

1 BELL SOUTH TELECOMMUNICATIONS, INC.
2 DIRECT TESTIMONY OF BARBARA CRUIT
3 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
4 DOCKET NOS. 980946-TL, 980947-TL, 980948-TL, 981011-TL
5 981012-TL AND 981250-TL
6 APRIL 9, 1999

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8
9 Q. PLEASE STATE YOUR NAME, COMPANY NAME AND ADDRESS.

10

11 A. My name is Barbara Cruit. I am employed by BellSouth
12 Telecommunications, Inc. as the Director of South
13 Florida Capacity Management. My business address is
14 18560 NorthWest 27th Avenue, Miami, Florida 33056.

15

16 Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

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18 A. I graduated from Troy State University in 1979 with a
19 Bachelor of Science Degree in Business. I began
20 employment with Southern Bell in 1979 as an Assistant
21 Manager in Network Planning and Engineering. I have
22 held various positions with increasing responsibility
23 over the past 20 years - Network Traffic Engineer,
24 Detailed Continuing Property Records (DCPR) Manager,
25 Network Staff Manager, Internal Auditor, Director -

1 Comptrollers Regulatory Staff & Cost Accounting,
2 Director - Planning and Engineering, and since 1995,
3 Director - South Florida Capacity Management.

4

5 Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE ANY STATE PUBLIC
6 SERVICE COMMISSION? IF SO, BRIEFLY DESCRIBE THE
7 SUBJECT OF YOUR TESTIMONY.

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9 A. Yes. I testified before the Florida Public Service
10 Commission in Docket No. 980800-TP. My testimony in
11 that docket was to support the process and the
12 results of BellSouth's forecasted requirements for
13 central office equipment growth.

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15 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

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17 A. The purpose of my testimony is to provide an overview
18 of the process utilized by BellSouth's Florida
19 Capacity Managers (Switch, Circuit, Power, and Common
20 Systems) to determine the equipment requirements for
21 forecasted growth for each of the six central offices
22 at issue in this proceeding. The detailed
23 responsibilities of the Capacity Managers and any
24 specifics regarding the six central offices in this
25 proceeding are discussed in the direct testimony of

1 each of the respective Capacity Managers filed in
2 this proceeding.

3

4 **ISSUE 2: WHAT FACTORS SHOULD BE CONSIDERED BY THE**
5 **COMMISSION IN MAKING ITS DETERMINATION ON BELLSOUTH'S**
6 **PETITIONS FOR WAIVER AND TEMPORARY WAIVER OF THE**
7 **REQUIREMENT TO PROVIDE PHYSICAL COLLOCATION FOR THE**
8 **FOLLOWING CENTRAL OFFICES:**

9

- 10 a) **Daytona Beach Port Orange**
11 b) **Boca Raton Boca Teeca**
12 c) **Miami Palmetto**
13 d) **West Palm Beach Gardens**
14 e) **North Dade Golden Glades**
15 f) **Lake Mary**

16

17 Q. DO YOU BELIEVE THAT THE CURRENT ENVIRONMENT FOR
18 PROJECTING FUTURE EQUIPMENT REQUIREMENTS IS DIFFERENT
19 THAN IT WAS IN THE PAST?

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21 A. Yes. In the past, the network was relatively stable,
22 primarily used for voice traffic, and we relied
23 heavily on forecasts received for BellSouth line
24 growth and interexchange carrier access growth.
25 There was a direct correlation between the

1 interoffice trunk growth and the access line growth.
2 However, due to the following reasons that have
3 occurred over the past 24 months, we have revised our
4 process for projecting equipment requirements.
5 Those changes are: 1) the increased use of the
6 Internet and the resulting increased demand on the
7 network; 2) the introduction of ALEC networks and the
8 need to interconnect those networks; and 3) the
9 increased demand for wireless interconnection. The
10 demand on the network is no longer stable or
11 predictable. Therefore, a lack of a forecast from
12 these influences has forced BellSouth Capacity
13 Managers to rely heavily on trended demand to
14 determine capacity exhaust and equipment relief.

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16 Q. PLEASE EXPLAIN THE REVISIONS IN BELLSOUTH'S PROCESS
17 FOR PROJECTING EQUIPMENT REQUIREMENTS?

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19 A. Currently, we project equipment requirements for the
20 next 12 to 18 months based on the actual demand of
21 the past 12 to 18 months. We use the geo-forecast of
22 network access lines to determine the line
23 peripherals required and rely heavily upon the recent
24 trend of trunk demand to project the trunk
25 peripherals required. We use our professional

1 judgment and experience in applying the trended
2 forecast to the equipment requirements when we are
3 aware of an unusual occurrence that has, or will,
4 take place. Another change from the past is that we
5 are deploying hardware equipment to last
6 approximately 18 months and deploying the expensive
7 electronics or plug-ins as demand occurs, which is
8 approximately every six months in the volatile access
9 tandem switches. This allows us to economically and
10 quickly respond to interconnecting customer demand.
11 In the past, because there was little data traffic on
12 the voice network, we were able to correlate the
13 trunk demand to the access line growth, and provision
14 trunks on a similar growth pattern. We would
15 provision equipment for a planned 24 to 36 month
16 period.

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18 Q. WHAT ARE THE FUNCTIONS OF THE CAPACITY MANAGERS THAT
19 ARE UNDER YOUR DIRECT SUPERVISION?

20

21 A. Switch Capacity Managers (SCMs) are responsible for
22 planning and engineering the switches, Circuit
23 Capacity Managers (CCMs) plan the interoffice
24 equipment requirements and oversee the trunking
25 network, and Power Capacity Managers (PCMs) oversee

1 the planning and growth of DC power requirements and
2 plan the standby engine requirements. Common Systems
3 Capacity Managers (CSCMs) receive equipment
4 requirements for space from the other capacity
5 managers, as well as from BellSouth organizations
6 with central office space requirements, determine the
7 appropriate location for the equipment and translate
8 the frame/bay equipment projections to reserved
9 square footage requirements. The CSCM ensures that
10 all installed equipment is properly designated on the
11 floor plan, all outstanding equipment orders for
12 additional equipment, as well as equipment to be
13 removed, are reflected and space for all future
14 equipment projections is reserved.

15

16 Q. WHAT ARE THE FUNCTIONS OF THE SWITCH CAPACITY
17 MANAGERS?

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19 A. Switch Capacity Managers (SCMs) plan the equipment
20 requirements for the switches. There are several
21 types of switches located in these offices - access
22 tandems, local (class 5) switches, traffic operator
23 position system (TOPS) switches, and Signal Transfer
24 Point (STP) and Service Control Point (SCP) systems.

25

1 Q. EXPLAIN THE PROCESS THAT CAPACITY MANAGERS USE TO
2 DETERMINE THE EQUIPMENT REQUIREMENTS FOR ACCESS
3 TANDEMS.

4
5 A. The access tandems provide for interconnection to
6 other carrier networks. Three of the central offices
7 that are under discussion in this proceeding house
8 BellSouth access tandems - West Palm Beach Gardens,
9 North Dade Golden Glades, and Daytona Beach Port
10 Orange. These switches are the primary point of
11 interconnection with other carriers - interexchange
12 carriers, wireless carriers, ALECs, and other
13 independent companies. It is critical that BellSouth
14 be able to continue equipment growth in these
15 switches in order to allow traffic to traverse from
16 one carrier's network to another. In the South
17 Florida area, the SCM trends the projection of trunks
18 based on the most recent actual demand. In the North
19 Florida area, the CCM determines the trunk projection
20 and provides the required T1s to the SCM. Although
21 the organizational responsibility for projecting
22 trunk requirements is different, the end product is
23 the same - a T1 forecast of switch terminations
24 required. Trunk demand on the BST access tandems is
25 driven by interconnection to the other carriers'

1 networks, as well as from BST's local switches to
2 provide end users' access to other interconnect
3 providers. When there is no forecast provided by
4 these carriers, trending is used.

5

6 Q. EXPLAIN THE PROCESS THAT CAPACITY MANAGERS USE TO
7 DETERMINE THE EQUIPMENT REQUIREMENTS FOR LOCAL
8 SWITCHES.

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10 A. The local switch provides service to the end users
11 within the specified geographical boundaries of the
12 wire center (central office). The equipment demand
13 is driven by access line requirements, trunk
14 requirements, and value-added services. For line
15 requirements, the SCM receives a geo-forecast of the
16 number of lines projected for growth. The outside
17 plant Loop Capacity Manager receives the same
18 forecast and then forecasts the feeder growth to be
19 served on digital systems that will be integrated
20 into the switch, and the associated line count. This
21 is based on his knowledge of the outside plant
22 distribution growth strategy. This forecast is
23 provided to the SCM who calculates the remaining
24 analog line requirement from the overall line
25 projection. For trunk requirements, the projection

1 is based on trending the most recent actual demand.
2 Due to the recent volatility of local trunking demand
3 driven especially by Internet service provider access
4 and PRI-ISDN (Primary Rate Interface Integrated
5 Services Digital Network) hubbing arrangements, the
6 interoffice trunk requirements are trended. The SCM
7 or CCM determines those requirements, and the SCM
8 turns them into trunk equipment needs. The SCM's
9 requirements and projections are trued up based on
10 historical data and his knowledge of unusual
11 activities. In addition, the SCM considers services
12 to be provided such as caller ID, calling name
13 delivery and other value-added services and
14 determines the equipment requirements to satisfy all
15 those demands.

16

17 Q. EXPLAIN THE PROCESS THAT CAPACITY MANAGERS USE TO
18 DETERMINE THE EQUIPMENT REQUIREMENTS FOR TOPS
19 (TRAFFIC OPERATOR POSITION SYSTEMS) SWITCHES.

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21 A. There is a TOPS switch in the West Palm Beach
22 Gardens, North Dade Golden Glades and Daytona Beach
23 Port Orange central offices, which provides the
24 operator services requirements. The demand for
25 equipment is driven by the need to expand or

1 modernize the operator services network, which
2 sometimes requires the replacement of some old
3 technology with newer technology. These requirements
4 are planned by another BST organization, Operator
5 Services. The requirements are provided to the SCM,
6 who places the equipment order on the vendor and
7 oversees the implementation of the project.

8

9 Q. EXPLAIN THE PROCESS THAT CAPACITY MANAGERS USE TO
10 DETERMINE THE EQUIPMENT REQUIREMENTS FOR SIGNAL
11 TRANSFER POINT (STP) AND SERVICE CONTROL POINT (SCP)
12 SYSTEMS.

13

14 A. The function of a STP is to provide the SS7
15 signalling necessary to complete calls across the
16 network. The SCPs are databases that contain
17 information regarding features and services in the
18 network (ex. calling name, LIDB (line information
19 database used to validate 0+ credit card calls)).
20 There are STPs in Golden Glades and West Palm Beach
21 Gardens, and SCPs in West Palm Beach Gardens. These
22 switches are planned by the Regional Planning and
23 Engineering Center (RPEC), a regional center that
24 monitors the capacity, plans relief, orders

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1 equipment, and provides the frame requirements to the
2 Common Systems Capacity Manager.

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4 Q. EXPLAIN THE PROCESS THAT CIRCUIT CAPACITY MANAGERS
5 USE TO DETERMINE THE EQUIPMENT REQUIREMENTS FOR THE
6 INTEROFFICE NETWORK.

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8 A. Circuit Capacity Managers (CCMs) oversee the
9 interoffice trunking network and plan the associated
10 equipment requirements. In projecting future
11 equipment requirements, the CCM identifies the need
12 for additional test access, metallic repeater
13 equipment, SONET equipment, digital cross-connect
14 system growth and associated cross-connect panels.
15 The CCM considers interoffice message trunk growth,
16 ISP (Internet Service Provider) trunk growth,
17 interexchange carrier and CLEC trunk requirements.
18 The CCM must also consider the expected growth for
19 customer-driven SONET-based smart rings as well as
20 interoffice SONET rings. The CCM is also an
21 interface to the outside plant capacity manager, who
22 provides requirements to them on the placement of
23 equipment in this area for next-generation digital
24 loop carrier equipment, loop multiplexers and fiber
25 distribution frames. The CCM considers all of the

1 above requirements and when they are requested, they
2 provide the Common Systems Capacity Manager with an
3 estimated equipment requirement.

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5 Q. EXPLAIN THE PROCESS THAT POWER CAPACITY MANAGERS USE
6 TO DETERMINE THE EQUIPMENT REQUIREMENTS FOR DC POWER
7 AND ALTERNATE ENGINES.

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9 A. Power Capacity Managers (PCMs) project the growth of
10 DC power equipment and alternate standby engines. DC
11 power equipment needs for rectifiers and batteries
12 are identified by an outside vendor and provided to
13 the PCM. The PCM plans the replacement and upgrade
14 of optional standby engines.

15

16 Q. EXPLAIN THE PROCESS THAT COMMON SYSTEMS CAPACITY
17 MANAGERS USE TO RESERVED SPACE FOR CENTRAL OFFICE
18 EQUIPMENT.

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20 A. The Common Systems Capacity Manager (CSCM) ensures
21 that all installed equipment is properly designated
22 on the floor plan, outstanding equipment orders for
23 additional equipment, as well as equipment to be
24 removed, are reflected and space for future equipment
25 projections is reserved.

1 Q. WHY DOES BELLSOUTH UTILIZE THIS PROCESS FOR
2 DETERMINING EQUIPMENT REQUIREMENTS AND FLOOR SPACE
3 REQUIREMENTS?

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5 A. This process ensures that the various types of
6 equipment are appropriately forecasted for future
7 growth, that capital investment is effectively
8 utilized, and that central office space is
9 efficiently utilized. This process allows BellSouth
10 to provide timely customer service to local end users
11 and interconnecting customers.

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13 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

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15 A. Yes, it does.

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