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STAFF EX 3

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application	)	
of Cincinnati Bell Telephone Company	)	
for Approval of Retail Pricing Plan	)	Case No. 96-899-TP-ALT
Which May Result in Future Rate	)	
Increases and for a New Alternative	)	
Regulation Plan.	)	

00-0507

TESTIMONY

OF

NADIA L. SOLIMAN

On Behalf of
The Staff of The Public Utilities Commission Of Ohio

March 19, 1999

(Confidential Version)

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I. Introduction

Q. Please state your name and business address.

A. My name is Nadia L. Soliman. My business address is 180 East Broad Street, Columbus, Ohio 43215.

Q. By who are you employed?

A. I am employed by the Public Utilities Commission of Ohio. I work in the Telecommunications Division of the Utilities Department.

Q. What is your current position and duties with the Public Utilities Commission of Ohio?

A. I am a senior Telecommunications Policy Specialist in the Telecommunications Division of the Utilities Department. My duties include the investigation and analysis of issues associated with the Commission's implementation of the 1996 Telecommunications Act and the local competition guidelines. Such duties include analysis of TELRIC studies provided in support of rates charged by incumbent LECs for interconnection services, unbundled network elements, and reciprocal compensation for the transport and termination of local traffic. My duties also include working as mediator in negotiations between competitive carriers to reach an interconnection agreement between their respective companies; working as arbitrator in arbitration proceedings associated with interconnection agreements, which come before the Commission; and working on various carrier-to-carrier complaints cases.

Q. **Would you briefly state your educational background and work experience?**

A. I received my Bachelor of Science degree in Electrical Engineering from Cairo University in 1982 with Major in Electronics and Telecommunications. I had continuing education courses in computer programming from Franklin University. As of June of 1992, I am a Certified Engineer in Training in the State of Ohio.

I began work at the Commission in September of 1987, as a Rate Analyst in the Telecommunications Division. In 1994, I was promoted to a Senior Telecommunications Analyst position. I resumed my current responsibilities as a Senior Telecommunications Policy Specialist on October of 1996.

II. Purpose of Testimony

Q. **What is the purpose of your testimony?**

A. I am responding to various objections to the Staff Report of Investigation (Staff Report) issued in this proceeding, regarding several issues associated with the Total Element Long Run Incremental Cost (TELRIC) studies provided by Cincinnati Bell Telephone Company (CBT). I am providing Staff recommendations to the Commission regarding the newly submitted TELRIC studies for Physical Collocation, Unbundled Dedicated Transport network element, and Loop/Transport Combinations. I am also providing Staff's opinion on proposed revisions to CBT's position presented by Mr. Mette in his supplemental testimony filed on September 28, 1998.

Regarding the objections to the Staff Report, I am specifically responding to CBT's Objections 91, 97 relating to nonrecurring charges for unbundled ports and features, 99, and 102 relating to interoffice facilities and circuit equipment used in the NCAT run for the transport and termination study. I am also responding to MCI Telecommunications Corporation's (MCI) objections 23 relating to ECONCOST model, and objections 25, 26, 33, 34, and 40 relating to nonrecurring charges for unbundled ports and features. I am also addressing AT&T Communications of Ohio, Inc.'s (AT&T) Objection 20 relating to the study period, 22, and 24.

Q. Are you responding to objections filed by different parties even where no testimony was submitted to support the objection?

A. No. I am limiting my testimony to objections that were supported by testimony of the party raising that objection which clarified the purpose of the objection. Accordingly, AT&T objections 13, 21 (second and third parts only), 22, 23, and 30; and MCI objection 23 relating to NCAT model run, and 34 were not supported by testimony to clarify them, and therefore, I am not responding to them.

III. Study Period

Q. What is the Staff's recommendation regarding CBT's proposed study period for TELRIC studies? (MCI # 33 and AT&T #20)

A. The Staff finds CBT's proposed five-year study period for its TELRIC studies to be reasonable and recommends approval of that study period by the Commission. This proposed study period is consistent with Section V.B.4.b.1. of the Commission's local service guidelines.

Q. In your opinion, is a five-year study period reasonable for evaluating forward looking costs? (MCI # 33 and AT&T #20)

A. It is my opinion that, if all assumptions and inputs (*e.g.* investment, usage characteristics, and network configuration) used in calculating the costs, determined at the point of time the study is conducted, are reflective of the expected conditions during that five year period, the results would represent a reasonable estimate of the forward looking costs. Although, the FCC rules do not specify the study period to be used for TELRIC purposes, they do not preclude any specific period. Also, as I mentioned earlier, this recommended study period is consistent with the Commission's local service guidelines.

Q. Is there any alternative proposal addressed by an intervenor for the study period to evaluate forward looking costs in this proceeding?

A. No.

Q. In your opinion, due to the time that has passed since CBT originally filed its TELRIC studies, what is the appropriate study period to rerun these in this case?

A. It has been over two years since CBT originally conducted its TELRIC studies, and almost a year and one-half since the Staff Report was filed. My recommendation regarding the five-year study period does not change. However, I recommend that the Commission establish a study period of five-year starting January 1, 1999, and continuing through December 31, 2003, for CBT to rerun its TELRIC studies pursuant to the Commission directives in this proceeding. This would necessitate that CBT use investment figures representative of this period (January 1, 1999 - December 31, 2003), either by using currently available vendor prices for 1999, or by applying the Telephone Plant Index (TPI) factors to the most recent investment dollars in prior years to bring it to the 1999 investment level. The same will be required for labor rates provided in this proceeding (*i.e.* applying labor inflation rates) to bring them to the 1999 level.

IV. New TELRIC Studies to be submitted

Q. Did CBT provide TELRIC studies for all interconnection services and unbundled network elements (UNEs)?

A. No. CBT provided TELRIC studies for some interconnection services and UNEs. Accordingly, Staff recommended a list of TELRIC studies to be submitted within three months from the Commission's decision in this TELRIC proceeding. Among these cost studies, the Staff recommends that the following studies be submitted: Unbundled Tandem Switching, Advanced Intelligent Network (AIN), Virtual Collocation, access to unbundled SS7, access to OSS functions, and Unbundled Dark Fiber.

a) TELRIC study for Unbundled Tandem Switching

Q. Do you agree that CBT has provided a TELRIC study for unbundled tandem switching to the Staff in this proceeding? (CBT # 91)

A. No. Mr. Mette states that CBT has provided the Staff with a TELRIC study for unbundled tandem switching in this proceeding. However, it is not clear which TELRIC study, if any, CBT believes to provide unbundled tandem switching capability as defined by the FCC in 47 C.F.R. §51.319(c)(2), and the FCC First Report and Order in CC Docket 96-98, ¶ 425.

b) TELRIC Study for Unbundled Advanced Intelligent Network

Q. Do you agree that CBT should be granted additional flexibility, beyond the Staff recommended three month period, to submit a TELRIC study for AIN? (CBT # 91)

A. CBT stated that it is currently working with MCI through an implementation team to identify which AIN element will be provided. Due to the time, that has passed since CBT filed its objections to the Staff Report, Staff is not certain if CBT still needs such additional flexibility. Therefore, the Staff recommends that, if CBT and MCI have not identified the required elements two months before the due date for submitting the TELRIC, then CBT and MCI should submit a letter to the Commission describing the status of the implementation team's effort to identify the required AIN elements. This letter should also include the date by which parties expect to have the process completed and a proposed

deadline by which a TELRIC study for AIN can be provided for Staff review and Commission approval.

c) TELRIC Study for Access to OSS

Q. Would you summarize Staff's recommendation regarding the TELRIC study for access to CBT's Operation Support Systems (OSS) functions as discussed in the Staff Report?

A. Generally, Staff recommended that any costs associated with OSS function implementation and the ongoing costs of using computer systems to provide access to CBT's OSS should be identified and recovered separately within the OSS TELRIC study. Specifically, the Staff recommended that CBT remove all wholesale-related investments and expenses associated with providing non-discriminatory access to OSS from the direct administrative component of the annual charge factor (ACF) and include it in a separate TELRIC study. Such TELRIC study would include both existing computer systems and databases, if appropriate, as well as computer systems and databases to be developed and implemented to provide NECs with non-discriminatory access to CBT's OSS functions. The Staff also recommended that CBT remove "new costs" from its proposed ACF factor, and include it in its development of the OSS TELRIC study. Finally, the Staff recommended that, billing costs included in the unbundled local switching TELRIC study and are related to OSS-type activity, should be removed from the unbundled local switching TELRIC study and determined within the OSS TELRIC study.

Q. Please explain the Staff's concern regarding CBT's proposed method of cost recovery of OSS-related investment and expenses.

A. The Staff is concerned that the costs presented by CBT as "new costs" may not be inclusive of all costs that CBT would incur for providing nondiscriminatory access to OSS systems as required by the FCC and this Commission. Therefore, the Staff's recommendation, as discussed above, provides CBT with a means to identify, support, and recover such costs. CBT proposes to assign existing computer systems costs, included in the "direct administrative cost" component of the ACF, and new costs associated with new systems and their implementation, included in the "new costs" component of ACF, on a per dollar of investment basis. The Staff is concerned that CBT's proposed method assumes that a given system or database will be used equally by CBT to provide different (and all) UNEs. Also, it is Staff's experience that some interconnecting NECs may request manual interface with an ILEC's existing OSS. However, under CBT's proposed method to recover OSS-related costs, a NEC that requests manual interface to CBT's existing OSS systems would be paying for automated interface systems as part of the UNE price while not using it.

Q. Can you explain what type of costs would be associated with provision of access to, and use of, CBT's OSS?

A. Based on Staff's analysis, there are three categories of costs associated with the provision of access to, and use of, CBT's OSS for pre-ordering, ordering, provisioning, maintenance and repair, and billing functions:

a) Costs associated with the existing OSS systems that provide these functions;

b) Costs associated with changes to existing OSS necessary to enable CBT to provide UNEs itself; and

c) Costs for the implementation and ongoing use of new systems that provide access to CBT's OSS (*e.g.*, gateway systems).

CBT has interpreted the Staff's initial recommendation in this regard as requiring that OSS-related TELRIC be recovered either through a new rate element or through assigning the OSS-related TELRIC to the different UNEs and including the assigned costs within its respective TELRIC (and rate). Upon further review and evaluation of these systems, how these systems would be used to provide OSS for different UNEs, and how costs of these systems are incurred, I do not believe that it is reasonable to assume that only one cost recovery mechanism of such costs should be used. Therefore, I would like to clarify and revise, as appropriate, the Staff's recommendation in this area.

Q. What is your recommendation for the cost recovery mechanism for costs of OSS provisioning?

A. I would like to point out that I am mainly discussing the cost recovery method for OSS costs, and I am not discussing the reasonableness of the level of investment or expenses associated with OSS as presented by CBT in this proceeding. Staff witnesses, Mr. Francis and Ms. McCarter will address issues and objections in the areas of specific investment or expense dollars included in the "new costs" study and the "direct administrative expenses", respectively.

First, I would like to state that upon further evaluation of the nature of the "direct administrative" expenses, I believe that it is reasonable to keep these expenses, if appropriate, as part of the ACF calculation. I agree with CBT that, generally, costs incurred by CBT for the use of systems used for the provisioning, tracking, repair, and billing for UNEs may not be caused by a NEC requesting use of these systems apart from the UNE itself. Accordingly, I believe that it is reasonable that costs for existing systems that fall under this category be left within the ACF used in calculating TELRIC for the UNE. One example of these costs is the systems costs for processing and storing data for billing purposes.

Second, there are costs associated with necessary modifications of the existing systems to enable CBT to provide UNEs which can be directly attributed to a specific UNE, and which have not been included yet in the TELRIC study of that UNE. Such costs can be developed within the TELRIC study for OSS and recovered from NECs purchasing that UNE. These costs can be assigned to that element based on how the costs are incurred, and then it can be added as additional cost component to the final price for that specific element. An example, is the cost for changes that CBT made to its existing systems in order to bill NECs for UNEs they purchase.

Third, costs associated with new systems such as gateway systems to allow NECs to electronically access CBT's OSS should be included in the separate TELRIC study for access to OSS. Costs associated with new systems should include both initial investment as

well as ongoing expenses for maintaining such systems. These costs would then be allocated to various UNEs based on a reasonable forecast of the NECs' demand for the electronic access to CBT's OSS. This can be recovered via a new rate element or it can be added to the per-order NRC of the relevant network element, which CBT will charge to carriers requesting electronic access to OSS.

Q. **Why did Staff recommend that any costs associated with access to OSS implementation and the ongoing costs of using computer systems to provide non-discriminatory access to CBT's internal OSS should be identified and recovered separately within the OSS TELRIC study?**

A. The Staff believes that, it is reasonable to expect that CBT would incur costs in developing, implementing, and maintaining systems that provide access to its internal OSS. According to CBT's proposed implementation schedule, to be implemented in the 1997-1998 time frame, these costs clearly were not a part of any of the studies performed in 1996 (except perhaps to some extent in the "new costs"). However, it is not clear to the Staff from the cost studies provided by CBT so far, how generally, these costs will be recovered. Also, the FCC has identified OSS functions which consists of pre-ordering, ordering, provisioning, maintenance and repair, and billing functions supported by ILEC's databases and information as a UNE (47 C.F.R. §51.319(f)). Providing access to OSS is also a requirement of the Commission's local service guidelines Sections VIII.B. and IX.B.6.

Q. **Do you support a "competitively neutral" means of OSS cost recovery as recommended by CoreComm's witness Mr. Gose?**

A. Let me first clarify that throughout my discussion above, I maintained a distinction between two different types of costs related to the OSS issue. The first type of costs is associated with the existing OSS that CBT currently uses to provide its retail services that will also be used on a forward looking basis to provide UNEs to competitive carriers. The second type of costs is associated with the new systems required to provide electronic access to CBT's existing OSS and the modifications to CBT's existing OSS.

In recovering the costs associated with existing OSS, I recommend that it be recovered through the price of the UNEs, which means that CBT should consider all demand (CBT's and NECs' demand) in allocating these costs (*i.e.*, will be recovered in a competitively neutral manner). My understanding is that CBT proposes to do that exact thing. However, I recommend that the TELRIC associated with the new systems and the modifications to the existing OSS, which would allow CBT to comply with the FCC and this Commission's requirement of providing nondiscriminatory access to OSS, be recovered from NECs only (*i.e.*, CBT should consider the NECs' demand only in allocating these costs).

d) TELRIC Study for Dark Fiber

Q. **What is CBT's proposal regarding the TELRIC study for the unbundled dark fiber?**

A. CBT proposes to provide unbundled dark fiber only to the extent that CBT has it installed in a specific route, and to price it on an individual case basis (ICB). (See Exhibit 3 of Mr. Mette's September 28, 1998, testimony).

Q. **What is the Staff's recommendation regarding CBT's proposal for unbundled dark fiber.**

A. I believe that CBT's proposal to provide unbundled dark fiber, only to the extent that CBT has it installed in a specific route, is consistent with the conditions outlined by the Commission in CBT/MCI Arbitration Award.

Regarding CBT's proposed pricing, I do not believe that CBT's proposal of pricing dark fiber on ICB basis is consistent with the conditions outlined by the Commission in CBT/MCI Arbitration Award. In the CBT/MCI arbitration case, the Commission adopted the arbitration panel's recommendation that CBT may deaverage dark fiber rates for, a minimum of three geographic areas. I also, believe that this cost recovery method may limit the competitor's degree of certainty regarding the costs of providing services using dark fiber. Therefore, I recommend that CBT develop a TELRIC for dark fiber and submit it to the Commission within three months of the Commission's decision in this proceeding.

Q. **Do you agree with Dr. Ankum's recommendation, on behalf of MCI, that CBT should provide NECs with dark fiber free of charge if the Commission deviates from the fill factors advocated by Mr. Starkey?**

A. No. Dr. Ankum is assuming that, MCI pays for the spare facilities through the application of fill factors in the TELRIC study but cannot use such spare facility as CBT can, to meet additional demand (Dr. Ankum's testimony filed on December 23, 1998, page 56). This would not be my interpretation of the outcome of the TELRIC study and the unbundling requirements. Forward looking fill factors are used within the TELRIC study to calculate the per-unit cost associated with a specific network element by allocating the investment for total facilities installed (used and unused) to the facilities that are expected to be in use. Relative to fill factors, MCI, other NECs, and CBT are paying for *a portion of* the spare facilities at hand that is *proportionate* to the amount of facilities they use during the study period. This also means that when MCI, other NECs, or CBT receive an end user service request that necessitates the use of an additional facility, the spare facility at hand should be *equally* available to all carriers at the *same TELRIC*. All carriers proportionally share the benefit of the existing spare facility and proportionally share the associated investment risk. However, in the fiber facilities scenario, MCI acquires the unbundled dedicated transport on increments of circuits (bandwidth increments within the fiber cable), and not by fiber strand. Therefore, there is no direct relationship between the nature of facilities purchased (*i.e.*, circuits) by MCI and the nature of the spare facility (*i.e.*, dark fiber). Therefore, I recommend that CBT charge a TELRIC-based price for the unbundled dark fiber element.

V. TELRIC Study for Non-recurring Charges for UNEs

a) Time Estimates in NRC Study for Unbundled Ports and Virtual features

Q. Do the time estimates included in CBT's TELRIC study for developing nonrecurring costs (NRCs) for unbundled ports and vertical features reflect the time needed for such activities once electronic access to OSS functions is in place? Are these time estimates reasonable for developing NRCs on a forward looking basis? (CBT # 97, AT&T #30, and MCI # 40)

A. No. CBT has indicated on several occasions that it assumed that the work processes and times for unbundled ports would be similar to the work processes and times experienced today. CBT also indicated that these assumptions were made without consideration given to OSS implementation, as the handling of unbundled services within this new system has not yet been designed. Also, CBT has indicated that it is not in a position to estimate effects of OSS availability on manual functions and work times for nonrecurring costs for unbundled ports.

It is my understanding that, according to information provided by CBT in the CBT/MCI arbitration case that, by the end of 1997, NECs should have had electronic access to OSS functions supporting pre-ordering and ordering processes for non-complex orders. Although, to my knowledge, CBT did not indicate when such capabilities would be available to complex orders, CBT's proposed TELRIC study for the NRCs of unbundled

ports and vertical features did not reflect any of these capabilities for either type of service orders (complex or non-complex). Based on this understanding, it is reasonable to expect that these functions would be available during the proposed study period for, at least, non-complex service orders. Accordingly, any cost study for the NRC for unbundled ports and vertical features conducted on a forward looking basis should reflect such capabilities.

Q. At the time the Staff made its initial recommendation regarding time estimates associated with CBT's NRC TELRIC studies of unbundled ports and vertical features, was the Staff aware that NECs plan to fax their orders to CBT rather than use CBT's electronic interface to access CBT's OSS, or that NECs have no immediate plans to build to these electronic interfaces? (CBT #97)

A. No. The first time I became aware of this information was through Mr. Mette's Additional Supplemental Direct Testimony filed on December 23, 1997. Accordingly, I did not take this information into consideration in my analysis.

Q. If this additional information was available early before the Staff Report issued, would Staff change its recommendation from the Staff Report?

A. The Staff Report recommendation was based on the FCC requirements in C.F.R. § 51.311 and § 51.319(f) as well as Section VIII.B. of the Commission's local service guidelines.

If NECs plan to fax their service orders to CBT's CLEC Center in spite of CBT providing the electronic access to its OSS function for ordering, and these NECs have no immediate

plans to build to these electronic interfaces, it would be reasonable to expect CBT to use a manual process for handling service orders for unbundled ports and vertical features provided to NECs faxing their orders. Accordingly, it would be reasonable to include the time estimates associated with such manual processing in CBT's TELRIC study for NRC. Therefore, I recommend that CBT be allowed to rerun its proposed cost study assuming manual processing of NECs service orders while taking into consideration the economies of scale associated with processing multiple ports or features in the same order (as CBT proposes for the unbundled loop NRC in Mr. Mette's September 28, 1998 testimony). However, I still believe that it is reasonable to require CBT to rerun its TELRIC study considering the impact of the availability of the electronic interface with CBT's own OSS on NRC calculations. The Staff's recommendation will create two sets of rates for nonrecurring charges to be applicable to NECs depending on their form of interface with CBT. Some interconnecting NECs may request electronic interface with CBT's OSS systems, and should not pay for manual processing of their orders if their own customer service personnel perform such function.

b) Labor Rates

Q. Can you summarize the Staff's recommendation regarding CBT's proposed calculation of labor rates for "time reporting employee" in the Staff Report? (CBT #99)

A. Yes. The Staff's recommendation regarding the calculation of labor rates for "time reporting employee" is two folds. First, the Staff recommended that labor rates for "time reporting employee", should exclude the per hour loading of exempt material overheads, motor vehicle overheads, and exempt supply overhead expenses. Second, the Staff recommended that, if these expenses are justified, they should be included in the expenses associated with providing UNEs.

Q. What is the current Staff position regarding the inclusion of these expenses in labor rates?

A. After a further investigation of the nature of these expenses, I believe that it is not unreasonable for CBT to include them in its labor rates. Accordingly, the revised Staff position, would be to recommend the approval of CBT's labor rates, subject to the application of labor inflation rates as appropriate.

VI. Capital Cost Component of the Annual Charge Factor (ACF)

Q. What is the scope of your testimony on the capital cost component of the ACF?

A. I will be discussing the ECONCOST model used to develop the capital cost component of the ACF, as well as the results of the model as proposed by CBT. However, I will not be discussing specific inputs used to develop depreciation expenses (economic lives and salvage values) or inputs used to develop post tax income expenses (debt ratio, debt interest rate, and rate-of-return on equity). Staff witnesses Mr. Kotting and Mr. Chaney discuss these inputs respectively.

Q. What is the ECONCOST model?

A. The ECONCOST model is a computer model used by CBT to develop the capital cost component of the ACF.

Q. What is the basis of the Staff's finding that the ECONCOST model is a reasonable tool to calculate the capital cost component of the ACF? (MCI # 23& 26 and AT&T #13)

A. I reviewed the explanatory notes provided by CBT for the process to calculate annual cost within the ECONCOST model and its algorithms. These explanatory notes were accompanied with a sample report for one plant account (underground conduit) which explains how the model calculates different capital cost components. Based on my analysis, I did not have a specific concern or problem with the methodology or general assumptions in the ECONCOST model that would lead me to conclude that the model is not reasonable. However, based on the Staff recommendations in the depreciation and cost of capital areas (Mr. Kotting and Mr. Chaney's recommendations), I recommend that CBT rerun the model using the Staff's recommended inputs in these areas.

Q. Is it appropriate to use inflation factors within the ECONCOST model?

A. Yes, I believe that it is reasonable to use inflation factors in calculating the capital cost associated with an investment as CBT did within the ECONCOST model. The capital cost component of the ACF is used to calculate the annual costs associated with the capital expenditure that will be incurred during the study period. Such capital expenditure

includes the investment at the start of the project, the removal cost, and the salvage value. I also believe that the use of inflation factors in calculating the capital cost is consistent with requirement of Section V.B.4.b.6. of the local service guidelines, which states:

> "TELRIC studies shall reflect costs that are expected to be incurred during the study period. Such costs shall be projected to their anticipated level over the study period by using an appropriate index of future cost, such as supplier estimates of price changes, indices developed from labor contracts, or other relevant indices."

Q. Are the inflation indices used by CBT within the ECONCOST model appropriate?

A. There are two inflation indices used by ECONCOST model for each plant account. The "labor rate index rate" (labor inflation rate) which is used to calculate the cost of removal, and the "plant material index rate" (material inflation rate) which is used to calculate the value of the initial investment and the material salvage value. The labor inflation rate is the same for all plant accounts. CBT uses a rate of 3.78% for labor inflation which, according to the September 1995 forecast reports developed by Joel Popkin and Company for CBT, is the average wage growth per year in the U.S. during the forecast period of 1995-2003 and considering CBT's last negotiated union contract. The material inflation rate is different by plant account depending on the September 1995 TPI report. I believe it was reasonable to use such indices in a cost study developed in the 1996 time frame since it was the most recent data available.

Although I believe that CBT's approach is reasonable, consistent with Staff's recommendation that when CBT recalculates its TELRIC studies it should apply the appropriate TPI factor(s) to the most recent investment and use the most recent factors available.

Q. **Are you aware of proposed methods (or models) introduced by any other party in this proceeding as alternatives to the ECONCOST model to calculate the capital cost component of the ACF? (AT&T #13 and MCI # 23&26)**

A. No, I am not aware of any other alternative methods or models to calculate the capital cost component of the ACFs. Although AT&T objects to Staff's conclusion that ECONCOST model is reasonable as a tool to calculate the capital cost component of the ACF, its witness, Mr. Webber did not provide any alternative method or model. On page 12 of Mr. Webber's testimony dated December 23, 1997 testimony, he states that:

> "Each of CBT's proposed annual charge factors ("ACFs") should be recalculated based upon the economic lives, salvage characteristics and cost-of-money proposed by AT&T in order for accurate TELRIC estimates to be created."

This statement indicates that Mr. Webber agrees that the ECONCOST model can be used to calculate the capital cost component of the ACF. Also, MCI has the same objection to Staff's recommendation. However, neither Mr. Behounek nor Dr. Ankum (adopting Mr.

Behounek's testimony) provides any alternative method or model to calculate the capital cost component of the ACF regardless of inputs used. MCI's witness, Dr. Ankum, at page 6 of his January 11, 1999, testimony recommends that the ECONCOST model be used only if inputs are adjusted as recommended by MCI.

Q. **Do you have more comments about CBT's proposed ACF calculation?**

A. Yes. I want to point out that I agree with CBT's revised position, stated in Mr. Mette's September 28, 1998, testimony, to recalculate its ACFs excluding Gross Receipt Tax (GRT) as recommended by Staff in its Staff Report.

VII. TELRIC Study for Transport and Termination of Local Traffic

Q. **Can you summarize the Staff recommendation regarding CBT's proposed TELRIC for transport and termination of local traffic?**

A. Staff recommends that the Commission require CBT to rerun its TELRIC for transport and termination of the local traffic function using terminating Feature Group D (FGD) traffic only. Staff also recommends that CBT use the Staff-recommended fill factors for interoffice facilities and associated electronics, as discussed later in my testimony, to rerun its study.

Q. **Please explain why the Staff's recommend that CBT use terminating (FGD) traffic only for developing TELRIC for transport and termination of local traffic?**

A. The TELRIC study for transport and termination of local traffic evaluated and analyzed by the Staff in this proceeding was developed and provided by CBT to support the rates that it proposes to charge NECs for the transport and termination of their local traffic on CBT's network. It is my understanding that these rates (supported by this TELRIC study) are established pursuant to the requirement of Sections 251(b)(5) and 252(d)(2) of the 1996 Act and Section IV.D. of the Commission's local service guidelines. Section 252(d)(2)(A)(i) of the 1996 Act provides that:

> "Such terms and conditions provide for the mutual and reciprocal recovery by each carrier of costs associated with the transport and termination on each carrier's network facilities of calls that originate on the network facilities of the other carrier..."

Based on my understanding of this section of the 1996 Act, CBT is required to calculate its forward looking economic costs for transporting and terminating traffic that terminate on CBT's network facilities and originate on another carrier's network facilities. Accordingly, neither forward looking economic costs associated with the origination of that traffic on another carrier's network, nor the forward looking economic costs associated with originating a call on CBT's network facilities should be included in the calculation of TELRIC cost for transport and termination of local traffic function. Since terminating FGD traffic (not originating and terminating FGD traffic) represents the type of traffic associated with transporting and terminating traffic on CBT's network facilities which

originate on another carrier's network facilities, it is reasonable to require CBT to develop its TELRIC for transport and termination of local traffic function using terminating FGD traffic only. Doing so, will appropriately account for the network costs associated with this particular functionality under study, which is the transport and termination of local traffic.

VIII. Fill Factors for Interoffice Facilities and Associated Electronic Equipment

Q. What is the Staff's recommendation regarding fill factors for interoffice facilities and associated electronic equipment?

A. CBT filed TELRIC studies for Dedicated Interoffice Transport, Loop/Transport Combinations, and Physical Collocation after the issuance of the Staff Report. These three newly filed TELRIC studies include different types of interoffice facilities and the associated electronic equipment that were not part of Staff's original evaluation of fill factors. Therefore, Staff's recommendation for the forward looking fill factors is two-fold. The first part will discuss the appropriate forward looking fill factors for DS0, DS1, and DS3 facilities and the associated electronic equipment that the Commission should require CBT to use in its TELRIC studies as discussed in the Staff Report. The second part of my recommendation discusses the forward looking fill factors for the OC-3, OC-12, and OC-48 (collectively referred to as OC-n) facilities and the associated electronic equipment that the Commission should require CBT to use in the rerun of its TELRIC studies.

Q. **Can you explain Staff's concerns and recommendation regarding fill factors for DS0, DS1, and DS3 interoffice facilities and associated electronic equipment? (AT&T #24)**

A. In its TELRIC study for the transport and termination of local traffic, CBT proposes fill factors of 80.4%, 71%, and 77.78%, respectively, for its DS0, DS1, and DS3 facilities and the associated electronic equipment. In the Staff Report, Staff voiced its concern that CBT's proposed fill factors for these facilities are not forward looking but reflect actual utilization of its network in the1992 time frame. In its recently filed TELRIC studies for unbundled dedicated transport, loop/transport combination, and cross connect services, CBT proposes a fill factor of 70% for all DS0, DS1, and DS3 facilities and equipment which is even lower than fill factors experienced by CBT in the1992 time frame.

The Staff recommends, as indicated in the Staff Report, that CBT adjust its proposed DS0, DS1, and DS3 interoffice facilities fill factors to reflect the level of increase in the utilization of these facilities that CBT actually experienced during the period of December 1992, to June 1997, for the five year study period. The adjusted fill will be the projected fill factors by mid-point of the five year study period. Staff also recommended that the same forward looking fill factors be applicable to DS0, DS1, and DS3 electronic equipment unless the adjusted fill factors exceed the electronic equipment's maximum usable capacity. In that case, CBT should use such maximum usable capacity as the fill factor for the electronic equipment. This recommendation should be applicable to DS0, DS1, and DS3 facilities and equipment included in all TELRIC studies provided so far in this proceeding and the remaining TELRIC studies Staff recommends to be filed by CBT in the future.

These adjusted fill factors would also apply to the interface equipment component of the SONET equipment utilized in various TELRIC studies.

Q. **If the Commission adopted the Staff-recommended fill factors for DS0, DS1, and DS3 facilities and equipment, approximately what would these forward looking fill factors be?**

A. Based on the data provided by CBT in response to Staff data request 52, question 3.b. and Staff data request 67, question 7.i., CBT experienced an increase in the level of utilization of both DS0 and DS1 facilities. Comparing the data at two points of time (12-92 and 6-97) the fill factors increased from 80.4% to 85% for DS0 facilities and from 71% to 75% for DS1 facilities (i.e., an average of a uniform increase in fill factors of approximately 1.3% per year). Reflecting this increase in fill factors to the mid-point of the study period would result in projected forward looking fill factors of approximately **88% for DS0** facilities and **77% for DS1** facilities. Applying the same level of increase in fill factors to the proposed fill factor for DS3 facilities would result in projected forward looking fill factors of approximately **80% for DS3**.

Q. **What are your recommended forward looking fill factors for OC-n facilities and associated electronic equipment to be used in CBT's TELRIC studies?**

A. CBT proposes a fill factor of 70% for all SONET facilities (OC-n rings) and SONET equipment except for its DS3 drop cards for the OC-3, and OC-48 rings where CBT proposes a fill factor of 100%. In support of its proposal, CBT states that its actual

utilization for OC-3 and OC-12 rings are 46% and 52% respectively. Also, CBT states that, based on its marketing and network architecture planning personnel, it is expected that the average fill over the economic life of the ring will be approximately two-thirds of the ring capacity. However, consistent with its proposed fill factor for other electronics of 70%, CBT proposes 70% for the SONET equipment as well as SONET rings.

Since SONET is a relatively new technology that CBT mainly uses for interoffice transport where moderate competition by other providers exists, I believe that CBT's proposed fill factor of 70% would represent a reasonable estimate for its forward looking fill factor for SONET rings and the common equipment component of the SONET equipment during the Staff recommended study period. Therefore, I recommend that the Commission adopt CBT's proposed fill factors for SONET facilities and the common equipment component of the SONET equipment to be used in the rerun of the TELRIC studies pursuant to the Commission directives in this proceeding.

Q. **Do you have concerns regarding different parties' position on Staff's recommended adjustments to fill factors for interoffice facilities and termination equipment? (AT&T #24)**

A. Yes, I do. First, I would like to point out that CBT did not object to Staff's recommendation regarding DS0, DS1, and DS3 interoffice facilities and associated electronic equipment. AT&T agrees with the Staff's conclusion that CBT's proposed fill factors for interoffice facilities are not forward looking and it supports Staff's recommendation that CBT adjusts its fill factors, AT&T wants to reserve the right to object

to CBT's adjusted fill factors at the time CBT may adjust those factors in accordance with Staff's recommendation. AT&T states that until it knows what those fill factors are, it is unable to object to those fill factors.

It is not clear to me whether AT&T conceptually agrees with the Staff's recommendation of what the fill factors should reflect, but is concerned with CBT miscalculating the projected fill factors, or if AT&T has some other concern.

Q. **Do you believe that Staff's recommendation regarding fill factors for interoffice facilities and electronic equipment is consistent with the Commission's local service guidelines and the FCC's First Report and Order at ¶682?**

A. Yes, I do. As stated in the Staff Report, Section V.B.4.b.8. of the Commission's the local service guidelines as well as ¶682 of the FCC's First Report and Order, provide the definition of fill factors as follows:

> "The investment developed above shall be adjusted to reflect reasonably accurate "fill factor". Fill factors are the proportion of the facility that will be filled with network usage...."

It is my opinion that the Staff's recommended adjustment to CBT's 1997 actual fill factors appropriately reflect the reasonably accurate proportion of the facility that will be filled with network usage during the study period.

Q. **Do you agree that CBT should use fill factors based on "usable capacity" concept in calculating its TELRICs?**

A. No. It is my understanding that the Commission's local service guidelines, as well as the FCC's First Report and Order, require the incumbent local exchange carrier (ILEC) to calculate its per-unit TELRIC of an element by dividing the total cost of that element by a reasonable projection of the actual total usage of the element during a reasonable measuring period (*i.e.*, the study period). In doing so, the FCC and this Commission require the ILEC to provide its estimated investment that are adjusted to reflect the portion of the network facility that *will* be filled with usage during that study period, *not* the portion of the network facility that *can* be filled with the network usage, or the portion of the network facility that is *currently* filled with the network usage. "Usable capacity" fill factor reflects the portion of the network facility that *can* be filled with the network usage and, therefore, in my opinion, it is inconsistent with the requirement of the Commission's local service guidelines and the FCC rules.

Also, it is my opinion that different intervening parties advocating the use of the Ameritech Ohio fill factors fail to accurately represent the Commission's decision in Ameritech Ohio's TELRIC proceeding (Case No. 96-922-TP-UNC). It is my understanding that the Commission rejected the use of the modified "fresh look" and "target capacity" fill factors proposed by Ameritech Ohio in that proceeding, due to Ameritech Ohio's failure to provide any documentation to justify the reasonableness of its proposal. It is also my observation

that, based on the limited options and information presented on the record; the Commission adopted Ameritech Cost Analysis Resources (ACAR) fill factors. (See Opinion and Order issued on June 19, 1997, pages 28 – 29.)

Also, no intervening party explained why it believes that, in the current proceeding, the use of "usable capacity" fill factors from Ameritech's ACAR manual is more appropriate to reflect CBT's forward looking fill factors than the Staff's recommended adjusted fill factors for interoffice facilities and electronic equipment purposes. Moreover, none of the intervening parties objected to the Staff's recommended adjusted fill factors.

Q. Is it reasonable to use Ameritech Ohio's fill factors to calculate CBT's TELRIC for the interoffice facilities and electronics? (MCI # 34 and AT&T # 24)

A. No, it is not. First, in this proceeding there is enough data about CBT's fill factors for interoffice facilities and electronic equipment to decide the appropriate fill factors for these facilities.

Second, it is my understanding that the Commission has rejected MCI's proposal to use Ameritech's TELRIC cost data as a surrogate to set *interim* rates in the CBT/MCI interconnection agreement (Arbitration Award at 31). Similarly, it is not reasonable to base CBT's *permanent* TELRIC-based rates on Ameritech Ohio's network characteristics.

Q. **Do you agree with CBT's proposed methodology to calculate fill factors for equipment or facilities that do not exist today as outlined on page 19 of Mr. Mette's Supplemental Direct Testimony filed on September 28, 1998?**

A. Yes, I generally agree that all inputs listed on lines 10 – 17 of page 19 of Mr. Mette's testimony are reasonable inputs to develop the forward looking fill factors. However, I have a concern with the methodology he discusses.

CBT proposes that, once the facility or equipment reaches its administrative fill factor, it will then remain at the administrative fill factor for the remaining years until the economic life is reached. Then CBT would calculate the forward looking fill factor as the levelized fill factor over the economic life of the facility or equipment being studied. I believe that this approach would be appropriate if we are to determine the forward looking fill factor over the life of the facility. However, based on my understanding of the Commission's local service guidelines and the FCC rules, the per-unit TELRIC cost should be based on the forward looking fill factor during a reasonable measuring period. The Commission determined that a five-year study period would be a reasonable measuring period. Also, CBT proposes a five-year study period. Therefore, I recommend that CBT follow its proposed methodology but consider the projected fill factors during the five-year study period only.

IX. TELRIC Study for Physical Collocation services

Q. **Did you review a TELRIC study for physical collocation services developed by CBT?**

A. Yes, I reviewed the physical collocation (referred to as collocation in my testimony) TELRIC study developed by CBT, and provided to Staff and intervening parties on October 13, 1998. This study is used specifically to develop costs for competitors collocating in CBT's central offices (COs). In this study, CBT included four of its COs where NECs are currently collocated (Avondale, Evendale, Rossmoyne, and West 7th).

1) Floor Space Cost

Q. **Can you briefly describe CBT's proposed methodology in calculating the TELRIC for CO floor space and its proposed rate structure?**

A. CBT used 1997 "RS Means Building Construction Cost Data" to estimate the CO building investment per square foot. CBT applied a "common area factor" to such investment to calculate the investment associated with one square foot of collocation space in the CO building. This "common area factor" was calculated for each of the four COs included in the study based on the ratio of the "total usable space for collocation" in the CO divided by the "total collocation area" in that CO. Then, CBT applied the building ACF to this investment to calculate the monthly building cost associated with the collocation floor space for each CO. CBT also calculated the land investment associated with the collocation floor space for each CO by applying a land-to-building factor to the building

investment. The proposed TELRIC for floor space in a specific CO is the sum of the monthly cost (per square foot) for building and land associated with providing collocation in that CO. CBT proposes to recover costs through a monthly recurring rate per square foot per CO.

Q. Do you believe that CBT's proposed methodology to calculate TELRIC for floor space and the proposed rate structure is consistent with the Commission's local service guidelines and FCC rules?

A. Yes, I believe that CBT's proposed methodology to calculate TELRIC for floor space and proposed rate structure is consistent with the FCC local competition rules §51.509(g) as well as the Commission's local service guidelines, Section V.B.2.b.

Q. What is Staff's recommendation on CBT's proposed "floor space" rate element?

A. Staff generally finds CBT's methodology for calculating the floor space cost for collocation purposes to be reasonable. However, I recommend three modifications to the calculation of the floor space cost. First, I recommend the use of the median unit cost from 1999 RS Means Building Construction Costs Data for the building investment per square foot to reflect the current level of building investment. Second, in calculating the land investment associated with floor space, I recommend that CBT use the 1998 Ohio-specific land and building investment to determine the land-to-building ratio in the study. Third, consistent with my earlier recommendations, CBT should be required to apply the appropriate Staff-

recommended ACF to investment in each CO in the rerun of the TELRIC study for collocation floor space per CO.

2) Space Reservation Cost

Q. **Do you recommend any changes to the "space reservation cost"?**

A. Yes, the appropriate labor inflation rate, as I recommended previously, should be applied to the labor rate in the space reservation study to bring it to a 1999 level.

3) Cage Construction and Material cost

Q. **Can you explain CBT's proposed cost study and cost recovery method for the cage construction and material costs?**

A. CBT determines its cage construction and material costs based on its cost of constructing the fence (cage) in the Rossmoyne CO, which was performed by a contractor. CBT proposes to recover its cage construction and material costs through a uniform one-time non-recurring charge to the collocator on a per cage basis in any CO.

Q. **Do you agree with CBT's proposed TELRIC and rate structure for cage construction and material?**

A. Although I agree that it is reasonable for the one-time cost for the cage construction to be recovered through a nonrecurring charge as proposed by CBT, I recommend two

modifications to this cost recovery mechanism. First, I recommend that there should be a recurring charge, in addition to the nonrecurring charge, to allow CBT to recover recurring operating costs (income taxes, maintenance expenses, and administrative expenses) associated with the collocation cage. Second, I recommend that, if a collocator discontinues the use of the cage before the end of its economic life, and CBT re-uses that cage to provide collocation to a second collocator, CBT should be required to make a pro-rata refund to the first collocator. The amount of the refund should be equal to the amount it charges the second collocator, which should be equal to the unamortized value of the cage. This will provide for nondiscriminatory rates for cage construction among all collocators using the same cage consecutively and avoid over recovery of this investment.

4) Core Drill Floor Cost

Q. **Do you have any recommendation regarding CBT's proposed Core Drill Floor rate?**

A. Yes I do. CBT proposes a nonrecurring charge for the Core Drill Floor for diverse routing on a per 4" core basis. The cost associated with this service represents the labor cost for drilling one hole. I recommend the approval of CBT's proposed core drill floor rate. Additionally, I recommend that, if a collocator discontinues the use of the collocation space, and CBT re-used that space to provide collocation to a second collocator, CBT should be required to make a pro rata refund to the first collocator if the second collocator requests diverse routing.

5) Central Office Build-Out (COBO) cost

Q. How did CBT structure its COBO cost study?

A. According to CBT, COBO costs are the costs incurred by CBT in preparation of the collocation area within the CO building and associated CO building modification to accommodate collocators. CBT calculated the COBO costs on a CO by CO basis for four of its COs, namely West 7th Street, Avondale, Evendale, and Rossmoyne. For each of these COs, CBT calculated the total COBO costs by adding costs associated with services provided by various contractors to costs for various functions performed by CBT in that office.

Q. Would you explain how CBT proposes to recover its COBO costs?

A. CBT proposes to recover the COBO cost for a specific CO on a non-recurring basis by charging collocators in that CO on a pro rata basis. The first collocator will pay 100% of the total COBO cost as a COBO charge. The second collocator will pay 50% of the total COBO costs and CBT will refund the payment from the second collocator to the first collocator. The third collocator will pay one third (1/3) of the total COBO costs and CBT will refund one half (1/2) of the payment from the third collocator to each of the prior

collocators (*i.e.*, all collocators within a specific CO will be paying equal portions of the COBO charge of that office).

Q. **What is your recommendation regarding CBT's proposed cost recovery mechanism?**

A. Due to the high costs of the COBO for a specific CO, I would generally prefer that CBT recover the COBO costs on a monthly recurring basis from all collocators. This approach would require CBT to develop demand forecasts for collocation in each CO included in the collocation study during the study period, which CBT indicated that it did not develop. However, it is not unreasonable to allow CBT to recover its COBO costs as a non-recurring charge applicable to all collocators on a pro-rata basis. This approach is consistent with the FCC local competition rules §51.509(g) as well as the Commission's local service guidelines, Section V.B.2.b. Also, pursuant to these rules, CBT may develop the collocation TELRIC costs as well as rates on a per CO basis. Therefore, I recommend that the Commission approve CBT's proposed rate structure and cost recovery mechanism.

Q. **Do you have other concerns regarding CBT's proposed COBO cost recovery mechanism?**

A. Yes, I do. First, I recommend that the Commission require CBT to charge the second collocator 50% of the total COBO costs less depreciation (only for assets investment). The same should apply for subsequent collocators in the same CO.

Second, CBT indicated that the COBO charge will not be assessed on a per 100 square foot basis but on a per collocator basis (see response to Staff data request 119, question 6). Staff believes that this proposal is not reasonable, and recommends the Commission require CBT to assess the COBO pro-rata charge in a CO on a per-collocator, per 100 square foot basis.

Third, CBT indicated that it charges collocators an application fee of $1,000 to recover the costs of processing a specific collocation service order (see response to Staff's data request 118, question 4, and data request 119 question 3). CBT neither included this fee in the list of collocation charges nor provided a cost study to support such fee. Although it is not unreasonable for CBT to charge an application fee, it is required to get such a fee approved by the Commission (see the Commission's local service guidelines, Section III.C.). Therefore, I recommend that the Commission require CBT to provide such proposed rate(s) and cost support to be reviewed and approved by the Commission.

Q. Do you agree that the COBO charges reflect costs for retrofitting CBT's old offices, and is inconsistent with TELRIC?

A. No. Although I agree that the COBO charges reflect costs for modifying CBT's existing CO building to emulate a multi-tenant building, I do not agree that this methodology is inconsistent with TELRIC methodology.

It is my opinion that, pursuant to this Commission's guidelines and the FCC rules for the TELRIC methodology, the TELRIC for collocation should be calculated to reflect the

forward looking cost of providing collocation services based on the most efficient network design and technology, assuming the ILEC's current wire center locations. Intervening parties argue that CBT's existing CO building does not reflect the most efficient network configuration and, therefore, we need to calculate the cost of the most efficient building to provide collocation. The general assumption presented by other parties in this proceeding is that on a forward looking basis, ILECs would build multi-tenant CO buildings and this is the most efficient CO building configuration for providing collocation service. The question then becomes, pursuant to this assumption, what is the forward looking cost of building a multi-tenant CO building? In my opinion, no party presented on the record a reasonable estimate of the forward looking cost of building a multi-tenant CO building. Therefore, I believe that CBT's incremental cost to construct a single-tenant CO building (CO floor space rate), in addition to the incremental cost to modify its existing (single-tenant) CO building to accommodate collocators (COBO rate), subject to my recommendations, provides a reasonable estimate of the forward looking costs of constructing a multi-tenant CO building. This in turn provides a reasonable estimate of the forward looking cost of providing collocation services based on the most efficient network design and technology assuming the ILEC's current wire center locations.

6) Cross connects Cost

Q. Can you briefly describe CBT's proposal for cross connect service?

A. CBT proposes three types of cross connect elements: DS0, DS1, and DS3 cross connects. CBT developed two sets of rates for each cross connect element, one set of rates applies to cross connect elements provided in West 7th Street CO and the other set of rates applies to cross connect elements provided in any of the remaining COs (Avondale, Evendale, and Rossmoyne). I would like to point out that CBT did not develop rates for any of the optical cross connect elements (OC-3, OC-12, or OC-48).

Q. What is your opinion regarding CBT's proposed cross connect rate structure?

A. I believe that CBT's proposal of different cross connect rates for different COs is reasonable and consistent with the Commission's local service guidelines and the FCC rules.

Q. What is your opinion regarding CBT's approach in calculating the TELRIC for the cross connect element in the West 7th CO?

A. Based on my analysis of how CBT provides cross connect service in different COs, I believe that CBT's approach in providing cross connect in West 7th is reasonable and uses forward looking, most efficient technology to meet the expected demand for cross connect service in the West 7th CO (see response to Staff data request 126, questions 1 and 2). Therefore, subject to my recommendations discussed below, I believe that CBT's approach is consistent with the Commission's local service guidelines, the FCC rules, and the TELRIC methodology, and I recommend its approval by the Commission.

Q. **Do you have any concerns regarding CBT's calculation of the cross connect costs?**

A. In its response to Staff's data request 115, CBT provided Staff with a revised cross connect cost study (CBT Exhibit 9-21). Although I agree with all the revisions that CBT made to the original study, I still have several concerns regarding the fill factors used in the study. For cross connect in West 7th Street CO, CBT estimated the DS0 cable fill factor of 86% as the levelized fill factor over the economic life of the plant. I would point out two areas of concern I have with CBT's approach. My first concern is that CBT determined the fill factor over the economic life of the plant and not the expected fill factor during the study period. My second concern is that the calculation did not reflect the actual effect of plant reinforcement. Therefore, I recommend that the DS0 cable fill factor be re-calculated to reflect, as I previously stated, the growth in demand up to the mid-point of the study period including the impact of facility reinforcement, and considering 1999 as the first year of the study period.

For cross connect service in all COs, CBT assumed the same fill factor for both DS1 and DS3 cross connect equipment (70%). As I discussed earlier in my testimony, this 70% is a lower fill factor than what CBT proposed and supported in other cost studies in this proceeding (the transport and termination of local traffic cost study). Accordingly, I recommend that CBT use the fill factors I recommended earlier for the purposes of calculating TELRIC for the DS1 and DS3 cross connect equipment.

Q. **Do you have any other recommendations regarding the cross connect cost calculation?**

A. Yes. I recommend that CBT be required to use Staff's recommended ACFs, power and common equipment factor, land factor, building factor, and 1999 labor rates in the rerun of the cost study. I also recommend that CBT be required to provide TELRIC studies developing prices for the optical cross connect elements (OC3, OC12, and OC48) within three (3) months from the Commission decision in this proceeding.

7) Security Access Cost per Key

Q. **What is your recommendation regarding CBT's proposed security access cost?**

A. I recommend that the Commission approve CBT's proposed cost of the security access per key.

8) Power Delivery Cost

Q. **Would you describe CBT's proposed TELRIC study of collocation power delivery and the proposed rate structure?**

A. CBT's proposed power delivery cost represent the cost of installing the power cable from CBT's DC power distribution panel in CBT's cage to each collocator space. CBT calculates the collocation power delivery cost on a per-power lead basis. This cost includes the capital cost for the installed cable plus the associated maintenance expenses over the

study period. CBT proposes to recover such costs through a one time non-recurring charge assessed on a per power lead basis.

Q. **Please explain your recommendation regarding CBT's proposed cost recovery mechanism of collocation power delivery cost?**

A. Consistent with Sections V.B.2.a. and b. of the Commission's local service guidelines, I recommend that CBT recover the power delivery cost via two separate rate elements. The first rate element would be a non-recurring rate that applies on a per-power lead basis and recovers the up front capital cost for the installed power cable only. The second rate element would be a recurring rate element to recover the operating expenses associated with the power delivery service. I also recommend that CBT apply a 1999 inflation factor to the labor rate and use the Staff recommended ACF for calculating the TELRIC for the power delivery service.

9) Power Consumption Cost

Q. **Would you describe CBT's proposed TELRIC study of collocation power consumption and the proposed rate structure?**

A. CBT calculated the total cost of DC power, AC commercial power, and AC emergency power consumption per fuse AMP consumed. The total cost was determined by adding the cost of material and labor to the land and building costs associated with the power equipment in a given CO

Q. What is your recommendation regarding CBT's proposed cost of power consumption per fuse AMP?

A. Based on my review of CBT's proposed TELRIC for the power consumption per fuse AMP provision, I recommend its approval by the Commission subject to the following modifications in the rerun of its TELRIC study. First, in calculating the building investment associated with power equipment, I recommend that CBT use the median value for telephone exchanges out of the 1999 RS Means Building Construction Cost Data. Second, in calculating the land investment associated with power equipment, I recommend that CBT use the 1998 Ohio-specific land and building investment to determine the land-to-building ratio in the study. Third, CBT should be required to apply the appropriate Staff-recommended ACF to investment in the rerun of the TELRIC study for power consumption per fuse AMP service.

9) "Riser Space" and "Cable Pulling & Splicing" Cost

Q. What is your recommendations regarding CBT's proposed riser space and cable pulling and splicing studies?

A. I recommend that the Commission require CBT to rerun both studies using Staff's recommended ACFs and apply TPI factors to investment to bring it to 1999 cost level.

10) Collocation Conduit Cost

Q. **Would you describe CBT's collocation conduit TELRIC study?**

A. CBT's collocation conduit TELRIC study calculates the monthly cost of the collocator's use of the conduit space between the designated manhole and CBT's cable vault on a per innerduct foot basis. CBT developed costs for the collocation conduit in its West 7th CO and the collocation conduit in the three remaining COs in the study. CBT calculated this cost based on a sample of recent conduit installation jobs done by CBT (1995 conduit jobs). This cost represents the material cost (manhole, conduit, and innerduct costs) and the contractor cost for conduit construction.

Q. **What is your opinion regarding CBT's approach in developing the collocation conduit cost?**

A. The sample used by CBT in the collocation conduit study includes 16 conduit installation jobs associated with 13 different COs. Out of these 16 jobs, there are 14 jobs associated with 12 different COs; the other two jobs are associated with the West 7th CO. The conduit costs associated with these 12 COs are averaged to determine the conduit cost per foot for the Avondale, Evendale, and Rossmoyne COs. However, Avondale, Evendale, and Rossmoyne COs are not included this sample. Therefore, I recommend that the Commission require CBT, to the extent that these 3 COs are part of 1995 jobs or any more recent conduit installation jobs, to include data associated with these 3 COs in the sample to develop the average collocation conduit cost for these offices. If these 3 COs are not part of 1995 jobs or any more recent conduit installation jobs, I believe that it would be

reasonable for the Commission to adopt CBT's proposed sample and the resultant average cost as the cost of providing collocation conduit in the Avondale, Evendale, and Rossmoyne COs. I also recommend that the Commission approve CBT's proposed collocation conduit cost for West 7th CO.

Q. **Do you have other recommendations regarding CBT's proposed TELRIC study for collocation conduit cost?**

A. Yes. I recommend the approval of this cost study by the Commission subject to my prior recommendation and the application of Staff-recommended ACFs and TPI factors.

Q. **Should the Commission require CBT to establish interim uniform collocation rates equal to the average of CBT's proposed rates discounted by 75%, pending the submission of forward looking collocation cost studies as CoreComm's witness, Mr. Gose recommends?**

A. No. I completely disagree with this recommendation for the same reasons I discuss in the "non-recurring charges for unbundled dedicated transport" section of my testimony.

Q. **Do you have any additional recommendations regarding the collocation rates?**

A. Although I believe that developing rates for collocation services on a CO-by-CO basis is a reasonable method of cost recovery, I share, to a certain extent, Mr. Gose's concern that ICB pricing for collocation rates may delay competition in a specific area. I believe that it may limit the competitor's degree of certainty of the costs to provide service in a specific

area. Therefore, I believe that it would be reasonable for the Commission to require CBT to charge, *on an interim basis*, the lowest collocation approved rate for a collocation rate element to carriers requesting collocation in any of CBT's CO not included in the existing TELRIC study and for which CBT does not already have established interim rate pursuant to any of CBT's arbitration cases. This interim rate would be in effect until CBT receives Commission approval for its TELRIC-based rates for collocation services in such CO.

X. TELRIC Studies for Unbundled Dedicated transport

Q. How did CBT structure its Dedicated Transport cost study?

A. CBT developed TELRIC studies for two types of unbundled dedicated transport elements. The first type is the "Dedicated Interoffice Transport" element that provides dedicated transport facilities between CBT's central offices. The second type is the "Entrance Facility" element that provides dedicated transport between CBT's central offices and NECs' central offices. Also, CBT developed a TELRIC study for optional features and functions available with the dedicated transport element as well as the non-recurring charges for providing unbundled dedicated transport element.

1) Unbundled Dedicated Interoffice Transport TELRIC Study

Q. How did CBT propose to recover its TELRIC costs for the unbundled dedicated interoffice transport element?

A. CBT developed unbundled dedicated interoffice transport rates for DS1, DS3, OC-3, OC-12, and OC-48 circuits. CBT proposes to recover the unbundled dedicated interoffice transport TELRIC through a combination of two rate elements. The first rate element is a fixed monthly rate element to recover the TELRIC associated with all electronics required to provide the unbundled interoffice transport. The second rate element is a per-air mile monthly rate element to recover the TELRIC associated with the fiber cables required to provide the unbundled interoffice transport. CBT proposes to deaverage the fixed monthly rate element into three rate bands. These three rate bands are the same rate bands CBT proposes for its deaveraged unbundled loops.

Q. What are the basic assumptions underlying CBT's dedicated interoffice transport study?

A. In constructing its dedicated interoffice transport study, CBT assumes the use of SONET technology and fiber cables on a forward looking basis. In the study, CBT assumes the existing central office locations, and considers the entire interoffice circuits in CBT's network.

Q. What are the Staff's concerns about CBT's dedicated interoffice transport TELRIC study?

A. Although I generally agree with the basic assumptions CBT uses in this TELRIC study and find them to be consistent with the TELRIC methodology as outlined in the FCC rules and

the Commission's local service guidelines, I have the following concerns that impact the TELRIC calculation:

a) The inclusion of some SONET rings located within the state of Kentucky in the DS0, DS1, and DS3 interoffice transport studies;

b) The averaging of the SONET equipment and fiber costs of two alternative routes for each interoffice circuit included in the DS0, DS1, and DS3 studies; and

c) The proposed fill factors for facilities and electronic equipment (I discuss this in Section VIII of my testimony).

Q. What is the Staff's recommendation regarding the SONET rings included in the TELRIC study for the unbundled DS0, DS1, and DS3 dedicated interoffice transport element?

A. In the TELRIC study for the unbundled dedicated interoffice transport element, CBT included all of the interoffice SONET rings to calculate the average fixed electronic equipment investment within each of the three rate bands in its interoffice facility, as well as the average air mileage per circuit. In doing so, CBT included some SONET rings that are used in connecting its COs located in the state of Kentucky as well as some SONET rings connecting CBT COs located in Ohio to CBT COs located in Kentucky.

The Staff recommends that the Commission require CBT to rerun its dedicated interoffice transport study excluding all circuits, identified in the "Interoffice Circuit Table", that have

both A & Z offices (both ends of the circuit), located in Kentucky from the study. This would also result in exclusion, from the study, of all SONET rings identified in the "Ring inventory" file connecting central offices that are exclusively located in Kentucky.

Q. **Would you explain Staff's concerns and recommendations regarding the averaging of the SONET equipment costs of two alternative routs for each interoffice circuit included in the DS0, DS1, and DS3 interoffice transport studies?**

A. According to CBT's interoffice network design, there are two hub offices (Evendale and West 7th central offices) through which all traffic transmitted between node offices would be routed. It is my understanding that, according to that interoffice network design, each circuit connecting node offices will be configured to go through one hub office or the other (but not both). In the calculation of the fixed investment per circuit associated with the SONET equipment, CBT proposes to average the investment of the SONET equipment when a circuit passes through the Evendale CO with the SONET equipment investment when a circuit passes through the West 7th CO (*i.e.*, CBT assumes an equal probability that a certain circuit connecting two node offices passes through Evendale CO or West 7th CO).

It is my understanding that, once a specific dedicated interoffice circuit is configured, the route for this dedicated interoffice circuit does not change on a real-time basis. To develop the most reasonable estimate for the TELRIC associated with the SONET equipment and facility, the Staff recommends that the Commission require CBT to revise its interoffice study model to reflect the SONET equipment and facilities investment of the actual route

for each circuit appropriately included in the study. This could be achieved by one of two methods:

i) By identifying the hub office through which each interoffice circuit is actually routed and to include only the SONET equipment and facilities investment associated with that route; or

ii) By using the probability of a circuit being routed through Evendale CO vs. the West 7th CO as a surrogate for the actual costs to be incurred by CBT, instead of the equal probability assumption used by CBT in the model. The probability I am recommending can be calculated based on the total DS3 capacity available over SONET rings passing through each hub office.

2) Unbundled Entrance Facility TELRIC Study

Q. How does CBT propose to recover its TELRIC for the unbundled entrance facility element?

A. CBT developed unbundled entrance facility rates for DS1, DS3, OC-3, OC-12, and OC-48 circuits. CBT proposes to recover its TELRIC for the unbundled entrance facility element through a flat monthly rate element. This rate would recover both the TELRIC associated with the fiber facilities, as well as the TELRIC for the SONET electronic equipment.

Q. **How did CBT develop TELRIC for its unbundled entrance facility?**

A. CBT assumes that all of its entrance facilities are provided over SONET ring technology. CBT also assumes that its DS1 and DS3 unbundled entrance facilities SONET rings are predominantly offered via one of three configurations: a) the SONET ring connects one CBT CO and one customer premise (for entrance facility study purposes customer premise refers to a non-CBT CO) ("1CO, 1CP" or "point-to-point configuration"); b) the SONET ring connects one CBT CO and two customer premises ("1CO, 2CP configuration"); or c) the SONET ring connects two CBT COs and two customer premises ("2CO, 2CP configuration"). CBT calculates the TELRIC cost for each of these configurations and then calculates a single weighted average TELRIC cost for DS1 and DS3 unbundled entrance facilities. The weighting is done based on the number of existing entrance facility circuits in each configuration. For the OC-n unbundled entrance facility study, CBT assumes the 1CO, 1CP configuration only.

Q. **What is your recommendation regarding CBT's proposed unbundled entrance facility?**

A. First, I would point out that I agree with CBT's assumptions that SONET ring architecture should be the forward looking network architecture for conducting the TELRIC studies for all of its unbundled entrance facilities. However, I recommend that the Commission require CBT to establish three deaveraged rates corresponding to the three proposed configurations of unbundled entrance facilities included in CBT's TELRIC study. This rate structure would more appropriately reflect the costs CBT incurs in providing CBT's

unbundled entrance facility element under different configurations. I also recommend that the Commission approve the OC-n unbundled entrance facility TELRIC cost as proposed by CBT, subject to Staff's recommendations for ACF, common and power equipment factor, land and building factor, etc.

Q. Do you have any further concerns regarding CBT's unbundled entrance facility rates?

A. Yes. I would like to point out that caution should be taken as to when the deaveraged unbundled DS1 and DS3 entrance facility rate would apply. I specifically want to point out that, consistent with the FCC's interconnection order, the unbundled entrance facility rate for the point-to-point configuration should *only* apply to *existing* point-to-point dedicated facilities interconnecting CBT's COs to other carriers' COs. However, for newly requested (*i.e.*, to be constructed) SONET rings to interconnect CBT's COs with other carriers' COs, either for interconnection with CBT's network or access to CBT's unbundled network elements (such as meet point arrangements), CBT should develop new TELRIC-based rates that appropriately reflect the TELRIC for providing such facilities. However, to avoid delay in the NECs' entry in the market, I recommend that the Commission approved point-to-point dedicated entrance facility rate resulting from this proceeding be used as an interim rate until CBT can develop such rate for newly constructed entrance facilities.

Q. Did you review CBT's proposed TELRICs for optional features and functions available with the dedicated transport element?

A. Yes. CBT developed TELRIC study for various add/drop functions associated with its unbundled OC-n dedicated transport element. CBT also developed TELRICs for multiplexing equipment (DS1/DS3 and DS0/DS1).

Q. **What is your recommendations regarding CBT's proposed TELRICs for optional features and functions available with the dedicated transport element?**

A. I have the same general recommendation that CBT should apply all Staff recommended modifications in its TELRIC rerun for optional features and functions available with the dedicated transport element (*i.e.*, ACFs, fill factors, power and common equipment factor, etc.).

XI. TELRIC Study for the Loop/Transport Combinations

Q. **Would you explain how CBT developed its TELRIC study for the Loop/Transport Combinations?**

A. CBT provided a TELRIC study for the loop/transport combinations it voluntarily agreed to in its interconnection agreements. These combinations are: a) Loop/Transport combination #1 (VG interface), which combines an unbundled loop and dedicated unbundled DS0 interoffice transport; and b) Loop/Transport combination #2 (DS1 interface), which combines an unbundled loop and dedicated unbundled DS1 transport. Unbundled loops included in these combinations are two-wire analog voice grade (VG) loops.

In the Loop/Transport combination study, CBT developed TELRIC for unbundled dedicated DS0 interoffice transport. This TELRIC study was conducted by CBT in a method similar to what CBT used in its unbundled interoffice transport for DS1 and DS3 circuits, but based the study on its DS0 interoffice circuits in CBT's network.

Q. **Do you have concerns regarding CBT's proposed TELRIC for dedicated unbundled DS0 interoffice transport?**

A. Yes. All my concerns and recommended adjustments I discussed in the dedicated interoffice transport TELRIC (section X of my testimony) equally apply to the TELRIC study for dedicated unbundled DS0 interoffice transport.

Q. **How does CBT propose to charge for Loop/Transport combination(s)?**

A. For Combination #1 (VG interface) CBT proposes to charge the applicable recurring and non-recurring unbundled two-wire analog voice grade loop rate (band 1, 2, or 3), the recurring and non-recurring rates for the unbundled dedicated DS0 interoffice transport, and the recurring and non-recurring DS0 cross connect rates.

For Combination #2 (DS1 interface) CBT proposes to charge the applicable recurring and non-recurring unbundled two-wire analog voice grade loop rate (band 1, 2, or 3), the recurring and non-recurring rates for the unbundled dedicated DS1 interoffice transport, the recurring and non-recurring DS1/DS0 multiplexing rates, and the recurring and non-recurring DS1 cross connect rates.

Q. **Do you have specific concerns regarding CBT's proposed cost recovery for the Loop/Transport Combination(s)?**

A. Yes, I do. I recommend that the Commission require CBT to amend its proposed cost recovery mechanism for the Loop/Transport combination(s) to reflect the following recommendations:

1) CBT charge only, the applicable (manual or electronic access to OSS), one per-order charge for loop/transport combination(s) requested in the same order; and
2) All other recommendations I discuss in various parts of my testimony (unbundled interoffice transport, NRCs for unbundled interoffice transport, multiplexing, and cross connect) as well as recommendations discussed by Mr. Francis regarding the applicable recurring and non-recurring charges for unbundled two-wire analog voice grade loops.

XII. TELRIC studies for Non-Recurring for Unbundled Dedicated Transport

Q. **Can you briefly describe CBT's proposed TELRIC studies for non-recurring costs for unbundled dedicated transport elements?**

A. CBT developed separate TELRICs of non-recurring costs for DS1, DS3, and OC-n unbundled interoffice transport and entrance facility as well as the various add/drop functions associated with its unbundled OC-n dedicated transport element and multiplexing functions (DS1/DS3 and DS0/DS1). CBT conducted these studies in a similar manner and

with similar assumptions as its non-recurring study for the unbundled port and vertical features.

Q. **What are your concerns regarding CBT's proposed TELRIC studies for non-recurring costs for unbundled dedicated transport elements?**

A. I have the similar concerns to what I have discussed earlier in my testimony regarding non-recurring TELRICs for unbundled port and vertical features. CBT did not consider the impact of the implementation of NEC's non-discriminatory access to CBT's OSS on the steps taken to process an order for unbundled dedicated transport element, but the assumption was to use the same method CBT uses to process access service requests today. CBT identified the functions associated with the order set-up (*i.e.*, per-order) separately form functions associated with processing individual UNE within the order (*i.e.*, per-element) and consequently identified the time estimated for each of these functions. However, CBT added the per-order cost to the per-element cost to determine the TELRIC for the unbundled transport element and consequently the per-element non-recurring rate. This rate structure does not reflect the economies associated with possibility of processing multiple unbundled transport elements within a single order.

Q. **What is your recommendation to the Commission regarding CBT's proposed TELRIC studies for non-recurring costs for unbundled dedicated transport elements?**

A. Consistent with my discussion and recommendations for the proposed non-recurring charges for unbundled port and vertical features, I recommend the following:

1) CBT should be required to establish non-recurring rates for manual processing of unbundled dedicated transport service orders. These non-recurring rates should reflect separate per-order, and per-unbundled network element, within the order, rates for the manual processing. These rates would be based on CBT's proposed TELRIC studies adjusted to reflect Staff's recommendations for labor rates. These rates would be applicable to NECs requesting manual interface to CBT's systems;

2) CBT should be required to establish non-recurring rates associated with processing unbundled dedicated transport service orders via electronic access to CBT's OSS. This TELRIC study should be submitted by CBT within three (3) month after the issuance of the Commission decision in this proceeding; and

3) CBT did not propose a TELRIC study for non-recurring costs associated with unbundled dedicated DS0 interoffice circuits in this proceeding. Therefore, CBT should submit such TELRIC study within three (3) month after the issuance of the Commission decision in this proceeding that is consistent with Staff's recommendations discussed in my testimony.

Q. Should the Commission require CBT to establish interim non-recurring rates for dedicated transport equal to 50% of CBT's proposed rates pending a separate docket established especially to review CBT's non-recurring cost studies?

A. No. I do not agree with this proposal. Based on my understanding of the Commission's local service guidelines, I believe that this proposal is inconsistent with Section V.B.1.c.1. of the guidelines, which sets the basis for the determination of interim rates as follows:

> "Utilizing interim rates that are based on the best information available to the Commission about the *ILEC's* forward looking economic costs."

Nothing on the record demonstrates that cutting CBT's proposed rates by 50% is more representative of CBT's forward looking economic costs than the existing interim rates established in CBT/MCI arbitration proceeding (Case No. 97-152-TP-ARB). Although it is my understanding that the Commission guidelines do not limit the Commission's ability to establish different interim rates for interconnection and unbundled network elements at different points of time until the Commission approves TELRIC-based rates, I believe that there is no apparent need in this case for the Commission to do so. I believe that, since CBT already provided TELRIC studies for these non-recurring charges, and all parties had the opportunity to investigate the proposed costs, it would not be the most efficient way to utilize everybody's time and resources to simply "put off" presenting a recommendation for the Commission's consideration. I also believe that Staff's recommendation discussed above is the most reasonable and efficient approach for several reasons. First, the Commission has already established interim rates to be applicable to unbundled network elements and interconnection services required by NECs within CBT/MCI arbitration proceeding (to which MCI was a party). Second, MCI has advocated,

within the CBT/MCI arbitration proceeding, the use of either CBT's current FCC tariff rates or the CBT's current PUCO tariff rates for these elements, which is the current interim rate in CBT/MCI agreement. (See Direct Testimony of Michael Starkey on behalf of MCI Telecommunications Corporation, Attachment 2, filed on April 2, 1997). Third, if no NEC requests manual interface to CBT's OSS there would be no need to establish a second set of interim rates. Finally, the three month period would provide all parties with time to review, and the Commission to approve, the recalculated TELRIC studies provided in this proceeding prior to the review of the additional studies to be provided pursuant to Staff's recommendations.

Q. Do you have any further recommendations regarding the TELRIC studies you addressed in your testimony?

A. Yes, I do. Throughout this proceeding Staff has been sending data requests to CBT regarding various TELRIC studies. CBT acknowledged, in various responses to these Staff data requests, that various corrections would be done to correct oversights or applying the wrong number, and so forth. Therefore, I recommend that all these corrections be done during the recalculation of the TELRICs by CBT.

Q. Does this conclude your testimony?

A. Yes, it does.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the **CONFIDENTIAL TESTIMONY OF NADIA L. SOLIMAN** was served by regular U.S. mail, postage prepaid, or hand-delivered, upon the following parties of record, this 19th day of March, 1999.

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