

1 SOUTHERN BELL TELEPHONE & TELEGRAPH COMPANY  
2 REBUTTAL TESTIMONY OF H. E. GRAY, JR.  
3 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION  
4 FLORIDA DOCKET NO. 920260-TL  
5 DECEMBER 18, 1992  
6  
7

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

10 A. MY NAME IS HAMILTON E. (BOB) GRAY, JR. MY BUSINESS  
11 ADDRESS IS 600 NORTH 19TH STREET, BIRMINGHAM,  
12 ALABAMA, 35203. I AM EMPLOYED BY BELLSOUTH  
13 TELECOMMUNICATIONS, INC., D/B/A SOUTHERN BELL  
14 TELEPHONE & TELEGRAPH COMPANY ("COMPANY" OR  
15 "SOUTHERN BELL"), AS AN OPERATIONS MANAGER IN THE  
16 NETWORK PLANNING AND ENGINEERING INTEGRATION  
17 DEPARTMENT.  
18

19 Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND, WORK  
20 EXPERIENCE AND CURRENT RESPONSIBILITIES.  
21

22 A. I RECEIVED A BACHELOR OF SCIENCE DEGREE IN  
23 ELECTRICAL ENGINEERING FROM LOUISIANA STATE  
24 UNIVERSITY IN 1971 AND A MASTER OF BUSINESS  
25 ADMINISTRATION DEGREE FROM THE UNIVERSITY OF

1 ALABAMA - BIRMINGHAM IN 1980. I AM A REGISTERED  
2 PROFESSIONAL ENGINEER. FOR THE PAST TWENTY YEARS, I  
3 HAVE BEEN AN EMPLOYEE OF BELLSOUTH  
4 TELECOMMUNICATIONS, INC. AND ITS PREDECESSORS. FROM  
5 1972 TO 1976, I HELD VARIOUS ASSIGNMENTS WITHIN THE  
6 LOUISIANA ENGINEERING DEPARTMENT, INCLUDING  
7 DISTRIBUTION ENGINEERING, INTEROFFICE FACILITY  
8 PLANNING, AND SWITCHING PLANNING.

9  
10 IN 1977, I JOINED THE NETWORK PLANNING DEPARTMENT ON  
11 THE SOUTH CENTRAL BELL HEADQUARTERS STAFF AS A  
12 SWITCH PLANNING AND ENGINEERING ECONOMIC STUDY  
13 ANALYST. I JOINED THE REVENUE REQUIREMENTS  
14 DEPARTMENT AS A REGULATORY DOCKET MANAGER IN 1985  
15 AND RETURNED TO THE NETWORK PLANNING STAFF IN 1988.  
16 MY CURRENT RESPONSIBILITIES INCLUDE SWITCH PLANNING,  
17 TRANSPORT PLANNING, ENGINEERING ECONOMIC ANALYSIS  
18 SUPPORT, AND CONSTRUCTION BUDGET DEVELOPMENT SUPPORT  
19 FOR THE NINE STATES IN THE BELLSOUTH TERRITORY.

20

21 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

22

23 A. THE PURPOSE OF MY TESTIMONY IS TO PROVIDE REBUTTAL  
24 TO THE DIRECT TESTIMONY OF TWO WITNESSES IN THIS  
25 CASE: JOSEPH GILLAN CONCERNING SOUTHERN BELL'S

1 CORPORATE NETWORK AND JOSEPH P. CRESSE CONCERNING  
2 THE REPLACEMENT OF COPPER CABLE WITH FIBER CABLE.

3

4 Q. IN DISCUSSING THE SUBJECT OF SOUTHERN BELL'S  
5 CORPORATE NETWORK, MR. GILLAN CHARACTERIZED THIS  
6 NETWORK AS EXTENSIVE AND EXCESSIVE. HE FURTHER  
7 SUGGESTED SOUTHERN BELL WAS SUBSIDIZING ITS RE-ENTRY  
8 TO THE INTERLATA TOLL MARKET (PAGE 39). IS THAT A  
9 CORRECT CHARACTERIZATION?

10

11 A. ABSOLUTELY NOT. THE CHARACTERIZATION OF THE  
12 SOUTHERN BELL NETWORK AS EXCESSIVE AND THE INFERENCE  
13 THAT SOUTHERN BELL HAS EXPLOITED THE MODIFICATION OF  
14 FINAL JUDGMENT (MFJ) IS GROSSLY INACCURATE.  
15 SOUTHERN BELL HAS PRUDENTLY AND ECONOMICALLY  
16 DESIGNED AND ENGINEERED AN INTERLATA CORPORATE  
17 NETWORK BASED ON THE OFFICIAL TRAFFIC AUTHORIZED BY  
18 THE MFJ.

19

20 Q. IS MR. GILLAN'S DESCRIPTION OF SOUTHERN BELL'S  
21 INTERLATA CORPORATE NETWORK ACCURATE? (PAGE 39)

22

23 A. NO. THE NETWORK IS MUCH MORE THAN JUST A "PRIVATE  
24 TOLL" NETWORK AS DEPICTED IN MR. GILLAN'S TESTIMONY.  
25 THE OFFICIAL CORPORATE NETWORK IS ALSO UTILIZED TO

1 SUPPORT OTHER CRITICAL FUNCTIONS TO INSURE THE  
2 ECONOMIC OPERATION OF THE LOCAL EXCHANGE NETWORK.  
3 SIGNALING SYSTEM 7 (SS7) CIRCUITS, EMERGENCY 911  
4 CIRCUITS AND MAINTENANCE CIRCUITS ARE ALL PART OF  
5 THE OFFICIAL NETWORK. IN ADDITION, VOICE LINKS  
6 CONNECT CUSTOMERS TO OPERATORS, CUSTOMER SERVICE  
7 REPRESENTATIVES, AND REPAIR SERVICE REPRESENTATIVES.  
8 DATA LINKS INTERCONNECT COMPUTERS FOR CORPORATE DATA  
9 PROCESSING REQUIREMENTS, AND VIDEO LINKS  
10 INTERCONNECT THE MANY SOUTHERN BELL EMPLOYEES IN  
11 THEIR DAY-TO-DAY ACTIVITIES. THE INTERLATA  
12 FACILITIES DEPLOYED IN FLORIDA ARE AN INTEGRAL AND  
13 VITAL PART OF THE OVERALL NINE STATE CORPORATE  
14 NETWORK.

15

16 Q. MR. GILLAN STATES THAT THE SOUTHERN BELL CORPORATE  
17 NETWORK HAS ENORMOUS EXCESS CAPACITY COMPARED TO ITS  
18 NEEDS (PAGE 39). DO YOU AGREE?

19

20 A. NO.

21

22 Q. WHAT FACTORS EFFECT THE SIZE OF THE SOUTHERN BELL  
23 CORPORATE NETWORK TO MEET ITS OFFICIAL NEEDS?

24

25 A. THE INTEROFFICE FACILITY (CABLE AND ELECTRONICS)

1 SIZING CRITERIA ARE BASICALLY AS FOLLOWS:

- 2 1. DETERMINE THE PREFERRED NETWORK ARCHITECTURE  
3 (RING, POINT-TO-POINT, HYBRID, ETC.).
- 4 2. PROVIDE SUFFICIENT FIBERS TO BUILD A RELIABLE,  
5 SELF HEALING NETWORK.
- 6 3. INSURE THAT AT LEAST ONE WORKING/PROTECTION  
7 FIBER SYSTEM CAN BE USED FOR MAINTENANCE AND  
8 TECHNOLOGY UPGRADES.
- 9 4. MEET THE 10 YEAR DEMAND WITH THE MOST ECONOMIC  
10 MIX OF CABLE SIZE AND LIGHTWAVE TRANSMISSION  
11 SPEED. (AN ECONOMIC STUDY IS NECESSARY TO  
12 DETERMINE IF IT IS BETTER TO HAVE MORE FIBERS  
13 WITH LOW SPEED/CAPACITY ELECTRONICS VERSUS LESS  
14 FIBERS WITH HIGH SPEED/CAPACITY ELECTRONICS).

15

16 Q. WOULD YOU PLEASE EXPLAIN WHY SOUTHERN BELL BELIEVES  
17 IT IS NECESSARY TO HAVE A RELIABLE, SELF-HEALING  
18 NETWORK?

19

20 A. YES. A RELIABLE INTERLATA NETWORK IS ESSENTIAL TO  
21 THE SERVICE CONTINUITY OF THE LOCAL EXCHANGE  
22 NETWORK. FOR THAT REASON, SOUTHERN BELL'S  
23 FUNDAMENTAL PLAN IS TO DEPLOY ROUTE DIVERSE, "SELF  
24 HEALING", INTERLATA FACILITIES SO THAT IN THE EVENT  
25 OF EQUIPMENT FAILURES OR EQUIPMENT DAMAGE, THE

1           CIRCUITS CAN BE RAPIDLY RESTORED, OR BETTER YET,  
2           CUSTOMERS NEVER SEE THE FAILURE DUE TO THE SELF  
3           HEALING DESIGN. EVIDENCE OF SOUTHERN BELL'S STRONG  
4           COMMITMENT TO SERVICE CONTINUITY WAS HIGHLIGHTED BY  
5           THE RECENT HURRICANE ANDREW EXPERIENCE.

6

7 Q.   WHAT IS "SELF HEALING" CAPABILITY?

8

9 A.   SIMPLY PUT, A SELF HEALING NETWORK WILL  
10       AUTOMATICALLY SWITCH ALL CIRCUITS TO A PROTECTION  
11       CHANNEL IF A FAILURE OCCURS. A "1X1" (PRONOUNCED  
12       "ONE BY ONE") ARCHITECTURE IS SELF HEALING. THIS  
13       ARCHITECTURE REQUIRES MORE FIBERS THAN A DIFFERENT  
14       ARCHITECTURE THAT IS NOT SELF-HEALING. IN 1X1  
15       PROTECTION, 1 PROTECT CHANNEL IS PROVIDED FOR EACH  
16       AND EVERY WORKING CHANNEL. HENCE 1X1 PROVIDES 100%  
17       PROTECTION OR A COMPLETE SELF-HEALING NETWORK.

18

19 Q.   WHY IS THIS POINT IMPORTANT?

20

21 A.   MR. GILLAN'S ALLEGATION OF EXCESS CAPACITY  
22       APPARENTLY FAILS TO ACCOUNT FOR THIS SELF HEALING  
23       CAPABILITY. MR. GILLAN'S ANALYSIS IS BASED ON WHAT  
24       IS REFERRED TO AS "NX1" ARCHITECTURE (SEE EXHIBIT  
25       JPG-8). IN THIS ARCHITECTURE, "N" IS A VARIABLE

1 NUMBER OF WORKING CHANNELS WITH ONLY ONE PROTECTION  
2 CHANNEL SERVING THE ENTIRE GROUP OF CHANNELS. AS A  
3 RESULT, FEWER FIBERS ARE REQUIRED AND LESS  
4 PROTECTION IS PROVIDED. CONSEQUENTLY, WHAT HE  
5 DESCRIBES AS "EXCESSIVE" FIBER DEPLOYMENT IN THE  
6 SOUTHERN BELL NETWORK IS ACTUALLY APPROPRIATE FOR  
7 SELF HEALING RING ARCHITECTURES.

8

9 Q. DO YOU AGREE WITH MR. GILLAN'S EXPLANATION OF THE  
10 BASIC COMPONENTS OF A FIBER OPTIC TRANSMISSION  
11 SYSTEM? (PAGE 40)

12

13 A. NO. WHILE THE COMPONENTS OF A FIBER OPTIC  
14 TRANSMISSION SYSTEM DO INCLUDE THE FIBER CABLE AND  
15 LIGHTWAVE TERMINAL EQUIPMENT ("OPTRONICS"), MORE  
16 NEEDS TO BE SAID. FIRST, THE TYPICAL SYSTEM IN  
17 SOUTHERN BELL UTILIZES FOUR FIBER STRANDS TO DEVELOP  
18 TWO-WAY TRANSMISSION OVER A SERVICE AND PROTECTION  
19 CHANNEL.

20

21 MR. GILLAN'S TESTIMONY ALSO FAILED TO IDENTIFY TWO  
22 KEY COMPONENTS OF THE FIBER OPTIC TRANSMISSION  
23 SYSTEM. LIGHTWAVE TERMINALS TYPICALLY PROVIDE  
24 CONNECTIVITY FOR DS3 ELECTRICAL CIRCUITS (A 45 MBS  
25 CHANNEL), BUT THE STANDARD INTERFACE FOR SWITCHING

1        SYSTEMS AND MANY OTHER NETWORK ELEMENTS IS DS1 (A  
2        1.5 MBS CHANNEL).  THEREFORE, KEY COMPONENTS OF THE  
3        FIBER OPTIC TRANSMISSION SYSTEM ARE THE DS3  
4        INTERFACE CIRCUIT PACKS AND THE DS3/DS1 MULTIPLEXER.  
5        THE DS3 INTERFACE CIRCUIT PACK IS INSERTED INTO THE  
6        LIGHTWAVE TERMINAL TO PROVIDE DS3 ELECTRICAL  
7        CONNECTIVITY INTO THE HIGH SPEED OPTIC SYSTEM.  THE  
8        DS3/DS1 MULTIPLEXER IS A STAND-ALONE NETWORK  
9        COMPONENT.  THE DS3/DS1 MULTIPLEXER PROVIDES THE  
10       NECESSARY INTERFACE AT A DS1 LEVEL TO OTHER NETWORK  
11       ELEMENTS (SWITCHING SYSTEMS).  WITHOUT THE DS3  
12       INTERFACE CIRCUIT PACK AND DS3/DS1 MULTIPLEXER, THE  
13       FIBER OPTIC SYSTEM DESCRIBED BY MR. GILLAN'S  
14       TESTIMONY IS INADEQUATE FOR TERMINATING TRAFFIC ON A  
15       DIGITAL SWITCH.

16  
17       THE DISCUSSIONS OF "EXCESS CAPACITY" DEVELOPED BY  
18       MR. GILLAN ARE THEREFORE INACCURATE, GROSSLY  
19       EXAGGERATED AND MISLEADING.  MR. GILLAN'S NARRATIVE  
20       IS IN ERROR WHEN STATING THAT "THE NUMBER OF  
21       EQUIVALENT VOICE CIRCUITS THAT CAN BE DERIVED ON A  
22       FIBER PAIR IS DETERMINED BY THE OPERATING SPEED OF  
23       THE OPTRONICS."  THIS IS A HALF TRUTH.  IN FACT, THE  
24       NUMBER OF EQUIVALENT VOICE CIRCUITS THAT CAN BE  
25       DERIVED ON A FIBER SYSTEM IS DETERMINED BY THE



1 OPERATING SPEED AND THE NUMBER OF EQUIPPED DS3  
2 INTERFACE CIRCUIT PACKS AND THE NUMBER OF EQUIPPED  
3 DS3/DS1 MULTIPLEXERS.

4

5 Q. DO YOU AGREE WITH MR. GILLAN'S EXPLANATION OF HOW  
6 MANY FIBER PAIRS SOUTHERN BELL HAS INSTALLED FOR USE  
7 IN THE CORPORATE NETWORK? (PAGE 40-41)

8

9 A. NOT AT ALL. MR. GILLAN'S EXHIBIT JPG-6 IS SUPPOSED  
10 TO PROVIDE THE DETAILS OF ACTIVE, PROTECTED AND  
11 "DARK" (SPARE) FIBER PAIRS IN EACH INTERLATA LINK.  
12 EVEN THE MOST CURSORY REVIEW OF SOUTHERN BELL'S  
13 RESPONSE TO ITEM 1 IN FIXCA'S FIRST SET OF  
14 INTERROGATORIES WILL SHOW THAT MR. GILLAN HAS MADE  
15 SEVERAL MISTAKES IN THE CALCULATION OF SPARE FIBERS.

16

17 AS AN EXAMPLE, CONSIDER THE CORPORATE NETWORK  
18 BETWEEN WEST PALM BEACH TO ORLANDO. MR. GILLAN'S  
19 EXHIBIT (JPG-6) SHOWS THAT 1 ACTIVE, 1 PROTECT AND  
20 16 SPARE FIBER PAIRS ARE PRESENT. THAT'S 18 PAIRS  
21 FOR A TOTAL OF 36 FIBERS. WE TOLD MR. GILLAN IN  
22 RESPONSE TO ITEM 1 OF FIXCA'S FIRST SET OF  
23 INTERROGATORIES THAT THIS PART OF THE CORPORATE  
24 NETWORK IS SERVED BY THIRTY SIX FIBERS BUT THAT TEN  
25 FIBERS ARE POWERED FOR LOCAL USE. THEREFORE ONLY 26

1 FIBERS (13 FIBER PAIRS) REMAIN FOR INTERLATA USE.  
2 ONLY 22 FIBERS (11 FIBER PAIRS) ARE SPARE, NOT 32  
3 FIBERS (16 FIBER PAIRS). SIMILAR MISTAKES WERE MADE  
4 ON THREE OTHER CITY PAIR LISTINGS.

5  
6 A COMPARISON BETWEEN MR. GILLAN'S' EXHIBIT JPG-6 AND  
7 THE ACTUAL DEPLOYMENT IS GIVEN IN MY EXHIBIT HEG-1.  
8 IT CAN BE SEEN FROM EXHIBIT HEG-1 THAT MR. GILLAN  
9 MADE SIGNIFICANT MISCALCULATIONS OF THE "DARK" FIBER  
10 PAIRS. HIS EXHIBIT MISLEADS THE UNINFORMED OBSERVER  
11 TO THE ERRONEOUS OPINION THAT SOUTHERN BELL'S FIBER  
12 NETWORK IS EXCESSIVE. ACCORDING TO MR. GILLAN, SBT  
13 HAS 71 SPARE FIBER PAIRS. SOUTHERN BELL ACTUALLY  
14 HAS 50 SPARE FIBER PAIRS IN THE STATE (39 FOR  
15 GROWTH, 11 FOR MAINTENANCE). THIS ERROR IS CARRIED  
16 THROUGHOUT HIS ANALYSIS AND DISTORTS THE FACTS.

17  
18 Q. DO YOU AGREE WITH MR. GILLAN'S ANSWER TO THE  
19 QUESTION: "HOW DO THE OPERATING SPEEDS THAT  
20 SOUTHERN BELL INSTALLED ON ITS ACTIVE FIBER COMPARE  
21 TO ITS TRAFFIC VOLUMES?" (PAGE 41)

22  
23 A. ABSOLUTELY NOT. EXHIBIT JPG-7 DEPICTS THE RESULT OF  
24 AN ERRONEOUS ASSUMPTION EVIDENTLY BASED ON MR.  
25 GILLAN'S MISUNDERSTANDING REGARDING THE COMPONENTS

1 WHICH CONSTITUTE A FIBER OPTIC SYSTEM. MR. GILLAN  
2 ASSUMES THE LIGHTWAVE SYSTEMS ARE FULLY EQUIPPED.  
3 PRUDENT DEPLOYMENT PRACTICES INSURE THAT ONLY  
4 SUFFICIENT CAPACITY IS EQUIPPED TO MEET EXISTING  
5 PLUS NEAR TERM REQUIREMENTS. REFER TO EXHIBIT HEG-2  
6 FOR A MORE REALISTIC VIEW OF EQUIPPED DS3S AND  
7 EQUIPMENT UTILIZATION. THE HEG-2 EXHIBIT ONLY  
8 DEPICTS THE EQUIPPED CIRCUIT PACKS.

9

10 Q. SOUTHERN BELL'S EXHIBIT HEG-1 DOES DEPICT SPARE  
11 FIBERS IN THE INTERLATA NETWORK. WHAT IS THE  
12 RELATIVE COST OF THESE SPARE FIBERS TO THE OVERALL  
13 NETWORK COST.

14

15 A. THE TOTAL COST OF SOUTHERN BELL'S INTERLATA  
16 TRANSPORT NETWORK IN FLORIDA IS ESTIMATED TO BE  
17 \$13 MILLION. IN COMPARISON, THE INCREMENTAL COST OF  
18 THE ADDITIONAL SPARE FIBERS IS ESTIMATED TO BE ONLY  
19 \$1.8 MILLION. OBVIOUSLY, THE SIGNIFICANT COST IN  
20 DEPLOYMENT OF FIBER OPTIC CABLE DOES NOT LIE IN THE  
21 NUMBER OF SPARE FIBERS. THE PREPONDERANCE OF THE  
22 COST IS INCURRED IN ENGINEERING, RIGHT OF WAY  
23 ACQUISITION, TRENCHING, CONDUIT, SHEATH  
24 INSTALLATION, BARRICADES, ROADSIDE RECONDITIONING,  
25 AND SO FORTH. THESE COSTS ARE COMMON TO THE OVERALL

1 FIBER CABLE REGARDLESS OF THE NUMBER OF SPARE  
2 FIBERS.

3

4 Q. MR. GILLAN HAS DESCRIBED THE POTENTIAL CAPACITY OF  
5 SOUTHERN BELL'S INTERLATA NETWORK (PAGE 42). DO YOU  
6 AGREE?

7

8 A. ABSOLUTELY NOT. A FUNDAMENTAL FLAW IN HIS EXHIBIT  
9 JPG-8 IS THE "NX1" PROTECTION ASSUMPTION PREVIOUSLY  
10 DISCUSSED AND, OF COURSE, THE INCORRECT NUMBER OF  
11 SPARE FIBERS. EXHIBIT HEG-3 PROVIDES THE CORRECTED  
12 INFORMATION. THIS IS A CLEAR EXAMPLE OF HIS GROSS  
13 EXAGGERATIONS.

14

15 Q. MR. GILLAN HAS STRONGLY IMPLIED THAT SBT HAS ALREADY  
16 BUILT A NETWORK TO COMPETE WITH INTEREXCHANGE  
17 CARRIERS. DO YOU AGREE?

18

19 A. NO. I STRONGLY DISAGREE. THE COST TO ACTIVATE THE  
20 SPARE CAPACITY WOULD BE A MAJOR INVESTMENT THAT  
21 WOULD DWARF THE COST OF THE EMBEDDED BASE. FOR  
22 EXAMPLE, THE COST TO ACTIVATE THE EXISTING LIGHTWAVE  
23 CAPACITY INDICATED IN MR. GILLAN'S EXHIBIT JPG-8,  
24 USING THE SAME LIGHTWAVE TRANSMISSION SPEEDS, IS  
25 ESTIMATED TO BE OVER \$37 MILLION. THIS COST FAR

1 EXCEEDS THE CURRENT INVESTMENT IN SPARE FIBER OF  
2 \$1.8 MILLION. HOWEVER, THIS IS NOT THE END OF THE  
3 STORY. USING MR. GILLAN'S EXTREME EXAMPLE, THE COST  
4 FOR SWITCH TERMINATIONS ON THE TANDEMS WOULD EASILY  
5 BE IN EXCESS OF \$100 MILLION.

6  
7 MR. GILLAN'S POSITION IS APPARENTLY THAT WITH THIS  
8 "NETWORK IN PLACE" SOUTHERN BELL IS READY TO POUNCE  
9 ON INTERLATA COMPETITORS BY MERELY ADDING  
10 ELECTRONICS. THIS IS A TOTAL MISSTATEMENT OF THE  
11 FACTS. THE FACT IS THAT "LIGHTING-UP" DARK  
12 INTERLATA FIBERS AND THEN CONNECTING THE CIRCUITS TO  
13 A SWITCH WOULD REQUIRE AN EXPENDITURE WELL IN EXCESS  
14 OF \$137 MILLION, COMPARED TO THE TOTAL OF ONLY \$1.8  
15 MILLION INVESTMENT IN SPARE FIBERS FOR THE STATE.  
16 THIS RELATIONSHIP IS ILLUSTRATED IN EXHIBIT HEG-4.  
17 THUS, MR. GILLAN'S POSITION MAKES ABSOLUTELY NO  
18 SENSE.

19

20 Q. MR. GILLAN HAS SUGGESTED THAT SOUTHERN BELL IS  
21 DEPLOYING HIGH SPEED FIBER SYSTEMS UNNECESSARILY.  
22 SHOULD SOUTHERN BELL DEPLOY LOWER SPEED FIBER OPTIC  
23 SYSTEMS IN ITS CORPORATE NETWORK?

24

25 A. NO. SOUTHERN BELL HAS CHOSEN, FOR REASONS OF

1 EFFICIENCY AND ECONOMICS, A NETWORK ARCHITECTURE  
2 CONSISTING OF HIGH CONCENTRATIONS OF 565 MBS AND 1.2  
3 GBS SYSTEMS. GENERALLY, LOWER SPEED SYSTEMS ARE  
4 UNECONOMICAL IN INTEROFFICE FACILITY APPLICATIONS.

5

6 Q. MR. GILLAN ASSERTS THAT HIS CALCULATION OF SOUTHERN  
7 BELL'S EXCESS CAPACITY IS UNDERESTIMATED. IN A  
8 FOOTNOTE TO HIS TESTIMONY, (PAGE 42), HE CITED  
9 TRAFFIC DATA THAT INDICATES SOUTHERN BELL IS ONLY  
10 AVERAGING APPROXIMATELY 2500 MINUTES PER CIRCUIT,  
11 WHICH IS ABOUT 1/2 THE INDUSTRY STANDARD FOR  
12 INDIVIDUAL LARGE USERS. IS THAT ACCURATE?

13

14 A. NO. APPARENTLY, MR. GILLAN ASSUMES THAT THE  
15 CAPACITY PROVIDED BY THE ACTIVE DS3S BETWEEN LATA  
16 PAIRS IS ALLOCATED TO SWITCHED TRAFFIC WHICH IS  
17 MEASURED IN MINUTES OF USE. THAT IS INCORRECT. HIS  
18 TESTIMONY FAILS TO RECOGNIZE THAT THE TYPICAL LARGE  
19 TELECOMMUNICATIONS USER ALSO REQUIRES A SIGNIFICANT  
20 AMOUNT OF NON-SWITCHED FACILITIES. NON-SWITCHED  
21 FACILITIES ARE NOT MEASURED IN TERMS OF MINUTES OF  
22 USE.

23

24 SOUTHERN BELL CORPORATE COMMUNICATIONS UTILIZE NON-  
25 SWITCHED LINES EXTENSIVELY. IT IS ESTIMATED THAT

1 60% TO 70% OF THE DEMANDS (EXPRESSED IN DSO  
2 EQUIVALENTS) PLACED ON THE INTERLATA NETWORK ARE FOR  
3 NON-SWITCHED LINES. THESE NON-SWITCHED LINES ARE  
4 VARIED IN NATURE. DEDICATED CIRCUITS RANGE FROM 9.6  
5 KBS TO 45 MBS DS3 IN THIS NETWORK. THE NON-SWITCHED  
6 LINES (AS DO THE SWITCHED MESSAGE TRUNKS) MAY SERVE  
7 REQUIREMENTS ENTIRELY WITHIN THE STATE OF FLORIDA OR  
8 TRAVERSE PATHS TO ANYWHERE IN THE NINE STATE REGION.

9  
10 A MAJOR FACTOR IN THE NON-SWITCHED LINE REQUIREMENTS  
11 IS THE CORPORATE DATA CENTER LOCATED IN MIAMI. DATA  
12 CENTER COMMUNICATIONS NEEDS OVER THE NEXT DECADE  
13 WILL HAVE A MAJOR IMPACT THROUGHOUT THE COMPANY.  
14 MR. GILLAN'S TESTIMONY DOES NOT EVEN DISCUSS  
15 CORPORATE DATA CENTER REQUIREMENTS.

16  
17 Q. ARE THE CORPORATE COMMUNICATIONS REQUIREMENTS  
18 CONSTANT?

19  
20 A. NO. THE EQUIVALENT DERIVED VOICE CHANNELS PRESENTED  
21 IN SOUTHERN BELL'S RESPONSE TO ITEM 1 OF FIXCA'S  
22 FIRST SET OF INTERROGATORIES ARE BUT A SNAPSHOT IN  
23 TIME OF CORPORATE REQUIREMENTS. A RECENT REVIEW OF  
24 FORECASTED INTERLATA DEMANDS INDICATES THAT  
25 REQUIREMENTS WILL EXCEED THE CAPACITY WITHIN THE

1 NEXT THREE TO FOUR YEARS ON LIGHTWAVE SYSTEMS  
2 SERVING THE FOLLOWING CITY PAIRS: WEST PALM BEACH  
3 TO ORLANDO, ORLANDO TO DAYTONA, AND DAYTONA TO  
4 JACKSONVILLE.

5

6 Q. MR. GILLAN IMPLIES THAT SOUTHERN BELL'S NETWORK  
7 CAPACITY IS EXCESSIVE COMPARED TO INTEREXCHANGE  
8 CARRIERS (PAGE 43). DO YOU AGREE?

9

10 A. NO. FIRST, A COMPARISON OF SOUTHERN BELL'S  
11 INTERLATA NETWORK TO THAT OF AN INTEREXCHANGE  
12 CARRIER'S NETWORK WOULD BE INAPPROPRIATE. WE ASSUME  
13 THAT THE TRAFFIC MIX IS DIFFERENT AND THEREFORE THE  
14 NETWORK DESIGN WOULD BE DIFFERENT. MOREOVER, WE  
15 GATHER FROM MR. GILLAN'S TESTIMONY THAT SOUTHERN  
16 BELL AND INTEREXCHANGE CARRIERS HAVE A DIFFERENT  
17 PERSPECTIVE ON NETWORK SURVIVABILITY. (I.E.,  
18 DEPLOYMENT OF "NX1" SYSTEMS AS SUGGESTED BY MR.  
19 GILLAN CERTAINLY SACRIFICES RELIABILITY.)

20

21 FINALLY, BASED UPON THE DATA CONTAINED IN TABLE 9 OF  
22 THE 1991 FCC ANNUAL FIBER SURVEY, BELLSOUTH RANKS IN  
23 THE MIDDLE OF OTHER OPERATING COMPANIES WITH RESPECT  
24 TO FIBER DEPLOYMENT FOR INTERLATA USE. THESE  
25 RESULTS ARE DEPICTED IN EXHIBIT HEG-5.



1

2 Q. MR. CRESSE HAS STATED THAT SOUTHERN BELL HAS  
3 PRESENTED NO EVIDENCE THAT ITS REPLACEMENT OF COPPER  
4 WITH FIBER IS COST-EFFECTIVE. DO YOU AGREE?  
5

6 A. NO, I DO NOT AGREE. SOUTHERN BELL'S PLANS TO  
7 REPLACE COPPER CABLE WITH FIBER CABLE ARE  
8 COST-EFFECTIVE. I HAVE DISCUSSED THIS VERY POINT IN  
9 DETAIL IN THE TESTIMONY I FILED, ON SEPTEMBER 3,  
10 1992. THIS DEMONSTRATED THE ECONOMIC PRUDENCE OF  
11 SOUTHERN BELL'S NETWORK PLANS FOR SOUTHERN BELL'S  
12 DEPRECIATION FILING IN DOCKET NO. 920385-TL. AS I  
13 INDICATED IN THAT TESTIMONY, IT IS TRUE THAT THERE  
14 HAVE BEEN LITERALLY HUNDREDS OF FIBER PROJECTS IN  
15 FLORIDA OVER THE PAST SEVERAL YEARS AND IT IS SIMPLY  
16 NOT PRACTICAL TO EXAMINE EACH AND EVERY ONE IN A  
17 FORMAL PROCEEDING. AN INDIVIDUAL ANALYSIS OF THESE  
18 PLANS COULD INVOLVE PRESENTING THOUSANDS OF  
19 DOCUMENTS. OBVIOUSLY, THIS INFORMATION WOULD BE  
20 IMPRACTICAL TO PRESENT IN TESTIMONY. HOWEVER, THE  
21 PLANNING PROCESS I DESCRIBED IN MY TESTIMONY IN  
22 DOCKET NO. 920385-TL FULLY INSURES THAT COPPER  
23 REPLACEMENTS ARE DONE ON AN ECONOMIC BASIS.  
24

25 Q. PLEASE SUMMARIZE YOUR TESTIMONY.

1  
2 A. SOUTHERN BELL HAS PRUDENTLY DESIGNED ITS INTERLATA  
3 CORPORATE NETWORK BASED UPON THE OFFICIAL TRAFFIC  
4 AUTHORIZED BY THE MFJ. NO MORE, NO LESS.  
5  
6 MR. GILLAN'S ASSERTIONS THAT THE NETWORK CAPACITY IS  
7 EXCESSIVE AND THE IMPLICATION THAT SUCH A DEPLOYMENT  
8 WAS MOTIVATED BY A DESIRE FOR RE-ENTRY INTO THE  
9 INTERLATA TOLL MARKET IS ABSOLUTELY FALSE.  
10  
11 MR. GILLAN'S DATA IS FREQUENTLY PLAIN WRONG OR JUST  
12 SELF-SERVINGLY EXAGGERATED.  
13  
14 THE NOTION THAT SBT HAS AN EMBEDDED NETWORK READY TO  
15 COMPETE WITH INTEREXCHANGE CARRIERS IS PATENTLY  
16 RIDICULOUS.  
17  
18 MR. GILLAN'S TESTIMONY ON THIS ISSUE SHOULD BE  
19 COMPLETELY DISREGARDED BY THE COMMISSION.  
20  
21 DEPLOYMENT OF FIBER CABLE TO REPLACE COPPER IN THE  
22 FLORIDA NETWORK HAS BEEN AND WILL BE PRUDENT AND  
23 ECONOMIC.  
24  
25 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

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2 A. YES, IT DOES.

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Fiber Pairs			Gillan's DATA (1)			SBT DATA (2)				
LATA	PAIR	FACILITY ROUTE	Active	Protect	Dark	Total Fbr. Prs.	InterLATA Use	Local Use	Maint. (3)	Spare
Southeast	Orlando	Sebastian to Melbourne	1	1	16	6	1	2	1	2
		Fort Pierce to Orlando Sandlake				12	1	3	1	7
Orlando	Daytona	Titusville to Oak Hill	1	1	10	6	1	2	1	2
		Debrary to Deland				6	1	4	1	0
Daytona	Jacksonville	Palm Coast to St. Augustine	1	1	16	6	1	3	1	1
		Pierson to Pamona Park				12	1	3	1	7
Gainesville	Jacksonville	Keystone Hgts to Green Cove Spgs	1	1	13	3	1	2	0	0
		Gainesville to Lake City				12	1	2	1	8
Lake City	T'ville GA	Lake City to Valdosta, GA	1	1	10	12	2	0	1	9
Jacksonville	Macon, GA	Yulee to Jesup, GA	1	1	4	6	2	0	1	3
Panama City	T'ville GA	Graceville to Bainbridge, GA	1	1	1	3	2	0	1	0
Panama City	Pensacola	Panama City Bch to Holley Navarre	1	1	1	3	2	0	1	0
<b>Total Dark Fiber Pairs:</b>					<b>71</b>					<b>39</b>

- (1) Dark fibers erroneously represented by FIXCA.
- (2) Actual fiber deployment. Refer to SBT response to Item 1.
- (3) One spare pair should be reserved for maintenance and upgrades.

			Gillans's DATA (1)			SBT DATA (2)	
LATA	PAIR	Speed	Lit DS-3s	Active DS-3s	Excess Capacity	Equip. DS-3s	Spare Capacity
Southeast	Orlando	1.2 GBS	24	8	66.7%	12	33.0%
Orlando	Daytona	1.2 GBS	24	11	54.2%	12	8.3%
Daytona	Jacksonville	1.2 GBS	24	10	58.3%	12	16.7%
Gainesville	Jacksonville	1.2 GBS	24	3	87.5%	6	50.0%
Jacksonville	Thomasville	565 Mbs	12	3	75.0%	6	50.0%
Jacksonville	Macon	565 Mbs	12	4	66.7%	6	33.0%
Panama City	Thomasville	565 Mbs	12	3	75.0%	6	50.0%
Panama City	Pensacola	565 Mbs	12	3	75.0%	6	50.0%

Note 1: Exhibit JPG-7 erroneously assumes that optic systems are fully equipped.

Note 2: Optic systems are only equipped to meet growth and near term requirements.

		Gillan's DATA (1)		SBT DATA (2)
		Active DS-3s	Potential DS-3s	Potential DS-3s
LATA	PAIR			
Southeast	Orlando	8	408	120
Orlando	Daytona	11	264	48
Daytona	Jacksonville	10	408	96
Gainesville	Jacksonville	3	336	120
Jacksonville	Thomasville	3	132	120
Jacksonville	Macon	4	60	48
Panama City	Thomasville	3	24	24
Panama City	Pensacola	3	24	24

Note 1: FIXCA's exhibit JPG-8 erroneously assumes that optic systems would utilize Nx1 Protection.

Note 2: Utilizes 1.2 Gps optic systems with 1x1 Protection.

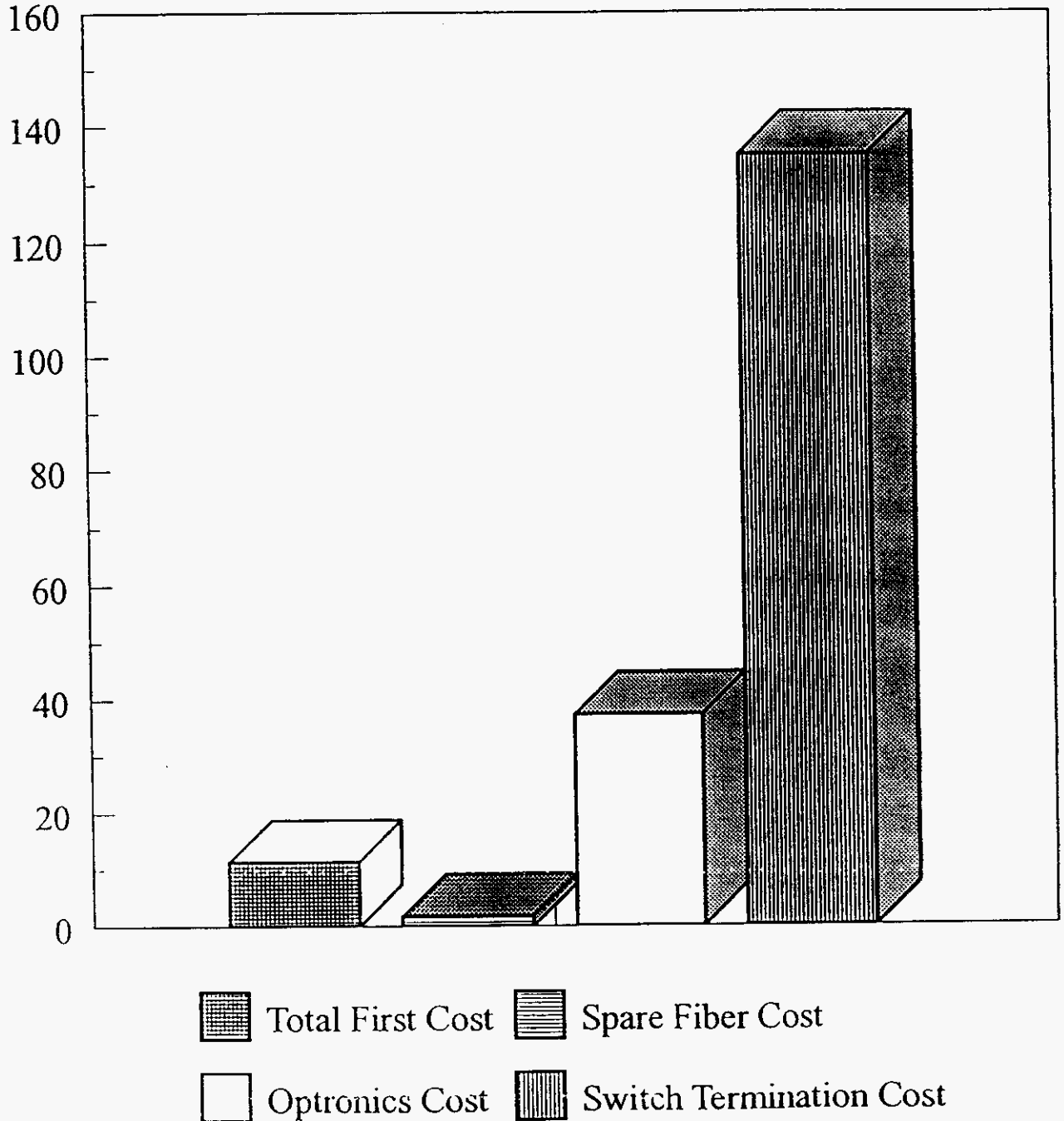
# Florida InterLATA Network

## Price Out Example

### Exhibit HEG-4

Estimated Costs

Thousands



FCC Annual Fiber Survey Part of Table 9 Other 1991 Fiber Data for Local Operating Companies		
	InterLATA Fiber for Internal Co. Business	
	Route Mi.	Fiber Mi.
Ameritech	1	6
Bell Atlantic	28	4258
BellSouth	561	6713
NYNEX	154	2872
Pacific Telesis	981	10981
Southwestern Bell	1593	8205
US West	NA	NA
Contel Companies	2622	14968
GTE Companies	8	67
United Companies	93	1284
Rural Companies	NA	NA
<b>Total Reported:</b>	<b>6040</b>	<b>49353</b>