



ORIGINAL

August 11, 1999

VIA FACSIMILE FEDERAL EXPRESS

Ms. Blanca Bayo, Director
Division of Records and Reporting
Room 110, Easley Building
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, Florida 32399-0850

RE: Docket No. 990649-TP

Dear Ms. Bayo,

Please find an original and fifteen (15) copies of the Direct Testimony of Terry L. Murray on Behalf of Covad Communications Company in the above-referenced docket. Copies have been served on the enclosed service list.

In addition, please find an additional copy to be file stamped and sent back to Covad in the enclosed self-addressed stamped envelope.

If you should have any questions, please do not hesitate to contact me.

Very truly yours,

Cindy N. Alaga
Covad Communications Company

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- APP _____
- CAF _____
- CMD *Alaga*
- CTR _____
- EAG _____
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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Investigation into §
Pricing of unbundled network §
Elements §

DOCKET NO. 990649-TP

DIRECT TESTIMONY OF TERRY L. MURRAY
ON BEHALF OF
COVAD COMMUNICATIONS COMPANY

August 11, 1999

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ATTACHMENT TLM-1: CURRICULUM VITA

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.**

3 A. My name is Terry L. Murray. I am President of the consulting firm Murray &
4 Cratty, LLC. My business address is 227 Palm Drive, Piedmont, California
5 94610.

6 **Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE AS**
7 **THEY PERTAIN TO THIS PROCEEDING.**

8 A. I am an economist specializing in analysis of regulated industries. I received an
9 M.A. and M.Phil. in Economics from Yale University and an A.B. in Economics
10 from Oberlin College. At Yale, I was admitted to doctoral candidacy and
11 completed all requirements for the Ph.D. except the dissertation. My fields of
12 concentration at Yale were industrial organization (including an emphasis on
13 regulatory and antitrust economics) and energy and environmental economics.

14 My professional background includes employment and consulting
15 experiences in the fields of telecommunications, energy, and insurance regulation.
16 As a consultant, I have testified or served as an expert on telecommunications
17 issues in proceedings before state regulatory commissions in California,
18 Connecticut, Delaware, the District of Columbia, Hawaii, Illinois, Kansas,
19 Maryland, Massachusetts, Michigan, Nevada, New Jersey, New York, North
20 Carolina, Pennsylvania, South Carolina, Texas, Virginia, Washington, and
21 Wisconsin, and before the Federal Communications Commission ("FCC"). I have
22 extensive experience reviewing the cost studies that incumbent local exchange

1 carriers have presented to state regulatory commissions in support of their pro-
2 posed prices for unbundled network elements and collocation.

3 Before I became a consultant in 1990, I was employed for approximately
4 six years in a variety of positions (including Director of the Division of Ratepayer
5 Advocates) at the California Public Utilities Commission and had significant
6 responsibility for telecommunications matters. I have also taught economics and
7 regulatory policy at both the undergraduate and graduate levels.

8 **Q. HAVE YOU INCLUDED A COPY OF YOUR CURRICULUM VITA WITH**
9 **THIS TESTIMONY?**

10 A. Yes. My curriculum vita, included as Attachment TLM-1 to this testimony,
11 provides more detail concerning my qualifications and experience.

12 **II. PURPOSE OF TESTIMONY**

13 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

14 A. Covad Communications Company (“Covad”) has asked me to provide responses
15 to the issues that the Commission posed in Appendix A to Order No. PSC-99-
16 1397-PCO-TP, with particular emphasis on those issues that will affect the
17 competitive offering of Digital Subscriber Loop (“DSL”) services.¹

18 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

19 A. In my testimony, I will demonstrate the following points:

¹ I have not addressed Issue 2 in Appendix A because it does not have strong immediate implications for the competitive offering of DSL-based services.

- 1 • The Commission should consider deaveraged pricing for all unbundled
2 network elements that exhibit significant, systematic variations in cost, so
3 long as the administrative cost of such deaveraging does not exceed the
4 economic benefit of more precise, cost-based pricing.
- 5 • At a minimum, the Commission should require the incumbents to
6 deaverage the prices for all forms of unbundled loops and for all
7 combinations of elements including unbundled loops.
- 8 • Deaveraging should follow cost variations. Because the degree and nature
9 of cost variations differs across elements, there is no reason to require
10 uniform deaveraging for all unbundled network elements. Uniformity of
11 deaveraging across incumbent local exchange carriers may, however, be a
12 reasonable long-term objective.
- 13 • The Commission should also consider non-discrimination and parity
14 issues in establishing deaveraged prices for unbundled network elements.
- 15 • The Commission should require the incumbents to provide thoroughly
16 documented cost studies together with all relevant workpapers and source
17 documents. The studies should be available in an electronic format that
18 permits parties to perform sensitivity analyses of alternative approaches to
19 deaveraging. Attention to complete documentation at the time of initial
20 filing of the cost studies will ultimately expedite the proceeding, without
21 compromising the right of parties to participate in the ratesetting process.
- 22 • Both the recurring and non-recurring cost studies should be fully
23 compliant with the FCC's Total Element Long Run Incremental Cost

1 (“TELRIC”) methodology. They should reflect efficient, least-cost
2 technology, including forward-looking operations support systems.

- 3 • The Commission should require the incumbents to file deaveraged cost
4 studies for all forms of unbundled loops and combinations that include
5 such loops. It should also require the incumbents to file cost studies for
6 any additional elements addressed in the FCC’s order on remand
7 concerning the identification of unbundled network elements.
- 8 • In particular, the Commission should require the incumbents to file cost
9 studies for any elements for which they have proposed prices, but have yet
10 to supply supporting cost data. This would include BellSouth’s proposed
11 “unbundled copper loop.”
- 12 • There is an urgent need for the Commission to address the cost basis for
13 BellSouth’s proposed unbundled copper loop pricing because the prices
14 appear to exceed any plausible estimate of TELRIC. Moreover,
15 BellSouth’s high proposed recurring and non-recurring prices for this
16 element would severely disadvantage new entrants that are seeking to
17 compete with the company’s retail ADSL product.

18 I address each of these issues in more detail in the remainder of my testimony.

19 **III. RESPONSES TO THE COMMISSION’S TENTATIVE LIST OF ISSUES**

20 **A. Issue 1: Deaveraging of UNEs**

21 **Q. WHICH UNES, EXCLUDING COMBINATIONS, SHOULD BE**
22 **DEAVERAGED (PART “A”)?**

1 A. The Commission should deaverage any unbundled network element for which the
2 benefit from deaveraging exceeds the cost of doing so. The primary benefit of
3 deaveraging is the ability to create the closest possible match between the
4 incumbent's forward-looking costs and prices. This desired linkage between
5 costs and prices appears to have motivated the FCC's mandate to deaverage
6 unbundled network elements:

7 The 1996 Act mandates that rates for interconnection and
8 unbundled elements be "based on the cost . . . of providing the
9 interconnection of network elements." We agree with most parties
10 that deaveraged rates more closely reflect the actual costs of
11 providing interconnection and unbundled elements. Thus, we
12 conclude that rates for interconnection and unbundled elements
13 must be geographically deaveraged.²

14 Prices that closely track forward-looking cost will allow new market
15 entrants to make sound choices regarding where and when to build new facilities
16 as opposed to leasing facilities from the incumbent. The more closely forward-
17 looking costs and prices for unbundled network elements are aligned, the more
18 likely it is that competitors will build facilities only if they can do so more
19 efficiently than the incumbent. That practice can in turn increase efficiency and
20 deliver economic benefits to Florida consumers. For all of these reasons, the
21 Commission should consider deaveraging any element that exhibits significant
22 variations in cost according to cost drivers such as customer density, volume,
23 facility length, and minutes of use.

² FCC's First Report and Order *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, (rel. August 1, 1996) ("First Report and Order") at ¶ 764 (footnote omitted).

1 Practical considerations are the other side of the equation. At some point,
2 the costs and complexity of obtaining the necessary data, implementing necessary
3 billing system enhancements and the like can outweigh the benefits of
4 deaveraging. The smaller the cost difference and the smaller a proportion of a
5 competitor's total cost that any specific element represents, the less value will be
6 obtained from the effort required to deaverage that element.

7 **Q. ARE THERE ANY ELEMENTS THAT CLEARLY PASS A BENEFIT-**
8 **COST TEST FOR DEAVERAGING?**

9 A. Yes. At a minimum, the Commission should deaverage all forms of unbundled
10 loops. In every cost study of local exchange services and service components that
11 I have seen, the loop shows wide unit cost variations based on a set of consistent
12 variables such as loop length and population density that, in turn, affect the way in
13 which the loop is constructed (*e.g.*, the choice of fiber versus copper feeder or
14 aerial versus buried placement). Moreover, unbundled loops represent a
15 substantial portion of cost for local exchange providers.

16 There may be other elements that merit deaveraging as well. The loop,
17 however, is the principal element that DSL providers such as Covad require, and I
18 have not attempted to determine which if any other elements might be good
19 candidates for deaveraging at this time.

20 **Q. WHICH UNE COMBINATIONS, IF ANY, SHOULD BE DEAVERAGED**
21 **(PART "B")?**

22 A. If a given element is deaveraged, then all combinations including that element
23 should be deaveraged. For example, if the loop is deaveraged, then the price of

1 the loop plus port combination should vary according to the deaveraged price of
2 the loop used in the combination. If a combination includes only elements that
3 have not merited deaveraging on an individual basis, then the price of any
4 combination of those elements should not be deaveraged.

5 **Q. WHAT IS THE APPROPRIATE BASIS FOR DEAVERAGING (PART**
6 **“C”)?**

7 A. The appropriate basis for deaveraging is cost. The goal should be to establish
8 deaveraged components where the costs are as uniform as possible within rate
9 component and as different as possible between rate components.

10 **Q. SHOULD THE DEGREE OF DEAVERAGING BE UNIFORM FOR ALL**
11 **UNES (PART “D”)?**

12 A. No. The degree of cost variation is unlikely to be the same across all elements;
13 therefore, the degree of deaveraging should not be uniform.

14 **Q. SHOULD THE DEGREE OF DEAVERAGING BE UNIFORM FOR ALL**
15 **AFFECTED ILECS FOR WHICH DEAVERAGED RATES ARE**
16 **APPROPRIATE (PART “E”)?**

17 A. Most elements will exhibit similar cost characteristics regardless of the incumbent
18 local exchange carrier; therefore, uniform deaveraging across carriers is a
19 reasonable long-term goal. There may be carrier-specific differences in either the
20 degree of cost variation for a particular element or the cost of implementing
21 deaveraged pricing that would justify some difference in the degree of

1 deaveraging. The Commission should permit individual incumbents to make such
2 a showing as a means of justifying company-specific deaveraging plans.

3 **Q. WHAT OTHER FACTORS OR POLICY CONSIDERATIONS, IF ANY,**
4 **SHOULD BE CONSIDERED IN DETERMINING DEAVERAGED UNE**
5 **RATES (PART “F”)?**

6 A. The Commission should consider the non-discrimination requirements of the
7 Telecommunications Act of 1996 in determining deaveraged rates. With respect
8 to DSL-related elements, this means that the Commission should consider parity
9 between the incumbent’s retail provision of DSL-based services and the structure
10 of deaveraged prices for unbundled network elements. Attention to non-
11 discrimination concerns will help to avoid an anti-competitive price squeeze.

12 **Q. WHAT SUPPORTING DATA OR DOCUMENTATION SHOULD AN**
13 **ILEC PROVIDE WITH ITS DEAVERAGING FILING (PART “G”)?**

14 A. The incumbents should supply all cost study results plus fully documented
15 workpapers identifying the source of each input assumption and showing all
16 calculations. The incumbents should also make the cost studies available in
17 electronic format with all documentation necessary for interested parties to run
18 the cost models themselves and to perform sensitivity analyses for alternative
19 deaveraging approaches.

20 By “source,” I do not mean just a numeric input or a label such as
21 “engineering estimate.” The Commission should treat such information as what it
22 is—an unsubstantiated claim with no evidentiary weight. Instead, the incumbent
23 should specify and provide a copy of the relevant primary source documentation.

1 For example, the incumbent should reference price inputs to specific contracts
2 that govern future purchases from its vendors and should provide a copy of such
3 contracts. Without such documentation, parties cannot verify whether the
4 incumbent has properly applied discounts and other special contract terms.
5 Likewise, the incumbents should tie modeling assumptions to their specific
6 sources in the incumbents' "methods and procedures" documents that govern
7 future construction and should provide a copy of all referenced methods and other
8 engineering guidelines. The ability to test the incumbents' engineering and work
9 activity assumptions against their actual forward-looking practices will become
10 particularly significant in resolving disputes concerning the correct recurring and
11 non-recurring costs for advanced services such as DSL. Finally, for any inputs
12 and assumptions based on "engineering estimates" provided by individuals, the
13 incumbents should identify by name and title the individual or individuals
14 responsible for that estimate and supply an explanation of the basis for the
15 estimate.

16 If the incumbents provide this level of documentation with their initial
17 cost study filings, the proceeding can move forward expeditiously while affording
18 all parties with a reasonable opportunity to participate.

19 **B. Issue 3: Cost Studies**

20 **Q. WHAT GUIDELINES AND SPECIFIC REQUIREMENTS SHOULD BE**
21 **IMPOSED ON RECURRING AND NONRECURRING COST STUDIES, IF**
22 **ANY, REQUIRED TO BE FILED IN THIS PROCEEDING (PART "A")?**

1 A. The recurring and non-recurring cost studies should be fully compliant with the
2 FCC's TELRIC methodology. Among other things, full compliance with the
3 TELRIC methodology means that recurring and non-recurring cost studies for a
4 given element should be based upon consistent network design and input
5 assumptions that reflect efficient deployment of the least-cost technology
6 available for commercial use in the incumbent's network. All recurring and non-
7 recurring cost studies should reflect a sharing of the incumbent's economies of
8 scale and scope through the inclusion of the total demand for the element from
9 both the incumbent and new entrants. All cost studies should also reflect non-
10 discriminatory access to the incumbent's operations support systems and
11 associated databases, so that there will be parity between what the incumbent has
12 available to itself for retail operations and what it makes available to its
13 competitors through unbundled network elements.

14 **Q. FOR WHICH UNES SHOULD THE ILECS SUBMIT COST STUDIES**
15 **SUFFICIENT TO DEVERAGE UNES (PART "B")?**

16 A. Again, at a minimum, the Commission should require the incumbents to submit
17 cost studies sufficient to deaverage all forms of unbundled loops, including DSL-
18 capable loops.

19 **Q. SHOULD THE ILECS BE REQUIRED TO FILE RECURRING AND/OR**
20 **NONRECURRING COST STUDIES FOR ANY REMAINING UNES, AND**
21 **COMBINATIONS THEREOF, IDENTIFIED BY THE FCC IN ITS**
22 **FORTHCOMING ORDER ON THE RULE 51.319 REMAND (PARTS "C"**
23 **AND "D")?**

1 A. Yes. To avoid any delay in getting the full benefits of local competition to all
2 Florida consumers, the Commission should order the incumbents to file both
3 recurring and non-recurring cost studies for all remaining elements and
4 combinations thereof that the FCC identifies in its forthcoming remand order.

5 **Q. ARE THERE ADDITIONAL REASONS SPECIFIC TO DSL**
6 **COMPETITION THAT THE COMMISSION SHOULD ORDER NEW**
7 **COST STUDIES AS SOON AS POSSIBLE AND SHOULD MAKE THE**
8 **INCUMBENTS' CURRENT RATES SUBJECT TO REFUND?**

9 A. Yes. At least one incumbent, BellSouth, is currently attempting to use prices that
10 are not reasonably based on forward-looking or TELRIC costs to squeeze
11 competitive DSL service providers out of its markets. For example, BellSouth
12 has proposed to Covad that it will provide unbundled loops that Covad can use for
13 its DSL-based services at \$21.00 per month plus a basic non-recurring charge of
14 \$450. These proposed rates would apply only if BellSouth *does* have a copper
15 loop meeting Covad's requirements readily available. BellSouth has also asserted
16 that it will charge additional individual case basis "special construction" charges
17 to remove "equipment and/or bridge tap."

18 BellSouth's pricing proposals are well beyond even the high end of the
19 claimed "TELRIC" analyses that I have seen other incumbents produce. Based
20 on representations that BellSouth has made to Covad, these prices reflect
21 assumptions that are fundamentally incompatible with forward-looking economic
22 costing principles such as those embodied in the FCC's TELRIC standards. For
23 example, BellSouth appears to have assumed that unbundled DSL loops will

1 require manual screening and special “design” work. Moreover, BellSouth’s
2 proposed “special construction” charges appear to presume that competitors
3 should pay BellSouth to bring its network into compliance with forward-looking
4 network design standards. For all of these reasons, BellSouth’s proposed
5 recurring and non-recurring charges bear no reasonable relationship to its
6 efficient, forward-looking economic costs.

7 Meanwhile, BellSouth is rolling out its own retail ADSL service with a
8 much lower non-recurring charge (the comparable BellSouth retail non-recurring
9 charge appears to be \$95 as compared to a minimum \$450 charge proposed to
10 Covad). BellSouth’s retail offering also uses a line sharing design with the end
11 user’s existing local exchange service (not available to new entrants) that avoids
12 *any* additional loop cost being assigned to the end-user customer’s service, much
13 less the non-cost-based \$21 recurring monthly charge that BellSouth proposes to
14 impose on Covad for DSL-capable loops.

15 The Commission should take prompt action to obtain reliable cost data
16 from BellSouth and to insure that competitors will be compensated for any non-
17 cost-based rates that they must pay to get into business today. Without such
18 action, BellSouth’s insistence on extreme, non-cost-based rates for DSL-capable
19 loops may seriously harm competition for DSL-based services in Florida.

20 **Q. WHY IS IT IMPORTANT THAT THE COMMISSION TAKE PROMPT**
21 **ACTION TO INSURE THAT COMPETITORS WILL PAY**
22 **REASONABLY COST-BASED RATES FOR DSL-CAPABLE LOOPS?**

1 A. The market for DSL-based services offers the Commission one of its first
2 opportunities to secure an important benefit of the Telecommunications Act of
3 1996 for all Florida consumers — the delivery of innovative services.
4 Implementing the Act would have made little sense if Congress did not envision
5 that a competitive local exchange market would deliver innovative, improved
6 services, at better prices, to Florida consumers than did the previous single
7 provider market. Yet much of the activity to date has focused on the steps
8 necessary to enable competition for the types of services that incumbents already
9 offers ubiquitously to its retail customers. In contrast, DSL regulation and pricing
10 focuses exclusively on the actions needed to facilitate competition for advanced
11 telecommunications services that many Florida consumers cannot yet obtain. The
12 Commission's prompt actions or lack thereof will determine the degree to which
13 competitive market forces will drive the spread of such services to all Florida
14 consumers as quickly as possible.

15 DSL is an emerging technology with great promise for meeting the need
16 for advanced telecommunications services. The public policy interest in
17 encouraging the spread of such technologies is so great that a Joint Board of State
18 Regulators recommended, and the FCC determined, that the network design used
19 to estimate the costs of unbundled network elements and universal service should
20 not impede access to advanced telecommunications services for any customer.³

21 For all of these reasons, it is important for the Commission to insure that the
22 prices, terms, and conditions under which incumbents offer unbundled DSL-

1 capable loops do not discourage competitive entry into this market, which would
2 thwart the public policy goal of encouraging the widespread provision of
3 advanced telecommunications services.

4 The market for DSL-based services is unusual in that the incumbents do
5 not already dominate it, and aggressive new competitors, such as Covad, are
6 poised to enter the market offering a wide range of services and options. As in
7 other portions of the local exchange market, however, the potential for new
8 entrants to accelerate the delivery of competitive benefits to DSL customers
9 depends on the new entrants' ability to obtain access to customers on terms and
10 conditions that place them on an even competitive footing with the incumbents.
11 The incumbents, in contrast, have an incentive to leverage their control of access
12 to end users as a means of expanding its dominance of the local exchange network
13 into dominance of emerging markets for new telecommunications services such as
14 DSL. BellSouth's proposed pricing for DSL-capable loops provides an excellent
15 example of how such leveraging might occur.

16 The promptness with which the Commission resolves DSL pricing issues
17 will in large measure determine when or whether the promise of the Act becomes
18 a reality in Florida.

19 **Q. WHEN SHOULD THE REQUIRED COST STUDIES BE FILED (PART**
20 **"C")?**

³ *In the Matter of Federal-State Joint Board on Universal Service*, CC Docket 96-45, Report and Order, (rel. May 8, 1997), ¶ 250.

1 A. The Commission should require that the cost studies be filed as soon as possible
2 given the documentation and other requirements that I discussed above. For
3 existing elements that an incumbent has not yet produced a cost study but has
4 proposed a price (*e.g.*, BellSouth's proposed unbundled copper loop or UCL), the
5 incumbent should produce the relevant cost study within 30 days. To alleviate
6 pressure on all parties for undue haste, the Commission should declare that prices
7 for all affected elements will be subject to true up while new cost studies are
8 being developed and litigated.

9 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY AT THIS**
10 **TIME?**

11 A. Yes, it does.

ATTACHMENT TLM-1
CURRICULUM VITA

Terry L. Murray

President, Murray & Cratty, LLC

January 1998 - present

Economic consulting and expert witness testimony specializing in regulatory and antitrust matters.

Principal, Murray and Associates

April 1992 - December 1997

Economic consulting and expert witness testimony, primarily in the fields of telecommunications, energy and insurance regulation and antitrust.

Director, Regulatory Economics, Morse, Richard, Weisenmiller & Associates, Inc.

April 1990 - April 1992

Economic consulting and expert witness testimony, primarily in the fields of telecommunications and energy regulation.

California Public Utilities Commission

June 1984 - March 1990

Director, Division of Ratepayer Advocates (DRA)

March 1989 - March 1990

Headed a staff of over 200 analysts who provided expert witness testimony on behalf of California ratepayers in contested proceedings involving telecommunications, electric, gas, water and transportation utilities. Major proceedings included evaluation of proposed merger between Southern California Edison and San Diego Gas and Electric Companies.

Program Manager, Energy Rate Design and Economics Branch, DRA

October 1987 - March 1989

Managed a staff of over 30 analysts who testified on electric and gas rate design and costing issues, sales forecasts and productivity analyses. Testified as lead policy witness in electric utility incentive ratemaking and transportation policy proceedings.

Senior Policy Analyst, Policy and Planning Division

March 1987 - October 1987

Organized *en banc* hearing and drafted notice of investigation for major telecommunications incentive regulation proceeding. Headed Commission task force on open network architecture.

Commissioner's Advisor

July 1985 - March 1987

Lead advisor on independent power industry and cost of capital issues. Analyzed proposed decisions on energy, telecommunications, water and transportation issues and made recommendations for Commission action. Co-authored Commission order establishing conditions for approval of San Diego Gas and Electric Company application to form a holding company.

Staff Economist, Public Staff Division**June 1984 - July 1985**

Testified on cost of capital and telecommunications bypass issues. Served on telecommunications strategy task force charged with developing recommendations for post-divestiture regulatory policies.

Instructor, Golden Gate University**1986 - 1987**

Taught courses on telecommunications regulation to students in the Masters in Telecommunications Management program and students in a special program for federal government telecommunications managers.

Acting Assistant Professor of Economics, Wesleyan University**July 1981 - June 1982**

Taught undergraduate courses in microeconomics, macroeconomics, econometrics, and economics and policy of regulation.

TESTIMONY**California Department of Insurance**

- File Nos. PA-94-0012-00 & PA-94-0012-0A, In re 20th Century Insurance Company and 21st Century Casualty Company.
- File Nos. PA-93-0014-00 *et al.*, In the Matter of the Rates and Rating Practices, and Rate Applications of: State Farm Mutual Automobile Insurance Company, State Farm Fire and Casualty Company, State Farm General Insurance Company, Applicants and Respondents, 3/1/94, 3/29/94.
- File Nos. PA-93-0009-00 *et al.*, In the Matter of the Rate Applications of Nationwide Mutual Insurance Company, Nationwide Mutual Fire Insurance Company, Nationwide Property and Casualty Insurance Company, Applicants, 9/11/93.

California Public Utilities Commission

- A.98-12-005, In the Matter of the Joint Application of GTE Corporation ("GTE") and Bell Atlantic Corporation ("Bell Atlantic") to Transfer Control of GTE's California Utility Subsidiaries to Bell Atlantic Which Will Occur Indirectly as a Result of GTE's Merger with Bell Atlantic, 6/7/99.
- A.99-03-047, In the Matter of the Petition by Pacific Bell (U 1001 C) for Arbitration of an Interconnection Agreement with Metropolitan Fiber Systems/ Worldcom Technologies, Inc. (MFS/Worldcom) Pursuant to Section 252(b) of the Telecommunications Act of 1996, 4/16/99, 5/24/99.
- A.98-05-038, In the Matter of the Application of Pacific Bell for Authority for Pricing Flexibility and to Increase Certain Operator Services, to Reduce the Number of Monthly Directory Assistance Call Allowances, and Adjust Prices for Four Centrex Optional Features, 11/17/98.
- A.98-06-052, In the Matter of the Petition of PDO Communications, Inc. for Arbitration Pursuant to Section 252 of the Federal Telecommunications Act of 1996 to Establish an Interconnection Agreement with Pacific Bell, 8/14/98.
- Petition for Arbitration of MCI Telecommunications Corporation for an Interconnection Agreement with GTE California, Inc., 9/96.

- A.96-04-038, In the Matter of the Joint Application of Pacific Telesis Group and SBC Communications, Inc. for SBC to Control Pacific Bell, 9/30/96.
- A.93-03-054, Application to Modify Diablo Canyon Pricing and Adopt a Customer Electric Rate Freeze in Compliance with Decision 95-12-063, 9/9/96.
- R.93-04-003/I.93-04-002, Rulemaking and Investigation on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish and Framework for Network Architecture Development of Dominant Carrier Networks, 6/14/96, 7/10/96, 3/18/97, 12/19/97, 2/11/98, 4/8/98, 4/27/98, 5/1/98, 6/5/98, 12/18/98, 1/11/99, 2/8/99.
- I.95-04-044, Order Instituting Investigation on the Commission's Own Motion into Competition for Local Exchange Service, 10/2/95, 10/9/95, 12/95.
- I.94-04-032, Order Instituting Investigation on the Commission's Proposed Policies Governing Restructuring California's Electric Services Industry and Reforming Regulation, 12/8/94.
- Application Nos. 93-05-008 *et al.*, In the Matter of the Application of Sierra Pacific Power Company to Authorize a Return on Equity for Calendar Year 1994 Pursuant to Attrition Rate Adjustment Mechanism, 8/93.
- Application Nos. 92-05-002 and 92-05-004, Application of GTE California Incorporated for Review of the Operations of the Incentive-Based Regulatory Framework Adopted in Decision 89-10-031, 5/93, 7/93.
- Case No. 91-12-028, The City of Long Beach, in its Proprietary Capacity and as Trustee for the State of California, Complainant, vs. Unocal California Pipeline Company, a Unocal Company, Defendant, 5/15/93.
- I.87-11-033 *et al.*, In the Matter of Alternative Regulatory Frameworks for Local Exchange Carriers (Phase III, Implementation and Rate Design), 9/23/91, 12/16/91, 1/17/92.
- General freight deregulation proceeding, 10/88.
- I.86-10-001, Risk, Return and Ratemaking, 3/88.
- Southwest Gas General Rate Case, 8/85.
- Application No. 85-01-034, Pacific Bell Test Year 1986 General Rate Case, 4/22/85.
- CP National South Lake Tahoe Gas General Rate Case, 12/84.

Colorado Public Service Commission

- Docket No. 91A-480EG, In the Matter of the Joint Application of the Parties to Revised Settlement Agreement II in Docket Nos. 91S-091EG and 90F-226E for Commission Consideration of Decoupling Revenues from Sales and Establishment of Regulatory Incentives to Encourage the Implementation of DSM Programs, 11/8/91, 4/30/92, 9/8/92, 9/14/92.

Connecticut Department of Public Utility Control

- Petition for Arbitration of MCI Telecommunications Corporation for an Interconnection Agreement with The Southern New England Telephone Company, 12/96.
- Docket Nos. 95-06-17 *et al.*, Application of The Southern New England Telephone Company for Approval to Offer Unbundled Loops, Ports and Associated Interconnection Arrangements, 9/8/95.

Delaware Public Service Commission

- Docket No. 96-324, Bell Atlantic - Delaware Statement of Terms and Conditions Under Section 252(F) of the Telecommunications Act of 1996, 2/4/97.

- Docket No. 45, In the Matter of the Development of Regulations for the Facilitation of Competitive Entry into the Telecommunications Local Exchange Service Market, 7/3/96.

District of Columbia Public Service Commission

- Formal Case No. 962, In the Matter of the Implementation of the District of Columbia Telecommunications Act of 1996 and Implementation of the Telecommunications Act of 1996, Order No. 10916, 3/24/97, 5/2/97, 5/9/97.

Federal Communications Commission

- File No. E-98-12, MCI Telecommunications Corp. and MCImetro Access Transmission Services, Inc., Complainants, v. Bell Atlantic Corp., Defendant, 12/19/97, 3/25/98.
- CC Docket No. 94-1, In the Matter of Price Cap Performance Review for Local Exchange Carriers, 6/29/94.
- W-P-C 6913 *et al.*, In re the Matter of the Application of Pacific Bell for Authority Pursuant to Section 214 of the Communications Act of 1934, and Section 63.01 of the Commission's Rules and Regulations to Construct and Maintain Advanced Telecommunications Facilities to Provide Video Dialtone Services to Selected Communities.

Florida Public Service Commission

- Docket No. 930424-EI, In re: Request for Approval of Proposal for Incentive Return on Demand-Side Management Investments by Florida Power Corporation, 11/22/93.
- Docket No. 93-444-EI, In re: Request for Approval of Proposal for Revenue Decoupling by Florida Power Corporation, 11/22/93.

Hawaii Public Service Commission

- Docket No. 7702, In the Matter of Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii, 7/3/97, 8/29/97.

Illinois Commerce Commission

- Petition for Arbitration of MCI Telecommunications Corporation for an Interconnection Agreement with Ameritech - Illinois, 12/96.

Kansas Corporation Commission

- Docket No. 190, 192-U, In the Matter of a General Investigation into Competition within the Telecommunications Industry in the State of Kansas, 11/14/94.

Maryland Public Service Commission

- Docket No. 8797, In the Matter of The Potomac Edison Company's Proposed: (a) Stranded Cost Quantification Mechanism; (b) Price Protection Mechanism; (c) and Unbundled Rates, 1/26/99.
- Docket No. 8795, In the Matter of Delmarva Power and Light Company's Proposed Stranded Cost Quantification Mechanism, Price Protection Mechanism, and Unbundled Rates, 12/28/98.
- Docket No. 8794, In the Matter of Baltimore Gas and Electric (BGE)'s Proposed Stranded Cost Quantification Mechanism, Price Protection Mechanism, and Unbundled Rates, 12/22/98, 7/23/99, 8/3/99.

- Docket No. 8786, In the Matter of the Investigation of Non-Recurring Charges for Telecommunications Interconnection Service, 5/27/98, 11/16/98, 12/18/98.
- Docket No. 8731, Phase II, In the Matter of the Petitions for Approval of Agreements and Arbitration of Unresolved Issues Arising Under §252 of the Telecommunications Act of 1996, 3/7/97.
- Case No. 8731, In the Matter of the Petitions for Approval of Agreements and Arbitration of Unresolved Issues Arising under Section 252 of the Telecommunications Act of 1996, 10/96.
- Case No. 8715, In the Matter of the Inquiry into Alternative Forms of Regulating Telephone Companies, 11/95, 4/1/96.

Massachusetts Department of Telecommunications and Energy

- Docket No. DTE 98-57, Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in the following tariffs: M.D.T.E. Nos. 14 and 17, filed with the Department on April 2, 1999, to become effective May 2, 1999, by New England Telephone and Telegraph Company d/b/a Bell Atlantic – Massachusetts, 7/26/99.

Michigan Public Service Commission

- Case No. U-10755, In the Matter of the Application of Consumers Power Company for Authority to Increase Its Rates for the Sale of Natural Gas and for Other Relief, 6/9/95.
- Case No. U-10685, In the Matter of the Application of Consumers Power Company for Authority to Increase Its Rates for the Sale of Electricity, 3/29/95, 5/5/95.
- Case No. U-10647, In the Matter of the Application of City Signal, Inc., for an Order Establishing and Approving Interconnection Arrangements with Michigan Bell Telephone Company, 8/5/94, 11/7/94, 11/30/94.

Nevada Public Service Commission

- Docket No. 96-9035, In re a Petition by the Regulatory Operations Staff to Open an Investigation into the Procedures and Methodologies that Should Be Used to Develop Costs for Bundled or Unbundled Telephone Services or Service Elements in the State of Nevada, 5/8/97, 5/23/97.

New Jersey Board of Public Utilities

- Docket No. TX95120631, Notice of Investigation into Local Exchange Competition for Telecommunications Services, 8/30/96, 12/20/96.

New York Public Service Commission

- Case Nos. 94-E-0098 *et al.*, Niagara Mohawk Fuel Adjustment Clause Target and S.C. 6 Update Filing, 11/17/95.
- Case Nos. 93-E-0912 *et al.*, Proceeding on Motion of the Commission to Review Long-Run Avoided Cost Estimation Policies and Methods, 5/10/95, 5/31/95.
- Central Hudson Gas & Electric Company General Rate Case
- Niagara Mohawk Power Corporation General Rate Case
- Case Nos. 91-E-0863 *et al.*, New York State Electric & Gas Corporation General Rate Case, 1/92.
- Case Nos. 91-E-0765 *et al.*, Rochester Gas & Electric Corporation General Rate Case, 11/91.

- Case No. 91-E-0506, Central Hudson Gas & Electric Company General Rate Case, 9/91, 10/91.
- Case Nos. 29327 *et al.*, Niagara Mohawk General Rate Case, 3/91.
- Docket No. 89-E-176, In the Matter of the Proceeding on Motion of the Commission to Examine Ratemaking Practices and Incentive Mechanisms Promoting Least-Cost Planning and Demand-Side Management by Electric Utilities, 4/19/90, 5/4/90, 4/18/91, 6/20/91.

North Carolina Utilities Commission

- Docket Nos. P-7, Sub 825, and P-10, Sub 479, In the Matter of Petition of Carolina Telephone and Telegraph and Central Telephone Company for Approval of a Price Regulation Plan Pursuant to G. S. 62-133.5, 1/31/96.
- Docket No. P-55, Sub 1013, In the Matter of Application of BellSouth Telecommunications, Inc., for, and Election of, Price Regulation and Motion for a Hearing, 1/28/96, 2/1/96.

Pennsylvania Public Utility Commission

- Docket Nos. P-00991648, Joint Application of NEXTLINK Pennsylvania, Inc., *et al.* and P-00991649, Joint Application of Bell Atlantic – Pennsylvania, Inc., *et al.*, 4/22/99, 6/11/99.
- Docket Nos. A-310200F0002 *et al.*, In re the Joint Application of Bell Atlantic Corporation and GTE Corporation for Approval of Agreement and Plan of Merger, 3/23/99; 5/19/99.
- Docket No. I-00960066, Generic Investigation of Intrastate Access Charge Reform, 6/30/97; 7/29/97; 8/27/97.
- Petition for Arbitration by MCI Communications Corporation for an Interconnection Agreement with Bell Atlantic - Pennsylvania, 9/96.
- Petition for Arbitration by AT&T-PA for an Interconnection Agreement with GTE-PA, 9/96.
- Petition for Arbitration by Eastern TeleLogic for an Interconnection Agreement with Bell Atlantic - Pennsylvania, 9/96.
- Petition for Arbitration by AT&T-PA for an Interconnection Agreement with Bell Atlantic - Pennsylvania, 9/96.
- Docket No. I-940035, Formal Investigation to Examine and Establish Updated Universal Service Principles and Policies for Telecommunications Services, 1/11/96, 2/14/96, 2/27/96.
- Docket No. A-310203F002, Application of MFS Intelenet of Pennsylvania, Inc., for Approval to Operate as a Local Exchange Telecommunications Company, 1/30/95, 2/22/96, 3/22/96, 1/13/97, 2/97.

South Carolina Public Service Commission

- Docket No. 95-720-C, Application of BellSouth Telecommunications, Inc. d/b/a Southern Bell Telephone and Telegraph Company for Alternative Regulation, 8/21/95, 9/11/95.
- Docket No. 95-862-C, Re: BellSouth Telecommunications, Inc. d/b/a Southern Bell Telephone and Telegraph Company Investigation of Level of Earnings, 8/21/95, 9/11/95.

Texas Public Utility Commission

- Docket Nos. 20226, Petition of Accelerated Connections, Inc. d/b/a ACI Corp. for Arbitration to Establish an Interconnection Agreement with Southwestern Bell Telephone Company, and 20272, Petition of DIECA Communications, Inc., d/b/a Covad Communications Company for Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with Southwestern Bell Telephone Company, 2/19/99, 4/8/99.

Vermont Public Service Board

- Docket No. 5780, Green Mountain Power Company General Rate Case, 1/13/95.
- Docket No. 5695, Green Mountain Power Company General Rate Case, 1/94.

Virginia State Corporation Commission

- Petitions for Arbitration of AT&T-VA and MCI Communications Corporation for an Interconnection Agreement with Bell Atlantic - Virginia, 9/20/96.
- Petition for Arbitration of AT&T-VA for an Interconnection Agreement with GTE-VA, 8/96, 10/29/96.

Washington Utilities and Transportation Commission

- Docket No. UT-960639 *et al.*, Phase II, In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale, 8/20/98, 9/11/98.
- Docket No. UT-950200, Washington Utilities and Transportation Commission vs. U S WEST Communications, Inc., 8/28/95, 12/15/95.
- Docket No. UT-941464 *et al.*, Washington Utilities and Transportation Commission vs. U S WEST Communications, Inc., 4/17/95, 5/31/95.
- Docket No. UT-911488 *et al.*, Washington Utilities and Transportation Commission vs. U S WEST Communications, Inc.

Wisconsin Public Service Commission

- Petition for Arbitration of MCI Telecommunications Corporation for an Interconnection Agreement with Ameritech - Wisconsin, 12/96.

Civil Proceedings

- Nationwide Business Telephones and Team Centrex, Plaintiffs, vs. Introlink Communication Systems, Inc., Pacific Bell, Inc., *et al.*, Defendants, 5/96.
- Power Producers v. Pacific Gas & Electric, 6/93.
- WindTec, Inc. v. Southern California Edison Company, 7/90.

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CERTIFICATE OF SERVICE

I, Cindy Alaga certify that copies of the foregoing document were served on all parties of record in this proceeding on August 11, 1999 via U S Mail or FedEx.

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