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April 5, 1996

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
1919 M Street, N.W. Room 222  
Washington, D.C. 20554

RECEIVED  
APR 5 1996  
FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

Re: Ex Parte CC Docket 94-1

Dear M. Caton:

On Thursday, April 4, 1996, Dr. J.R. Norsworthy a consultant for AT&T, and A. Dipierro, P. Malandrakis of AT&T, and I met, with A. Bush, and L. Selzer of the Common Carrier Bureau and discussed the attached material in the above referenced Docket. A disk in Word/Excel format of the attached material was also provided.

Because the meeting concluded late in the day, Two(2) copies of this notice are being submitted to the Secretary of the FCC today in accordance with Section 1.1206(a)(2) of the Commission's rules.

Sincerely yours,

*Brian W. Masterson*

Attachment

cc : A. Bush  
L. Selzer

Copies rec'd 02  
CODE

## **THE PERFORMANCE BASED MODEL**

### **1. REVENUE WEIGHTS AND COST WEIGHTS**

### **2. SENSITIVITIES TO CHANGED ASSUMPTIONS IN PBM**

- **OUTPUT WEIGHTS**
- **DEPRECIATION RATES**
- **INPUT PRICES OR OUTPUT PRICES**

### **3. WHAT THE LECS SAY ABOUT INTERSTATE PRODUCTIVITY WHEN THEY THINK WE'RE NOT LOOKING**

### **4. RECENT LEC PERFORMANCE**

## **ALTERNATIVE PARADIGMS FOR OUTPUT AGGREGATION**

### **COST BASIS FOR OUTPUT AGGREGATION:**

Jorgenson-Griliches (1967) "The explanation of productivity change" *Review of Economic Studies*.

Fisher-Shell (1972) *The economic theory of price indices: Two essays on the effects of taste, quality and technological change*, Academic Press.

Marginal Costs are output weights. Assumption: the regulator knows the (marginal and total) costs and the social benefits of telephone service.

### **REVENUE BASIS FOR OUTPUT AGGREGATION:**

Laffont-Tirole (1993) *The theory of incentives in procurement and regulation*, MIT Press.

Average or Unit Revenues are output weights. Assumption: the regulator knows the social benefits of telephone service. Only broad cost ranges for the LECs are known. LEC is forced by profit maximization to reveal something about its costs by its choice from a menu of X Factors with (inversely) associated sharing provisions.

## **IMPLICATIONS OF ALTERNATIVE OUTPUT AGGREGATION METHODS**

**COST BASIS: OUTPUT DESCRIPTION MAY INCLUDE DELIVERED SERVICES AND/OR “COST DRIVER” FOR NETWORK FUNCTION.**

**Examples: Interstate Access volume measured by Minutes of Use (MOU):  
Delivered Services.**

**End User Common Line (EUCL) volume measured by access lines: Cost Driver.**

**Special Access volume measured by lines: Delivered Services.**

## **IMPLICATIONS OF ALTERNATIVE OUTPUT AGGREGATION METHODS**

**REVENUE BASIS: OUTPUT DESCRIPTION MAY INCLUDE ONLY DELIVERED SERVICES**

**Examples: Interstate Access volume measured by Minutes of Use (MOU):  
Delivered Services.**

**EUCL volume measured by Common Line MOU *or* EUCL revenue combined into  
Interstate Access Revenue: Delivered Services.**

**Special Access volume measured by lines: Delivered Services.**

## DESCRIPTIONS OF SCENARIOS

BASE CASE: Output aggregated by unit revenues. Output volumes measured by delivered services: access MOU, common line MOU, special access lines.

TEST CASE: No changes. Test to verify that comparison works. *All entries should be zero.*

DEPRECIATION FROM SCM: Uses depreciation rates applied in simplified Christensen model.

REVENUE REQ AGGREGATION: Common line volume measured by access lines (cost basis paradigm.)

REVENUE REQ AGGREGATION: Common line volume measured by minutes of use (mixed paradigm.)

INPUT PRICES FOR TOTAL ECONOMY: Rather than Nonfarm Business as specified by the Commission.

**Summary of Table 4. Input Price Indices for RBOCs and  
U.S. Private Nonfarm Sector, 1985-1994  
Alternative Scenarios**

	ALL INPUTS NON-FARM BUSINESS 1985=1.000	LABOR ALL RBOCs 1985=1.000	MATERIALS ALL RBOCs 1985=1.000	CAPITAL ALL RBOCs 1985=1.000	ALL INPUTS ALL RBOCs 1985=1.000
Base Case	0.031	0.035	0.023	-0.051	0.003
Differences from Base Case:*					
Test	0.000	0.000	0.000	0.000	0.000
Depreciation from SCM	0.000	0.000	0.000	0.055	0.026
Revenue Req. CL=Access Line	0.000	0.000	0.000	0.000	0.000
Revenue Req. CL = Minutes of Use	0.000	0.000	0.000	0.000	0.000
Input Price Total Economy: GDPPI	0.021	0.000	0.000	0.000	0.000

\* Differences are averages of the annual differences between the period 1985-94.

**Summary of Table 5. Rates of Growth of Telephone Services**

**Alternative Scenarios**

All RBOCs, 1985-1994

	Fisher Ideal	Local	Intrastate	Fisher Ideal
	Quantity Index	Service:	Toll:	Quantity Index:
	Interstate	Number	Minutes of	All Regulated
	Access	of Calls	Use	Services
Base Case	0.078	0.030	0.068	0.052
Differences from Base Case:*				
Test	0.000	0.000	0.000	0.000
Depreciation from SCM	0.000	0.000	0.000	0.000
Revenue Req. CL=Access Line	-0.195	0.000	0.000	-0.044
Revenue Req. CL = Minutes of Use	0.022	0.000	0.000	0.005
Input Price Total Economy: GDPPI	0.000	0.000	0.000	0.000
* Differences are averages of the annual differences between the period 1985-94.				

**Summary of Table 8. TFP, Input Price Differential and X-Factor in  
Interstate and Other Regulated Services:  
Rates of Growth, 1985-1994  
Interstate Access Services  
Alternative Scenarios**

	Base Case	Differences from Base Case				
		TEST	Depreciation from SCM	Revenue Req. CL=Access Line	Revenue Req. CL = Minutes of Use	Input Price Total Economy: GDPPI
Output Growth	7.80%	0.00%	0.00%	-2.59%	0.23%	0.00%
- Input Growth	2.04%	0.00%	-0.45%	0.00%	0.00%	0.00%
= TFP Growth LECs	5.76%	0.00%	0.45%	-2.59%	0.23%	0.00%
Input prices: GDPPI	3.06%	0.00%	0.00%	0.00%	0.00%	0.18%
- Input Prices: LECs	0.31%	0.00%	0.45%	0.00%	0.00%	0.00%
= IPD	2.75%	0.00%	-0.45%	0.00%	0.00%	0.18%
- TFP Gr in NFB	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%
= X-Factor	8.33%	0.00%	0.00%	-2.59%	0.23%	0.18%

Note: TFP Gr in NFB is Total Factor Productivity  
Growth in Non-Farm Business

The following excerpts were taken from State Public Service Commission's incentive regulation proceedings. The information highlighted below reflects examples of LEC testimony in intrastate jurisdictions seeking state regulatory commissions to consider intrastate only results and conditions.

**State/Company**

**Testimony of.....**

.Kentucky/South Central Bell

Fred Gerwing - April 19, 1995

***Excerpts from testimony given at the PSC... Case No. 94-121***

**QUESTION** .. " A question about your productivity offset. Since the FCC has set a higher productivity factor than you proposed here for the interstate operations, shouldn't this commission adopt a higher productivity offset for the intrastate?"

**Mr. Gerwing's response..**"there is no comparison between the efficiencies that can be obtained by high volume, very efficient provision of interstate services versus running exchange lines, 8, 10,000, 15,000 feet out to reach a residential customer. And there isn't any economist that I've seen that has said the provision of local exchange and -- combination of local exchange and intrastate or intraLATA toll services comes anywhere near that kind of efficiency."

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**State/Company**

**Testimony of.....**

.North Carolina/BellSouth

Lewis J. Perl - January 26, 1996

***Excerpts from testimony given at the PSC.. Docket No. P-55,Sub 1013.***

**QUESTION** .. "Why do you believe that the Price Cap Formula adopted in the Interstate jurisdiction does not provide any guide to the appropriate Price Cap Formula to be applied here?"

**Mr. Perl's response..**"Price caps adopted in the interstate jurisdiction apply principally to interstate access service. There is every reason to expect that productivity experienced historically in the interstate market would be substantially greater than the overall rate of productivity growth experienced by local exchange companies in supplying all services. First, most of the productivity growth experienced in the telecommunications industry is related to reductions in switching costs and to the savings in transmission costs which occur as a result of using electronics to expand the carrying capacity of transmission facilities. In contrast, productivity growth in supplying loop services has historically been markedly slower. Thus, even if productivity had grown at 5.3 percent per year for interstate access services, this would not imply that a similar growth rate was appropriate for other components of telephone service."

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State/Company

Testimony of....

North Carolina/Carolina Telephone and Telegraph Company  
&  
Central Telephone Company

Dr. William Taylor -February 9,1996

*Excerpts from testimony given at the PSC..Docket No. P-7, Sub 825, P-10, Sub 479.*

**QUESTION** .. Does the stipulated plan give customers a reasonable prospect of receiving the anticipated benefits of productivity improvements?

**Dr. Taylor's response....**"Opportunities to increase productivity growth in the interstate jurisdiction must be greater than in the state jurisdictions. Switching and interoffice transmission equipment heavily influence productivity growth in the interstate jurisdiction. Prices of such equipment have fallen rapidly, and its capabilities have increased rapidly. In the state jurisdiction, however, loop costs dominate. I understand that loop cable prices and their installation costs have been increasing modestly rather than decreasing."

**QUESTION** .. Why do you believe that the Price Cap formula adopted in the Interstate jurisdiction does not provide any guide to the appropriate Price Cap formula to be applied here?

**Dr. Taylor's response...**"Price caps adopted in the interstate jurisdiction apply principally to interstate access service. It is reasonable to expect that productivity growth experienced historically in this market would be substantially greater than the overall rate of productivity growth experienced by local exchange companies in supplying all services."

"Much of the productivity growth experienced in the telecommunications industry is related to reductions in switching costs and to the savings in transmission costs which occur as a result of using electronics to expand the carrying capacity of transmission facilities. In contrast, productivity growth in supplying loop services has historically been markedly slower. Thus, even if the productivity differential is 5.3 percent per year for interstate access services, this would not imply that a similar productivity differential was appropriate for other components of telephone service. To the contrary, the productivity differential for services in the state jurisdiction must necessarily be less than 5.3 percent per year. Dr. Norsworthy himself argues that the productivity growth for access services must be greater than it is for other services. "

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State/Company

Testimony of....

Washington.D.C./Bell Atlantic

Richard Petzold -September 15,1996

*Excerpts from testimony given at the PSC...Case No. 814 Phase IV*

**QUESTION** ..Is a total company productivity study or an annual Intrastate productivity study required for monitoring purposes?

**Mr. Petzold's response...**"No. The staff recommendation for a total company productivity study (including FCC regulated interstate operations) would be contrary to the use of intrastate productivity studies starting with formal case no. 798 ( Order No. 7886, dated October 3,1983). The staff has not raised any arguments to reverse the history of intrastate only productivity studies being germane to intrastate ratemaking, and their proposal would add considerable record keeping to track non-intrastate price increases."

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State/Company

Testimony of....

California / Pacific Bell

Dr. Lauritis R. Christensen September 8, 1995

*Excerpts from testimony given at the PUC...Investigation No.95-05-047*

*Appendix 2 - The Relationship between Output Growth and Total Factor Productivity Growth for Telephone Local Exchange Carriers*

**Dr. Christensen's statement.** "In addition to the rate of growth in total output, the sources of that output growth can be an important determinant of TFP growth when economies of density are present. In industries with economies of density, prices are typically set above marginal cost for the various services provided by the firm, in order to generate revenue sufficient to cover total cost. When the markup of price relative to marginal cost varies over the services provided, growth in high markup services contributes more to TFP growth than growth in low markup services. Conversely, reductions in the growth of high markup services lead to disproportionate reductions in TFP growth. Much of the increasing competition for Local Exchange Carriers is focused in markets with high price-to-marginal -cost ratios. If competition effectively leads to lower LEC output growth in these high margin markets, LEC TFP growth will also be lower."

### **States with Alternative Regulation Plans**

<b>STATE</b>	<b>LEC Productivity Factor</b>	<b>Specific Regulations</b>								
<b>AL</b>	3.0%	Basic service rates are capped for five years (1995-2000).								
<b>FL</b>	1.0%	Basic service rates capped until 1/1/01.								
<b>GA</b>	Greater of 1/2 of GDP-PI if GDP-PI exceeds 3% or GDP-PI minus 2%	Residential and single-line business basic service rates capped for 5 years 1995-2000; Switched intrastate access will equal interstate rates.								
<b>IL</b>	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;">1.3%</td> <td>TFP</td> </tr> <tr> <td style="padding-right: 10px;">2.0%</td> <td>IPD</td> </tr> <tr> <td style="padding-right: 10px;">1.0%</td> <td>CPD</td> </tr> <tr> <td style="border-top: 1px solid black; padding-right: 10px;">4.3%</td> <td>X Factor</td> </tr> </table>	1.3%	TFP	2.0%	IPD	1.0%	CPD	4.3%	X Factor	Basic residential rates capped for five years.(1994-1999)
1.3%	TFP									
2.0%	IPD									
1.0%	CPD									
4.3%	X Factor									
<b>LA</b>	2.5%	Basic service rates are capped for five years, (1995-2000),								
<b>PA</b>	2.93%	Rates for basic residential and other noncompetitive svcs frozen through 1999.								
<b>SC</b>	2.1%	Existing basic service rates are capped for 5 years (1996-2000)								
<b>CA</b>	~	Monopoly and emerging competitive svcs are frozen until next review, which will be conducted within three years.								
<b>CT</b>	<table style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;">2.8%</td> <td>TFP</td> </tr> <tr> <td style="padding-right: 10px;">2.1%</td> <td>IPD</td> </tr> <tr> <td style="border-top: 1px solid black; padding-right: 10px;">5.0%</td> <td>X Factor</td> </tr> </table>	2.8%	TFP	2.1%	IPD	5.0%	X Factor	Local residential svc and DA are capped until 1/98. Intrastate access is at parity with interstate access.		
2.8%	TFP									
2.1%	IPD									
5.0%	X Factor									
<b>DE</b>	3.0%	Basic service rates frozen for 1 year then subject to price formula.								
<b>KY</b>	If GDP-PI = 0 - 8.0% than X =4.0% If GDP-PI > 8.0% than X=(GDP-PI/2)	Local residential service rates are frozen for three years.(1994-1997) Intrastate access is at parity with interstate access.								
<b>ME</b>	4.5%	\$14.4 million initial rate decrease.								

### **States with Alternative Regulation Plans**

<b><u>STATE</u></b>	<b><u>LEC Productivity Factor</u></b>	<b><u>Specific Regulations</u></b>
<b>MA</b>	4.1%	Basic residential rates capped. Monopoly services subject to price formula.
<b>MI</b>	1.0%	
<b>NJ</b>	2.0%	Basic residential exchange rates capped. Competitive svcs not regulated.
<b>NY</b>	~	Basic service rates capped during plan. Price targets for access rates.
<b>ND</b>	2.75%	Essential services subject to price cap formula.
<b>OH</b>	2.8%	Core residential and non-residential services are capped.
<b>OR*</b>	2.0%	* New Alt plan eff. 1/97. Basic and essential services are frozen.
<b>PA</b>	2.93%	Basic residential and other 'protected' service prices frozen through 1999.
<b>RI</b>	3.0%	Rates subject to price cap formula.
<b>VA</b>	1/2 change in GDP-PI	Basic services capped until 1/01
<b>WI</b>	3.0%	Basic residential and small business rates capped for 3 years,

**RBOC RATES OF RETURN--1995 BY QUARTER #**

*1 - PRELIMINARY - 1*

<b>RBOC</b>	<b>1Q95</b>	<b>2Q95</b>	<b>CUM 2Q95</b>	<b>3Q95</b>	<b>CUM 3Q95</b>	<b>4Q95</b>	<b>CUM YR95</b>
<b>AMERITECH</b>	22.13%	17.49%	19.82%	15.17%	18.27%	18.12%	18.55%
<b>BELL ATLANTIC</b>	16.29%	14.65%	15.45%	12.34%	14.35%	8.33%	12.68%
<b>BELLSOUTH</b>	17.32%	16.08%	16.70%	14.32%	15.89%	10.94%	14.61%
<b>NYNEX</b>	16.08%	14.29%	15.18%	15.11%	15.15%	2.65%	11.97%
<b>PAC TEL</b>	12.93%	19.29%	16.11%	14.25%	15.46%	NA	NA
<b>SW BELL</b>	15.75%	14.67%	15.21%	13.88%	14.76%	8.25%	12.88%
<b>US WEST</b>	12.78%	12.70%	12.74%	10.96%	12.13%	10.38%	11.67%

\* Less results for Ohio Bell

# 43.01 REPORTS

**APRIL 2, 1996 ANNUAL FILING**

**LEC CHOICE OF PRODUCTIVITY OFFSET**

**PRELIMINARY VIEW**

**X=4.0%**

**US WEST**

**CENTEL (1)  
CONTEL (1)  
GTE (12)  
SNET  
CITIZEN**

**X=4.7%**

**X=5.3%**

**AMERITECH  
BELL ATLANTIC  
BELL SOUTH  
NYNEX  
PACIFIC TEL (2)  
SBC**

**CENTEL (4)  
CONTEL (17)  
GTE (15)  
LINCOLN  
ROCHESTER (3)  
UNITED (8)**

## **LEC OVEREARNINGS CONTINUE TO BE EXCESSIVE**

IN 1995 ALONE, PRICE CAP LECS' EARNINGS  
EXCEEDED 11.25% RETURN BY \$1.4B

**DUE TO AN ARTIFICIALLY SUPPRESSED PRODUCTIVITY  
OFFSET, LEC'S WIDENING UNDERCAP STATUS THREATENS TO  
ALLOW GREATER EXCESS OVEREARNINGS**

UNDER CAP BEFORE 4/2/96 FILING:	\$ 337 M
<u>ADDED UNDER CAP VALUE FROM 4/2/96 FILING</u>	<u>\$ 30 M *</u>
TOTAL UPWARD PRICING THREAT	\$ 367 M

\* (PRELIMINARY ESTIMATE)