing.

987

988 Indicators of the state of competition could include an “innovation measure” or index.

989

990 This could include consideration of the number and nature of new services that are
991 available, the range of services, degree of innovation in terms of product packaging and
992 bundling and the exploitation of new capabilities facilitated by technological convergence.

⁵² Price declines are somewhat protected by imputation tests (wherein services are required to cover costs). However incumbents (whose services are capped) likely enjoy the lowest costs base making imputation tests easier to “pass”.



993

994 Product innovations can lead to increased consumer consumption (e.g. if a bundle of
995 services leads to lower overall costs), which can in turn stimulate further innovation.

996

997 Provision of services using convergent technologies (e.g. voice over IP on the cable
998 television lines) can change the nature of the network, its cost base, and how companies
999 compete.⁵⁴

1000

1001 3.2.4 Quality of competitive offer

1002

1003 A competitive offer is useless if the consumers do not want it. The quality – including both
1004 price and non-price aspects – of the competitive offer will ultimately be reflected in
1005 competitor market share and hence provides information on the state of the industry in
1006 general.

1007

1008 The quality of the offer cannot be gauged by the quality of the competitor literature on their
1009 offer (e.g. brochures, Web sites, etc.). The indication of quality of offer over and above
1010 price has to come from a measure of the satisfaction of the customers with the products or
1011 services themselves, or with other indicators such as churn rates.

1012

⁵³ See FCC Form 492A

⁵⁴ Other examples could include combinations of wireline and wireless technologies or combinations of different wireless technologies. In the latter context, Microcell – a national PCS licensee – also owns licenses to operate fixed point-to-multipoint services using 2.5 GHz MCS technology. It thus could find innovative ways of offering services using both wireless technologies.



1013 3.2.5 Ease of entry – increasing numbers of competitors

1014
1015 Being a telecom operator generally requires a high capital investment. This represents a
1016 natural barrier to entry, which can limit development of competition. To assist in
1017 overcoming this, certain services provided by incumbents (which represent bottlenecks for
1018 new entrants – i.e. high cost items that are extremely difficult to replicate) are provided on a
1019 cost-plus basis to competitors. This includes local access services provided to long distance
1020 companies, unbundled loops for local competitors, etc.

1021
1022 One of the regulator's tasks is to ensure that markets can be opened up, where it is
1023 economically feasible to do so. A measure of ease of entry – for example represented by
1024 the number of competitors operating in relevant markets – would assist in understanding
1025 whether regulatory decisions are indeed resulting in easing entry for competitors.

1026
1027 This could be accomplished by surveying service providers about which areas are actually
1028 being served.

1029
1030 Another way would be to monitor interconnection agreements with the incumbent telco,
1031 which competitors need to have in order to provide service.⁵⁵

1032
1033 Collecting information on the number of interconnection agreements in place by market
1034 area (and how many requests for interconnection) would help establish how many players
1035 are contesting various markets.

⁵⁵ For example, the States of Virginia, Nebraska, New York and Missouri all track the number of interconnection agreements entered into between competitive providers and incumbent carriers.



1036

1037 This could also be done through looking at applications for rights-of-way, building access,
1038 requests for co-location, requests for and use of NXX codes, etc.⁵⁶

1039

1040 3.2.6 Use of unbundled facilities – loops, co-location, telephone numbers

1041

1042 If certain facilities are bottlenecks for competitors, then one should expect competitors to
1043 make use of the services that are unbundled to unblock these bottlenecks. If unbundled
1044 facilities are truly unblocking bottlenecks, then competitor take up should be vigorous.

1045

1046 Some information is available, for example, on the use of co-location space by competitors.
1047 In a proceeding pursuant to a Part VII application by the Coalition for Better Co-location,
1048 information has been filed providing the amount of space used by competitors.⁵⁷

1049

1050 3.2.7 Availability and take-up of wholesale services (e.g. DSL)

1051

1052 Wholesale markets provide capabilities that competing providers can use to complement
1053 their own service offerings, and also provide interesting market and business opportunities
1054 for carriers. In some cases the regulator has mandated wholesale services (e.g. ISP access to
1055 DSL services), in other cases wholesale markets evolve “naturally” (e.g. Centrex resale).

⁵⁶ Measures of interconnection agreements and requests for rights-of-way were suggested, for example, in Part 8 of the AGT Price Cap Report, filed by Telus in Public Notice CRTC 96-8, Attachment 1, Page A57, June 10, 1996

⁵⁷ See Response to Interrogatory CBC Part VII General Relief July 17, 2000, Telus(CBC)14Feb01-5, March 5, 2001. Other information is also readily available from the North American Numbering Plan Administrator, such as which carriers have what numbers in service, which carriers have central office codes and the number of local numbers which have been ported.



1056

1057 In addition to the specific wholesale products and services offered by telecommunications
1058 service providers, other measures could include wholesale services offered by cable
1059 companies.

1060

1061 3.2.8 Market share – by relevant product and geographic markets – residential, business
1062 and wholesale

1063

1064 Overall market share, as a concept to track the status of competition, is largely irrelevant
1065 without other information – notably information by relevant geographic market and
1066 product/service segments.

1067

1068 Geographic markets – for example, before local competition started, one could have easily
1069 calculated that Bell Canada had a 55% share of the local phone business in Canada.

1070

1071 On this basis alone, one could erroneously conclude that competitors to Bell Canada
1072 control the other 45%. However, Bell Canada operates primarily in Ontario and Quebec,
1073 which represent about 60% of the country (in population terms). Thus Bell Canada's
1074 market share could only be relevant when the specific geographic market of operation is
1075 taken into account.

1076

1077 Similarly one cannot gauge market share without product information as well. In the long
1078 distance market, customers can access competitive providers by pre-selecting their carrier of
1079 choice. The choice of long distance provider is thus entirely divorced from the choice of
1080 providers for other services, such as terminal equipment, local lines, voice mail, etc.



1081

1082 The way in which the product/service segments are defined also has to be relevant. For
1083 example, in the payphone market, one would not want to draw a conclusion on the
1084 competitiveness of this product segment by having observed one street corner with three
1085 providers of payphones.

1086

1087 To understand product or service-specific market share, one should measure the geographic
1088 distribution of customers by service provider for key services.⁵⁸

1089

1090 3.2.8.1 *List of relevant product/service segments*

1091

1092 The following provides a possible list of the relevant product/service segments (for
1093 residential, business and wholesale, for urban and non-urban markets) excluding terminal
1094 equipment:

1095

- 1096 • Voice – individual lines
- 1097 • Voice – Centrex
- 1098 • Voice – PBX access (PRI)
- 1099 • Voice – intra-regional long distance
- 1100 • Voice – domestic long distance
- 1101 • Voice – toll-free (800/888/877 services)

⁵⁸ This is normal in assessment of competition in industry segments. For example, in the Competition Bureau's investigation of the former Stentor Alliance, the relevant product markets were divided into local, long distance and equipment markets. In terms of geography, the Alliance was determined to not be lessening or preventing competition "in their respective geographic markets". See "Backgrounder – Stentor", Industry Canada Competition Bureau, February 1996, page 5



- 1102 • Voice – cross border (US)
- 1103 • Voice – international (non-US)
- 1104 • Data access – high speed
- 1105 • Local private line
- 1106 • Foreign Exchange Lines
- 1107 • ISDN lines
- 1108 • Inter-exchange private line
- 1109 • International private line
- 1110 • Data network services – frame relay, ATM, etc.
- 1111 • Cross border data circuits
- 1112 • Carrier network access services
- 1113 • Unbundled network elements
- 1114 • Internet access services – Dial-up
- 1115 • Internet access services – high-speed
- 1116 • Internet access services – dedicated
- 1117 • Mobile – post paid
- 1118 • Mobile – pre pay
- 1119 • Mobile – long distance
- 1120 • Specialised mobile (ESMR)
- 1121 • Operator services
- 1122 • Payphone lines
- 1123 • Calling features

1124

1125 **3.2.8.2** *List of relevant geographic markets*

1126



1127 Market share and concentration need to be measured at the level of the market area. It is
1128 less clear what should be defined as the relevant market area.

1129

1130 Every street corner would be too granular, whereas entire provinces, regions or the country
1131 would be too broad to be meaningful.

1132

1133 The following provides a list of possible geographic areas to be used to measure market
1134 share and industry concentration:

1135

1136 • Forward Sortation Areas (FSAs) – Areas defined by the first three digits of the postal
1137 code (e.g. M5E, H3A, etc.)

1138 • ILEC Central Office (CO) Serving Areas – The telcos have already divided the country
1139 into discreet serving wire centre areas (serving one or more Rate Bands) around each of
1140 their COs, the COs having often been put in place by municipality and/or to serve
1141 different areas of core markets.

1142 • Exchange Areas and/or Local Calling Areas – consists of multiple CO serving areas
1143 and can include an entire municipality in some cases, or a portion of a municipality.

1144 • Municipalities or Census Subdivisions (CSDs) – Including cities, towns, and other
1145 designations such as Borough, Municipal District, Community, Resort Village, etc.⁵⁹

1146 • Tier 4 Service Areas for Competitive Licensing – 162 “localised” service areas defined
1147 by Industry Canada for award of wireless licenses⁶⁰

⁵⁹ Statistics Canada Cat. No. 93-357-XPB, page 353

⁶⁰ “Service Areas for Competitive Licensing”, Spectrum Management and Telecommunications Policy, Industry Canada, August 1998



- 1148 • Urban Agglomerations – The 137 large urban (CMA) and small urban (CA) areas
1149 defined by Statistics Canada⁶¹
- 1150 • Tier 3 Service Areas for Competitive Licensing – Areas defined by Industry Canada
1151 for award of wireless licenses – 59 “smaller regional service” areas were used for the
1152 auction of 24/38 GHz fixed licenses in November 1999.
- 1153 • Tier 2 Service Areas for Competitive Licensing – 14 “large regional service” areas
1154 were used in the auction of 2 GHz PCS licenses in January 2001.

1155

1156 It also should be kept in mind that different market segments may have a different relevant
1157 geography associated with them.

1158

1159 For example, local telephone lines are most logically measured on a “local” basis, whereas
1160 data network services (frame, ATM, etc.) may be more appropriately measured on a
1161 regional or national basis, and/or by service provider.

1162

1163 3.2.9 Geographic expansion

1164

1165 Competitors in virtually every service area – long distance, mobile, local, etc. – began by
1166 focusing on serving core high-density markets such as Toronto, Montreal, Vancouver, etc.

1167

1168 The Canadian market is distributed over a vast geographic area with only 36% of the
1169 population residing in large high-density urban areas (> than 1 million population),
1170 compared to 56% in the US.⁶²

⁶¹ Statistics Canada Cat. No. 93-357-XPB, pages 16-18



1171

1172 A measure of the overall state of telecom competition should thus be to look at the presence
1173 of competitors and competitive offerings outside of the core markets, as well as plans and
1174 progress towards expanding networks.

1175

1176 3.2.10 Network-based competition and availability of competitive capacity

1177

1178 One of the objectives of Canadian telecom policy is to foster facilities-based competition
1179 across the country. Thus competitor presence in various markets needs to be complemented
1180 by a measure of the degree to which competitive facilities are being built.

1181

1182 Also competitive facilities have to be available with sufficient capacity to meet demand. A
1183 measure of facilities deployment is more relevant when the type of facilities and the
1184 available capacity are also included.

1185

1186 This could be complemented by monitoring infrastructure enhancements undertaken by
1187 incumbents (which may be the result of threats of competition).

1188

1189 3.2.11 Mobility of capital and ease of exit

1190

1191 For competition to develop, new investments in property, plant and equipment have to be
1192 made. These must be financed by funds from investors looking ultimately for a return on
1193 their investment.

⁶² Canadian figures per 1996 Census. US figure for 1996 derived from Statistical Abstract of the United States 1998, Table 41.



1194

1195 For telecom investments to be attractive, they must, among other things, be available for
1196 competing sources of financing, and also allow for the financing entities a way to exit from
1197 their investment.

1198

1199 Significant investments have been made by the competitive industry in Canada in many
1200 parts of the country. Canadian regulators should also be concerned about identifying and
1201 monitoring structural issues that would limit or reduce investor interest in Canada.

1202

1203 3.2.12 Industry efficiency and profitability

1204

1205 Industry efficiency cannot be regulated and regulatory issues do not dictate how operators
1206 structure their investments and operations.⁶³ A measure of industry efficiency would
1207 however, assist the regulator in distinguishing between regulatory and non-regulatory
1208 factors in industry development.

1209

1210 A key indicator of the health of the industry and the state of competition is the degree to
1211 which the participants in the industry are financially healthy. This means monitoring
1212 financial results (e.g. earnings before interest, taxes, depreciation and amortisation⁶⁴) and
1213 overall profitability.

1214

⁶³ Although to some extent interconnection regimes and other issues pre-suppose network architectures, thus dictating particular investments.

⁶⁴ Also referred to as EBITDA, which represents the cash to pay for capital investments after operating costs are accounted for.



1215 Even though competitors may choose to sustain losses in order to build networks and
1216 market share, over a longer time period, this situation would be unstable and lead to market
1217 failures.

1218

1219 3.2.13 Well-informed consumers and availability of information

1220

1221 The degree to which consumers are aware of competitive alternatives and the degree to
1222 which they have access to the information are also factors in how the industry develops.

1223

1224 Low competitor market share may be due to unconvincing competitive offers, or
1225 competitors not “reaching” their target audience.

1226

1227 Well-informed consumers with access to good information on competitive alternatives
1228 means that competitive choices are being made based on the quality of the competitive
1229 offer. Thus a measure of this from the consumer perspective would complement market
1230 share information.

1231

1232 3.2.14 Barriers to switching suppliers

1233

1234 Development of competitive offerings may be impeded if customers face barriers to
1235 switching suppliers. Examples of barriers are replacement of terminal equipment, early
1236 termination of a multi-year contract, changes to internal management systems for business,
1237 propensity to switch carriers, inertia amongst consumers, etc.

1238



1239 To the extent possible, one of the jobs of the regulator is to ensure that artificial barriers are
1240 not put in place that could impede the switching of suppliers. One example of this is the
1241 regulatory mandate of incumbents and competitors in the local market to provide local
1242 number portability.

1243

1244 3.2.15 Consumer satisfaction

1245

1246 The ultimate result of successful competition is satisfied consumers, who have made
1247 informed choices about their service providers. The result of opening markets to
1248 competition should be to bring positive changes to consumers in terms of lower prices,
1249 greater variety, new services, etc.

1250

1251 A measure of whether consumers are satisfied with competitive service offerings will be a
1252 key element in understanding the state of competition in the industry.

1253

1254 3.2.16 Performance of Universal Service Obligations

1255

1256 The growth of telecom competition has often come with a fear of reduced service to
1257 uneconomic regions of the country. The idea being that as competitors emerge to serve
1258 major markets, resulting in price declines, incumbents will be less willing or able to serve
1259 areas of high cost.

1260



1261 Canada's population is well served by conventional telephone lines, which reach over 98%
1262 of households⁶⁵, by cable television services, with over 93% of homes in licensed areas
1263 wired⁶⁶, and by wireless mobile services, which cover over 93% of the population.⁶⁷

1264

1265 On the other hand, a new definition of universal service is emerging. What consumers
1266 consider to be "basic" service is evolving particularly due to the growth in Internet and the
1267 increasing necessity for broadband access.⁶⁸

1268

1269 Thus while conventional universal service measures (% of households with phone lines,
1270 etc.) are not overly pertinent in the context of monitoring competition in the telecom
1271 industry, a new measure of universal service in the context of broadband access is needed.

1272

1273 3.2.17 Absence of collusion and anti-competitive behaviour

1274

1275 By definition a healthy competitive market means absence of collusion amongst suppliers
1276 and absence of anti-competitive behaviour (e.g. dumping, price fixing, predatory pricing,
1277 etc.).

1278

⁶⁵ Statistics Canada Catalogue no. 62-202

⁶⁶ Broadcast Distribution Statistical and Financial Summaries 1995-1999, CRTC

⁶⁷ For example, Rogers AT&T Wireless identifies that 93% of the population is covered by analogue service, and 83% with digital service.

⁶⁸ The present CRTC definition of "basic telephone service" includes single-line touch-tone service with local access to Internet, access to enhanced calling features, 911, operator services, message relay service, access to long distance service, and a copy of the current local telephone directory (Telecom Decision CRTC 99-16, 19 October 1999).



1279 This is a complex area to measure and one in which there are many grey areas. Measures of
1280 conduct of industry players could include a number of items such as pricing policies,
1281 cooperation and alliances, legal/regulatory strategies, etc.⁶⁹

⁶⁹ See for example “Response to Interrogatory” FNACQ et al(CRTC)16Sept96 PCR, page 4 of 4



1282

1283 **3.3 Key monitoring parameters - deployment and availability of advanced**
1284 **broadband infrastructure and services**

1285

1286 The following sections discuss potential parameters that the CRTC could consider
1287 monitoring in order to assess the deployment status and availability of advanced broadband
1288 infrastructure and services.

1289

1290 *Note – The intent of this Background Report was to provide the industry with a set of*
1291 *proposed monitoring parameters and mechanisms. Thus the list of parameters is long to*
1292 *provide for comments and discussion of key points and issues, without necessarily drawing*
1293 *conclusions. The specific list of information to be collected and the mechanisms by which*
1294 *information are to be obtained is being finalised following consultation with the industry.*
1295 *Industry comments as received during the Consultation process have been identified in*
1296 *places and certain suggestions have been incorporated into the Recommendations section*
1297 *of the Report. Industry Comments and Reply Comments are discussed in the Appendix.*

1298

1299 **3.3.1 Geographic infrastructure availability – DSL and cable modem access**

1300

1301 One identifiable measure of the deployment of broadband is the availability of cable modem
1302 service and xDSL service for the provision of high-speed Internet to residential and commercial
1303 customers.⁷⁰

⁷⁰ As a first step in this process, there should be agreement as to what exactly constitutes “broadband” access. “Broadband” is a word, which has tended to evolve its meaning over time. The FCC uses a definition for broadband of speeds greater than 200 kbps.



1304

1305 The existing and planned deployment of cable modems by cable system and the availability of
1306 xDSL services by wire centre should be measured.

1307

1308 Other measures could include the tracking of two-way cable plant by the cable companies and
1309 the availability of appropriate copper loops by the ILECs for the provision of xDSL services on
1310 a geographic basis (both for ILEC use as well as availability via unbundled loops for
1311 competitors).

1312

1313 In addition, the amount of available collocation space in ILEC central offices could also be a
1314 useful measure of the potential to offer xDSL services.⁷¹

1315

1316 3.3.2 Reach of fibre networks – backbones, community networks

1317

1318 There have been significant developments in the construction of fibre optic networks, both
1319 nationally and locally. In addition, research institutions, academic institutions, school boards and
1320 certain communities have begun to deploy fibre networks for the purpose of meeting advanced
1321 communications needs by users.⁷²

1322

⁷¹ Industry Canada has been collecting information on DSL and cable modem deployment by municipality across the country. This has been done as part of the activities of the National Broadband Task Force.

⁷² This is notably the case in a number of Canadian cities, including Toronto, Mississauga, Brossard, Ottawa and others.



1323 An indicator of the deployment of broadband capability might well include the establishment of a
1324 system by which data is collected concerning the reach and extent of existing and future fibre
1325 optic network builds.

1326

1327 One key parameter could be to find a measure of the “distance” from households to the nearest
1328 point of fibre presence.

1329

1330 3.3.3 Reach of satellite infrastructure technology alternatives

1331

1332 While it is convenient to think of broadband infrastructure as being limited to fibre, cable or
1333 existing ILEC telephony networks, other technological alternatives exist which may fill in some
1334 of the ‘broadband’ gaps in areas where the deployment of fibre or cable is not economical.

1335

1336 Direct To Home (DTH) television services, beamed to individual homes using a high-powered
1337 satellite, is already a reality in Canada through providers such as Star Choice and ExpressVu.

1338

1339 DTH services reach areas in the country that no other provider of high-speed services could via
1340 its satellite coverage.⁷³

1341

1342 In addition, in December 2000 Industry Canada issued a Call for Applications to Develop
1343 and Operate Fixed Satellite Space Stations in the 118.7 degree W Longitude Orbital
1344 Position⁷⁴.

⁷³ With the caveat that the high speed is unidirectional. The connection from the customer end to the Internet is the regular local phone line.



1345

1346 This orbital slot can be used for C/Ku and/or Ka band satellites covering Canada and the
1347 US. Industry Canada will be issuing two licenses – one designated for a C/Ku band
1348 satellite and the other for a Ka band satellite.

1349

1350 The licensee(s) will be able to serve markets in Canada and the US, with the condition that
1351 coverage be optimised for service to Canada (including the North). US services are to be
1352 provided based on use of “excess capacity” only.

1353

1354 For C/Ku band deployment the satellite must be deployed by December 2003. For Ka
1355 band, deployment of the satellite must be by May 2005.

1356

1357 Prospective licensees – Telesat Canada and Bird Satellite Communications – identify the goal of
1358 providing Internet access and multimedia services to areas not covered by terrestrial facilities.⁷⁵

1359

1360 3.3.4 Coverage of wireless technologies – 2.5/3G PCS, MCS, LMCS

1361

1362 Wireless licenses – mobile and fixed – have been issued for multiple competitors covering
1363 the entire country. However, particularly in the case of fixed wireless services, the level of
1364 build out is quite limited.

1365

1366 Mobile licensees are in the process of putting new capabilities in place to support data
1367 transmission.⁷⁶

⁷⁴ Industry Canada Notice DGRB-008-00



1368

1369 This involves deployment of so-called third generation (3G) or pre-3G (referred to as 2.5G)
1370 personal communications services (PCS) technologies. Geographic coverage of mobile
1371 wireless systems is continually increasing as the market and demand grow.

1372

1373 In terms of fixed wireless technologies, coverage to date is quite limited.

1374

1375 However there is a vast potential for facilitating bandwidth access – for business and
1376 residential applications – using technologies in the various bands that have been licensed –
1377 2.5 GHz MCS (Inukshuk), 24 GHz (XO Canada, AT&T Canada), 28 GHz (Maxlink), and
1378 38 GHz (Stream Intelligent Networks and other licensees).

1379

1380 3.3.5 Range of available services – quality and variety

1381

1382 Tracking the kinds of broadband services offered by service providers may not be sufficient to
1383 get a complete picture of the type, quality and variety of services being offered. It may be more
1384 useful to monitor such aspects as:

1385

- 1386 ♦ Quality of Service – what is the quality of the service being offered to end-customers? This
1387 could be expressed via providing information about the downstream and upstream
1388 performance of service offered to customers, the time it takes to receive a connection, the

⁷⁵ See press releases of Telesat Canada and of Bird Satellite Communications Inc., March 15, 2001

⁷⁶ Rogers AT&T Wireless, for one, already provides consumer mobile data services – mobile email and Internet access – via its Blackberry two-way paging service.



1389 quality of the customer service and support for connected customers and the quality of the
1390 actual service installed (dropped service, technical difficulty, etc.).

1391 ♦ Variety of Service offerings – what are the different ‘flavours’ of services being offered by
1392 service providers? Are consumers all getting the same thing, are the services standardised
1393 across the country, are their different levels of service that can be purchased, etc.? The
1394 answers to these questions could provide additional answers with respect to what
1395 consumers are being offered.

1396

1397 3.3.6 Pricing parameters – urban, non-urban, rural, remote

1398

1399 In addition to quality of service and variety of service offerings, pricing of services is an
1400 important aspect of determining whether or not consumers and businesses will subscribe to such
1401 services and, indirectly, whether there is any price discrimination in the market.

1402

1403 Like other regulatory agencies that collect pricing information, the CRTC could collect pricing
1404 information, putting together an index of prices and track that index over time. Such pricing
1405 information could be collected in a number of ways (nationally, regionally, urban, non-urban,
1406 rural and remote) to provide a better understanding of pricing across different regions and in
1407 areas of the country.

1408

1409 Such pricing information would provide some level of analysis and an indication of the evolution
1410 of pricing over time and may provide early indications of any problem areas that need to be
1411 addressed through regulatory action.

1412



1413 3.3.7 Affordability of broadband services

1414
1415 Knowing where services are being offered to residential and commercial customers is one
1416 important element of broadband deployment. Another is knowledge that the services are being
1417 offered on an affordable basis to allow consumers to take advantage of such services.

1418
1419 If the definition of a “basic” service is to be considered as a broadband connection (subject to
1420 definition of what “broadband” should be), then universality of service access and affordability
1421 of the “basic” service need to be tracked and monitored.

1422
1423 Affordability is relative, and in some cases uneven.

1424
1425 For example, services in richer areas of the country may be less expensive than the same service
1426 in poorer areas of the country (remote areas where the cost to build is high are often
1427 economically disadvantaged). Affordability thus requires a geographic definition as well (e.g. by
1428 urban, suburban, rural, remote).

1429
1430 3.3.8 Potential for aggregating local demand

1431
1432 For communities in remote areas, the distance to the nearest broadband connection point to the
1433 rest of the world may be quite long.

1434
1435 Hence, even if local broadband access is available, broadband connections to Internet may be
1436 prohibitively expensive. Opportunities for aggregating demand from various communities (and
1437 within communities) could assist in offsetting the cost for connections.



1438

1439 In a monitoring context, this could mean setting up mechanisms whereby various groups or
1440 communities would be able to identify opportunities and work together to find potential for
1441 aggregation, which would assist in developing economies of scale where possible.

1442

1443 3.3.9 Number of broadband access providers

1444

1445 Monitoring the deployment of services and prices provides an indication of existence of
1446 broadband services to customers, but it does not address the issue of competition in that
1447 segment of the market.

1448

1449 Information on the number of providers serving a particular market can be collected, either from
1450 the service providers themselves, or from surveys conducted of residential and business
1451 customers, or both.

1452

1453 3.3.10 Availability of wholesale services and third party access

1454

1455 Another measure of the success of a particular market is the availability of wholesale services
1456 and third party access to provider networks. Many more service providers would then have the
1457 possibility of entering the market and providing significantly more competition for consumers.

1458

1459 Part of the information gathered from service providers could be information on the availability
1460 of wholesale services or whether existing facilities-based providers of broadband services
1461 provide third-party access to their networks for alternative providers of such services.

1462



1463 3.3.11 Well-informed consumers and availability of information

1464
1465 Monitoring deployment and availability of advanced broadband infrastructure implies
1466 understanding whether facilities have been built or not, in various regions of the country.
1467 One of the underpinnings of a competitive market is the availability of good quality
1468 information from which to make informed choices.

1469
1470 Using the information obtained in previous sections, a compendium of information could
1471 be supplied to consumers in a number of ways, including:

- 1472
1473 ♦ Consumer Web portal
1474 ♦ Annual consumer report
1475 ♦ Periodic consumer fact sheets

1476
1477 Any one of these methods, or others, would contribute to consumers' overall understanding
1478 of the broadband services available to them, their price points, which providers serve their
1479 particular area, quality of service criteria, problems to watch out for and others.



1480

1481 **4. Mechanisms that could be implemented for ongoing**
1482 **monitoring**

1483

1484 Active collection of data by regulatory agencies or government departments is increasingly
1485 regarded as an essential activity.

1486

1487 The regulatory agencies contacted for this Report actively seek out information using a variety of
1488 methods. Their reasons may vary (statutory requirement, pro-active collection activity, specific
1489 problem to address) but the quantity of data, and the regularity of the collection (often quarterly)
1490 support the conclusion that data collection is a necessary activity for any regulatory agency in a
1491 competitive telecommunications market.

1492

1493 This view is clearly supported by the CRTC's own Action Plan, by the Governor in Council
1494 Order and by intervenors in a number of CRTC proceedings.⁷⁷

1495

1496 In order to 'set the stage' for what mechanisms could be implemented for ongoing monitoring in
1497 Canada, it is useful to briefly re-visit the information which is collected and published in the US
1498 and the UK.

⁷⁷ For example, in its Reply Comments in Public Notice CRTC 2000-99 filed on October 2, 2000 in the context of defining the scope of the Price Cap Review, Telus proposes in paragraph 36 that the CRTC "should naturally serve as a clearinghouse for the compilation, analysis and interpretation of the competitive information filed by the various parties in this proceeding". And goes on to state that "this active role for the Commission is necessary, not only to assess the performance of price cap regulation, but also to determine when the marketplace can be safely relied upon to supply the requisite discipline for the pricing of essential telecommunications services in Canada."



1499

1500 The table below provides examples of reports that are produced in the United States by the
 1501 FCC and the NTIA.

1502

1503

Table 3 – Examples of Reports Produced by the FCC and NTIA

Organization & Major Report
<i>Federal Communications Commission</i> <i>Monitoring of Competition</i> Local Telephone Competition International Circuit Status Report International Telecommunications Data (Traffic) International Trends Report Statistics of Common Carriers Trends in Telephone Service (Omnibus) Telephone Subscribership Telecommunications Industry Revenue Report State of Wireless Competition State-by-State Revenue & Universal Service Data Telephone Penetration and Income by State
<i>Rollout of Advanced Broadband</i> Report on Advanced Telecommunications Capability Infrastructure Report (One-time) Broadband Today (One-time) High Speed Internet Report (One-time)
<i>Other Reports</i> Annual Assessment - Competition in the Markets for Delivery of Video Programming Report on Cable Industry Prices Putting People in the Picture: First Annual Report
<i>National Telecommunications & Information Administration</i> <i>Rollout of Advanced Broadband</i> Falling Through the Net

1504

1505

1506 Similarly, OFTEL in the UK produces and publishes a prodigious amount of information on the
 1507 UK telecommunications industry, as highlighted in the table below.⁷⁸

⁷⁸ The list of OFTEL documents is a selected list, which is tied to the CRTC's specific requirements of monitoring competition and the deployment of broadband infrastructure. OFTEL also produces other



1508

1509

Table 4 – Examples of Reports Produced by OFTEL

Organization & Major Report
<p>OFTEL</p> <p><i>Monitoring of Competition</i></p> <ul style="list-style-type: none"> Dial-up Internet Market Review Mobile Market Overview Calls to Mobile Pricing Review National Leased Lines Wholesale Pre-Paid Mobile Services International Benchmarking Survey - Telecommunications Services International Benchmarking Survey - Mobile & Dial-up Internet International Benchmarking Survey - xDSL Services Public Payphones Review Retail Price Control Review Inbound Calls Review
<p><i>Rollout of Advanced Broadband</i></p> <ul style="list-style-type: none"> Monitor Roll-out of BT's ADSL Services Monitor Provision of Colo Space Monitor Provision of Loops by BT

1510

1511

1512

1513

1514

1515

1516

1517

1518

1519

OFTEL also indicated that they are moving towards “evidenced-based regulation”, where the regulator would increasingly base their decisions on information gathered about the market. The European Union is another example of an evidenced-based approach, where the EU collects data to ascertain the degree by which the member states are complying with EU de-regulatory directives.

With respect to the issue of the deployment of broadband infrastructure and services, agencies are clearly wrestling with which method is the best to use to measure this.

reports and papers concerning other subjects, such as the implementation of the European Union’s regulatory initiatives, reviews of BT and others.



1520

1521 A number of previously untried methods are being put to the test to gather information.

1522

1523 In one instance, the US uses a Web-based tool to allow those providers who offer a broadband
1524 service to input information concerning their service offerings. This exercise is voluntary and the
1525 database is not updated on a regular basis.

1526

1527 Other agencies rely on forms to acquire the information they need while still others rely on ad
1528 hoc approaches to data collection, such as informal surveys or requests to providers of such
1529 services.

1530

1531 ***4.1 Recommendations for monitoring mechanisms***

1532

1533 Considering the type of information collected already in Canada and elsewhere, and the
1534 need to consider a broad range of potentially important aspects of the industry, the
1535 following provides a list of various mechanisms by which the industry could be monitored.

1536

1537 This includes both the questions of telecom competition as well as the deployment of
1538 advanced broadband infrastructure and services.

1539

- 1540 • StatsCan Industry Reports – There are many existing reports on different aspects of the
1541 telecom and related markets. To provide the specific granularity required, there would
1542 likely have to be some modification to the way the industry surveys are done (for
1543 example, to provide greater focus on deployment and competition status by particular
1544 market areas). StatsCan has collected a significant amount of historical information by



1545 operator. This could be useful in assessing longer-term industry development, relative
1546 control of various industry players overall, etc.

1547

1548 • StatsCan Household Expenditure and Pricing Surveys – These reports provide
1549 information relating to spending and basket pricing. Depending on the sample used and
1550 the timeliness of the surveys, there could be value in making use of these to assist in
1551 monitoring the industry.

1552

1553 • Filings to CRTC in proceedings and/or to meet license conditions – In many
1554 proceedings, the CRTC receives filings and submissions that could be analysed and
1555 assessed. In some cases telecom providers operate with the parameters defined by
1556 license. This applies to wireless operators (mobile and fixed – licenses awarded by
1557 Industry Canada) and to cable television companies. In most licenses there are periodic
1558 reporting requirements during the period of the license. Carriers also file information in
1559 the context of the Central Fund administration and for purposes of coordination of
1560 numbering (for NXX and NPA codes).

1561

1562 • Development of a system of standard accounts – The US uses an elaborate system of
1563 standard accounts that regulated entities are required to file on a quarterly and/or yearly
1564 basis. This provides for a long-term view of the overall evolution of the industry,
1565 however this comes with difficulties as well (e.g. exclusion of groups that have been
1566 de-regulated, comparison of year over year after industry mergers, etc.). While the
1567 CRTC should likely develop a standard set of accounts for the industry to file, it should
1568 be kept in mind that the FCC has been operating on this basis for some 60 years and
1569 that development of a similar system would require considerable time and effort.



1570

1571 • Topical periodic reporting – These appear to be growing in popularity as regulators are
1572 perhaps less concerned with broad issues, and more so with specific areas. A topical
1573 reporting questionnaire would be designed to address a particular narrow subject in
1574 depth, which would provide direction on the particular items of interest and a
1575 mechanism to track development over time. For example, the FCC uses its Form 477 to
1576 collect detailed information on local competition and broadband deployment.

1577

1578 • Surveys of industry (carriers, resellers, ISPs) – Unlike a reporting form, an industry
1579 survey could cast a wider net, sampling all types of entities in all regions of the
1580 country.⁷⁹

1581

1582 • Surveys of businesses and households – Direct surveys of businesses and households
1583 on specific topics of interest could again cast a wide net, covering all demographic and
1584 geographic groups in the country. This would be particularly useful for testing pricing
1585 practices, availability of services, consumer awareness, etc.

1586

1587 • Benchmarking studies – The telecom industry is global in nature. Benchmarking is
1588 done to provide a comparison of services or operations amongst entities operating in
1589 similar fields. This can be used as a validation of key parameters, to develop sets of
1590 leading industry indicators, and to assess Canada’s position relative to other countries.

⁷⁹ The notion of a “survey” is intended to be distinct from that of a “reporting form”. In the latter case, specific entities would be required to file certain information on a periodic basis. A survey, on the other hand, implies sampling a selection of entities to gain a broad perspective on specific issues. This could be the case, for example, for pricing of retail Internet services, where the “universe” of suppliers is large, not easily identifiable and not necessarily “regulated”.



1591 Regulators such as the FCC and Oftel use information from other countries for various
1592 purposes. Oftel in particular has conducted extensive studies of Internet access and
1593 pricing in European countries and US States.

1594

1595 • Public self-monitoring – Much of the information on competitive alternatives is
1596 normally made available to customers (the nature of the offer, areas where service is
1597 available, basic pricing packages, etc.). One way to ensure that industry develops is to
1598 ensure that the public in general can access and compare the alternatives. This could
1599 apply both to telecom competition (e.g. providing basic comparisons of competitive
1600 offers) and to broadband deployment (awareness of broadband deployment in other
1601 areas could stimulate customers to demand service in their area).

1602

1603 • Voluntary input to informational databases – Rather than gathering information via
1604 forms and surveys, the CRTC could also set up informational databases that carriers
1605 and service providers could access and “feed”. For this to work, stakeholders would
1606 have to see it as in their interest to enter information. This is most likely applicable for
1607 consumer-oriented information. For example, community fibre initiatives could be a
1608 subject for a database of this nature, where the common interest of various communities
1609 would coincide stimulating the value in providing information.

1610

1611 • Review and analysis of published information – In many cases (particularly in the US)
1612 the private sector publishes considerable information on the industry. Notably
1613 associations often see it in their interest to ensure that the regulator and others are aware
1614 of the status of competition. In Canada, for example, the CWTA publishes quarterly
1615 subscriber figures for the mobile industry. Since many industry participants have



1616 publicly traded stock, there is also a significant amount of information published to
 1617 address the needs of the financial community.

1618

1619 Table 5, below, summarises the mechanisms including a brief assessment of the apparent
 1620 pros and cons of each.

1621

1622

Table 5 – Assessment of monitoring mechanisms

<i>Types of monitoring mechanisms</i>	PROs	CONs
1 StatsCan Industry Reports (modified)	Long time series available	Lack of timeliness Possible inconsistency in reporting Lack of detail by line of business Lack of detail by geographic area
2 StatsCan Household Expenditure, Pricing Surveys	Long time series available	Lack of timeliness Limited sample size
3 Filings in proceedings or to meet license conditions	Built-in mechanism as part of licensees business	Wireline competitors are not licensed; some classes of competitors not regulated at all
4 Development of system of standardized accounts	Consistency in information	Risk of "overkill" in filing requirements Difficult to deal with non-regulated entities and with mergers, alliances, etc.
5 Topical periodic reporting forms	Consistency of information; limit information to that necessary for narrow issue	Limits global view of the industry
6 Surveys of industry (carriers, resellers, ISPs)	Address network and deployment issues; also cover regulated and non-regulated entities	Obtain industry-tailored responses
7 Surveys of businesses and households	Direct input on success or failure of competition	Focus more on perceptions and competitive awareness; less on "hard" information on deployment
8 Benchmarking studies	Independent non-biased information	Applicability to Canadian context (economy, geography, etc.)
9 Public self-monitoring	Low cost	Requires pro-active public
10 Voluntary input to informational databases	Low cost	Lack of compliance Would cover narrow set of issues
11 Review and analyze published material (financial and regulatory filings, market surveys, etc.)	Information that already exists in other forums	Limited information available; not necessarily relevant/pertinent

1623

1624

1625 It is clear from this assessment that there is no one single reporting mechanism that would
 1626 address all of the issues identified by the CRTC and the Governor in Council.



1627

1628 4.1.1 Use of mechanisms by FCC and OfTel

1629

1630 In the context of the various mechanisms described above in the Canadian context, the table
1631 below provides a comparison of the various methods listed in the “strawman” above and
1632 applied to both OFTEL and the FCC.

1633

1634

Table 6 – Mechanisms for Collecting Data – OFTEL & FCC

	OFTEL	FCC
Census Bureau Industry Reports		●
Census Bureau Household Expenditure, Pricing Surveys		
Filings to Regulator to Meet License Conditions	●	●
Standardized Accounts		●
Periodic Reporting Forms	●	●
Surveys of Industry	●	●
Surveys of Businesses and Consumers	●	
Benchmarking Studies	●	
Public Self-Monitoring	●	●
Voluntary Input Into Informational Databases		●
Review & Analyze Published Material	●	●

1635

1636

1637 OFTEL appears to rely more than the FCC on telephone surveys of businesses and consumers
1638 and benchmarking studies. By contrast, the FCC seems to rely more on the use of forms sent to
1639 carriers and the leveraging of their association with both the Census Bureau and the Bureau of
1640 Labour Statistics. In addition, the FCC is also trying the avenue of voluntary input into an



1641 informational database with respect to acquiring information related to broadband infrastructure
1642 deployment.



1643

1644 4.1.2 Applicability of mechanisms – telecom competition

1645

1646 Each of the mechanisms could be used to address one or more aspects of the two areas of
 1647 concern (telecom competition and advanced broadband deployment).

1648

1649 Table 7, below provides an assessment of which mechanism(s) would appear to be most
 1650 appropriate for each of the subject matter areas identified as pertinent to the monitoring of
 1651 competition in the telecom industry.

1652

1653 Table 7 – Mechanism by monitoring parameter – telecom competition

<i>Monitoring parameters</i>	1	2	3	4	5	6	7	8	9	10	11
<i>State of competition in the telecom industry</i>											
Non-dominance and industry concentration					•			•			
Pricing and demand elasticity - price competition		•					•	•	•		•
Innovation - new services, etc.							•	•			•
Quality of competitive offer							•		•		
Market failures				•				•			
Easy of entry - increasing number of competitors	•							•		•	•
Use of unbundled facilities					•	•					
Availability and take-up of wholesale services				•	•						
Market share by relevant geography, product	•			•	•		•				
Geographic expansion			•	•	•					•	
Network based competition and availability	•			•	•					•	
Ease of exit and mobility of capital											•
Industry efficiency and profitability	•		•	•	•			•			•
Well-informed consumers and information							•		•		
Barriers to switching suppliers							•		•	•	•
Consumer satisfaction							•		•	•	
Universal service	•					•			•	•	
Absence of collusion, anti-comp behaviour											•

Legend

- | | |
|--|---|
| 1 StatsCan Industry Reports (modified) | 7 Surveys of businesses and households |
| 2 StatsCan Household Expenditure, Pricing Surveys | 8 Benchmarking studies |
| 3 Filings in proceedings or to meet license conditions | 9 Public self-monitoring |
| 4 Development of system of standardized accounts | 10 Voluntary input to informational databases |
| 5 Topical periodic reporting forms | 11 Review and analyze published material |
| 6 Surveys of industry (carriers, resellers, ISPs) | |

1654



1655

1656 4.1.3 Applicability of mechanisms – advanced broadband

1657

1658 Table 8, below provides a similar assessment of the mechanisms for each of the key
 1659 parameters associated with assessing the deployment of broadband infrastructure and
 1660 services.

1661

1662 Table 8 – Mechanism by monitoring parameter – advanced broadband

<i>Monitoring parameters</i>	1	2	3	4	5	6	7	8	9	10	11
<i>Advanced Broadband Infrastructure and Services</i>											
Geographic availability - DSL, cable modem access	•			•	•	•					
Reach of fiber networks - backbone, communities	•			•	•					•	
Viability of infrastructure alternatives - satellite, DTH					•			•			•
Coverage of wireless - 2.5/3G, PCS, MCS			•	•	•						•
Range of services - quality and variety					•	•				•	
Pricing parameters - urban, nonurban, rural, remote		•			•	•			•		
Affordability of service		•					•	•			
Potential for aggregating local demand										•	•
Number of broadband access providers	•		•	•	•	•		•			
Availability of wholesale services, third party access	•			•	•						
Well-informed consumers and information							•		•	•	

Legend

- | | |
|--|---|
| 1 StatsCan Industry Reports (modified) | 7 Surveys of businesses and households |
| 2 StatsCan Household Expenditure, Pricing Surveys | 8 Benchmarking studies |
| 3 Filings in proceedings or to meet license conditions | 9 Public self-monitoring |
| 4 Development of system of standardized accounts | 10 Voluntary input to informational databases |
| 5 Topical periodic reporting forms | 11 Review and analyze published material |
| 6 Surveys of industry (carriers, resellers, ISPs) | |

1663



1664

1665 4.1.4 Assessment of mechanisms

1666

1667 Based on this assessment, the most promising mechanisms would be:

1668

- 1669 • Modified StatsCan industry reports – Assuming some modification to increase the
1670 information available, some of the StatsCan industry reporting could potentially assist in
1671 monitoring competition – keeping in mind that these reports were not necessarily
1672 designed with the idea of tracking competitive developments. There is also the question
1673 of timeliness of the information that would have to be addressed.⁸⁰
- 1674 • Topical periodic reporting forms – These would address a number of the key
1675 deployment and geographic concerns, to provide focused inputs and regular reporting
1676 (quarterly or yearly) on specific issues. This would be preferable to a full set of
1677 standardised accounts in minimising industry burden while at the same time providing
1678 consistent information sets from regulated (and perhaps non-regulated) entities and is
1679 better to protect confidential information.
- 1680 • Surveys of businesses and households – This would be complementary and provide
1681 balance relative to periodic reporting from industry, providing the consumer view of
1682 industry competition. This would be particularly important for issues such as pricing,
1683 innovations, quality of offer, etc., where carriers would not be expected to have an
1684 unbiased view.
- 1685 • Benchmarking studies and other analyses – Since it is difficult to deal with a number of
1686 issues in isolation (questions of non-dominance, market failures, industry efficiency),

⁸⁰ For example, by mid-2001 StatsCan apparently does not yet have complete industry responses to its annual survey for 1999.



1687 benchmarking would provide valuable input in analysing the state of competition,
1688 measures of innovation, overall deployment and coverage of new technologies, etc.
1689 This could be done by comparing the telecom industry with other industries in Canada,
1690 and/or by comparing the Canadian telecom industry with that in other countries. The
1691 telecom industry, and in particular the Internet industry, is global in nature – global
1692 trends and developments impact events in Canada. Thus Canada should not be looked
1693 at in isolation.

1694

1695 *4.1.4.1 Time period for information*

1696

1697 Monitoring the industry requires a consistent set of information gathered over a long period
1698 of time to identify and monitor trends. Certain historical information may be available
1699 already in StatsCan reports, CRTC filings and other sources. However, to the extent that
1700 new types of information are required to meet the present mandate to monitor competition
1701 and to assess the state of advanced broadband deployment, it may be necessary to gather
1702 historical as well as present information.⁸¹

1703

1704 It is suggested that for any filings required specific to the present context, both present year
1705 and historical information be gathered.

1706

1707 The timeframe that is relevant may also vary by market segment. In the telecom
1708 competition context, competition has been introduced over a long time period. Thus
1709 information from 1995 onward would likely be of value. On the other hand, the

⁸¹ This is also important when considering the specific effects of regulatory decisions – the “before” and “after” views are essential to ensure that the decision has the desired effects.



1710 deployment of broadband services is relatively recent, and information from 1998 onward
1711 is likely more appropriate.

1712

1713 4.1.4.2 *Confidentiality*

1714

1715 Some information that is required to monitor the industry will likely be considered to be
1716 confidential. As with other data collection mechanisms used by the CRTC, StatsCan, etc.,
1717 parties should expect to be able to file information in confidence, with only aggregated
1718 information being presented for public consumption. It is thus an assumption in the
1719 monitoring mechanisms suggested that specific information submitted would be considered
1720 commercially sensitive and confidential. It is also assumed that the question of treatment of
1721 confidentiality and confidential information will be handled by the CRTC through its
1722 normal processes.

1723

1724 4.1.4.3 *No Pre-determined Reporting Threshold*

1725

1726 Defining the industry “universe” is complex. In the CRTC’s recent contribution decision a
1727 revenue threshold was identified to limit the number of entities that should participate in the
1728 contribution collection mechanism.⁸²

1729

1730 On the other hand, some 20% of the population resides in non-urban areas of the country.
1731 In some cases, this segment of the population may be served by small local entities (e.g.
1732 independent telcos in Ontario and Quebec, or small cablecos across the country).

⁸² See paragraphs 97-100 of Decision CRTC 2000-745, 30 November 2000



1733

1734 A revenue threshold may mean that a key component of the broadband monitoring in
1735 particular is overlooked. Thus it is not clear that there should be a set threshold. As with the
1736 question of time period, there may be cases where a reporting threshold could be defined to
1737 reduce the complexity and/or volume of submissions.

1738

1739 *4.1.4.4 First report for September 2001*

1740

1741 A practical consideration at present will also be to define specific reports and information
1742 inputs that can be generated, gathered and analysed to meet the Governor in Council
1743 deadline for a report on September 28, 2001.

1744

1745 The specific recommendations provide suggestions as to how and what should be
1746 monitored on an ongoing basis. It is likely that some items are beyond the scope of what
1747 can be done for the first report in 2001, but should be put in place for future reporting.
1748 Beyond the first report, some of the information may require quarterly or annual filings.
1749 These would be used to support future analyses and reports.

1750

1751 4.1.5 Specific recommendations for 2001

1752

1753 *4.1.5.1 Topical periodic reporting forms*

1754

1755 Forms would be developed to address questions that can be answered by industry
1756 participants. Survey respondents could include all carriers and non-facilities-based service
1757 providers.

1758



1759 To ensure that the CRTC obtains complete information that covers the “landscape”, it is
1760 also suggested that survey respondents must complete the forms.

1761

1762 That said, the issue of collecting information from a broad and diverse base of small Internet
1763 providers – virtually all of which likely resell access services provided by telecom carriers –
1764 raises the question of how the Internet industry segment in particular should be included in
1765 monitoring.

1766

1767 One approach to mitigating this issue, which was raised by AOL during the consultation,
1768 would be to limit data collection activities to only the large Internet service providers (e.g.
1769 AOL Canada, Netcom, PSInet, Sympatico, UUNet, etc.). The scale of operation and the
1770 impact on competition for these players (particularly with respect to assessing ILEC control
1771 over the ISP segment) provides a relevant base for discussion of overall industry
1772 competitiveness and broadband access.

1773

1774 It is incumbent on the regulator to ensure that (1) the surveys are only used to seek
1775 information that is required for the administration of the Telecom Act, and is directly
1776 relevant to key monitoring parameters identified, and (2) the burden on industry is
1777 minimised by ensuring that information requested is restricted to that which cannot be
1778 readily obtained from other sources.⁸³

1779

⁸³ For example, to the extent that StatsCan surveys can be modified and made timelier, filing of information to the CRTC directly could be reduced. This is an area which requires further evaluation in terms of the process required with StatsCan.



1780 The information that could be gathered via topical reporting forms can be grouped into
1781 three categories:

1782

- 1783 1. Industry structure
- 1784 2. Network deployment
- 1785 3. Service offer and pricing

1786

1787 The information for each category is discussed in the following sections. The intent is to
1788 ensure completeness in coverage of what can be readily obtained from the telecom
1789 industry. The objective is that the parameters and subjects identified herein would be put
1790 into a number of survey forms to be sent to industry in accordance with the procedure
1791 outlined in Public Notice CRTC 2000-175, paragraphs 11 and 12.

1792

1793 4.1.5.1.1 Monitoring industry financial health for the first year's report

1794

1795 Industry financial health is an area that should be monitored, as discussed in Section 3.2.12,
1796 above.

1797

1798 Monitoring financial health was also identified as important by a number of industry
1799 players during the consultation, particularly competitive carriers.⁸⁴

1800

1801 Although this information can be largely obtained in aggregate from Annual Reports and
1802 other information provided to the financial community, it may not be in the form or level of

⁸⁴ See in particular, comments of Call-Net Enterprises Inc., AT&T Canada Inc.



1803 detail that would allow for the CRTC to fully assess trends and developments. Detailed
1804 financial information is also filed as part of the regular Statistics Canada industry surveys,
1805 however there appears to be a significant delay in carriers filing the information, and
1806 information for 2000 is not likely available via that route.

1807

1808 As part of the development of the initial first year's report in 2001, the CRTC should
1809 require the filing of non-consolidated financial statements, along with the Forms developed
1810 for the industry survey. For future years, the CRTC should consider either a formal filing of
1811 accounts, or work with Statistics Canada to improve timeliness, to ensure year-over-year
1812 consistency and long-term reporting stability (as is done, for example, by the FCC in the
1813 US).

1814



1815

1816 **Category 1 – Market share and industry structure**

1817

1818 Category 1 addresses the following monitoring parameters:

1819

- 1820 • Market share by relevant geography and products – this would seek more detailed
- 1821 information than presently gathered to identify market share by specific geographic
- 1822 areas for specific services.
- 1823 • Number of broadband access providers – as a complement to the market share
- 1824 information the form would identify broadband access providers by specific geographic
- 1825 areas.
- 1826 • Non-dominance and industry concentration – information complementary to the market
- 1827 share and provider information (e.g. ownership information, if not already available)
- 1828 that could assist with development of an industry concentration index that could be
- 1829 compared with historical information and year-over-year for future reporting.

1830

<i>Monitoring parameters</i>											
<i>State of competition in the telecom industry</i>											
	1	2	3	4	5	6	7	8	9	10	11
Non-dominance and industry concentration					•						
Market share by relevant geography, product	•			•	•						
Industry efficiency and profitability	•		•	•	•						•

<i>Monitoring parameters</i>											
<i>Advanced Broadband Infrastructure and Services</i>											
	1	2	3	4	5	6	7	8	9	10	11
Number of broadband access providers	•		•	•	•	•					
Availability of wholesale services, third party access	•			•	•						

1831

1832

1833



1834

1835 ***Recommended approach for Category 1***

1836

1837 **Part 1 – Market share by relevant geography and products**

1838

1839 ***Relevant geographic areas***

1840

1841 Many possible geographic definitions are possible. During the consultation, comments on
1842 this point ranged from making use of telco rate bands, to identifying parameters by urban,
1843 rural and remote areas. In many cases the relevant geography will depend on which
1844 services or entities are being monitored. This should be a consideration in development of
1845 the specific reporting forms – i.e. the most relevant geographic definition should be used by
1846 major product category.

1847

1848 ***Revenues versus network and service parameters***

1849

1850 Obtaining revenue or other financial information by many geographic areas would not be
1851 necessary to assess the state of competition and would likely be burdensome. It is suggested
1852 that the monitoring in Category 1 focus on network and service parameters (e.g. numbers
1853 of lines, numbers of minutes).

1854

1855 ***Relevant products***

1856

1857 During the consultation, a number of industry participants suggested reducing the product
1858 categories to a very limited and broadly defined set. The problem with this is that
1859 competition tends to develop by more granular market segments – e.g. CLECs have far
1860 greater presence in business markets than in residential, LD carriers do not have consistent



1861 market share across segments such as data private line and voice switched services, etc.
1862 Hence a reasonable (but not overly burdensome) granularity in product definitions is
1863 required.

1864

1865 Some participants in the Consultation suggested that the CRTC should not monitor
1866 forborne services. This would defeat the purpose of monitoring in the first place. If services
1867 are forborne because they are competitive, then one could presume that non-forborne
1868 services are not competitive. Hence monitoring only non-forborne services would tell the
1869 CRTC nothing at all about the state of competition in the industry. Also, even though
1870 certain services may be forborne, monitoring their status would be valuable to assess the
1871 longer-term effects of having decided to forbear. Did it result in a competitive market place
1872 with multiple suppliers? Is there vibrant price competition? etc.

1873

1874 The following more refined list of product categories takes these points into account,
1875 (keeping in mind that information would be requested by categories of residential, business
1876 and wholesale).

1877

- 1878 • Voice – individual lines
- 1879 • Voice – Centrex
- 1880 • Voice – PBX access (PRI)
- 1881 • Voice – domestic long distance
- 1882 • Voice – toll-free (800/888/877 services)
- 1883 • Voice – cross border (US)
- 1884 • Voice – international (non-US)
- 1885 • Data access – high speed DSL and cable modem



- 1886 • Local private line – low speed, T1, OC3 and higher
- 1887 • Inter-exchange private line – low speed, T1, OC3 and higher
- 1888 • Data network services – frame relay, ATM, etc.
- 1889 • Unbundled network elements - loops
- 1890 • Internet access services – Dial-up
- 1891 • Internet access services – high-speed – DSL and cable modem
- 1892 • Internet access services – dedicated T1 and higher
- 1893 • Mobile – post paid
- 1894 • Mobile – pre pay
- 1895 • Mobile – long distance
- 1896 • Specialised mobile (ESMR)
- 1897 • Payphone lines

1898

1899 Part 2 – Number of broadband access providers

1900

1901 The number of providers can be largely inferred from the information by product by
1902 geographic area, for the cases where competitors have non-zero penetration. On the other
1903 hand, services may be offered in areas with no takers. This is addressed further as part of
1904 Category 2.

1905

1906 Part 3 – Non-dominance and industry concentration

1907

1908 During the consultation a number of comments were received identifying that these would
1909 be difficult to measure and to interpret. This is likely the case, and a specific measure for
1910 these could be deferred. If the information collected and on hand is not sufficient to assess



1911 non-dominance and concentration, then a measure should be developed for future year
1912 reporting.



1913

1914 **Category 2 – Network deployment**

1915

1916 Category 2 addresses the following monitoring parameters:

1917

- 1918 • Use of unbundled facilities
- 1919 • Availability and take-up of wholesale services
- 1920 • Geographic expansion of competitive facilities – existing and planned
- 1921 • Network based telecom competition and availability of competitor capacity – existing and planned
- 1922
- 1923 • Geographic availability of DSL and cable modem access
- 1924 • Reach of fibre networks – backbone and community networks – distance from
- 1925 consumers
- 1926 • Reach of satellite technology infrastructure
- 1927 • Coverage of mobile and fixed wireless – 2.5/3G PCS, MCS, LMCS (as applicable)
- 1928 • Availability of wholesale broadband services, third party access

1929

<i>Monitoring parameters</i>											
<i>State of competition in the telecom industry</i>											
	1	2	3	4	5	6	7	8	9	10	11
Use of unbundled facilities					•						
Availability and take-up of wholesale services				•	•						
Geographic expansion			•	•	•					•	
Network based competition and availability	•			•	•					•	
<i>Monitoring parameters</i>											
<i>Advanced Broadband Infrastructure and Services</i>											
	1	2	3	4	5	6	7	8	9	10	11
Geographic availability - DSL, cable modem access	•			•	•						
Reach of fiber networks - backbone, communities	•			•	•					•	
Viability of infrastructure alternatives - satellite, DTH				•	•						•
Coverage of wireless - 2.5/3G, PCS, MCS			•	•	•						•

1930

1931

1932



1933

1934 ***Recommended approach for Category 2***

1935

1936 For some of the areas identified – e.g. unbundled loops, presence of competitive providers
1937 for telecom, etc. – information can be incorporated in forms addressing the market
1938 segments outlined in Category 1. For wireless coverage areas, the information from mobile
1939 wireless service providers is generally readily available.

1940

1941 On the other hand, for the question of availability of broadband, in order to assess the roll-
1942 out of facilities and services in all regions of the country, a specific survey at a detailed
1943 geographic level is required.

1944

1945 Detail is required since (1) availability may vary at the specific infrastructure level of the
1946 ILECs and cablecos, (2) most of the large players cover large geographic areas and (3)
1947 differing technology may limit the reach of service. For example, requesting information at
1948 the level of ILEC wire centres risks overlooking DSL limitations where households beyond
1949 a certain distance, or served by remotes, may not be within reach of the technology.

1950

1951 To address the broadband availability question, Industry Canada recently completed a
1952 survey of ILECs and cablecos. This measured availability based on the presence of a
1953 DSLAM by wire center for ILECs and availability of bi-directional cable by head-end
1954 and/or node for cablecos.

1955

1956 This information needs to be overlaid by other factors to determine availability more
1957 accurately – number of households within reach of DSL over copper loops, actually served



1958 by bi-directional cable, etc. This could be accomplished by requesting additional
1959 information on the same basis, or by re-doing the survey on another basis (e.g. by postal
1960 code area).

1961



1962

1963 **Category 3 – Service offer and pricing**

1964

1965 Category 3 addresses the following monitoring parameters specific to the question of
1966 advanced broadband services, and to areas of telecom services where pricing is not readily
1967 available from established sources such as tariffs.

1968

- 1969 • Range of services – quality and variety – the objective would be to obtain information
1970 on the specific services available in all regions of the country relating to advanced
1971 broadband.
- 1972 • Pricing parameters – urban, nonurban, rural, remote – along with the services, pricing
1973 would be requested for specific areas where service is available.

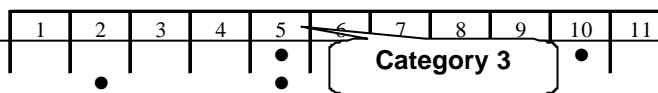
1974

Monitoring parameters

Advanced Broadband Infrastructure and Services

Range of services - quality and variety

Pricing parameters - urban, nonurban, rural, remote



1975

1976

1977 **Recommended approach for Category 3**

1978

1979 Category 3 should be considered as a separate pricing and services survey. What is relevant
1980 for monitoring is to understand the pricing and range of service effects of the development
1981 of competitive offers. Pricing information for key services based on the list provided in
1982 Category 1 should be collected by service provider. Some of the basic pricing information
1983 may be normally publicly disclosed by the service providers. However, for convenience
1984 and completeness the CRTC may wish to request a specific set of information for filing as
1985 part of the questionnaire associated with Category 3.



1986

1987 *4.1.5.2 Industry surveys and/or modified StatsCan industry reports*

1988

1989 In parallel with development of forms addressing the categories of information identified
1990 above, a review of StatsCan industry data gathering is being undertaken. Industry Canada
1991 has also just completed a survey of DSL and cable modem deployment as part of its
1992 activities with the National Broadband Task Force.

1993

1994 An investigation of these sources will help avoid overlap in industry information filing
1995 requirements, as well as to identify areas where the StatsCan surveys could be modified to
1996 better serve the purposes of monitoring discussed herein. Industry surveys – either via
1997 StatsCan or directly – could capture regulated and non-regulated entities, thus potentially
1998 providing a broad picture of the present state of the industry.

1999

2000 *4.1.5.3 Surveys of businesses and households*

2001

2002 Direct surveys of consumers of telecom services (businesses and households) would
2003 provide a valuable complement to understanding the true state of the industry in Canada.

2004

2005 Surveying consumers provides an important balance to information available from industry.

2006

2007 Consumer surveys would provide valuable information both from the perspective of
2008 telecom competition (effects of price competition, quality of offer, degree to which
2009 consumers are making informed decisions, etc.) as well as from the perspective of
2010 broadband deployment (range of services available, innovation, pricing and affordability).



2011

2012 *4.1.5.4 Benchmarking studies and specific analyses*

2013

2014 Information from industry and from consumers in Canada provides a basis on which the
2015 telecom industry and broadband deployment can be monitored. But taken in isolation, this
2016 could lead to incorrect conclusions.

2017

2018 A benchmarking study should be done considering key parameters that are complementary
2019 to the other monitoring mechanisms. This could focus on comparing telecom to other
2020 industries in Canada and on comparing Canadian industry with that of other countries.
2021 Benchmarking would be useful in calibrating industry concentration, in looking at the
2022 number of competitors, as well as in comparing innovation and range of services available,
2023 pricing, affordability and other parameters.

2024

2025 Benchmarking could be complemented by specific analyses on issues that would not be
2026 obtainable via other mechanisms, but which could be assessed using published information
2027 and related research. For example:

2028

- 2029 • In the telecom competition context – assessment of issues relating to ease of entry and
2030 exit, relative measures of innovation in the industry, industry efficiency; also a set of
2031 “leading indicators” (e.g. hiring, contracts awarded, etc.) could be assessed and
2032 possibly developed to assist in assessment of future trends and prospects,
- 2033 • In the broadband infrastructure context – viability and coverage of new technologies
2034 (e.g. fixed wireless) to serve outlying areas, potential for aggregating demand and
2035 achieving economies in under-served areas.



2036

2037

2038

2039

2040

2041

2042

2043

2044

2045

2046

2047

2048

5. Appendix – Summary of Public Consultation Comments and Reply Comments

2049

2050

2051



2052

2053 The following contains a summary of the comments and reply comments submitted at the public
2054 consultation held in Hull, Quebec in accordance with Public Notice 2000-175 on April 18,
2055 2001.

2056

2057 Based on the comments filed by the various parties, and the presentations made at the Industry
2058 Consultation, a number of observations can be made:

2059

- 2060 ♦ Support for Monitoring - All parties supported monitoring of the industry. While suggestions
2061 were made regarding what indicators to monitor, no one party stated that they were
2062 opposed to monitoring of telecommunications competition or the deployment of advanced
2063 broadband infrastructure.
- 2064 ♦ Confidentiality – many parties raised the issue of confidentiality, stating that the Commission
2065 should, if required to gather data from carriers, respect the confidentiality of the information.
- 2066 ♦ Burden – some parties raised the issue of the burden, both on the industry and on the
2067 Commission resources, of embarking on an elaborate data collection exercise.
- 2068 ♦ Use of Existing Data Sources – as a way of addressing the issue of burden, some parties
2069 suggested that the Commission, for the most part, rely on publicly available sources of
2070 information, or on information filed in other proceedings or with Statistics Canada or
2071 Industry Canada.
- 2072 ♦ Consistency – some parties raised the issue of collecting data in a systematic manner that
2073 would ensure the most accurate and comparable record of information for the Commission
2074 and the industry to use. Information filed in proceedings may not be sufficient to address the
2075 Commission’s objectives for long-term monitoring.

2076



2077 A number of parties also suggested that the CRTC use the principles that it developed to
2078 analyze market competitiveness as set out in Decision 94-19, Review of Regulatory
2079 Framework, i.e.:

2080

- 2081 i) Demand conditions such as economically feasible substitutes and the costs
2082 of changing suppliers;
- 2083 ii) Supply conditions such as the ease of rivals to expand output in response to
2084 non-transitory price increases, the likelihood of entry and the nature of any
2085 barriers that may prevent such entry;
- 2086 iii) Evidence of rivalrous behavior;
- 2087 iv) The nature of innovation and technological change;
- 2088 v) Poised or potential competition and whether entry is likely to occur and
2089 become effective within a reasonable period of time; and
- 2090 vi) Market share data as a partial measure of an incumbent's market power.

2091

2092 These principles are valid and make sense in terms of evaluation of the competitiveness of an
2093 industry. However, the purpose of the Background Report is to identify mechanisms to monitor
2094 the industry in order to gather evidence and assess things such as demand and supply
2095 conditions, rivalrous behaviour, whether entry is occurring, whether incumbents have market
2096 power, etc.

2097

2098 The 94-19 list represents items to be assessed once relevant information is collected in order to
2099 assess them. The items are not monitoring mechanisms per se.

2100



2101 The rest of this section will be devoted to summarising the comments made in written
2102 submissions and in oral comments made at the Consultation.

2103

2104 **5.1 Action Reseau Consommateur**

2105

2106 Action Reseau Consommateur (ARC) stated that the list of services to be monitored should be
2107 reduced to five: Local, Long Distance Calls, Subscriber Assistance Services, Call Management
2108 services and Public Telephones.

2109

2110 In addition, ARC recommended that the CRTC continue to monitor pricing in the local and long
2111 distance markets. Further, technological innovation in telecommunications should also be
2112 monitored, rather than just bundling of existing services, which is not necessarily innovative.

2113

2114 Finally, ARC suggested that the Commission pay particular attention to two aspects of quality of
2115 service for the long distance market: the delay between when a customer requests service and
2116 actually receives it and the duration of contracts entered into by customers and service
2117 providers.

2118

2119 In reply comments, ARC stated that the Commission should enunciate clearly the types of data
2120 that it intends to collect, even if it is unable to collect everything it wishes to before the first
2121 report is due in September, 2001.

2122



2123 In addition, ARC recommended that the Commission consult data that is already collected from
2124 other, publicly available sources and also recommended that the Commission institute quality of
2125 service measures for the long distance market, similar to that already used for the local market.

2126

2127 **5.2 AOL Canada**

2128

2129 AOL Canada raised the question as to whether the Background Report implied that monitoring
2130 also applied to retail Internet providers – a market segment deemed by the CRTC to be
2131 competitive.

2132

2133 While the Report did indeed suggest that the CRTC monitor Internet access lines (in categories
2134 of dial-up, high-speed, etc. – which is relevant to both the question of competition as well as
2135 broadband access), it did not suggest that all Internet-related services should be monitored.

2136

2137 AOL Canada supported the idea of collecting data from facilities-based telecommunications
2138 carriers concerning broadband deployment, provisioning and access to carrier broadband
2139 infrastructure.

2140

2141 For example, AOL Canada stated that certain indicators, as applied to Telecommunications
2142 carriers or service providers, would be consistent with the Governor-in-Council order. Such
2143 indicators include:

2144

- 2145 ♦ Availability and take-up of wholesale services;
- 2146 ♦ Network-based competition and availability of competitive capacity;



- 2147 ♦ Geographic infrastructure availability;
- 2148 ♦ Reach of fiber networks; and
- 2149 ♦ Availability of wholesale services and third-party access.

2150

2151 **5.3 AT&T Canada**

2152

2153 AT&T Canada submitted comments agreeing with the intent of the monitoring exercise, insofar
2154 as it would be important to get feedback from the industry concerning the competitive
2155 landscape. AT&T Canada stated that the final monitoring report should provide the
2156 Commission and the telecommunications industry with a comprehensive tool to evaluate whether
2157 there is a continued transition to a workably competitive environment and whether this transition
2158 includes the deployment of advanced technologies.

2159

2160 AT&T Canada stated that the Commission should ensure that the monitoring process does not
2161 become simply a data collection and aggregation exercise and should focus on the conditions
2162 necessary for sustainable competition. In particular, AT&T Canada stated that the conditions
2163 that should be monitored are those outlined in Telecom Decision CRTC 94-19 and include
2164 market share, demand conditions and supply conditions and that any information collected from
2165 the industry through the use of periodic survey forms should be organised along these three
2166 categories.

2167

2168 In addition, AT&T Canada stated that the Commission should collect data that can be used to
2169 provide a comprehensive view of the financial performance of the entire industry and each



2170 participant. AT&T Canada suggested such indicators as consolidated and non-consolidated
2171 financial statements, return on equity, debt/equity ratio, free cash flow and others.

2172

2173 Concerning market share, AT&T Canada stated that there must be well-defined measures of
2174 both overall market share and market share in key market segments. AT&T Canada stated that
2175 the comprehensive list of product/service categories in the Background Report could be
2176 streamlined within certain segments, such as long distance services.

2177

2178 AT&T Canada stated that demand conditions could be monitored by examining service offers
2179 and prices in key market segments and should focus on factors that affect prices and price
2180 perception, such as temporary promotions, contracted service offerings and extensions and
2181 selective discounting in certain geographic markets and product segments.

2182

2183 AT&T Canada stated that supply conditions could be monitored by examining network
2184 deployment and the extent of facilities-based competition. Survey information should include
2185 such factors as competitors reliance on incumbent facilities. AT&T Canada also stated that such
2186 information should include the prices competitors pay the incumbent for essential, near-essential,
2187 competitor and other services.

2188

2189 Finally, AT&T Canada stated that the process of monitoring should be transparent to all in
2190 order to ensure its credibility and stated that all, or the majority, of the data should be publicly
2191 available. AT&T Canada stated that the process of monitoring should not be overly
2192 burdensome on the industry or the Commission.

2193



2194 In reply comments, AT&T submitted that the Commission should collect information from non-
2195 facilities-based ISPs as well as facilities-based carriers on which the retail ISPs depend as it
2196 would allow the Commission to properly ascertain both demand and supply conditions.

2197

2198 AT&T agreed with Call-Net on the need to collect information in conjunction with the financial
2199 performance of the industry participants.

2200

2201 AT&T Canada did not agree with Bell et al's suggestion that the information collected be
2202 aggregated to such a high degree. For example, AT&T Canada stated that a split in the Internet
2203 market from Dial-up and High-speed is useful suggesting that such information provides
2204 information on both the demand and supply-side conditions of the market.

2205

2206 In addition, AT&T suggested that collecting market information on Centrex services was useful
2207 as it differed sufficiently from other business access services.

2208

2209 Finally, with respect to confidentiality, AT&T Canada submitted that the Commission need not
2210 go further than sections 39 (1), (4) and (5) to determine claims of confidentiality and, on
2211 balance, the public interest would be served by disclosure of such information.

2212

2213 **5.4 Bell Canada, Aliant Telecom Inc., MTS, SaskTel & Telebec (Bell et al).**

2214

2215 Bell et al suggested that, as a useful starting point to discuss the issue of the nature and the
2216 scope of the data to collect, the Commission be guided by the analysis and discussion on
2217 market competitiveness set out in Telecom Decision CRTC 94-19. Bell et al suggested that the



2218 same six factors used to analyse whether a particular market should be forborne also apply to
2219 an analysis of the state of competition in the Canadian telecommunications industry.

2220

2221 Bell et al stated that it was not necessary to collect the same amount of information as required
2222 for an application for forbearance. Further, Bell et al stressed that the Commission should only
2223 collect the data that is essential and necessary to objectively monitor the marketplace, thereby
2224 not overburdening the industry with unnecessary data and other information requests.

2225

2226 Bell et al outlined five principles that the CRTC should use to guide its data collection activities:

2227

- 2228 ♦ Collect only relevant information to assess the state of competition and the deployment of
2229 advanced infrastructure;
- 2230 ♦ Where possible, rely on publicly available sources of information and data;
- 2231 ♦ Ensure the data requirements are kept to a minimum to minimise the internal company and
2232 CRTC resources needed to gather and study the data;
- 2233 ♦ Rely on qualitative assessments rather than quantitative assessments; and
- 2234 ♦ Ensure that confidential data collected is protected from public disclosure and that results
2235 are sufficiently aggregated to protect the confidentiality of the data.

2236

2237 With respect to the relevant markets, Bell et al stated that instead of the 28 product/service
2238 segments suggested in this report (broken down further into residence, business and wholesale),
2239 that six markets: local, long distance, pay telephone, private line & data, Internet access &
2240 related services and wireless services be monitored.

2241



2242 Bell et al stated that, because of the nature of the local and payphone services markets, some
2243 level of granularity would be appropriate and suggested a breakdown by province or territory
2244 into the following three groupings: large urban, smaller urban and rural areas. Bell et al further
2245 suggested that the ILECs proposed banding structure in the proceeding Telecom Public Notice
2246 CRTC 2000-27 may be useful.

2247

2248 For the long distance market, Bell et al stated that this market is national, as the Commission
2249 determined in Telecom Decision 97-19. For private line and data, Bell et al stated that existing
2250 filings by carriers, including lists of operational interexchange private line routes, as well as
2251 information filed in forbearance applications and additional data on capacity available on
2252 national and international routes, including lit and dark fiber routes, could be used.

2253

2254 For the Internet access market, Bell et al stated that it would not be necessary to collect data on
2255 all the dial-up and high-speed Internet service providers. However, as one aspect of the
2256 Commission's mandate with respect to data collection is the deployment of advanced
2257 infrastructure, Bell et al stated that the collection of data concerning the availability of high-speed
2258 Internet services in urban and rural areas would be appropriate. Bell et al further noted that the
2259 Commission should refer to the results of the work supporting the National Broadband Task
2260 Force.

2261

2262 Bell et al also suggested additional data to collect from telecommunications service providers
2263 concerning demand. These include:

2264



- 2265 ♦ total number of residential and business local network access services by geographic area
- 2266 (large urban, smaller urban and rural);
- 2267 ♦ total number of payphones by geographic area;
- 2268 ♦ total number of minutes of long distance;
- 2269 ♦ total number of dial-up and high-speed Internet subscriptions by geographic area;
- 2270 ♦ total operational wireless telephone numbers by geographic area.

2271

2272 Bell et al also suggested that the Commission monitor demand and supply conditions. However,
2273 Bell et al pointed out that such indicators do not lend themselves easily to quantitative
2274 assessment and suggested that telecommunications service providers report on their assessment
2275 of the demand and supply conditions of each market to the Commission as an input to its
2276 analysis. With respect to indicators regarding evidence of rivalrous behaviour, Bell et al
2277 suggested that service providers provide analysis of trends of their prices in each market and
2278 report changes in product lines and changes in service availability. Further, Bell et al suggested
2279 the Commission use information already in its possession, such as monthly local exchange
2280 carrier data filed with the central funds administrator, registration lists of various classes of
2281 carriers, filings of CLECs, submissions of carriers in major proceedings, lists of operational
2282 interexchange private line routes and information filed in forbearance applications.

2283

2284 **5.5 *Call-Net Enterprises Inc.***

2285

2286 Call-Net supported the Commission's initiative to collect information from the
2287 telecommunications industry, citing applications by Call-Net and other competitive carriers



2288 about the sustainability of competition in Canada's telecommunications industry to the Cabinet
2289 over a year ago.

2290

2291 Call-Net stated that collection and meaningful evaluation of relevant data regarding the status of
2292 competition is necessary to understand what are the real problems confronting the development
2293 of sustainable competition in Canada's telecommunications markets.

2294

2295 Call-Net stated that the current sources of information at the Commission's fingertips
2296 (information filed in hearings) have two drawbacks: this information is limited in scope to the
2297 topics or issues suggested by the interested parties.

2298

2299 The second draw-back concerning these sources of data stated by Call-Net is that the
2300 information tends to be limited in scope to the issues before the Commission in that proceeding.
2301 Call-Net stated that, in contrast, the regular collection and evaluation of data regarding the
2302 status of competition should provide the Commission with a more consistent and independently
2303 verifiable basis for an initial view regarding any changes to its policies or the necessity to re-think
2304 any of its policies.

2305

2306 Call-Net stated that it had two principal recommendations concerning the Background Report:

2307

2308 1. The inclusion of more indicators concerning financial information. Call-Net stated that
2309 agencies such as the FCC provide significant detail concerning the financial status of
2310 carriers. Call-Net suggested that the Commission collect a number of financial indicators
2311 from the industry, such as Carrier costs, Gross operating margin, pre-tax margin,



2312 EBITDA/revenue margin, etc. Call-Net stated that such information would provide the
2313 Commission with a reasonable assessment of the relative financial health of different service
2314 provider groups.

2315 2. The need for systematic evaluation of the data which is collected. Call-Net stated that, once
2316 the data is collected, the CRTC must import this data into an analytical framework that
2317 incorporates both demand-side and supply-side indicators, as currently applied in a
2318 competition law context. Call-Net stated that such a framework address consumer
2319 outcomes and behaviour as well as industry structure and supplier behaviour.

2320

2321 **5.6 Canadian Cable Television Association (CCTA)**

2322

2323 As a general position, the CCTA supports the Commission in its initiative to monitor the
2324 telecommunications industry.

2325

2326 The CCTA highlighted the fact that the cable industry already files reports to the CRTC which
2327 detail their operations, financial performance and deployment of advanced services. In addition,
2328 the CCTA noted that the annual survey was supplemented to capture additional information
2329 about the Internet services provided by cable companies.

2330

2331 The CCTA suggested that the Commission could use this base of data as a source for the
2332 indicators noted in the Background report. In addition, the CCTA stressed that the use of
2333 existing data would reduce regulatory burden and streamline regulation.

2334



2335 Further, the CCTA noted the existence of Industry Canada's National Broadband Task Force
2336 and its own data gathering exercise on the issue of deployment of broadband infrastructure. The
2337 CCTA suggested that the Commission wait until the Task Force's report is released to the
2338 public before embarking on a separate exercise to collect similar data from the same industry
2339 participants.

2340

2341 The CCTA also noted that the burden of completing such forms can be significant for smaller
2342 systems and recommended that the approach currently used for such smaller systems, i.e., that
2343 they be sent a smaller, simpler form, be adopted by the Commission in its data gathering
2344 exercise. The CCTA also pointed out that the collection, analysis and publication of such data
2345 would also require significant Commission resources and the CRTC should be looking for ways
2346 to minimise the burden on its own internal resources by using existing sources of data.

2347

2348 The CCTA rejects the imposition of quality of service indicators on services provided in
2349 competitive markets, such as for cable modem services. The CCTA suggest that the imposition
2350 of such indicators would constitute a burden on the industry and would be of questionable use,
2351 given the accepted practice that quality of service and related issues should be settled by market
2352 forces in competitive markets.

2353

2354 In reply comments, the CCTA stated that, should the Commission, working with industry, co-
2355 operate in survey design and co-ordination both collectively and bi-laterally, then the
2356 Commission would be able to produce useful data with minimal burden on either the
2357 Commission resources or the industry as a whole.

2358



2359 As a first step, the CCTA recommended that the Commission focus its data collection activities
2360 on the data that is actually needed, and on data that is generally available from public sources
2361 (CCTA provided an appendix outlining the information that is already filed with the CRTC and
2362 StatsCan by the cable industry).

2363

2364 The CCTA states that it does not see any relevance in collecting information from either the
2365 retail Internet market or the wireless markets, as these two markets are forborne. CCTA also
2366 recommends that the information being collected through the National Broadband Task Force
2367 be used in place of any new information the CRTC may wish to gather on broadband
2368 deployment.

2369

2370 **5.7 *François Ménard***

2371

2372 François Ménard filed comments concerning quality of service indicators that the Commission
2373 might employ in any monitoring exercise. In his submission, Mr. Ménard suggested the
2374 Commission consider such quality of service elements, as applied to the new and evolving data
2375 networks: Cost, speed, asymmetry of speeds, latency, jitter, reliability, multi-homing,
2376 redundancy, direct and transit peering and others.

2377

2378 In reply comments, Mr. Menard stated that, contrary to the CCTA's suggestion, the existing
2379 reports filed by the cable industry were not sufficient to monitor their common carrier
2380 obligations. Mr. Menard further submitted that, as cable carriers have a dominant position
2381 beyond the service area of DSL services, the Commission should require the cable companies



2382 to file additional information in order to ensure that cable companies are providing third party
2383 access and that quality of service of their networks is being respected.

2384

2385 **5.8 Government of Northwest Territories (GNWT)**

2386

2387 The GNWT supported the concept of monitoring and made several suggestions concerning the
2388 elements that such an exercise should include:

2389

- 2390 ♦ A comprehensive list of both basic and non-basic services and service elements, in order to
2391 capture basic services, which are of greater importance in the North, and advanced
2392 services, which are becoming important.
- 2393 ♦ The monitoring of service availability at the community level and either at the telephone
2394 company serving area or provincial/territorial level, with individual telephone companies
2395 collecting the required data.
- 2396 ♦ Information on the local access technologies available, such as wireless, radio, copper pair
2397 and broadband, local and toll switching technologies deployed and the local and toll
2398 transmission technologies employed.
- 2399 ♦ Monitoring, at the highest level of aggregation, should occur uniformly across all telcos.
2400 Further, that monitoring of service availability at the community level should occur at a
2401 disaggregated level in the case of the Northwest Territories.

2402

2403 **5.9 Group Telecom**

2404



2405 Group Telecom supported the CRTC in its initiative to collect data on a more systematic basis,
2406 citing that, with the proliferation of service providers, technologies and services, it is more
2407 important that ever for the Commission to receive timely and accurate information in a
2408 sufficiently dis-aggregated form to ensure effective monitoring.

2409

2410 Group Telecom stated that it was important for the Commission to monitor the deployment of
2411 competitive infrastructure. In this vein, Group Telecom suggested the Commission monitor
2412 facility builds, including maps of fiber routes which include fiber and strand kilometers by
2413 market, a list of executed municipal agreements, a list of executed Building License Agreements
2414 (BLAs) within a competitive exchange and a list of the addresses of connected buildings.

2415

2416 Group Telecom also stated that replacement of terminal equipment and early termination of
2417 multi-year contracts were two additional issues of importance.

2418

2419 On the issue of terminal equipment, Group Telecom stated that the Commission monitor the
2420 extent to which proprietary standards are creating an artificial barrier to switching suppliers.

2421

2422 On the issue of multi-year contracts, Group Telecom stated that the Commission monitor the
2423 pervasiveness of long-term contracts in the marketplace.

2424

2425 **5.10 Primus**

2426



2427 Primus submitted comments supporting industry monitoring and stating that the Commission had
2428 at its disposal information submitted in different CRTC regulatory proceedings. Primus stated
2429 that the Commission should be able to gather much of what it requires from such information.

2430

2431 Primus also stated that, where the Commission felt that additional information was required,
2432 periodic survey forms could be used, provided they would only seek information that is in the
2433 public interest, directly relevant to the questions to be addressed and that the burden on the
2434 industry is minimised. Finally, Primus stated that any information filed with the Commission by
2435 the carriers should be treated as confidential.

2436

2437 **5.11 Telesat**

2438

2439 Telesat stated that the Background Report is silent on the unique situation of satellite
2440 competition and the deployment of satellite services within Canada .

2441

2442 Telesat stated that, with respect to the question of ownership, there are no foreign ownership
2443 restrictions on the provision of satellite services in Canada. Further, Telesat noted that satellite
2444 service providers cover huge areas of the country, rather than specific geographic markets.

2445

2446 Telesat further stated that separate measures are required for the satellite industry and suggested
2447 a number of additional indicators for the Commission to consider, such as:

2448

- 2449 ♦ Satellite coverage patterns and power levels;
- 2450 ♦ Number of transponders and their breakdown by frequency band;



- 2451 ♦ Prices for whole RF channel services for Fixed Satellite Services, or by packet/circuit
2452 airtime for Mobile Satellite Services;
- 2453 ♦ Number of mobile terminals;
- 2454 ♦ Total annual Canadian service revenues and their breakdown by market segment; and
- 2455 ♦ The total number of transmit antennas for fixed satellite services.

2456

2457 In reply comments, Telesat submitted that it agreed with the comments concerning unnecessary
2458 duplication of collection activities, and pointed to the information in the Commission's
2459 possession from several recent proceedings on Telesat, as well as the annual filings Telesat must
2460 make with Industry Canada as conditions of license, as examples of readily available information
2461 the Commission could use in its monitoring activities.

2462

2463 Telesat repeated the same remarks it made regarding the collection of information from foreign-
2464 owned providers of satellite services in Canada. Telesat also recommended that the
2465 Commission wait until the publication of the National Broadband Task Force's report before
2466 proceeding with any additional information gathering on broadband deployment.

2467

2468 **5.12 *Telus***

2469

2470 Telus supported monitoring and stated that any monitoring mechanisms established by the
2471 Commission should be consistent with the goal of increasing reliance on market forces and
2472 determining whether the market for services is workably competitive and whether the
2473 services themselves remain essential. Telus stated that the monitoring process should seek
2474 to collect data to assist the Commission in its task of determining whether regulation is
2475 required, determining whether regulation and the framework for competitive entry is having



2476 the desired effect and determining whether a particular market can be forborne from
2477 regulatory oversight.

2478

2479 Further, Telus stated that monitoring the state of competition must consider the
2480 Commission's obligation to forbear where there is sufficient competition. Further to this,
2481 Telus stated that the monitoring process should collect information based on the
2482 forbearance criteria established in Telecom Decision CRTC 94-19. As such, Telus
2483 proposed the following information collected, per market area:

2484

- 2485 ♦ Requests for interconnection that each competitor receives and fills in each market area;
- 2486 ♦ Customers that can be served by more than one facilities-based service provider;
- 2487 ♦ The number of lines and trunks that can be served by more than one facilities-based
2488 service provider;
- 2489 ♦ Existing network capacity of each competitor;
- 2490 ♦ Planned network capacity of each competitor;
- 2491 ♦ Number and location of rights of way requested by each competitor;
- 2492 ♦ Data comparing product lines offered by the incumbent and each competitor;
- 2493 ♦ Average prices that incumbents and competitors charge for these services.

2494

2495 Telus also stated that, where a market has already been granted forbearance by the
2496 Commission, only minimal reporting requirements should be required of industry
2497 participants.

2498

2499 Telus stated that monitoring the deployment of advanced infrastructure and services should
2500 include measures of facilities deployment, service availability, service providers market



2501 share and penetration rates. Further, Telus stated that the monitoring mechanisms employed
2502 by the Commission should include existing reports to the CRTC, Statistics Canada,
2503 Industry Canada, focused industry reporting and user survey reports, thereby minimising
2504 the burden on the industry and the Commission. Telus stated that monitoring should seek to
2505 collect objective measures and not subjective opinions, particularly in the case of user
2506 surveys. Telus also stated that information filed with the Commission should remain
2507 confidential, but, at the same time, the Commission should seek to use publicly available
2508 sources of data where possible.

2509

2510 Telus stated that any reporting requirements should be minimised through the use of a
2511 single reporting form, the results of which should be filed on an annual basis. Further,
2512 Telus stated that there should be no asymmetric obligations placed on market participants.

2513

2514 With regard to specific sections of the Background Report concerning monitoring of
2515 telecommunications competition, Telus offered the following comments:

2516

- 2517 ♦ Non-dominance and industry concentration – Telus did not support the use of a
2518 consumer surplus index, citing difficulties in developing a meaningful measure.
- 2519 ♦ Pricing demand and elasticity – Telus agrees that price elasticity of demand for each
2520 nonforborne service should be collected, but indicated that such an exercise may be
2521 difficult to achieve. Further, Telus did not support the collection of such information for
2522 forborne services.
- 2523 ♦ Innovation: new services, range of services, bundles, convergence – Telus agreed that
2524 collection of information on services offered to consumers would aid the Commission
2525 in tracking the industry for service substitutes and the expansion of supply.



- 2526 ♦ Quality of Competitive Offer – Telus stated that it did not agree that the quality of the
2527 competitive offer should be monitored.
- 2528 ♦ Ease of Entry – Telus states that the Commission should not monitor competitors’
2529 levels of satisfaction entering new market areas, as there are already mechanisms in
2530 place to allow competitors to bring forward complaints regarding barriers to entry.
- 2531 ♦ Use of Unbundled Facilities – Telus agrees that the CRTC should monitor the
2532 provision of unbundled facilities by ILECs and competitors to competitors by
2533 geographic area.
- 2534 ♦ Availability and Take-up of Wholesale services – Telus agrees that the CRTC should
2535 monitor the take-up of wholesale services, but recommends that the Commission not
2536 restrict itself to just ILECs and CLECs but all owners of network capacity that may sell
2537 facilities and services.
- 2538 ♦ Market share – Telus agrees that market share data should be collected by service
2539 provider by key service, but suggests that the relevant geographic market will likely
2540 differ for each service and will have to be defined periodically.
- 2541 ♦ Geographic expansion – Telus agrees that competitor expansion of activities should be
2542 measured.
- 2543 ♦ Network-based competition – Telus agrees that the Commission should measure the
2544 deployment of competitive facilities, regardless of the technologies used.
- 2545 ♦ Mobility of Capital – Telus states that the Commission should not monitor sources of
2546 telecom investment of the liquidity of investments and, further, Telus stated that a
2547 meaningful measure of ease of exit does not readily exist.
- 2548 ♦ Industry efficiency – Telus stated that the Commission should not monitor industry
2549 efficiency or profitability, the first as it is not something that can be readily regulated,



2550 and the second as it may lead the Commission to ensure the profitability of market
2551 participants.

2552 ♦ Well-informed Consumers and availability of Information – Telus does not support the
2553 adoption of a measure to monitor consumer knowledge of competitive alternatives.

2554 ♦ Barriers to Switching Suppliers – Telus agrees that it would be useful to monitor
2555 barriers to switching suppliers.

2556 ♦ Consumer satisfaction – Telus stated that the Commission does not need to measure or
2557 monitor consumer satisfaction, stating that it is the responsibility of each market
2558 participant to ensure their consumers are satisfied with the services provided.

2559 ♦ Performance of Universal Service objectives – Telus states that no new measures are
2560 necessary for this, citing that this can be monitored from existing sources, such as
2561 penetration rate data, network and service rollouts and quality of service indicators
2562 provided by the ILECs to the CRTC.

2563 ♦ Absence of collusion and anti-competitive behaviour – Telus stated that it
2564 recommended the Commission not attempt to measure collusion or anti-competitive
2565 behaviour, citing the fact that mechanisms are already provided in existing legislation to
2566 accomplish this.

2567

2568 With regard to specific sections of the Background Report concerning monitoring of the
2569 deployment of broadband infrastructure, Telus offered the following comments:

2570

2571 ♦ Geographic infrastructure availability – Telus stated that the Commission should require
2572 the reporting of all current and planned infrastructure builds, including wireline, cable,
2573 wireless, terrestrial and satellite infrastructure, both nationally and by geographic area.



- 2574 ♦ Reach of fibre networks, satellite, wireless 2.5/3G – similar to the point above, Telus
2575 stated that all current and future planned infrastructure builds involving all technologies
2576 should be reported to the CRTC.
- 2577 ♦ Range of available services – Telus stated that it agreed that the extent of service
2578 availability on broadband infrastructure should be undertaken.
- 2579 ♦ Pricing parameters – Telus agrees that the Commission should collect information on
2580 service pricing.
- 2581 ♦ Affordability of broadband services – Telus does not agree that the Commission should
2582 collect information to monitor the affordability of broadband services, noting that this
2583 exercise would be complex, burdensome and subjective.
- 2584 ♦ Potential for aggregating demand – Telus disagrees with the adoption of this measure.
- 2585 ♦ Number of broadband access providers – Telus agreed that it would be useful for the
2586 Commission to collect information on the number of providers.
- 2587 ♦ Availability of wholesale services, third-party access – as in the previous section on
2588 monitoring of telecommunications competition, Telus agrees with this point.
- 2589 ♦ Well informed consumers and availability of information – for similar reasons noted
2590 above, Telus does not support the adoption of this measure.

2591

2592 With respect to the issue of which monitoring mechanisms to use, Telus stated that it agreed
2593 with the use of a topical reporting form, but stated that the information sought from such a
2594 form should be limited to the purpose defined, and not be used to gather data that was not
2595 relevant to monitoring or measuring the deployment of broadband facilities.

2596

2597 With respect to industry surveys or modified Statistics Canada reports, Telus strongly
2598 recommended the enhancement of current Statistics Canada monitoring. In addition, Telus



2599 supported the use of consumer and business surveys, provided that such surveys are used to
2600 collect objective measures of behaviour and not opinions. Finally, Telus stated that it did
2601 not support the use of international benchmarking studies given the substantial differences
2602 in jurisdiction, regulatory authority, industry structure and business philosophy, amongst
2603 others.

2604

2605 In reply comments, Telus agreed with those parties who suggested that existing sources of
2606 information be used to reduce the burden on both the Commission and the industry of any
2607 monitoring exercise.

2608

2609 However, Telus disagreed with AT&T Canada and Call-Net on the collection of financial
2610 information, stating that none of the information which is suggested to be collected is
2611 relevant to making a determination as to whether sufficient competition exists in a market
2612 for the Commission to forbear from regulation.

2613

2614 Telus also stated that it was not opposed to the imposition of streamlined or reduced
2615 reporting obligations on smaller service providers, but did not support any imposition of a
2616 cut-off or threshold on the basis of revenue, stating that such a condition would undermine
2617 the very purpose of monitoring competition. Similarly, Telus did not agree with the
2618 imposition of additional quality of service indicators, as such indicators would neither give
2619 the Commission the tools to forbear from regulating a market nor indicate whether the
2620 framework for competitive entry is producing the desired outcome.

2621

2622 **5.13 *Futureway Communications Inc.***

2623



2624 Futureway did not file comments but did file reply comments. In those reply comments,
2625 Futureway stated that the Commission should consider information, which is already filed to it or
2626 available from public sources. In addition, Futureway stated that the Commission should reject
2627 the approach of Telus as being too narrow and stated that it supported the Government's
2628 original purpose for monitoring the industry.

2629