

Before the  
Federal Communications Commission  
Washington, D.C. 20554

**PUBLIC NOTICE**

Released: March 8, 1991

**COMMON CARRIER BUREAU SEEKS COMMENTS  
ON PRICE CAP SERVICE QUALITY AND  
INFRASTRUCTURE MONITORING**

**Pleading Cycle Established**

In the *LEC Price Cap Order*, the Commission delegated to the Chief, Common Carrier Bureau, authority to establish new reporting requirements designed to capture trends in service quality and telephone industry infrastructure development under price cap regulation, and improve and standardize existing reporting requirements for this purpose. Policy and Rules Concerning Rates for Dominant Carriers, Second Report and Order, CC Docket No. 87-313, 5 FCC Rcd 6786, 6827-30 (1990) (*LEC Price Cap Order*). We now seek comment on our proposed reporting requirements.

The Commission determined that local exchange carriers (LECs) for whom price cap regulation is mandatory<sup>1</sup> will be required to complete all but two of the semiannual service quality information requirements originally required only of the Regional Bell Operating Companies (RBOCs). The mandatory price cap LECs will also be required to submit infrastructure reports annually, and all price cap LECs (including LECs that elect to be covered by the price cap rules) will be required to submit quarterly service quality reports.

The Commission found that two of the information requirements to be included in the quarterly service quality reports would duplicate data gathered in the semiannual reports. The Commission directed that, in order to avoid redundancy, the trunk blockage and installation interval information requirements should be eliminated from the semiannual reports. *LEC Price Cap Order*, 5 FCC Rcd at 6828, para. 342. The Bureau believes that the Commission's concern about collecting information that is redundant is not implicated when reporting requirements are complementary rather than duplicative. For example, the particular reporting requirements appended to this Public Notice include blockage information that would complement, but not duplicate, the semiannual reports. We invite comment on the use of this complementary data collection and whether it serves the Commission's goal of capturing trends, without thwarting the Commission's goal of avoiding redundancy in reporting requirements.

The service quality and infrastructure data collected will be placed in new reports within the Automated Reporting Management Information System (ARMIS). It is our intention that, for maximum convenience and efficiency, these reports will be filed with both the Accounting and Audits Division, which maintains the ARMIS database, and the Industry Analysis Division, which analyzes these and other service quality-related reports. The final formats

and specifications of these reports will be developed by the Bureau's staff working in cooperation with interested parties. The tables in the attachments to this Public Notice are intended to illustrate the information we propose to collect in these reports, not any particular format. The tables in Attachment A represent proposed quarterly service quality reports. Attachment B contains proposed modifications to the Bureau's current semiannual reports, and Attachment C represents our proposed infrastructure reports. Attachment D contains a copy of Appendix B of the *BOC ONA Reconsideration Order*,<sup>2</sup> showing service categories for installation and repair interval reporting required in that proceeding. Several parties have proposed that we use these service categories in our quarterly reporting requirements on installation intervals and repair intervals, and we solicit comment on this proposal.

The attached reports respond, in some particulars, to concerns raised in the course of the Commission's LEC price cap proceeding. For example, in an effort to address the concerns of rural end users, we have included some reporting that disaggregates Metropolitan Statistical Areas (MSAs) from non-MSAs.<sup>3</sup> We have also included transmission quality reporting that applies to data transmission, since our existing transmission quality reports concern principally voice transmission.<sup>4</sup> We have not addressed the requests of smaller LECs that are regulated under price caps through their affiliation with larger mandatory or electing companies, or that wish to elect caps in the future, to provide lesser filing requirements for them. Until such time as the Commission addresses these concerns directly, on reconsideration of the *LEC Price Cap Order* or in a separate proceeding, we will expect all price cap LECs to file the required data, absent a waiver of this requirement.

We are particularly concerned that our requirements be clear and usable, and that the reports we request be reasonably designed to allow the Commission and interested parties to gain a meaningful overview of LEC service quality and infrastructure development under price caps. To that end, we invite comments particularly on our definitions and explanations of the measurements solicited. We note, for example, that our fiber data on Infrastructure Reports Table II might fit other categories better than those we propose here, Fiber to Buildings and Fiber to Customers. Further, we request comment on indicators we are considering but which we have not yet incorporated into the reports. For example, we might include a separate category in the switching equipment table of the infrastructure report to allow for isolating data pertaining to remotes (which are presently included in the "total switching entities" count). We might also consider collecting data on access tandems, which are explicitly excluded from the present reports, by technology type, number of trunks, or other classifications.

In developing these reporting requirements, the Bureau has attempted to balance the need for data that will accurately reflect trends in service quality and infrastructure development with our goal of minimizing the administrative costs of LECs. Parties are encouraged to participate in this proceeding so that we may develop reporting requirements that strike the most appropriate balance between these considerations. This will be treated as a non-restricted proceeding; see 47 C.F.R. §1.1206. We note that the pleadings filed in the Commission's reconsideration proceeding on the *LEC Price Cap Order* are incorporated in this record to the extent that they deal

with service quality and infrastructure development. Interested parties may file comments on the Bureau's proposed reporting requirements no later than April 10, 1991. Reply comments may be filed no later than April 25, 1991. We plan to release an Order specifying reporting requirements in time for price cap carriers to complete and file their initial reports on July 1, 1991.

An original and four copies of all comments and replies must be filed with the Secretary of the Commission in accordance with Section 1.51(c) of the Commission's Rules. Parties must also furnish one copy of their comments and replies to Downtown Copy Center, the Commission's duplicating contractor, at its office in Room 246, 1919 M Street, N.W., Washington D.C. 20554, and six copies to the Chief, Tariff Division, Room 518, 1919 M Street, N.W., Washington, D.C. 20554.

#### FEDERAL COMMUNICATIONS COMMISSION

#### FOOTNOTES

<sup>1</sup> The mandatory price cap LECs are GTE Service Corporation (GTE), and the Regional Bell Operating Companies (RBOCs); Ameritech Operating Companies (Ameritech); Bell Atlantic Telephone Companies (Bell Atlantic); BellSouth Telephone Companies (BellSouth); New England Telephone and Telegraph Company and New York Telephone Company (together, NYNEX); Pacific Bell and Nevada Bell (together, Pactel); Southwestern Bell Telephone Company (Southwestern Bell, or SWB); and US West Communications, Inc. (US West).

<sup>2</sup> Filing and Review of Open Network Architecture Plans, 5 FCC Rcd 3084, 3096 (1990) (*BOC ONA Reconsideration Order*).

<sup>3</sup> We invite comment on whether this disaggregation should be continued still further, perhaps according to the Department of Commerce classifications of Level A MSAs (over 1 million population), Level B MSAs (250,000 to 1 million), Level C MSAs (100,000 to 250,000), and Level D MSAs (50,000 to 100,000).

<sup>4</sup> We invite parties to propose definitions and measurements for these reports. We also seek comment on the proposal of some parties that LECs include in their tariffs a notation of the service they will provide with regard to availability and bit error rate, two indicators of data transmission quality.

## SERVICE QUALITY REPORT

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

Table 1  
Installation Intervals

Switched Access<sup>1</sup>

Special Access<sup>2</sup>

Total Number  
of Orders<sup>3</sup>

Percentage of  
Commitments Met<sup>4</sup>

Average Missed  
Commitment<sup>5</sup>

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1 Circuit from the local exchange carrier (LEC) Office to the interexchange carrier (IC) Point of Presence (POP) for Feature Group B, C, or D interLATA service. This definition applies throughout this report.

2 Circuit from the LEC facilities to the IC POP for voice grade service, WATS/800, metallic and telegraph services, audio or video program services, wideband services, DDS, high-capacity, DS1, DS3, and switched Feature Group A services. This definition applies throughout this report.

3 Total number of installation orders or circuits, classified by switched or special access, provided during the period of this report. This number excludes installation orders and circuits not completed by the commitment date because the customer was not prepared to receive service on that date.

4 Number of installation orders completed by the commitment date divided by the total number of orders provided during this period. The "commitment dates" for various kinds of installations are published by the LECs and must be kept on file with the Commission, or are established through negotiation on an individual case basis.

5 The average interval, expressed in days, between the commitment date and the day the service or order was completed, for all commitments not met during the period of this report. This is recorded by some carriers as "delay days."

SERVICE QUALITY REPORT

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

Table 2  
Repair Intervals

Switched Access

Special Access

Total Number  
of Trouble Reports<sup>1</sup>

Average Interval<sup>2</sup>

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1 Total number of circuit-specific trouble reports referred to the LEC during the period of this report.

2 The average interval from the time of LEC receipt to the time of acceptance by the IC control office.

SERVICE QUALITY REPORT

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

Table 3  
Trouble Reports

	<u>Number of</u> <u>Access Lines</u>	<u>Number of Initial</u> <u>Trouble Reports<sup>1</sup></u>	<u>Number of Repeat</u> <u>Trouble Reports<sup>2</sup></u>	<u>Number of "No</u> <u>Trouble Found"</u>
MSA Business				
Non-MSA Business				
MSA Residential				
Non-MSA Residential				
Total				

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1 Trouble reports are complaints concerning service quality made by customers or end users to LECs.

2 Trouble reports occurring when a trouble recurs within 30 days of the initial trouble report.

SERVICE QUALITY REPORT

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

Table 4  
Trunk Blockage

Month 1<sup>1</sup>

Month 2<sup>2</sup>

Month 3<sup>3</sup>

Total Trunk Groups<sup>4</sup>

Number of Groups  
Measured<sup>5</sup>

Number of Groups  
Exceeding Servicing  
Threshold for Three  
Months<sup>6</sup>

Number of Groups  
Exceeding Servicing  
Threshold for One  
Month<sup>7</sup>

Number of Groups  
Exceeding Design Blocking  
Objectives for Three  
Months<sup>8</sup>

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1 The first month of the reported quarter.

2 The second month of the reported quarter.

3 The third month of the reported quarter.

4 The total number of common trunk groups for which the reporting entity is responsible. Common trunk groups are trunk groups between the LEC end office

and the LEC access tandem or IC POP that carry Feature Group B, C, and D access traffic, and intraLATA traffic.

5 The number of common trunk groups measured during the period of the report.

6 The number of common trunk groups which have exceeded the carrier's interstate access tariff measured blocking threshold for three or more consecutive months. Trunk group servicing thresholds have been established in the Interexchange Carriers Compatibility Forum (ICCF) and T1Q1 Industry Forum, and are included in tariffs kept on file with the Commission. Servicing thresholds are set so that, when they are exceeded, there is a statistical probability that blockage is exceeding the designed blocking objective. Servicing thresholds are generally about 2 percent for equal access trunks, and 3 percent for non-equal access trunks.

7 The number of common trunk groups which have exceeded the carrier's interstate access tariff measured servicing threshold for one or more consecutive months.

8 The number of common trunk groups which have exceeded equipment design blocking objectives for three or more consecutive months. Design blocking objectives are established by equipment manufacturers, and range from 0.5 percent to 1.0 percent.

SERVICE QUALITY REPORT

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

Table 5  
Total Switch Downtime

	<u>Total Number of Switches</u>	<u>Total Switch Downtime<sup>1</sup></u>	<u>Percentage Unscheduled<sup>2</sup></u>	<u>Cumulative Outage Due to Incidents Under Two Minutes</u>
MSA <sup>3</sup>				
Non-MSA				
Switches Under 1000 Lines <sup>4</sup>				
Switches 1000-4999 Lines				
Switches 5000-9999 Lines				
Switches 10000-19999 Lines				
Switches Over 20000 Lines				

Attach to this report a list of each occurrence of switch downtime of two or more minutes in duration, specifying the switch, the number of working network access lines served by the switch, whether the switch is located in an MSA, and the duration of each incident in minutes and seconds.<sup>5</sup>



1 The loss of all call processing capability for an end office or access tandem. Report all downtime on this line, in seconds.

2 Percentage of downtime that is not scheduled for maintenance or network upgrade purposes.

3 MSAs, or Metropolitan Statistical Areas, are defined by the Department of Commerce in a list released following each decadal census. An MSA includes at least one city with a minimum population of 50,000, or a Census Bureau-defined urbanized area of at least 50,000 population located in an area with a minimum population of 100,000. See 45 Fed. Reg. 956 (1980). This definition remains in effect until the new list of metropolitan areas is issued in June 1992.

4 Switching entities serving fewer than 1000 access lines. Switching entities are assemblies of equipment designed to establish connections between lines and trunks. Switching entities include local class 5 switching machines and any associated remotes. Switches designed exclusively for access tandem, class 4, or operator services are not reported here. There may be more than one switching entity per central office or wire center.

5 The Bureau is planning to allocate 100 lines in our ARMIS database for this information, assuming that no LEC would have more than 100 listings in one study area in one quarter. We invite comment on whether 100 lines of data would be sufficient or excessive.

SERVICE QUALITY REPORT

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

Table 6  
Service Quality Complaints<sup>1</sup>

MSA

Non-MSA

Number of Lines to  
Business Users

Federal Complaints<sup>2</sup>  
from Business Users

State Complaints<sup>3</sup>  
from Business Users

Number of Lines to  
Residential Users

Federal Complaints  
from Residential Users

State Complaints  
from Residential Users

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1 "Service quality complaints" are complaints pertaining to service quality. This term does not include complaints relating to billing, operator services or 900 services.

2 Federal complaints are complaints filed with the Commission.

3 State complaints are complaints filed with a state regulatory agency.

SERVICE QUALITY REPORT

COMPANY:  
 STUDY AREA:  
 PERIOD:  
 COSA:

Table 7  
Post-dial Delay<sup>1</sup>

	<u>Total Number of End Offices</u>	<u>Number of End Offices Tested</u>	<u>Average Post- dial Delay</u>
End Offices with Electromechanical Switches			
End Offices with Analog Switches			
End Offices with Digital Switches			
End Offices Equipped with SS7			
Total			

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1 Post-dial delay is "the interval that begins when the caller completes dialing ... and ends when the LEC has delivered the call to the [interexchange carrier's] point of presence." Provision of Access for 800 Service, CC Docket No. 86-10, 4 FCC Rcd 2824, 2826 n.26 (1989). See also Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 87-313, 5 FCC Rcd 6786, 6828 & n. 464.

## SEMIANNUAL SERVICE QUALITY REPORT

### Table 1<sup>1</sup> Customer Satisfaction

We will use the current Semiannual Customer Satisfaction report.

### Table 2 Dial Tone Response

We will use the current Semiannual Dial Tone Response report.

### Table 3 Transmission Quality

We will continue to collect the information in the current Transmission Quality report. In addition, we propose to collect information on availability, error-free minutes, and bit error rate to attempt to measure data transmission quality. We invite comment on the usefulness and measurability of these or other data transmission criteria, and the most appropriate way to express these measurements. We also invite comment on the usefulness and practicability of collecting this data disaggregated into MSA and non-MSA categories.

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<sup>1</sup> Absent standardization, the customer satisfaction reports cannot be filed in ARMIS. They will accordingly continue to be filed with the Industry Analysis Division.

INFRASTRUCTURE REPORT  
TABLE I: SWITCHING EQUIPMENT

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

<u>EQUIPMENT TYPE</u>	(a) <u>Total</u> <u>Study</u> <u>Area</u>	(b) <u>within</u> <u>MSA</u> <sup>1</sup>	(c) <u>non-MSA</u>
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SWITCHING ENTITIES/LINES IN SERVICE

Total Number of Switching Entities<sup>2</sup>  
Total Number of Lines in Service<sup>3</sup>

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1 MSAs, or Metropolitan Statistical Areas, are defined by the Department of Commerce in a list released following each decadal census. An MSA includes at least one city with a minimum population of 50,000 and the surrounding area, or a Census Bureau defined urbanized area of at least 50,000 population located in an area with a minimum population of 100,000. See 45 Fed. Reg. 956(1980). This definition remains in effect until the new list of metropolitan areas is issued in June 1992. These reports require that facilities within any MSA in the Study Area be reported in Column (b), and facilities that are not within any MSA be reported in Column (c).

2 Switching entities are assemblies of equipment designed to establish connections between lines and trunks. Switching entities include local, class 5 switching machines and any associated remotes. Switches designed exclusively for access tandem, class 4, or operator services are not reported here. There may be more than one switching entity per central office or wire center.

3 Access Lines include all classifications of local exchange telephone service, including individual lines, party line access, PBX access, Centrex access, Coin access, Foreign Exchange access, WATS access, etc.

TABLE I, Continued

<u>EQUIPMENT TYPE</u>	(a) <u>Total</u> <u>Study</u> <u>Area</u>	(b) within <u>MSA</u>	(c) <u>non-MSA</u>
By Type of Switch: <sup>4</sup>			
E/M Switches			
% of Total Entities			
E/M Lines Served			
% of Total Lines			
ASPC Switches			
% of Total Entities			
ASPC Lines Served			
% of Total Lines			
DSPC Switches			
% of Total Entities			
DSPC Lines Served			
% of Total Lines			
Switches Equipped for Equal Access <sup>5</sup>			
% of Total Entities			
Access Lines with Equal Access			
% of Total Lines			
Touch-Tone Capable Switches			
% of Total Entities			
Access Lines with Touch-Tone Capability			
% of Total Lines			

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4 E/M = Electro-Mechanical, i.e., Step-by-Step and Crossbar; ASPC = Analog Stored Program Controlled; DSPC = Digital Stored Program Controlled. The sum of these types of switches and associated access lines equals total number of switching entities and total number of lines in service.

5 Number of local switching entities equipped for equal access, Feature Group D, service. The corresponding number of access lines served by these offices is shown as "Access Lines with Equal Access."

TABLE I, Continued

	(a)	(b)	(c)
	Total	within	
	Study	MSA	non-MSA
	<u>Area</u>	<u>MSA</u>	<u>non-MSA</u>
Switches Equipped with CCSS7 <sup>6</sup>			
Local Switches			
% of Total Local Switches			
Tandem Switches			
% of Tandem Switches			
Access Lines with Access to CCSS7			
% of Total Lines			
Switches Equipped with ISDN <sup>7</sup>			
% of Total Entities			
Lines with Access to ISDN			
% of Total Lines			
ISDN Customer Interfaces Equipped			
Basic Rate ISDN (BRI) <sup>8</sup>			
Primary Rate ISDN (PRI) <sup>9</sup>			

6 Local and tandem switches equipped with CCSS7, including remotes; includes both 1AESS and Digital Stored Program Control switching entities equipped with CCSS7. In the subcategories, any switch used as a local switch is counted as such. The corresponding number of access lines served by those switches is shown as access lines with access to CCSS7. Any switch with tandem capability is counted as a tandem switch. Since some switches are used for both local and tandem switching, the sum of the two subcategories may be greater than the total CCSS7 category.

7 Switching entities that are equipped with ISDN. The corresponding number of access lines served by these offices is shown as access lines with access to ISDN.

8 Basic Rate ISDN consists of two Bearer Channels at 64 Kilobits/second and one Delta Channel at 16 Kilobits/second. Quantities reflected are the number of (2B+D) BRI interfaces equipped.

9 Equivalent Primary Rate ISDN interfaces are generally configured as 23 Bearer Channels and one delta channel, all at 64 Kilobits/second. Quantities reflected are the number of equivalent PRI (23B+D) ISDN interfaces equipped, excluding interoffice PRI ISDN interfaces.

INFRASTRUCTURE REPORT  
TABLE II: TRANSMISSION FACILITIES

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

(a)  
Total  
Study  
Area

TOTAL SHEATH MILES<sup>1</sup>

Copper<sup>2</sup>  
Fiber  
Other<sup>3</sup>

INTEROFFICE WORKING FACILITIES

Total Circuit Links<sup>4</sup>

Baseband  
Analog CXR  
Digital CXR

Total Carrier Links (Spans)<sup>5</sup>

Analog  
Copper  
Radio  
Digital  
Copper  
Radio  
Fiber

- continued -

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- 1 Sheath miles include loop, interoffice, and toll sheath miles.
- 2 Twisted pairs.
- 3 Includes aluminum, coaxial, miscellaneous.
- 4 Circuit Links are those individual segments of the network that an individual circuit rides on. In the case of a circuit routed through offices A-B-Z, where the segment from A-B is baseband and the segment from B-Z is analog carrier, each segment is a circuit link.
- 5 Carrier Links are those assignable segments of the interoffice network on which 4 kHz bandwidth (single voice channel) signals are multiplexed. All carrier links are counted on this 4 kHz basis for purposes of this report.



TABLE II, Continued

Total  
Study  
Area

LOCAL LOOP<sup>6</sup>

Total Working Channels<sup>7</sup>

Total Copper  
Baseband  
Analog CXR  
Digital CXR  
Fiber Digital CXR  
Other

Total Equipped Channels<sup>8</sup>

Total Copper  
Baseband  
Analog CXR  
Digital CXR  
Fiber Digital CXR  
Other

- continued -

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6 Table includes analog-type services only; excludes ISDN.

7 Working channels are on a 4 kHz bandwidth (single voice channel) basis. Working channels originating from a remote switch are treated the same as if the channels originated in the host central office. All reports of working channels are counted on this 4 kHz basis for purposes of this report.

8 Equipped channels are on a 4 kHz bandwidth (single voice channel) basis. Equipped channels originating from a remote switch are treated the same as if the channels originated in the host central office.

TABLE II, Continued

Total  
Study  
Area

Pairs Terminated at the Main Frame  
and Fiber to Customers

Copper Pairs Terminated at Main Frame  
Fiber Strands in Central Offices<sup>9</sup>  
Fiber to Buildings<sup>10</sup>  
Fiber to Customers<sup>11</sup>

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9 Number of individual fiber strands in central offices.

10 Number of buildings equipped by fiber from central office.

11 Number of individual fiber strands to customers other than on fiber trials.

INFRASTRUCTURE REPORT  
TABLE III: ADDITIONS AND BOOK COSTS

COMPANY:  
STUDY AREA:  
PERIOD:  
COSA:

(a)  
Total  
Study  
Area

Total Number of Access Lines in Service

Access Line Gain<sup>1</sup>

Total Gross Capital Expenditures<sup>2</sup>

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1 Access line gain is defined as Inward Movement less Outward Movement.

2 The dollar amount of investment additions to accounts 2110, 2210, 2220, 2230, 2310, 2410, 2680, and 2690 during the current reporting period. See also ARMIS Report 43-02, Row 260, Column (ac). Gross capital expenditures are consistent with Form M and ARMIS.