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**COMMONWEALTH OF VIRGINIA**  
**BEFORE THE STATE CORPORATION COMMISSION**

Petition of )  
COX VIRGINIA TELCOM, INC, )  
Requesting Party, )  
v. )  
BELL ATLANTIC-VIRGINIA INC., )  
Responding Party )  
For declaratory judgment and conditional )  
petition for arbitration of unresolved issues by )  
the State Corporation Commission pursuant to )  
Section 252 of the Telecommunications )  
Act of 1996 or alternative petition for dismissal. )

Case No. PUC \_\_\_\_\_

**PETITION FOR DECLARATORY JUDGMENT AND  
CONDITIONAL PETITION FOR ARBITRATION  
OR  
ALTERNATIVE PETITION FOR DISMISSAL OF  
COX VIRGINIA TELCOM, INC.**

DIRECT TESTIMONY

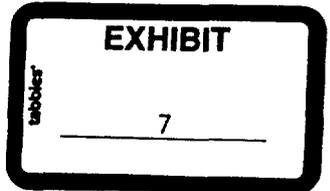
OF

PROF. FRANCIS R. COLLINS, Ph.D.

ON BEHALF OF

COX VIRGINIA TELCOM, INC.

JULY 27, 2000



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**1. INTRODUCTION OF WITNESS**

Q. WHAT IS YOUR NAME AND WHAT IS YOUR BUSINESS ADDRESS?

A. My name is Francis R. Collins and my business address is CCL Corp. PO Box 272, Newton, MA 02459.

Q. WHAT IS YOUR ASSOCIATION WITH CCL CORPORATION?

A. I am the president of CCL Corporation, a company that provides; public policy, technical, and economic counsel in the fields of telecommunications and cable television.

**2. QUALIFICATIONS OF WITNESS**

Q. WHAT IS YOUR BACKGROUND AND EXPERIENCE

A. My professional practice has been in the telecommunications industry for the past thirty nine years. I started my professional career at Bell Telephone Laboratories and after the first six years in the Laboratories have been providing; public policy, managerial, system design, technology applications, and economic counsel to clients for the past thirty three years.

I have provided commentary or testimony on matters concerning arbitration and or specifically related to issues which are the same or are similar to those in this arbitration in Arizona, California, Connecticut, Iowa, Nebraska, New Hampshire, New York, Michigan, Ohio, Oklahoma, Rhode Island, and Virginia and through action of the Commissions in Maine and Vermont.

1 Exhibit A, attached to this testimony, is a more complete presentation of  
2 qualifications in support of my standing to provide recommendations to  
3 the State Corporation Commission on these matters.  
4

5  
6 **3. PURPOSE OF TESTIMONY**  
7

8  
9 Q. DR. COLLINS, WHAT IS THE PURPOSE OF YOUR TESTIMONY?  
10

11 A. My testimony is intended to provide information to the Virginia State  
12 Corporation Commission (hereafter "Commission") which will be  
13 significant in their understanding of the issues which underlie and  
14 substantively compose the basis for the Petitioner's position in the  
15 negotiations, which the Petitioning Party, Cox Virginia Telcom, Inc.  
16 ("Cox"), has been conducting with the Responding Party, Bell Atlantic –  
17 Virginia (herein after "BA-VA"), (collectively - the Parties). Additionally, my  
18 testimony presents information that will indicate why it has become  
19 necessary for Cox to petition the Commission for arbitration.  
20

21 In order to follow the information which will be presented in this testimony,  
22 and likely throughout this arbitration, it is necessary to know that these  
23 negotiations were conducted under the guidance, and technological and  
24 economic criterion established in the Federal Telecommunications Act of  
25 1996 ("Act"), Pub.L. 104-104, 110 Stat. 56 *et seq.* and the implementation  
26 rules of the Federal Communication Commission ("FCC").  
27

28  
29 **4. RECOMMENDATIONS TO THE COMMISSION**  
30

31  
32 Q. DR. COLLINS COULD YOU SUMMARIZE THE RECOMMENDATIONS  
33 CONTAINED THROUGHOUT YOUR TESTIMONY FOR THE  
34 COMMISSION?  
35

1 A. In summary, my recommendations are that the Commission accept the  
2 language in Petition Exhibit No. 6 and Cox's proposed language in Exhibit  
3 No. 3 and approve the agreement for interconnection between Cox and  
4 BA-VA in terms of that language. The language represents that which  
5 flows from my testimony and represents the best balance between the  
6 positions of Cox and BA-VA on the issues. Additionally, it represents an  
7 Agreement under which Cox can continue to make capital investments in  
8 Virginia and contribute to the robustness of the competition envisioned by  
9 the Act.

10  
11  
12 **5. EXECUTIVE HIGHLIGHTS OF THE**  
13 **ARBITRATION PROCESS AND THE ISSUES IN**  
14 **DISPUTE**  
15

16  
17 Q. DR. COLLINS, WOULD YOU HIGHLIGHT THE NEGOTIATION  
18 PROCESS AS CONDUCTED WITH BA-VA.

19  
20 A. The BA-VA/Cox negotiations have taken place over an extended period of  
21 time via telephone conferences. These interactions have involved the  
22 exchange of documents, the mutual identification of issues and the  
23 negotiation of language. The negotiations have settled a number, but not  
24 all, of the issues necessary to complete the Agreement. BA-VA and Cox  
25 are still open to continuing the negotiation and are doing so.

26  
27 Cox believes that its position, described more fully below, on the  
28 outstanding issues comport with the Telecommunications Act of 1996 ("96  
29 Act" or "Act"), the FCC's First ("FCC Order") and Second Report and  
30 Order ("FCC 2<sup>nd</sup> Order"), The FCC's Advanced Services Order, and other  
31 Actions of the FCC (collectively "FCC Orders"); and the results of recent  
32 federal appellate court proceedings relating to those rules specifically the  
33 Decision of the Supreme Court and the recent Decision of the Eighth  
34 Circuit Court as it relates to these issues.

35  
36

1 Q. DR. COLLINS WHAT ARE THE AREAS OF ISSUE RESULTING FROM  
2 THE BA-VA/COX NEGOTIATIONS TO DATE?

3

4 A. In filing for this Arbitration Cox has set out the issues in its Conditional  
5 Petition for Arbitration that it believes needs to be resolved. In summary  
6 these are Cox Issue Nos: (1), Certification of "251" and "271"  
7 requirements; (2), the Interconnection Point/Point of Interconnection as  
8 they relate to the concept of Geographical Relevance; (3), Cox  
9 discounting its mileage-sensitive rate element for interconnection facilities  
10 leased by BA-VA; (4), Cox being compelled to furnish BA-VA collocation  
11 at Cox's premises; (5), Cox being required to engineer its network in  
12 accordance with BA-VA's internal engineering guidelines; (6), BA-VA  
13 blocking delivery of Cox's transit calls destined to third party carriers; and  
14 as an underlying issue BA-VA requiring Cox to enter into interconnection  
15 agreements or "reciprocal tariffs" with third party carriers; (7), the type of  
16 interconnection between BA-VA, if granted 271 relief, and Cox for the  
17 delivery to Cox for termination of BA-VA's interLATA toll traffic; (8), the  
18 treatment of local traffic terminating at the local traffic connection ports of  
19 internet service providers; (9) BA-VA's attempts to require Cox to engineer  
20 and forecast BA-VA's interconnection needs for the delivery of BA-VA's  
21 traffic to Cox; (10), BA-VA's insistence that it has the right and authority to  
22 intrusively monitor Cox's access to and use of CPNI made available to  
23 Cox through the Interconnection Agreement; (11), BA-VA's repeated  
24 attempts to use the Interconnection Agreement to establish caps on the  
25 rates and charges that Cox may tariff for its services, facilities and service  
26 arrangements; (12), BA-VA's attempt to use this Interconnection  
27 Agreement as a vehicle to cause Cox a significant financial penalty by  
28 forcing Cox to temporarily reconfigure its existing interconnection  
29 arrangement with BA-VA while negotiating any renewal of this agreement  
30 under the Act; and (13) BA-VA's attempt to arrange for the termination of  
31 Cox's access to BA-VA's OSS using processes and timeframes shorter  
32 than those agreed to by both parties for all other instances of alleged non-  
33 compliance with this Agreement.

34

35 There is a bit of ambiguity as to the status between the positions of  
36 BA-VA and Cox as to some of these issues because of an absence of

1 feedback by BA-VA in response to the negotiations. That ambiguity  
2 withstanding the following testimony presents the situation, as I  
3 understand it to currently exist, as to the issues identified above.  
4

5  
6 **6. THE ISSUES IN DETAIL**  
7

8  
9 Q. YOU MENTIONED THAT THE CERTIFICATION OF BA-VA'S "251" AND  
10 "271" REQUIREMENTS WAS COX ISSUE No. (1). WOULD YOU  
11 COMMENT ON THAT PROBLEM.  
12

13 A. BA-VA would like to include in the Interconnection Agreement language to  
14 the effect that: "the Parties agree that the performance of the terms of this  
15 Agreement will satisfy BA's obligation to provide Interconnection under  
16 Section 251 of the Act, and the requirements of the Checklist under Section  
17 271 of the Act." Cox is opposed to having these terms in the Agreement for  
18 two primary reasons.  
19

20 The first thrust of Cox's opposition is that the phrase above states "the  
21 performance of the terms of this Agreement" and Cox notes that  
22 "performance" is an ongoing function through the life of the Agreement, not  
23 something that will become fulfilled in any specific time less than the length  
24 of the Agreement. Cox would not be in a position to make any judgement  
25 as to BA-VA's performance until the term of the Agreement was completed  
26 and therefore cannot agree to such language at the outset of the  
27 Agreement.  
28

29 The second thrust is that Cox believes that it is the collective judgement,  
30 after suitable investigation, of the SCC and the FCC which should lead to  
31 the certification of the satisfaction of BA-VA's performance under "251" and  
32 "271" and not the responsibility of Cox. Cox's responsibility is to comment  
33 in any such proceeding established to consider BA's performance.  
34  
35

1 Q. WHAT WOULD YOU ASK THE COMMISSION TO DO TO MITIGATE OR  
2 SATISFY THIS ISSUE?

3

4 A. I suggest that the Commission indicate to BA-VA that the Certification of  
5 "251" and "271" requirements is not the responsibility of Cox and therefore  
6 it is inappropriate to have language pertaining to such certification in the  
7 Agreement. The Commission should reject BA-VA's proposed language.

8

9

10 Q. DR. COLLINS, WHAT IS COX ISSUE No. (2) WITH RESPECT TO THE  
11 INTERCONNECTION POINT/POINT OF INTERCONNECTION AND THE  
12 RELATIONSHIP OF BOTH OF THEM TO THE CONCEPT OF  
13 GEOGRAPHICAL RELEVANCE?

14

15 A. In the language of BA-VA, the Interconnection Point ("IP") is a point at  
16 which the Party who receives traffic originating on the network of the other  
17 Party assesses Reciprocal Compensation charges for the further transport  
18 and termination of that traffic. Whereas, the Point of Interconnection  
19 ("POI") means the physical location where the originating Party's facilities  
20 physically interconnect with the terminating Party's facilities for the  
21 purpose of exchanging traffic.

22

23 It should be noted that in BA-VA's schema the IP and the POI do not have  
24 to be at the same location. This differentiation allows BA-VA to provide  
25 for interconnection in compliance with the Act, that is at any technically  
26 feasible point, while at the same time collecting for the transport from that  
27 point of interconnection to their end and tandem office switches. That is,  
28 under BA-VA's proposal, there are many POI's but the IPs are restricted  
29 to end office and tandem locations with the further restriction that the  
30 carrier originating traffic to BA-VA is required to either deliver to, or pay for  
31 the delivery of its traffic to, the BA-VA IPs regardless of the geographical  
32 relationship of the POI to the IP.

33

34 However, when BA-VA originates traffic it does not want to pay for the  
35 delivery of its traffic from the terminating carriers POIs to its IPs. BA-VA  
36 wants the carrier that will terminate BA-VA's traffic to either carry the

1 BA-VA traffic from the BA-VA POIs to the terminating carrier's IPs for free  
2 or to pay BA-VA for all costs over that for a diminimus distance for  
3 BA-VA's delivering the traffic which flows from BA-VA's customers to the  
4 competitor's customers. Under BA-VA's language for the Agreement Cox  
5 would incur this liability.

6  
7 BA-VA has coined the term of art "geographical relevance" to describe,  
8 and perhaps mask, the concept of its competitors paying for both  
9 (originating and terminating) sides of traffic delivery and, as a  
10 consequence, BA-VA paying an absolute minimum for the transport of  
11 BA-VA's originating traffic, while the new market entrants, such as Cox,  
12 pays the rest of the cost. This is in addition, of course, to Cox paying for  
13 the Cox originated traffic as well.

14  
15 In addition, under the concept of geographical relevance BA-VA wants  
16 new market entrants, such as Cox, to designate POIs and IPs that will  
17 emulate those of BA-VA. This will, of course, also require the new market  
18 entrant to emulate the character of the BA-VA network architecture, and  
19 this BA-VA construct is another "Issue" in the Arbitration. Not surprisingly  
20 this requirement will also tend to maximize the capital cost for the  
21 competitor's (Cox's) network, decrease its efficiency, and increase the  
22 recurring unit cost for traffic transmission.

23  
24  
25 Q. DR. COLLINS, WHAT IS THE ISSUE RELATED TO PHYSICAL  
26 ARCHITECTURE OF THE NETWORKS?

27  
28 A. In essence, and after cutting through the language, BA-VA wants  
29 competing carriers to design their networks to match that of BA-VA's  
30 legacy network. That is, to have as many IPs as does BA-VA and with the  
31 same geographic spacing between them. This means that the competing  
32 carrier's networks will have to follow the same topology as that of BA-VA.  
33 If the competing carriers IPs are specified as being at their end  
34 office/tandem switches it follows that the geographic location of those  
35 switches will closely match those of BA-VA. As noted above, this will  
36 increase the capital investment and recurring operating costs by orders of

1 magnitude. These increased costs will raise the financial barrier to market  
2 entry for companies contemplating market entry and will significantly  
3 shorten the market presence of carriers already in the marketplace.  
4

5

6

7 Q. WHAT WOULD YOU ASK THE COMMISSION TO DO WITH RESPECT  
8 TO THIS ISSUE?

9

10 A. The Commission has only to enforce the Act and the FCC's implementing  
11 rules as they regard this issue - rules that have not been affected by any  
12 court action. That is, the Commission should enforce the notion that  
13 interconnection between networks for the delivery of traffic should be  
14 required at any technically feasible point.

15

16 That is, the IPs should be, as Cox proposes, at each party's central office  
17 when the terminating traffic levels justify it and the traffic is directly routed  
18 to that end office, and that each party should bear its own costs in  
19 delivering its traffic to those IP(s). Once the traffic is on the network of the  
20 terminating carrier that carrier should complete the call at the mutual  
21 compensation rates. This will clear up the battle of language and terms of  
22 art and at the same time clear up the issue of geographical relevance and  
23 BA-VA dictating Cox's network architecture. The Commission should  
24 reject BA-VA's proposal and accept the proposed language of Cox as  
25 shown on Exhibit No. 3 and on Exhibit No. 6.

26

27

28 Q. IN COX ISSUE No. (3) YOU INDICATED THAT BA-VA WANTED COX  
29 TO DISCOUNT COX'S MILEAGE SENSITIVE RATE ELEMENT FOR  
30 CONNECTING FACILITIES – SO CALLED “ENTRANCE FACILITIES”.  
31 WHAT IS THAT ISSUE ALL ABOUT.

32

33 A. Entrance Facilities, typically one way telecommunication trunk groups, are  
34 used to connect networks together at a switching office to which traffic is  
35 being terminated for the exchange of traffic between those networks.  
36 These facilities have a number of traffic transmission supporting  
components which are aggregated into groups called chargeable

1 elements. In turn these chargeable elements can be further divided into  
2 those for which a flat or fixed monthly rate applies, independent of  
3 distance, and another distance sensitive component. BA-VA charges for  
4 both of these components but is attempting to force Cox to eliminate  
5 Cox's distance sensitive charges.

6  
7 Cox's position is that these charges should be even-handed. Cox either  
8 transports the Cox traffic itself for termination to the BA-VA IP/POI or pays  
9 BA-VA for both the distance sensitive and non-sensitive components  
10 when leasing an entrance facility from BA-VA. When the situation is  
11 reversed the chargeable elements should apply to BA-VA. BA-VA is out  
12 of line seeking a one-sided discount by paying only one of them - the  
13 non-distance-sensitive component.

14  
15  
16 Q. WHAT WOULD YOU ASK THE COMMISSION TO DO WITH RESPECT  
17 TO THIS ISSUE?

18  
19 A. I ask that the Commission support the clear intent of the Act and the clear  
20 Implementation Orders of the FCC regarding this issue. That is, to rule  
21 that BA-VA, in its position as a local exchange traffic co-carrier, does not  
22 warrant any Commission mandated or dictated discounts from Cox which  
23 is what BA-VA is seeking. Note again that the Cox rate structure follows  
24 the same pattern as the BA-VA rate structure, that Cox is required to pay,  
25 with respect to this issue. The Commission should reject BA-VA's  
26 proposed language.

27  
28 Q. DR. COLLINS, WHAT IS THE COLLOCATION ISSUE (COX No. 4)  
29 OVER WHICH THE POSITIONS OF BA-VA AND COX APPEAR TO BE  
30 IN CONFLICT?

31  
32 A. Neither the Act nor the FCC's Orders require new market entrants to  
33 provide Collocation to other Carriers and for the good and sufficient  
34 reasons discussed below. It is an obligation that has, by law, only been  
35 levied against incumbent carriers such as BA-VA and yet BA-VA has  
36 insisted that the Agreement contain language that obligates Cox to

1 provide collocation to BA-VA to accomplish interconnection. On the other  
2 hand, Cox has offered a number of interconnection possibilities to BA-VA  
3 any one of which is suitable to the purpose.  
4

5 Cox permits certain customers to house equipment at its premises for  
6 specific purposes but none of these purposes is for the interconnection of  
7 the networks of two local exchange carriers to which BA-VA is holding the  
8 completion of the Interconnection Agreement hostage.  
9

10 The provision of collocation is not symmetrical under the requirements of  
11 the Act or the FCC for good reason. The new market entrants are and will  
12 experience tremendous rates of growth as their market penetration  
13 increases and as latent network usage is released from existing  
14 customers because of the benefits of competition. This growth is starting  
15 from a zero baseline and is generally difficult to forecast. Therefore the  
16 needs for network elements, switching capacity and facility space is  
17 somewhat unknown. To add to that the unforeseen demands for facility  
18 space and supporting infrastructure that would be introduced by requests  
19 for collocation from incumbent carriers would make the situation extremely  
20 burdensome from a management, construction/implementation and  
21 capital investment needs perspective.  
22

23 The incumbents, on the other hand, have huge networks already in place  
24 upon which the increases in traffic due to released latency and first time  
25 customers will offset losses in traffic levels due to the competitive losses  
26 of customers. The end result is a process of growth that can be managed  
27 more easily and as a percent of capital investment is inconsequential.  
28 Additionally, the downsizing of central and tandem office switching and  
29 transmission equipment over the past decade has left significant amounts  
30 of spare space, spare power, and spare infrastructure support  
31 mechanisms in legacy buildings.  
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Q. WHAT WOULD YOU RECOMMEND THAT THE COMMISSION DO ABOUT THIS ISSUE?

A. I recommend that the Commission remind BA-VA that new market entrants, such as Cox, are not required to provide collocation to the incumbents and that language addressing that issue can only be included in the Agreement by mutual consent. Absent that mutual consent (which does not exist) it is inappropriate for BA-VA to continue the delay of the completion of the Agreement by insisting on the language. The Commission should reject BA-VA's proposal and accept the proposed language of Cox as shown on Exhibit No. 3 and on Exhibit No. 6.

Q. IN COX ISSUE NO. (5) YOU INDICATED THAT BA-VA WAS USING THE INTERCONNECTION AGREEMENT AS A MEANS TO FORCE COX TO ENGINEER COX'S NETWORK IN ACCORDANCE WITH BA-VA'S INTERNAL LEGACY NETWORK ENGINEERING GUIDELINES. WHAT ARE THE CIRCUMSTANCES SURROUNDING THIS ISSUE?

A. As background to this issue it is important to know that the new market entrants may employ a network architecture that is different than the legacy network architecture which provides the network skeleton of the incumbent local exchange carriers. As a consequence the engineering technological and economic guidelines for network expansion are significantly different for the new versus the legacy networks.

Cox's network implementation and expansion guidelines are different than those of BA-VA and if Cox were to be forced to use BA-VA's legacy guidelines to expand the Cox network it would simply be inappropriate. Therefore Cox, when delivering traffic to BA-VA for transmission through the BA-VA tandem switches, either to a BA-VA subtending end office or to another Carrier, needs to do so using efficient transmission vehicles – such as DS-3 over fiber optic cable.

1 The DS-3 transmission medium can support 672 voice channels (28  
2 DS-1s) at optimum transmission technological and economic performance  
3 levels. These channels are capable of carrying 21,900 CCS of traffic at a  
4 peaking factor of 1.5 and at the service levels Cox has chosen to provide  
5 high quality service to its customers (Reference: Neal-Wilkinson trunk  
6 capacity tables for full access trunk groups). The closer the loaded  
7 capacity is to 672 channels the more efficiently the system is used. If the  
8 DS-3 capable system is used for far fewer voice channels, the system is  
9 used technologically inefficiently and the per channel capital investment  
10 and recurring cost rises increasing Cox's cost of business operations.

11  
12 BA-VA has insisted that when the traffic loading on a newly installed DS-3  
13 system from Cox to BA-VA's tandem office increases from zero such that  
14 24 channels of capacity, a DS-1, are used to complete traffic to any  
15 specific end office or any specific alternative carrier, Cox must install a  
16 separate trunk group to that end office and/or carrier. If Cox were to  
17 voluntarily comply, or the Commission was to force Cox to comply, it  
18 would mean extending Cox's network in an extremely inefficient manner  
19 and would be force-fitting BA-VA's legacy network engineering guidelines  
20 on the Cox network. The end result would be to decrease the traffic  
21 carrying capacity of a newly installed DS-3 to 463 and not 21,900 CCS  
22 when computed at the same service level and for the same trunking  
23 parameters. This is a decrease in Cox's network efficiency which is a  
24 costly increase in per traffic unit costs.

25  
26

27 Q. YOU INDICATED THAT THERE WAS AN ISSUE RELATED TO TRUNK  
28 GROUP SIZES AND LOADING. WHAT IS THE SUBSTANCE OF THIS  
29 ISSUE AND ITS IMPACT ON COX?

30

31 A. During the first year or two a new market entrant's network traffic will  
32 undergo significant changes and will fluctuate widely from day to day and  
33 week to week. These changes and fluctuations occur because the  
34 customer base is typically in a state of active flux. New customers are  
35 added and their traffic magnitude and patterns (incoming and outgoing)

1 are simply unknown. During this period the traffic contribution of a few  
2 large customers could double the total traffic on the network.

3  
4 Good traffic engineering practices dictate that the traffic which will  
5 terminate to BA-VA during this period of time be terminated at BA-VA's  
6 tandem switches so as to then be routed to the BA-VA customers served  
7 by the end-offices which subtend those tandem switches as well as to  
8 other carrier's networks. The best traffic engineering dictates that BA-VA  
9 should provide one interconnection point per LATA, the Tandem, and then  
10 terminate the traffic on its network as is appropriate.

11  
12 In either case when the traffic is stabilized and the **daily/weekly**  
13 **fluctuations** are less than 10 to 20 percent of the average, direct trunks  
14 should be installed between the end-offices which originate and terminate  
15 significant amounts of traffic on a daily basis. Benchmark measures of  
16 traffic for this trigger point to occur would be fifteen to twenty DS-1s. That  
17 is traffic that would require trunks that could carry between 360 and 480  
18 simultaneous calls.

19  
20 The worst traffic engineering practice would be for the new market entrant  
21 to attempt to guess where the sources and sinks of traffic will be and to  
22 then install trunking capacity between these locations. If the guesses are  
23 incorrect the cost of provisioning and operating these empty trunks will  
24 quickly raise the operating costs such that the company cannot be  
25 profitable.

26  
27 Therefore, it is critical to engineer the network and its topology very  
28 carefully in the first years of operation.

29  
30 BA-VA is insisting that direct trunking be used when there is traffic  
31 represented by trunk capacity that can only carry 24 simultaneous calls  
32 originated by the customers of its competitors to the customers of BA-VA  
33 which are served by the same end office. Even if this made sense, and it  
34 does not, in the early stages of growth the traffic may reach 24  
35 simultaneous calls between end-offices for a short period and then drop  
36 back. If BA-VA is allowed to control this issue and force its inefficient

1 traffic engineering practices on its competitors the end result will be  
2 increased costs. The capital investment costs will increase and the  
3 depreciation and operating expenses will increase.  
4

5

6

7 Q. DR. COLLINS, WHAT WOULD YOU ASK THE COMMISSION TO DO  
8 ABOUT THIS ISSUE?

9

10 A. In the spirit of compromise, Cox has offered to comply with BA-VA's  
11 request at a level of three DS-1s (72 channels and 1,851 CCS against the  
12 system potential of 21,900 CCS) instead of one DS-1 (24 channels and  
13 463 against 21,900 CCS). Although still economically burdensome, as a  
14 comparison of the relative potential traffic levels (1,851 vs 21,900 CCS)  
15 indicates, it is a compromise that Cox has offered to settle this issue. I  
16 recommend that the Commission not force Cox to use BA-VA's legacy  
17 network engineering guidelines for the expansion of Cox's network. This  
18 can be accomplished by the Commission establishing the level of three  
19 DS-1s as the trigger point for requiring a rerouting of traffic from tandem  
20 connectivity to direct BA-VA end office or other carrier network  
21 connectivity.

22

23 Language which will provide for that outcome is included in Cox's Petition  
24 Exhibit No. 6 and Cox's Proposed Language in Exhibit No. 3.

25

26

27 Q. DR. COLLINS, IN COX ISSUE No (6) YOU INDICATED THAT BA-VA  
28 WAS THREATENING TO BLOCK COX TRAFFIC WHICH COX HAS,  
29 THROUGH A BA-VA ACCEPTED TRANSIT ARRANGEMENT, ROUTED  
30 TO OTHER CARRIERS WHO ARE TAKING THE SAME SERVICE FOR  
31 THE SAME PURPOSE. THAT IS TO CONNECT TO A MULTIPLICITY  
32 OF THIRD PARTY CARRIER NETWORKS USING EXISTING BA-VA  
33 CONNECTIVITY. YOU ALSO INDICATED THAT ATTENDANT TO THAT  
34 BLOCKING OF TRAFFIC BA-VA PROPOSED THAT COX ENTER INTO  
35 INTERCONNECTION AGREEMENTS WITH EACH OF A HOST OF  
36 OTHER WIRELINE AND WIRELESS CARRIERS AND REROUTE THE  
BLOCKED TRAFFIC OVER A NEWLY INSTALLED EXPANSION OF

1 THE COX NETWORK, DIRECTLY TO THOSE CARRIERS. WHAT ARE  
2 THE DETAILS OF THIS ISSUE AND WHAT IS COX'S POSITION?  
3

4 A. The position taken by Cox in the negotiations with BA-VA is represented  
5 by the language in Petition Exhibit No. 6 and Cox's Proposed Language in  
6 Exhibit No. 3. This language is the same as that agreed to by Bell Atlantic  
7 in its Rhode Island Interconnection Agreement with Cox.  
8

9 In essence it allows all new market entrants, wireline and wireless, to  
10 terminate traffic on the networks of the others through their mutual  
11 interconnection at the BA-VA tandem switches. This manner of  
12 interconnection has been addressed and affirmed by the FCC in its First  
13 Report and Order implementing the Act at §997. Specifically:  
14

15 "997. Regarding the issue of interconnecting "directly or  
16 indirectly" with the facilities of other telecommunications  
17 carriers, we conclude that telecommunications carriers  
18 should be permitted to provide interconnection pursuant to  
19 section 251(a) either directly or indirectly, based upon their  
20 most efficient technical and economic choices [emphasis  
21 added]. The interconnection obligations under section  
22 251(a) differ from the obligations under section 251(c).  
23 Unlike section 251(c), which applies to incumbent LECs,  
24 section 251(a) interconnection applies to all  
25 telecommunications carriers including those with no market  
26 power. Given the lack of market power by  
27 telecommunication carriers required to provide  
28 interconnection via section 251(a), and the clear language of  
29 the statute, we find that indirect connection (e.g., two non-  
30 incumbent LECs interconnecting with an incumbent LEC's  
31 network) satisfies a telecommunications carrier's duty to  
32 interconnect pursuant to section 251(a) [emphasis added].  
33 We decline to adopt, at this time, Metricom's suggestion to  
34 forbear under section 10 of the 1996 Act<sup>1</sup> from imposing any  
35 interconnection requirements upon non-dominant carriers.  
36 We believe that, even for telecommunications carriers with  
37 no market power, the duty to interconnect directly or  
38 indirectly is central to the 1996 Act and achieves important  
39 policy objectives. Nothing in the record convinces us that  
40 we should forbear from imposing the provisions of section

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<sup>1</sup> 47 U.S.C. § 160.

1 251(a) on non-dominant carriers. In fact, section 251  
2 distinguishes between dominant and non-dominant carriers,  
3 and imposes a number of additional obligations exclusively  
4 on incumbent LECs.<sup>2</sup> Similarly, we also do not agree with  
5 the Texas Commission's argument that the obligations of  
6 section 251(a) should apply equally to all  
7 telecommunications carriers. Section 251 is clear in  
8 imposing different obligations on carriers depending upon  
9 their classification (*i.e.*, incumbent LEC, LEC, or  
10 telecommunications carrier).<sup>3</sup> For example, section 251(c)  
11 specifically imposes obligations upon incumbent LECs to  
12 interconnect, upon request, at all technically feasible points.  
13 This direct interconnection, however, is not required under  
14 section 251(a) of all telecommunications carriers [emphasis  
15 added].”

16

17 §251(a)(1) is presented below for reference:

18

19 **“SEC. 251. INTERCONNECTION.**

20 (a) GENERAL DUTY OF TELECOMMUNICATIONS  
21 CARRIERS- Each telecommunications carrier has the duty--  
22 (1) to interconnect *directly* or *indirectly* [emphasis added]  
23 with the facilities and equipment of other  
24 telecommunications carriers;  
25 and ----”

26

27 It is clear from the plain language of the Act and §997 of the FCC's First  
28 Report and Order that new market entrants must interconnect with each  
29 other and that one of the ordered methods for doing so is through a  
30 mutual interconnection to the incumbent carrier's network.

31

32

33 Q. YOU INDICATED THAT AN ATTENDANT ISSUE WAS BA-VA'S  
34 ATTEMPT TO FORCE COX INTO NEGOTIATING INTERCONNECTION  
35 AGREEMENTS WITH EACH OF THE OTHER WIRELINE AND  
36 WIRELESS CARRIERS TO WHOM BA-VA DELIVERED, VIA ITS  
37 OFFERED TRANSIT SERVICE, THE TELEPHONE TRAFFIC

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<sup>2</sup> See 47 U.S.C. § 251. The 1996 Act makes further provisions for rural carriers and, upon an appropriate showing, carriers serving fewer than 2 percent of the nation's access lines. See 47 U.S.C. § 251(f)(1), (f)(2).

<sup>3</sup> 47 U.S.C. § 251.

1           ORIGINATING ON COX'S NETWORK FOR TERMINATION BY THOSE  
2           CARRIERS. WHAT ARE THE DETAILS UNDERLYING THIS  
3           ATTENDANT ISSUE AND WHAT IS COX'S POSITION WITH<sup>4</sup> RESPECT  
4           TO IT?

5  
6       A.     The issue is whether or not BA-VA can dictate Cox's business practices.  
7           BA-VA is attempting to do so and in a manner that increases Cox's cost of  
8           doing business. Cox has used and will continue to use BA-VA's offered  
9           "transit service". This service passes through traffic originating on Cox's  
10          network to the wireline or wireless carrier serving the customer to whom  
11          that traffic is intended to terminate. It includes smaller carrier's to whom  
12          Cox may send only a few minutes of traffic a month. Full compensation  
13          for that service, in all of its aspects including transaction costs and the  
14          termination charges levied by the terminating carrier on BA-VA, is charged  
15          by BA-VA to Cox and paid by Cox to BA-VA.

16  
17          BA-VA proposes that Cox not avail itself of the indirect interconnectivity  
18          provided by the Act and the FCC, by-pass BA-VA's network, and connect  
19          directly to each wireline and wireless carrier to whom Cox may be required  
20          to deliver some amount of telephone traffic. This would require Cox to  
21          also have an Interconnection Agreement with each of these carriers as  
22          well. The consequence is a significant and unnecessary increase in Cox's  
23          cost to terminate the traffic sent by Cox's customers to the customers of  
24          the other carriers. Therefore, Cox opposes the language BA-VA has  
25          created to cause the situation described above to happen.

26  
27          Additionally, BA-VA would limit the amount of traffic that Cox can deliver  
28          under BA-VA's transit service arrangements to another carrier to that  
29          supported by one DS-1 (463 CCS). As more fully discussed under Cox  
30          Issue No. 5 above it would set that limit at only 2% of the capacity of a  
31          Cox DS-3. To help settle this issue, Cox has offered language in Petition  
32          Exhibit No. 6 and Cox's Proposed Language in Exhibit No. 3, which is  
33          currently operational between Cox and Bell Atlantic in Rhode Island and

1           which will provide the same balanced solution to this issue as it has in  
2           Rhode Island.

3  
4  
5       **Q.    DR. COLLINS, WHAT IS YOUR RECOMMENDATION TO THE**  
6       **COMMISSION REGARDING THIS ISSUE?**

7  
8       **A.    My recommendation is that the Commission use the language**  
9       **recommended by Cox, and included in Petition Exhibit No. 6 and Cox's**  
10       **Proposed Language in Exhibit No. 3, to rationalize this issue. As noted**  
11       **above that language was accepted by Bell Atlantic because it is**  
12       **consistent with the requirements of the Act and the FCC's Order and**  
13       **5 makes good network engineering and economic sense. In contrast,**  
14       **BA-VA's current position in Virginia is contrary to the Act and the FCC's**  
15       **Order and serves only to increase the capital investment and network**  
16       **operating costs of new market entrants. The Commission should reject**  
17       **BA-VA's proposal and accept the proposed language of Cox as shown on**  
18       **Exhibit No. 3 and on Exhibit No. 6.**

19  
20  
21       **Q.    IN COX ISSUE No. (7) YOU INDICATED THAT BA-VA ATTEMPTED TO**  
22       **USE THE INTERCONNECTION AGREEMENT TO ESTABLISH A**  
23       **FAVORABLE TYPE OF INTERCONNECTION IN ANTICIPATION OF**  
24       **THEIR BEING GRANTED "271" RELIEF. WOULD YOU PLEASE**  
25       **PROVIDE FURTHER ELABORATION OF THIS ISSUE?**

26  
27       **A.    In essence BA-VA wants to include in the local exchange Interconnection**  
28       **Agreement terms and conditions for the delivery of InterLATA long**  
29       **distance traffic which is intended to terminate to Cox's customers. BA-VA**  
30       **wants to deliver that traffic over the "Traffic Exchange Trunks" used for**  
31       **other traffic. Cox, on the other hand, intends to treat "BA-VA Long**  
32       **Distance" just as it does other long distance companies such as AT&T,**  
33       **WorldCom and Sprint. BA-VA is opposed to such equal treatment.**

34

1 It appears to Cox that BA-VA is holding the Interconnection Agreement for  
2 local exchange interconnection and services hostage to BA-VA's long  
3 distance aspirations.

4

5 Q. DR. COLLINS, HOW COULD THE COMMISSION SETTLE THIS ISSUE?

6

7 A. If the Commission adopts the Cox language in Petition Exhibit No. 6 and  
8 Cox's proposed language in Exhibit No. 3 the issue will be settled. In the  
9 terms of that language Cox will handle the traffic from "BA-VA Long  
10 Distance" just as it does for the traffic from *the other interexchange*  
11 competitors of BA-VA. The Commission should reject BA-VA's proposed  
12 language.

13

14

15 Q. IN COX ISSUE No. (8) YOU INDICATED THAT COX'S VIEW WAS THAT  
16 BA-VA SHOULD NOT EXEMPT LOCAL TRAFFIC TERMINATING AT  
17 INTERNET SERVICE PROVIDERS FROM THE TOTAL POOL OF  
18 LOCAL TRAFFIC FOR WHICH RECIPROCAL COMPENSATION WAS  
19 DUE. WOULD YOU EXPLAIN THIS ISSUE AND COX'S POSITION  
20 MORE FULLY?

21

22 A. The origination and termination points of a call, for the purpose of billing,  
23 are determined by the vertical and horizontal coordinates of the rate  
24 centers associated with the first six digits (i.e., NPA-NXX) of the called-  
25 party's telephone number. That is the case when a local call is placed to  
26 a business regardless of where that business routes the call for its internal  
27 business purposes. The call could be forwarded to a distant call  
28 answering or customer service center in another state, for example. It  
29 could be a call answering or customer service center in the same state but  
30 in a different LATA or outside of the local calling area within the originating  
31 LATA. There is simply no way of knowing where the call actually winds up  
32 and historically that has not been a problem because when the call  
33 originated and terminated at NXXs in the local or EAS calling area it has  
34 been classified as a local or EAS call for routing, end user billing,  
35 accounting, and separations.

36

1 BA-VA would like Cox to set decades of such call type determination  
2 history aside and treat local calls to internet service providers differently.  
3 Cox is unwilling to do so independent of whether the call originates on  
4 Cox's network and terminates to BA-VA's network or vice versa. Cox  
5 wants that traffic to be classified as it should be – local or EAS, and Cox  
6 will pay BA-VA for terminating Cox's local or EAS traffic and expects  
7 BA-VA to pay when Cox terminates BA-VA's local or EAS traffic. The  
8 treatment will be fair and symmetrical.

9  
10  
11 Q. WHAT CAN THE COMMISSION DO TO SOLVE THIS DIFFERENCE  
12 BETWEEN BA-VA AND COX?

13  
14 A. I recommend that the Commission approve the language used to address  
15 this issue as Cox has provided it in Petition Exhibit No. 6 and Cox's  
16 Proposed Language in Exhibit No. 3. This will provide a clear and  
17 balanced treatment of the issue.

18  
19  
20 Q. DR. COLLINS, COX ISSUE No. (9) CLAIMS THAT BA-VA IS  
21 ATTEMPTING TO REQUIRE COX TO FORECAST THE TRAFFIC  
22 ORIGINATED BY BA-VA'S CUSTOMER'S WHICH TERMINATES TO  
23 COX CUSTOMERS. IS THAT THE CASE?

24  
25 A. It appears to be. Even though Cox does not have access to those  
26 customer's records, nor does Cox have the ability to measure their total  
27 originating traffic, nor does Cox determine how BA-VA chooses to route  
28 the traffic internal to the BA-VA network, BA-VA appears to demand that  
29 Cox look into a crystal ball and provide a traffic forecasting service for  
30 BA-VA. To wit, the BA-VA language is presented below for reference:

31  
32 **"10.3.1 Trunk Administration.** For Traffic Exchange Trunk  
33 groups, Cox will be responsible for monitoring traffic loads  
34 and service levels on the one-way trunk groups carrying  
35 traffic from Cox to BA; and BA will be responsible for  
36 monitoring traffic loads and service levels on the one-way

1 trunk groups carrying traffic from BA to Cox. Cox will  
2 determine the sizing and timing of new trunk groups and  
3 trunk group additions for trunk groups carrying traffic from  
4 Cox to BA. BA will determine the sizing and timing of new  
5 trunk groups and trunk group additions for trunk groups  
6 carrying traffic from BA to Cox. When Cox is aware of  
7 unusual events affecting the volume of traffic and required  
8 trunks in either direction (e.g., Cox signs up a new  
9 Information Services Provider), Cox will contact BA to plan  
10 and implement (if necessary) new trunk groups and trunk  
11 group additions.”

12  
13 “10.3.2 Trunk Forecasts. Within ninety (90) days of the  
14 Effective Date, Cox shall provide BA a two (2) year traffic  
15 forecast of all Traffic Exchange Trunk groups over the next  
16 eight (8) quarters in accordance with the BA CLEC  
17 Interconnection Trunking Forecast Guide. Because the  
18 Customer segments and service segments within Customer  
19 segments to whom Cox markets its services are the most  
20 significant factors affecting the number of trunks needed to  
21 handle traffic volume in both directions, *the Cox trunk*  
22 *forecast will include trunk groups carrying traffic from Cox to*  
23 *BA, and trunk groups carrying traffic from BA to Cox*  
24 [emphasis added]. Cox’s forecast shall be updated and  
25 provided to BA on an as-needed basis but no less frequently  
26 than semiannually. Cox’s forecast shall include, at a  
27 minimum, Access Carrier Terminal Location (“ACTL”), traffic  
28 type (Local Traffic/Toll Traffic, Operator Services, 911, etc.),  
29 code (identifies trunk group), A location/Z location (CLLI  
30 codes for Cox-IP’s and BA-IP’s), interface type (e.g., DS1),  
31 and trunks in service each year (cumulative). BA agrees that  
32 such forecasts shall be subject to the confidentiality  
33 provisions - - - “

34  
35 The Trunk Administration language proposed by BA-VA in §10.3.1 clearly  
36 indicates that Cox and BA-VA are responsible for engineering their own

1 one way trunk groups that are used to carry traffic to the other. Yet,  
2 referring to the italicized language BA-VA has proposed for §10.3.2 it is  
3 clear that BA-VA wants Cox to provide the traffic forecast for BA-VA's  
4 customers who initiate calls to Cox customers. The BA-VA position on  
5 this issue simply does not make sense nor does it present a feasible  
6 alternative to BA-VA's doing its own forecasting.

7  
8 Cox's language, as contained in Petition Exhibit No. 6 and Cox's  
9 Proposed Language in Exhibit No. 3 reflects an accommodation by Cox,  
10 offered to resolve this issue, and allows BA to provide its forecast to Cox  
11 on an optional basis. In addition it provides for advanced notice between  
12 companies when any special situations arise which may influence traffic  
13 forecasts in an unexpected way. It also provides for a reconciliation of the  
14 forecasts between the companies. It is effective, fair and balanced.

15  
16  
17 Q. HOW CAN THE COMMISSION RECTIFY THE DIFFERENCE BETWEEN  
18 COX AND BA-VA ON THIS ISSUE?

19  
20 A. The Commission can arrive at a settlement of this issue by recognizing  
21 that historically all telephone companies did their own traffic forecasting.  
22 There are two primary reasons for this fact. First, the level of service each  
23 company provides to its customers on its own network depends on this  
24 forecast and the company's reputation for quality service depends on it.  
25 Second, when a call traverses two networks and one provides poor  
26 service, the calling and called parties cannot distinguish which network is  
27 at fault but is likely to blame the "new" company for any problem. Cox  
28 does not want to accept the responsibility for "guessing" what BA-VA's  
29 traffic levels will be when BA-VA can provide to itself, for the reasons  
30 presented above, a more solidly based and accurate forecast.

31  
32 If the Commission approves the language related to this issue as it  
33 appears in Petition Exhibit No. 6 and Cox's Proposed Language in Exhibit  
34 No. 3 the result will be a balanced treatment of forecasting and one that  
35 can be implemented.

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Q. DR. COLLINS, COX ISSUE No. (10) REGARDS COX'S BELIEF THAT BA-VA IS INSISTING THAT IT HAS THE AUTHORITY AND RIGHT TO INTRUSIVELY MONITOR COX'S ACCESS TO AND USE OF CUSTOMER PROPRIETARY NETWORK INFORMATION (CPNI) WHICH BA-VA MAKES AVAILABLE TO COX THROUGH THE INTERCONNECTION AGREEMENT. WHAT IS THE BASIS FOR THIS BELIEF AND WHAT POSITION DOES COX HAVE ON THIS ISSUE?

A. BA-VA's position is clearly set out in the language it has attempted to force into the Interconnection Agreement. That is:

“BA shall have the right to monitor and/or audit Cox’s access to and use and/or disclosure of Customer Proprietary Network Information that is made available by BA to Cox pursuant to this Agreement to ascertain whether Cox is complying with the requirements of Applicable Law and this Agreement with regard to such access, use, and/or disclosure. To the extent permitted by Applicable Law, the foregoing right shall include, but not be limited to, the right to electronically monitor Cox’s access to and use of Customer Proprietary Network Information that is made available by BA to Cox pursuant to this Agreement.”

It is Cox’s position that the BA-VA language assumes a number of things that are in fact not supportable. First, BA-VA has no statutory authority to act as an arm of either state or federal law enforcement bodies. Cox is obligated by Agreement and Law to act responsibly and in accordance with the law as to the CPNI information. Second, electronic monitoring by BA-VA of Cox’s use of the information would require intrusive access to Cox’s internal systems, which support the storage, retrieval, and application of such information. These systems are part of a coherent set of systems which assist in managing practically all aspects of Cox’s business and access to one component could be used to access all components. Cox simply does not want to grant rights to BA-VA, under

1 the guise of the Interconnection Agreement, which opens Cox to the  
2 possibility of someone computer hacking around inside Cox's business  
3 application programs.  
4

5

6

7 Q. HOW WOULD YOU PROPOSE THE COMMISSION DEAL WITH THE  
8 BA-VA LANGUAGE?

9

10 A. I propose that the language and the issue be stricken in their entirety. The  
11 Commission should reject BA-VA's proposed language.  
12

13

14

15 Q. DR. COLLINS, YOU CLAIMED IN YOUR SUMMARY OF THE ISSUES  
16 FOR THE COMMISSION, IN COX ISSUE No. (11), BA-VA REPEATEDLY  
17 ATTEMPTED TO USE THE INTERCONNECTION AGREEMENT TO  
18 ESTABLISH CAPS ON THE RATES AND CHARGES THAT COX COULD  
19 TARIFF FOR COX'S SERVICES, FACILITIES AND SERVICE  
20 ARRANGEMENTS. WOULD YOU CLARIFY WHAT THE SUBSTANCE  
21 OF THIS ISSUE IS AND WHAT COX'S POSITION IS WITH RESPECT  
22 TO IT?

23

24 A. BA-VA is apparently of the opinion that, because it is, by far the market  
25 leader, its rates and its charges should trump those desired to be filed by  
26 new market entrants. To that end BA-VA has proposed in one section of  
27 the Agreement that:

28

29 **"§20.3 - - - ; provided, further that Cox may not charge BA**  
30 **a rate higher than the BA rates and charges for the same**  
31 **services, facilities and arrangements."**

32

33 It is readily apparent that BA-VA is attempting to force an upper bound on  
34 Cox's Tariffed rates and charges. Cox's cost structure is different than  
35 that of BA-VA because of a host of reasons. Not the least of which is  
36 BA-VA's purchasing power, now vastly expanded through its merger into  
the new Verizon. If Cox's cost basis is higher than BA-VA's, which is  
likely to be the case, then to accept BA-VA's caps would be to narrow the

1 margin for any potential coverage for those costs. The result would be to  
2 decrease Cox's ability to sustain itself in the marketplace. Clearly, Cox  
3 can not and does not support BA-VA's anti-competitive language.  
4

5

6 Q. WHAT WOULD COX ASK THE COMMISSION TO DO WITH RESPECT  
7 TO THIS ISSUE?

8

9 A. I recommend that the Commission strike the language in its entirety so  
10 that each carrier can set its own rates and charges, subject to conditions  
11 outside of the Interconnection Agreement. The Commission should reject  
12 BA-VA's proposed language.  
13

14

15

16

17 Q. DR. COLLINS, COX ISSUE (12) INDICATES THAT IN COX'S OPINION  
18 BA-VA ATTEMPTED TO USE THE INTERCONNECTION AGREEMENT  
19 TO FORCE COX TO TEMPORARILY RECONFIGURE ITS  
20 INTERCONNECTION ARRANGEMENTS WITH BA-VA WHILE  
21 NEGOTIATING A POTENTIAL RENEWAL OF THIS CURRENT  
22 AGREEMENT (THE AGREEMENT UNDER ARBITRATION) AS  
23 PERMITTED BY THE ACT. IN WHAT MANNER DID BA-VA MAKE  
24 THAT ATTEMPT AND WHAT IS COX'S POSITION ON THE ISSUE?

25

26 A. Section 22.3 of the Interconnection Agreement, which is currently being  
27 negotiated and arbitrated, addresses the circumstance wherein services  
28 are continued while a continuation of the Agreement is being negotiated.  
29 BA-VA wants to supersede the Agreement in effect at that time by its  
30 Statement of General Terms and Conditions, presuming it has one and as  
31 it exists at the time, during the period of subsequent negotiations. Cox  
32 believes that this temporary replacement of Agreements may require Cox  
33 to reconfigure its interconnection arrangements to comply with the terms  
34 of that Statement only to then undo those reconfigurations again to match  
35 into the negotiated agreement.

1 This reconfiguration is likely to be disruptive to Cox's customers, costly to  
2 achieve, and difficult to implement within the context of an operating  
3 network. Cox has insisted that the terms of the BA-VA Agreement upon  
4 which all network interconnections and services have been based remain  
5 in place on an interim basis. The processes and time period for  
6 negotiating a continuation of an existing agreement or a new  
7 interconnection agreement under the Act are well understood. Therefore  
8 the interim period is fairly well constrained by law and the only exception  
9 would be through the mutual consent of BA-VA and Cox. BA-VA is fully  
10 protected as a result. Therefore, Cox has established what it believes is a  
11 balanced position that minimizes the potential for unnecessary costs and  
12 provides the best foundation for the negotiations.  
13  
14

15 Q. WHAT WOULD COX LIKE THE COMMISSION TO DO WITH RESPECT  
16 TO THIS ISSUE?

17  
18 A. My recommendation to the Commission is that they approve the language  
19 contained in Petition Exhibit No. 6 and Cox's Proposed Language in  
20 Exhibit No. 3 addressing this issue. That language provides for a  
21 continuation of the BA-VA / Cox Interconnection Agreement in place at  
22 the time while the new Agreement is negotiated. The period provided  
23 under the Act for those new negotiations is limited and BA-VA will not  
24 suffer financial or other harm outside of the terms of the agreement during  
25 that time.  
26  
27

28 Q. COX ISSUE No. (13) ADDRESSES THE TERMINATION OF COX'S  
29 ACCESS TO BA-VA'S OPERATIONAL SUPPORT SYSTEMS ("OSS"s).  
30 WHAT IS THE NATURE OF THE DIFFERENCES BETWEEN COX AND  
31 BA-VA ON THAT ISSUE?  
32

33 A. The Interconnection Agreement contains a termination section (§22.6)  
34 that governs the processes and time frames to be used if either Party  
35 abrogates the Agreement in whole or in part in material ways. Cox's  
36 position is that because these clauses are applicable to Cox's use of

1 BA-VA's OSS it is not necessary to have yet other processes and times  
2 associated with non-compliance related to the use of the OSS. . In the  
3 hope of settlement, Cox offered to agree that such non-compliance would  
4 constitute a material (rather than non-material or minor) breach of the  
5 Agreement and that the processes and time frames applicable to material  
6 breaches would therefore apply. This offer by Cox allows BA-VA all of the  
7 power of the "Term and Termination" section of the Agreement and, from  
8 an administration viewpoint, should be sufficient.

9  
10

11 Q. HAS COX INCLUDED APPROPRIATE LANGUAGE IN EXHIBIT NO. 6  
12 AND COX'S PROPOSED LANGUAGE IN EXHIBIT NO. 3 TO THE  
13 PETITION FOR ARBITRATION TO SOLVE THIS ISSUE?

14

15 A. Yes, the language covers the points I have made above.

16

17

18 Q. DR. COLLINS, DOES THIS CONCLUDE YOUR TESTIMONY ON THE  
19 ISSUES FOR WHICH COX IS SEEKING ARBITRATION?

20

21 A. Yes, it does.

22

1  
2  
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7

**EXHIBIT -A-**  
  
**CV OF DR. COLLINS**

1 PROFESSOR FRANCIS R. COLLINS

2  
3  
4 Dr. Collins is a senior member of the International Telecommunications  
5 Industry. He has made significant contributions to the science, engineering,  
6 business development and evolution of that industry. His professional science  
7 and engineering focus over the years has been the System Architecture, Design  
8 and Implementation of large scale public and private telecommunications and  
9 teleprocessing systems and networks. A few of the many possible examples  
10 are: the design and creation of the fundamental plan which included operations,  
11 finance, technology and training for the Public Switched Network in Saudi Arabia;  
12 a technical audit and re-engineering of the communications and telemetry  
13 systems serving the oil and gas fields in Algeria; the specification for operational  
14 and technology improvements in NIRT, the National Iranian Television Company;  
15 numbers of technical and economic audits of operating telephone companies in  
16 the United States; the technical audit and specification for quick fix technical  
17 improvements to the local exchange plant for CANTV, the telecommunications  
18 provider in Venezuela; the establishment of a strategy for and the technical  
19 evaluation of the proposals for the alternative telephone company in Australia;  
20 the establishment of competitive strategies for the National and International  
21 telephone companies in Australia; a technical, organizational and financial "due  
22 diligence" study including vendor recommendations for a 2,000,000 line switched  
23 telephone and broadband telecommunication project in Thailand; and from the  
24 commercial sector a few examples are: the design and architectural  
25 implementation of the Florists' Transworld Delivery (FTD) Mercury Network in  
26 North America; the design of corporate nationwide telecommunications and  
27 teleprocessing systems for a host of industrial clients and the provision of  
28 technical and economic counsel to communications co-carriers.

29  
30 Dr. Collins, among other professional assignments, has served as an  
31 advisor on Information and Technology to Governor Weld (Massachusetts). In  
32 addition he has served as member of the Board of Directors of both the  
33 Massachusetts Society of Professional Engineers and its Metropolitan Boston  
34 Chapter.

35

1 While; a teaching professor, a Dean of Engineering, and a Provost of the  
2 University at Boston University, Dr. Collins provided consulting services in: Public  
3 Policy; Business Analysis; Revenue Production Strategy Development; the  
4 application of Science and Engineering to the design and development of public  
5 switched networks; and Economic and Financial Counsel. This work has been  
6 done for the national and international telecommunications, cable television, and  
7 information technology community.

8

9 Dr. Collins' own applied research is in the design and implementation of  
10 unique communications, teleprocessing and information technology systems and  
11 the requisite requirements analysis and system design. In addition Dr. Collins  
12 has pursued an intellectually stimulating aspect of being a telecommunications  
13 scientist and professional engineer, that of addressing issues related to Public  
14 Switched Telecommunication System Design, Telecommunications Public Policy  
15 Development; Telephone Operating Revenue Requirements and Rate Design  
16 Issues for Developed and Developing Countries across the world. In addition the  
17 technological, economic and public policy concerns and issues to be faced in the  
18 introduction of technology and competition into those public telecommunication  
19 and broadband networks. For the past few years Dr. Collins' interests have  
20 centered on the introduction of deregulation and competition to the inter LATA,  
21 intra-state toll, and most recently the local exchange marketplace.

22

23 Recently specific areas of work have included:

24

25 - Providing economic and technical counsel to state governments and the  
26 representation of co-carriers in negotiations between LECs and CLECs to  
27 arrive at co-carrier agreements which satisfy the 96 Telecommunications  
28 Act requirements, currently in California, Connecticut, Idaho, New  
29 Hampshire, Massachusetts, New York, Nevada, Oklahoma, Rhode Island  
30 and Virginia.

31

32 - The determination of the approach for and subsequent review of Total  
33 Service Long Run Incremental Cost Studies for the establishment of cost  
34 elements (and subsequently rates) for unbundled local exchange  
35 networks;

36

- 1 - The provision of technical and economic counsel to and representation  
2 of parties in TSLRIC cost methodology development workshops whose  
3 goals are to make recommendations to regulatory bodies;  
4
- 5 - Member of the Connecticut Telecom Industry Operations Task Force  
6 which was established by the Connecticut Commission;  
7
- 8 - Member of the State of Connecticut Technical and Economic Task force  
9 providing oversight to the implementation of Alternative Regulation for  
10 SNET;  
11
- 12 - Technical Counsel to the Connecticut Carrier Change Process sub-  
13 committee established by the Connecticut Commission;  
14
- 15 - Member of the State of California PUC E911;  
16
- 17 - Member of the State of California Local Number Portability Task Force  
18 since its inception in 1995;  
19
- 20 - Representative to the West Coast Number Portability Limited Liability  
21 Corporation;  
22
- 23 - Member of the State of California Task Force on Billing and Routing;  
24
- 25 - The provision of Technical and Economic Counsel to the a California  
26 Association regarding: NPA/NXX issues; New Regulatory Framework  
27 issues; Local Competition Rule issues; issues underlying Local Number  
28 Portability; the Provision of Emergency Services; Open Network and  
29 Network Architecture Issues, and the implications of the  
30 Telecommunications Act of 1996;  
31
- 32 - Technical and Economic Audits for Operating Telephone Companies,  
33 focusing on the Construction Program, the resulting Capital Investment,  
34 and its effect on the Rate Base;  
35

- 1 - The design of a multi-variable computer program for doing first cost and  
2 upgrade costs of CATV and Video Dialtone Broadband Networks;  
3  
4 - The review and analysis of proposed Capital Programs and the proper  
5 allocation of costs to regulated and competitive services for local  
6 exchange operating telephone companies;  
7  
8 - The assessment of proposed Rate Design Structures and their  
9 relationship to the Capital Investment and the utility of that investment;  
10  
11 - The technical audit of portions of the CANTV Network in Venezuela with  
12 the recommendation for immediate and cost effect upgrading of that  
13 network through the evolutionary introduction of technology to the Capital  
14 Program;  
15  
16 - For the government of Australia, the evaluation of the optimum manner  
17 of introducing a significant advanced technology expansion to the existing  
18 network through the establishment of a "Second Carrier" for domestic  
19 local and long distance service;  
20  
21 - The managerial oversight of the design and implementation of a  
22 comprehensive training program in Saudi Arabia;  
23  
24 - The development of a major 124 hour technical training program in  
25 telecommunications and advanced broadband services for NYNEX. The  
26 program ran three years and over 1,200 staff members were trained.  
27  
28 - The technical and economic audit of a 2,000,000 line, 2.8 billion dollar  
29 expansion of the public network for video, data and voice services in the  
30 greater Bangkok, Thailand area for an investment banking firm's due  
31 diligence effort;  
32  
33 - The Creation of the Fundamental Plan for the terrestrial and satellite  
34 based Public Switched Network for Saudi Arabia for; Operations,  
35 Revenue Requirements, Tariff Structures, Organizational Structures and  
36 Technology Introduction;

- 1
- 2       - The Creation of the Specifications for the Loop, Switching and Trunking
- 3       Equipment to Implement the Saudi Arabian Public Switched Network;
- 4
- 5       - The Architectural Oversight of the Implementation of the Public Switched
- 6       Network in Saudi Arabia;
- 7
- 8       - The Analysis and Synthesis of an International Gateway Network using
- 9       Space Satellite Links for Saudi Arabia;
- 10
- 11      - The Design of a National Video and Digital Data Network for National
- 12      Iranian Television;
- 13
- 14      - The Analysis leading to recommendations for rectifying problems in the
- 15      Telecommunications supporting the gas and oil fields in the Algerian
- 16      Sahara;
- 17
- 18      - The design of a Space Satellite International Gateway Complex to
- 19      support international communications to/from The Republic of Vietnam;
- 20
- 21      - The Planning and Design for a Voice and Data terrestrial and Satellite
- 22      base Telecommunication System for the Provision of Educational and
- 23      Medical Services to remote regions in the United States;
- 24
- 25      - The analysis required for the design and then the design, installation,
- 26      staff training, and establishment of operational and cost control systems
- 27      for nationwide voice, television and data networks for private industry and
- 28      national governments. These include projections of needed
- 29      telecommunications capacity and services based on Operational
- 30      Research methods applied to the particular situation;
- 31
- 32      - The Architectural Design;, Public Policy Impact Analysis; and Financial
- 33      Impact Assessment; System and Subsystem Specification; Integration,
- 34      Test and Evaluation of Large Scale Teleprocessing systems;
- 35

- 1           - The specification of components for nationwide on-line, real time
- 2           voice/data systems employing thousands of terminals;
- 3
- 4           - The architectural design and engineering specification for mobile
- 5           telephone systems considering the cost performance aspects of standard
- 6           vs cellular configurations;
- 7
- 8           - The integration of cellular signaling and billing transmission protocols
- 9           with Equal Access, Feature Group D formats;
- 10
- 11          - The evaluation of start-up companies and their products for investors or
- 12          venture capital concerns;
- 13
- 14

15           Dr. Collins has had thirty four years of experience as a systems engineer,  
16           engineering manager, executive and senior consultant in the telecommunication,  
17           navigation and digital electronic fields. He is recognized as an international  
18           expert in telecommunications; science, technology, economics and public policy.  
19           As a member of technical, middle and top management levels, he has held  
20           marketing, profit, overhead, cost, planning, and administrative control positions  
21           for a number of top companies: Bell Telephone Laboratories, the MITRE  
22           Corporation, the Magnavox Company, Analytical Systems Corporation, Arthur D.  
23           Little, Inc., and Boston University.

24

25           His Executive Management positions have included:

- 26          -       Executive Project Manager, the MITRE Corp.;
- 27          -       Director, the Magnavox Communications Research Laboratories;
- 28          -       Executive Vice President, The Analytical Systems and Engineering
- 29          Corporation;
- 30          -       Managing Project Director, Arthur D. Little Inc.;
- 31          -       Dean of the College of Engineering, Boston University;
- 32          -       Provost and Director of Sponsored Research, Boston University;
- 33          -       President, CCL Corporation.

34

35           He is the author of over 100 technical papers and has processed patents  
36           in the design of telecommunications, information technology, and multi-media

1 broadband networks and equipment. He currently is in the process of perfecting  
2 two patents related to the "convergence" of the cable and telephone industries.  
3 In addition, he has accomplished work and published confidential reports in the  
4 areas of requirement analysis and telecommunications system performance and  
5 design for the Army, Navy and Air Force. These systems, both satellite and  
6 terrestrial, typically employed advanced modulation techniques, equipment and  
7 systems to support generic mission profiles.

8

9 Dr. Collins was awarded the B.S.E.E. degree Cum Laude by Northeastern  
10 University and the M.S.E.E. degree with high honors as part of Bell Telephone  
11 Laboratories Educational Program. This certificated program involved additional  
12 higher education above the Masters degree level. These courses were taken at  
13 the Massachusetts Institute of Technology and in residence at the Laboratories.  
14 In that work his educational emphasis was on digital switching and network  
15 transmission systems. His doctorate (Ph.D.) in Telecommunications was  
16 awarded by the Union Graduate School. In addition to being a professorial  
17 member of the faculties of Lowell University, Northeastern University and Boston  
18 University, in 1996 Dr. Collins was appointed to the "International Academy" in  
19 the position of Academician by the Faculty of the University of Moscow, St.  
20 Petersburg, Russia.

21

22

23 Dr. Collins has been a Professor of Engineering of the undergraduate and  
24 graduate school faculties of Northeastern University, Lowell University, and  
25 Boston University. His academic career includes the organization and  
26 presentation of courses in the areas of: digital computer/electronics; solid state  
27 circuit design; synthesis of linear passive bilateral networks; the theory of time  
28 varying fields; the theories of dynamical systems with applications of classical  
29 (transform calculus techniques) and modern (state space formulations) solutions;  
30 communications theory and the design of communications systems. He was a  
31 Professor of Engineering and the Associate Dean for Research of the College of  
32 Engineering at Boston University from 1976 to 1978 and Associate Provost, a  
33 position similar to Executive Vice President, responsible for the research activity  
34 of the University with responsibility for The Office of Research Programs from  
35 1978 to 1981. During his tenure at Boston University Dr. Collins was sought  
36 after for consulting services by national and international businesses, industries,

1 and governments and provided these services to the extent allowed by his  
2 faculty affiliation.

3

4 From 1981 to the present he has been providing consulting services  
5 through CCL Corp. and additionally is "Of Counsel" to a number of other  
6 distinguished firms including Arthur D. Little, Cambridge Strategic Management  
7 Group, Exeter Associates, and J.W. Wilson Associates.

8

9 Dr. Collins is a registered Professional Engineer in the Commonwealth of  
10 Massachusetts; a member of both the Massachusetts and National Societies of  
11 Professional Engineers; a past Vice President and current Executive Board  
12 Member of the Massachusetts Chapter, a member of the Legislative and  
13 Government Affairs subcommittees of the National and Massachusetts  
14 Societies, a member of two national engineering honor societies, Eta Kappa Nu  
15 and Tau Beta Pi; a past member of the Institute of Electrical and Electronics  
16 Engineers; a member of the National Society of Engineering Educators; and a  
17 member of the National Association of Cable Television Engineers. He has  
18 served on numbers of National and International professional advisory boards,  
19 panels, and North American Standards setting Organizations over the years and  
20 has served Internationally as a member of the International Telecommunications  
21 Union in Geneva, Switzerland. He is currently a Distinguished Member of the  
22 National Exchange Carrier Association, several of its standards groups, and its  
23 Executive Steering Committee. Dr. Collins is also an elected member of "Who's  
24 Who Worldwide".

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