

BEFORE THE ILLINOIS COMMERCE COMMISSION

Docket No. 02-0864

**Surrebuttal Testimony of James R. Smallwood
On Behalf of SBC Illinois**

SBC Illinois Schedule 4.2

March 5, 2004

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1 **I. INTRODUCTION**

2 **Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A1. My name is James R. Smallwood. My business address is 38-X-8, One SBC Center,
4 St. Louis, Missouri 63101.

5 **Q2. ARE YOU THE SAME JAMES R. SMALLWOOD WHO SUBMITTED DIRECT**
6 **AND REBUTTAL TESTIMONY IN THIS PROCEEDING?**

7 A2. Yes, I am.

8 **Q3. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

9 A3. The purpose of my surrebuttal testimony is to respond to rebuttal testimony related to
10 recurring unbundled network element (“UNE”) loop costs filed in this proceeding on
11 behalf of the Illinois Commerce Commission Staff (“ICC Staff” or “Staff”), the Illinois
12 Attorney General, and various competitive local exchange carriers (“CLECs”). With
13 respect to the ICC Staff, I will respond to portions of the testimonies of Robert F. Koch,
14 Peter Lazare, Jeffery H. Hoagg, and Dr. James Zolnierrek. In addition, I will respond to
15 the testimony of William Dunkel filed on behalf the Illinois Attorney General. I will also
16 respond to the testimonies of Brian F. Pitkin and Steven E. Turner and Michael Starkey
17 and John Balke filed on behalf of various CLECs.

18 **II. THE PROPER INTERPRETATION OF TELRIC**

19 **Q4. ICC STAFF WITNESS HOAGG CONTENDS THAT YOU MISAPPREHEND**
20 **THE TELRIC STANDARD AND RULES. DO YOU AGREE?**

21 A4. No. I simply pointed to the fact that, in his direct testimony, Mr. Hoagg cited to the
22 paragraph in the FCC’s First Report and Order which describes a possible definition of
23 TELRIC that was not ultimately adopted. In his rebuttal testimony, Mr. Hoagg correctly

24 states that paragraph 685 of the First Report and Order is the “definitional” paragraph for
25 TELRIC.

26 **Q5. MR. HOAGG STATES THAT PARAGRAPH 685 SHOULD BE EXAMINED**
27 **CLOSELY. DO YOU AGREE?**

28 A5. Yes. What one finds in that paragraph is that TELRIC requires that one take as a given
29 the existing wirecenter and customer locations. From there, one must assume that the
30 equipment reflecting the most efficient currently available technology is deployed. That
31 is the extent of the guidance and definition of TELRIC. It is important to note what
32 TELRIC does not require. TELRIC does not mandate that the Commission assume that
33 the world is altered in any way. Therefore, the Commission must assume that the world
34 is as it stands today. All buildings, roads, bridges, rivers, and lakes are in their current
35 location. The only difference is that TELRIC would have one assume that the SBCI’s
36 telecommunications network was never built and is not currently in place.

37 **Q6. MR. HOAGG CONTENDS THAT YOU ATTEMPTED TO REBUT HIS “BASIC**
38 **POINT THAT SBC’S COST STUDIES MUST BE FORWARD-LOOKING AND**
39 **MUST REFLECT THE MOST EFFICIENT TECHNOLOGIES CURRENTLY**
40 **AVAILABLE.” IS THAT ACCURATE?**

41 A6. No. I absolutely agree that TELRIC requires a forward-looking cost study and that the
42 technologies in that cost study be the most efficient technologies currently available. In
43 fact, SBCI’s cost studies are forward-looking and do reflect the most efficient
44 technologies currently available.

45 **Q7. MESSRS. PITKIN AND TURNER ASSERT THAT THE SBCI “INTRODUCED**
46 **BRAND NEW COST STUDIES” IN ITS REBUTTAL TESTIMONY? IS THAT**
47 **CORRECT?**

48 A7. No. As I discussed in my rebuttal testimony, the Company simply revised the loop
49 recurring cost study presented in its direct testimony to reflect changes to a relatively few
50 number of discrete inputs. Each of these changes was made in direct response to concerns
51 expressed in the direct testimony of Messrs. Pitkin and Turner, as well as witnesses for
52 Staff and AG witness Dunkel. While Staff and Mr. Dunkel have accepted SBCI’s
53 proposed revisions (even where they were not identical in the revisions proposed by those
54 witnesses), Messrs. Pitkin and Turner complain about virtually every one of the revisions,
55 even though they had the effect of reducing the Company’s proposed costs. I will discuss
56 each of Messrs. Pitkin and Turner’s specific criticisms of those revisions in this pertinent
57 sections of this surrebuttal testimony and demonstrate that those criticisms are without
58 merit.

59 **Q8. DID YOU ATTEMPT TO DIVERT THE COMMISSION’S ATTENTION AWAY**
60 **FROM THE APPROPRIATE INTERPRETATION OF TELRIC AS SUGGESTED**
61 **BY MESSRS. PITKIN AND TURNER?¹**

62 A8. No. Messrs. Pitkin and Turner claim that my discussion of the TELRIC NPRM was
63 somehow designed to dupe the Commission into believing that the TELRIC standard has
64 changed. Nothing could be further from the truth, and I would not presume that this
65 Commission does not understand the legal standing of a NPRM as opposed to a FCC rule
66 or regulation. Nonetheless, I do believe that the Commission may find the NPRM
67 informative. The TELRIC NPRM is relevant to the extent that it provides insight as to

¹ *Rebuttal Testimony of Brian F. Pitkin and Steven E. Turner*, ICC Docket No. 02-0864, (hereinafter “Pitkin/Turner Rebuttal”) pp. 4-5.

68 how the FCC wanted their rules implemented and the concerns that the FCC has in terms
69 of distortions that are being caused in the market by misinterpretations of TELRIC. This
70 Commission certainly should not ignore statements by the FCC regarding what the
71 intended outcomes of TELRIC were at the time of its inception and the problems that the
72 FCC believes have arisen in the intervening period. Clearly the FCC identifies “one of
73 the central purposes of the Act: the promotion of facilities-based competition,”² and this
74 Commission should certainly have the same goal. The FCC discusses the importance of
75 both encouraging efficient facilities-based competition by the CLECs, while, at the same
76 time not discouraging facilities investment by the ILECs. While the CLECs in this
77 proceeding might not like the fact that the FCC’s tentative conclusions run counter to
78 their desire to receive subsidized rates for UNEs, that does not mean that this
79 Commission cannot take the FCC’s NPRM into consideration as it evaluates the evidence
80 in this proceeding.

81 **Q9. DOES THE TELRIC STANDARD’S EFFICIENCY REQUIREMENTS**
82 **MANDATE THAT TELRIC COST STUDIES MODEL A “PERFECT”**
83 **COMPANY?**

84 A9. No. Such a reading of the TELRIC standard would be inconsistent with the goal of
85 facilities-based competition discussed above. Often, the CLECs suggest that a study
86 must assume that everything is perfect for it to be TELRIC compliant. For example, the
87 CLECs suggest that in rebuilding the TELRIC network, the ILEC should be able to
88 exactly know the demand and size the network without error (*i.e.*, virtually perfect
89 utilization rates). It is suggested by both CLECs and Staff in this proceeding that

² Federal Communications Commission, FCC 03-224, *Notice of Proposed Rulemaking*, In the Matter of Review of the Commission’s Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by
Footnote continued on next page ...

90 reinforcement jobs in the network are not consistent with TELRIC, despite the fact that
91 everyone knows that any real network operator will have to augment or reinforce their
92 network over time. This line of thinking also extends to technical assumptions. CLEC
93 witnesses argue that any technical feat that is possible given a set of perfect conditions
94 must be assumed 100% of the time, or it's not TELRIC. So, for example, it might be
95 theoretically possible to have four remote terminals served by one central office terminal,
96 with the whole system being configured in an integrated DLC configuration. As
97 discussed in my rebuttal testimony and the surrebuttal testimony of Mr. White, it is not
98 possible in the real world to configure the whole network in this manner. Without any
99 concern for whether that configuration would be applicable to every deployment, Messrs.
100 Pitkin and Turner argue that it should be a ubiquitous assumption because it produces
101 lower costs, must be more efficient because it produces lower costs, and must, therefore,
102 be the TELRIC consistent assumption. This reading of TELRIC makes facilities-based
103 competition impossible. This for the simple fact that no firm could enter the market and
104 build this perfect network in the real world. Therefore, an ILEC forced to make these
105 assumptions will always have lower UNE costs than what a competitors own facilities
106 would cost. The Commission should not accept such a reading of TELRIC to be
107 incorporated into the UNE rates determined in this proceeding.

Incumbent Local Exchange Carriers (WC Docket No. 03-173). Released: September 15, 2003. ¶ 3.

108 **Q10. DO YOU AGREE WITH MESSRS. PITKIN AND TURNER'S CLAIM THAT**
109 **SBC'S LOOPCAT MODEL DOES NOT COMPLY WITH TELRIC BECAUSE IT**
110 **RELIES ON EMBEDDED COSTS?³**

111 A10. No. Messrs. Pitkin and Turner claim that the use of installation factors results in basing
112 the cost study on embedded costs. This is not true. The installation factors based on
113 recent accounting data are used to develop the relationship between material costs and
114 associated installation and engineering costs. The actual material and installation costs
115 used to develop those factors are not directly included as material costs and installation
116 costs in the cost study. Rather, the installation factors are applied to current contract
117 costs for equipment, which represents the most efficient technology currently available to
118 develop a valid, data-based estimate of forward-looking costs.

119 **Q11. DID YOU IGNORE MESSRS. PITKIN'S AND TURNER'S TESTIMONY**
120 **REGARDING PRICE DECLINES DISCUSSED IN THE PRESS OR BY THE**
121 **FCC, AS THEY CLAIM?⁴**

122 A11. No. I have stated in testimony that price declines that have occurred are captured in
123 SBCI's cost studies through its contract prices. However, Messrs. Pitkin and Turner
124 attempt to use these quotes as evidence that loop costs should be lower today than when
125 the Commission last approved UNE loop costs.

126 **Q12. SHOULD PRICE DECLINES FOR CERTAIN EQUIPMENT CORRESPOND TO**
127 **LOWER UNE LOOP COSTS FROM WHAT THE COMMISSION LAST**
128 **APPROVED?**

129 A12. No. The fact that the prices for certain equipment have declined in the last several years
130 does not mean that UNE loop costs today should be lower than what the Commission
131 determined in a previous proceeding. As the Commission is well aware, SBCI's position

³ Pitkin/Turner Rebuttal, pp. 5-7.

132 in this proceeding is that the cost of capital, fill factors, and depreciation rates used to
133 develop the currently effective UNE loop rates resulted in an understatement of forward-
134 looking costs. Therefore, an appropriate forward-looking value for these inputs, as SBCI
135 has proposed, will result in costs that are higher than the Commission approved despite
136 price declines for certain equipment. Furthermore, Messrs. Pitkin and Turner ignore the
137 fact that labor costs are rising and serve to offset equipment declines. The fact that much
138 of the investment required to build UNE loop plant is for labor indicates that labor cost
139 will have a significant impact on forward-looking UNE loop costs. Therefore, Messrs.
140 Pitkin and Turner's arguments in this area are without merit.

141 **Q13. HOW DO YOU RESPOND TO MESSRS. PITKIN'S AND TURNER'S CLAIM**
142 **THAT YOU ATTEMPTED TO BIAS YOUR ANALYSIS OF DEMAND BY**
143 **DISCUSSING SWITCHED ACCESS LINES?⁵**

144 A13. Their claim is completely off base. I was simply stating that the ARMIS data they rely
145 on show that the number of switched access lines, which are traditional phone lines,
146 decreased from 1996 to 2002. I also noted that the fact that the growth that they cite in
147 total access line counts is attributable solely to an apparent increase in digital special
148 access lines. As I further noted, however, the way those special access lines are counted
149 has changed in recent years creating the artificial appearance of a spike in demand.
150 Messrs. Pitkin and Turner fail to address my testimony in this regard. Moreover, they
151 completely ignore my argument that their claim simply assumes that an increase in
152 demand will result in a decrease in costs. There is no basis established for their claim and
153 it should not be a factor in the Commission's determination. SBCI's cost studies are

⁴ Pitkin/Turner Rebuttal, p. 7.

154 developed on the basis of total network demand and are appropriate for determining
155 forward-looking costs.

156 **Q14. MESSRS. PITKIN AND TURNER ASSERT THAT YOU HAVE SUGGESTED**
157 **THAT "...THE COMMISSION CONSIDER ONLY A PORTION OF THE**
158 **TOTAL NUMBER OF UNITS OF DEMAND..." AND THAT YOU ENCOURAGE**
159 **"...THIS COMMISSION TO COMPLETELY DISREGARD THE SIGNIFICANT**
160 **GROWTH IN BROADBAND FACILITIES THAT SBC ILLINOIS HAS**
161 **ACTUALLY EXPERIENCED..."⁶ IS THIS ACCURATE?**

162 A14. No. I have not suggested or encouraged this Commission to ignore any demand.
163 However, as I state above, Messrs. Pitkin and Turner simply make the assumption that
164 this increase in demand will result in a reduction in per-line costs. They submit no
165 evidence to support this position. SBCI's UNE loop costs are developed using the actual
166 network characteristics that reflect total demand. Therefore, I find their arguments
167 without merit. It is instructive to note that with all of the changes that they have
168 suggested to the UNE loop cost model, LoopCAT, Messrs. Pitkin and Turner have not
169 suggested that we have somehow miscounted demand in the model or proposed any
170 adjustment to the demand assumed in the model. They simply say demand has increased,
171 so costs should have decreased. This unfounded assertion should not distract the
172 Commission away from the important issues in this proceeding, which are the appropriate
173 inputs into cost development for cost of capital, fill factors, and depreciation lives, among
174 others.

⁵ Pitkin/Turner Rebuttal, pp. 8-9.

⁶ Pitkin/Turner Rebuttal, p. 9.

175 **Q15. MESSRS. PITKIN AND TURNER CLAIM THAT YOU FAIL “TO GRASP THE**
176 **CONCEPT THAT CLECS CANNOT ACHIEVE THE SAME ECONOMIES OF**
177 **SCALE AS THE ILEC AND THEREFORE WILL NOT HAVE PER-UNIT**
178 **COSTS AS LOW AS THE ILEC.”⁷ HOW DO YOU RESPOND?**

179 A15. I am not ignoring the issue of economies of scale. There is no reason to believe that
180 CLECs could not enter specific geographic markets and achieve economies of scale in
181 those markets. The Commission should keep in mind that Messrs. Pitkin and Turner
182 represent AT&T, a firm that certainly enjoys large economies of scale in network
183 operations. Given this statement from Messrs. Pitkin and Turner, they seem to imply that
184 facilities-based competition will never happen in the market because, no matter how
185 cheaply a competitor can build facilities, that competitor would not be able to achieve
186 sufficient economies of scale. This is a flawed argument and should be dismissed.

187

188 **III. RESPONSE TO GENERAL CRITICISMS OF SBCI’S LOOP COSTS AND**
189 **LOOPCAT**

190 **Q16. MESSRS. STARKEY AND BALKE CONTINUE TO MAINTAIN THAT SBCI**
191 **HAS NOT “PROVEN” THAT THE COMMISSION’S PREVIOUSLY-**
192 **APPROVED RATES ARE INSUFFICIENT UNDER TELRIC.⁸ DO YOU**
193 **AGREE?**

194 A16. No. SBCI has submitted evidence and supported its position that the rates previously
195 approved by this Commission were based on inappropriate inputs for the major cost
196 drivers: fill factors, cost of capital, and depreciation. SBCI has submitted data and
197 testimony supporting its position on these inputs as its evidence that these inputs should

⁷ Pitkin/Turner Rebuttal, p. 11.

⁸ *Surrebuttal Testimony of Michael Starkey and John Balke*, ICC Docket No. 02-0864, (hereinafter “Starkey/Balke Surrebuttal”), p. 4.

198 be adjusted and the resulting UNE rates raised accordingly. Messrs. Starkey and Balke
199 are simply attempting to avoid that fact.

200 **Q17. HOW DO YOU RESPOND TO MESSRS. STARKEY'S AND BALKE'S**
201 **ARGUMENT THAT SBCI'S PROPOSED COST INCREASE FLIES IN THE**
202 **FACE OF EVIDENCE THAT THEY PRESENTED SUGGESTING THAT**
203 **TELECOMMUNICATIONS IS A DECLINING COST INDUSTRY?⁹**

204 A17. Messrs. Starkey and Balke are simply confusing this issue. SBCI's proposed costs are
205 higher due to the major cost drivers I identified above. To the extent that operating
206 efficiencies have been achieved, as argued by Messrs. Starkey and Balke, those
207 efficiencies are incorporated into SBCI's cost studies. The reductions in overhead costs
208 per line and operating expenses per line claimed by Messrs. Starkey and Balke are
209 captured in SBCI's shared and common factor and annual cost factors. Furthermore,
210 since SBCI's cost studies use current contract prices for equipment, equipment cost
211 declines are directly captured in the cost study. Therefore, Messrs. Starkey and Balke are
212 wrong because they have simply ignored changes in the major cost drivers I have
213 identified when they discuss alleged cost declines in certain areas of the industry.

214 **Q18. MESSRS. STARKEY AND BALKE CLAIM THAT YOU LACK**
215 **UNDERSTANDING OF THE AFAM/LFAM MODEL.¹⁰ HOW DO YOU**
216 **RESPOND?**

217 A18. I disagree that I have demonstrated a lack of understanding about AFAM/LFAM. First,
218 Messrs. Starkey and Balke take issue with the statement that I made that AFAM was on a
219 non-Y2K compliant computer system and is no longer available. That is absolutely true.
220 I did not address LFAM, because LFAM was not used by this Commission to set UNE

⁹ Starkey/Balke Surrebuttal, pp. 4-5.

¹⁰ Starkey/Balke Surrebuttal, p. 7.

221 loop rates. Nonetheless, as discussed by Mr. William Palmer, the ICC staff rejected the
222 LFAM model and indicated that they did not want that model used in Illinois. Second,
223 Messrs. Starkey and Balke contend that Mr. William Palmer and I both mischaracterized
224 the handling of cable sizing in AFAM. Mr. William Palmer addresses this issue in detail
225 in his Surrebuttal Testimony, and I will refer to that discussion rather than repeat those
226 arguments here.

227 **Q19. DOES LOOPCAT REPRESENT A STEP BACKWARD IN MODELING AS**
228 **CLAIMED BY MESSRS. STARKEY AND BALKE?¹¹**

229 A19. Absolutely not. AFAM/LFAM had significant problems that are described in the
230 testimony of Mr. William Palmer. While Mr. Balke likes to tout the superiority of
231 LFAM, he ignores all of the problems that existed in LFAM's programming and the
232 difficulty associated with identifying and correcting any problems. As an example, I
233 would point out that, not only did SBC personnel experience difficulties in running and
234 maintaining LFAM, I am not aware of any commission staff that was ever able to run
235 LFAM. With LoopCAT on the other hand, all parties have been able to modify the
236 modeling assumptions to test sensitivities. The ICC Staff has been able to work with the
237 model, and in Indiana, AT&T's consultants were able to run all of the scenarios requested
238 by the Staff. Furthermore, in the Indiana proceeding, SBC and AT&T were able to
239 implement staff scenarios and produce cost results that matched to the penny. Mr.
240 William Palmer further discusses Messrs. Starkey's and Balke's misrepresentation of the
241 way network information is used by both models.

¹¹ Starkey/Balke Surrebuttal, p. 15.

242 **Q20. MESSRS. STARKEY AND BALKE CLAIM THAT THEY PERFORMED**
243 **ANALYSIS IN A MICHIGAN PROCEEDING THAT SHOWS THAT LOOPCAT**
244 **PRODUCES HIGHER COSTS THAN AFAM, CONTRADICTING YOUR**
245 **ANALYSIS IN THAT PROCEEDING.¹² WHAT IS YOUR RESPONSE TO THIS**
246 **ALLEGATION?**

247 A20. There is no question that changing fills, cost of money, depreciation and the percentage
248 of IDLC assumed that LoopCAT produces *lower* costs than the AFAM model did. SBC
249 had performed additional changes that, to the extent possible, made LoopCAT consistent
250 with AFAM. Messrs. Starkey and Balke did not agree with some of those changes and
251 made modifications that drove the costs in LoopCAT higher than what AFAM had
252 produced. SBC disputes their methods and disagrees with their findings. Given that
253 Messrs. Starkey and Balke did not produce an Illinois specific analysis, I cannot provide
254 any detailed analysis of their allegation for Illinois. However, I will simply state that
255 AFAM and LoopCAT had different methods for modeling components in the loop plant.
256 Trying to make the two models have the same exact inputs is impossible without
257 modifying the models or making assumptions about how to “fit a square peg in a round
258 hole,” and SBC disagrees with some of Mr. Balke’s adjustments.

259 **Q21. ARE YOU AWARE OF ANY CASE WHERE MR. BALKE HAS HAD**
260 **DIFFICULTY IN RUNNING LFAM?**

261 A21. Yes. SBC Wisconsin filed a UNE loop cost study based on LFAM in June 2000. Mr.
262 Balke, who left SBC’s employ in November 2000, was engaged by SBC on a consulting
263 basis in February 2001 to help determine the cause of a problem SBC was having with
264 LFAM. After reviewing the problem, Mr. Balke was not able to determine the source of
265 the modeling problem. At Mr. Balke’s suggestion, SBC then had to hire the consultant

¹² Starkey/Balke Surrebuttal, p. 17

266 that Mr. Balke had worked with to develop LFAM. It was the consultant, not Mr. Balke,
267 that eventually determined the problem. The important point is that SBC personnel could
268 not determine the source of this modeling problem, the Wisconsin Staff could not
269 determine the source of the problem, and Mr. Balke could not determine the source of the
270 problem. In clear refutation of Mr. Balke's complaints here about the fact that he had to
271 work "most of a day" to make a change in LoopCAT, this problem solving exercise in
272 Wisconsin took over a week and cost thousands of dollars. AFAM/LFAM was not user
273 friendly, was not accessible to SBC's analysts, and was abandoned for those very
274 reasons. Messrs. Starkey and Balke did not introduce LFAM in this proceeding, and their
275 extensive commenting on AFAM/LFAM versus LoopCAT in this proceeding is
276 misplaced and irrelevant.

277 **Q22. MESSRS. STARKEY AND BALKE COMMENT ON THE DIFFICULTY OF**
278 **RUNNING LOOPCAT TO DEVELOP WIRECENTER SPECIFIC COSTS. CAN**
279 **YOU COMMENT?**

280 A22. Yes. LoopCAT was designed to develop costs at an Access Area level because that is
281 how states have typically implemented UNE costing. So, I think that the criticism is
282 misplaced. If this Commission had decided that costs should be developed at the
283 wirecenter level, then SBC would have developed a modeling process to accommodate
284 that mandate. However, given the rate structure in Illinois, I do not find it reasonable that
285 Messrs. Starkey and Balke criticize the LoopCAT model because it was not designed to
286 do something that this Commission never required.

287 **Q23. MESSRS. STARKEY AND BALKE CLAIM THAT LOOPCAT DOES NOT AND**
288 **IS NOT CAPABLE OF REDESIGNING THE NETWORK. RATHER, THEY**
289 **CLAIM THAT LOOPCAT RELIES ALMOST EXCLUSIVELY ON EMBEDDED**
290 **DATA.¹³ DO YOU AGREE?**

291 A23. No. LoopCAT uses current contract prices for all cable and equipment in the loop cost
292 study. That is not “embedded” data. LoopCAT uses a forward-looking network design
293 for the feeder plant that places fiber and DLC in the feeder for all loops longer than 12kft,
294 and the DLC system included is SBCI’s forward-looking Litespan DLC system. That is
295 not “embedded” data. The LoopCAT model calculates the forward-looking cable
296 gauging for the copper cable remaining in the loop plant. That is not “embedded” data.
297 What is the “embedded” data in LoopCAT? The loop lengths in LoopCAT are based on
298 the existing loop lengths in the network. Does that assumption violate TELRIC?
299 Absolutely not, given that TELRIC calls for the wirecenter locations and customer
300 locations to remain fixed. Furthermore, as I have discussed, TELRIC does not assume
301 that streets, buildings, and geographic features change. Therefore, it is unreasonable to
302 assume that existing rights-of-way would change in any significant way. This makes
303 SBCI’s modeling assumption of existing loop lengths reasonable. LoopCAT also uses
304 the mix of existing cable inventory to develop its forward-looking cable prices. Is this
305 violative of TELRIC? Again, absolutely not. One must assume some mix of cables.
306 Therefore, the question becomes “what mix?” SBCI’s position is that the mix of cables
307 that were placed after qualified engineers studied a particular project under budget
308 constraints and made a reasoned decision is the best mix of cables to use. Using a
309 different, theoretical assumed mix, such as placing fewer, larger cables would require

¹³ Starkey/Balke Surrebuttal, pp. 20-22.

310 more forecasting that necessarily introduces more errors and more costs into engineering
311 a network. In short, SBCI has incorporated forward-looking engineering assumptions
312 and forward-looking equipment costs, but it has not engaged in speculative engineering
313 that has the potential for actually increasing costs. SBCI's approach is reasonable and
314 should be adopted.

315 **Q24. MESSRS. STARKEY AND BALKE CRITICIZE WHAT THEY CALL**
316 **“ALLOCATIONS” IN LOOPCAT.¹⁴ PLEASE COMMENT ON THEIR**
317 **CRITICISMS.**

318 A24. Yes. Messrs. Starkey and Balke are criticizing the fact that average characteristics are
319 developed in LoopCAT. This is not an error, however; this is a necessity. LoopCAT
320 must develop the cost for the “average” loop in each access area. In order to do that,
321 average characteristics must be calculated. SBC's LoopCAT does that by using network
322 data and some SME assumptions regarding the treatment of that network data. This is
323 reasonable. There is no doubt that the AFAM/LFAM models touted by Messrs. Starkey
324 and Balke did the same thing. Even if something was “calculated” or “modeled” in
325 AFAM/LFAM, that had to be done based on some programming code. That code was
326 programmed by someone, and that someone had to make assumptions in how data were
327 used in the calculations. That is a part of modeling. Therefore, Messrs. Starkey's and
328 Balke's criticisms are misplaced. Like other CLEC witnesses, they are criticizing any
329 assumptions or the use of any actual data, but then they feel no compunction about
330 making their own, often unqualified and unproven, assumptions and trying to pass those
331 off as completely legitimate.

¹⁴ Starkey/Balke Surrebuttal, pp. 29-31.

332 **IV. FILL FACTORS**

333 **Q25. THE COMMISSION STAFF HAS REVISED ITS PROPOSAL REGARDING THE**
334 **FILL FACTORS THAT SHOULD BE USED IN THIS PROCEEDING. WHAT IS**
335 **YOUR VIEW OF STAFF'S PROPOSAL?**

336 A25. Dr. Liu is recommending that the Commission approve use of what I would describe as
337 "modified actual fill factors". That is, Dr. Liu starts with SBC Illinois actual fill factors
338 and then adjusts them upwards to eliminate the impact of what she refers to as "innocent
339 mistakes" made in the original network planning and design process. Obviously, I fully
340 support Dr. Liu's view that actual fill factors are the correct starting point. However,
341 SBC Illinois does not agree that the adjustments she is proposing are appropriate. The
342 Company's position is presented in more detail in the testimony of Mr. White and Mr.
343 Palmer.

344 **Q26. MESSRS. STARKEY AND FISCHER CONTINUE TO ARGUE FOR USE OF**
345 **THE FILL FACTORS ADOPTED BY THE COMMISSION IN THE ORIGINAL**
346 **ILLINOIS TELRIC DOCKET. HAS YOUR POSITION CHANGED?**

347 A26. No. Messrs. Starkey and Fischer are still wrong as a matter of TELRIC policy and
348 methodology and nothing in their rebuttal testimony has caused me to change my views
349 presented in my direct and rebuttal testimony.

350 **V. DIGITAL LOOP CARRIER (“DLC”)**

351 **A. DLC-RT CABINET SIZES INCLUDED IN LOOPCAT**

352 **Q27. STAFF WITNESS KOCH EXPRESSES CONCERN THAT LOOPCAT DOES**
353 **NOT INCOPORATE ADDITIONAL SIZES OF DLC – REMOTE TERMINALS**
354 **(“RT”).¹⁵ DO YOU AGREE?**

355 A27. No. Although I understand Mr. Koch’s concern, I believe that his concerns are based on
356 several misunderstandings.

357 **Q28. PLEASE EXPLAIN THE MISUNDERSTANDINGS THAT YOU BELIEVE**
358 **EXIST IN MR. KOCH’S TESTIMONY.**

359 A28. First, Mr. Koch states that “...Staff is aware of at least ten sizes of RT cabinets that are
360 available from SBCI’s vendor, Lucent Technologies, while LoopCAT only utilizes two
361 sizes of RT cabinets.” Lucent Technologies is not SBCI’s vendor for DLC systems.
362 Alcatel has been and is expected to continue to be SBCI’s vendor for DLC systems.
363 Second, Mr. Koch does not seem to understand that SBC goes through a technology
364 selection process. That process is used to ensure that forward-looking equipment
365 purchases are efficient. SBC, through this process, has determined that Alcatel is the
366 appropriate vendor for DLC systems and has determined the configurations of DLC
367 systems that SBCI will purchase from that vendor. Therefore, the use of one CEV and
368 three RT sizes in LoopCAT are not a “restriction” that causes inefficiency as argued by
369 Mr. Koch. Rather, the DLC-RT sizes and configurations in LoopCAT are reflective of
370 detailed engineering evaluations that were performed by SBC to ensure an efficient
371 allocation of capital resources.

¹⁵ *Rebuttal Testimony to SBC Illinois of Robert F. Koch*, ICC Docket No. 02-0864, Staff Ex. 24.0, (hereinafter “Koch Rebuttal”), pp. 3-4.

372 **Q29. MR. KOCH SUGGESTS THAT YOUR CONCERN REGARDING HIGHER PER**
373 **UNIT COSTS FOR SMALLER DLC-RT SYSTEMS IS MISPLACED.¹⁶ DO YOU**
374 **AGREE?**

375 A29. No. The fact is that the per-unit investment for smaller DLC systems is higher than the
376 investment for larger DLC systems. For example, if one were to take the total material
377 investment for a 448 line DLC system and divide the investment by the 448 line capacity,
378 the resulting per-line investment would be higher than if one were to perform the same
379 calculation for a 2016 system.

380 **Q30. BUT MR. KOCH ARGUES THAT IT IS THE “TOTAL INVESTMENT PER**
381 **UNIT OF DEMAND THAT AFFECTS THE COST PER LOOP.”¹⁷ IS THAT NOT**
382 **AN ACCURATE STATEMENT?**

383 A30. Mr. Koch is accurate to a degree, but I think that this statement reflects a
384 misunderstanding of how fill factors capture demand in the cost study. In cost modeling,
385 per-line investment is converted into an investment per unit of demand through the
386 application of a fill factor. In the case of DLC-RT systems, I am referring to the DLC
387 Chassis fill factor. The application of this fill factor, that is deaveraged to the UNE zone
388 level, spreads the cost of excess capacity over the working capacity.

389 **Q31. REGARDING YOUR TESTIMONY CONCERNING THE INEFFICIENCY OF**
390 **MAINTAINING TEN DIFFERENT SIZES OF RT CABINETS, MR. KOCH**
391 **STATES THAT HE IS NOT CONVINCED THAT MAINTAINING TEN**
392 **DIFFERENT SIZES OF RT CABINETS WOULD BE INEFFICIENT.¹⁸ HOW DO**
393 **YOU RESPOND?**

394 A31. Mr. Koch states that he is not convinced that maintaining ten different sizes of RT
395 cabinets would be inefficient, “particularly in the context of building an efficient

¹⁶ Koch Rebuttal, p. 4

¹⁷ Koch Rebuttal, p. 4.

¹⁸ Koch Rebuttal, pp. 5-6.

396 hypothetical network from the ground up.”¹⁹ This statement is reflective of the concerns
397 that I expressed in the section of my testimony above dealing with TELRIC issues. The
398 proof that purchasing and maintaining ten different sizes of RT cabinets in inventory is
399 inefficient is that SBC, a company that has to efficiently allocate capital resources to
400 deploy a network, does not maintain ten different sizes of RT cabinets in inventory.
401 There is a problem when the business decisions resulting from engineering analysis are
402 simply dismissed as baseless. In economics, one learns that consumers vote with their
403 dollars. In business, corporations reflect what they believe to be efficient in the way that
404 they allocate capital resources. The Commission should not dismiss valid business
405 decisions as lacking evidentiary merit.

406 **Q32. MR. KOCH CLAIMS THAT PRODUCING A VERSION OF LOOPCAT WITH**
407 **TEN DIFFERENT DLC-RT SIZES WOULD BE REQUIRED TO PROVE YOUR**
408 **POSITION.²⁰ HOW DO YOU RESPOND?**

409 A32. I would argue that such an exercise cannot be done. This is for the simple fact that SBC
410 does not buy ten different sizes of RT cabinets. Therefore, SBCI does not have contract
411 prices for ten different sizes of RT cabinets to incorporate into its cost study. Again, the
412 fact that SBC has chosen not to deploy ten different sizes of RT cabinets should be
413 sufficient proof that it is not efficient to do so. The fact is that vendors often give
414 discounts to companies that will standardize on a fixed amount of products, which SBC
415 has done. It is also a fact that inventory costs are very real, whether they are the
416 inventory costs of SBC or its vendors. Maintaining a larger selection in inventory does
417 raise costs.

¹⁹ Koch Rebuttal, pp. 5-6.

²⁰ Koch Rebuttal, p. 6.

418 **Q33. MR. KOCH CLAIMS TO SHOW THAT THE INCORPORATION OF**
419 **DIFFERENT DLC SIZES IN SBCI'S REVISED LOOPCAT DID, IN FACT,**
420 **LOWER COSTS.²¹**

421 A33. Mr. Koch's table does not isolate the costs of including an additional, smaller DLC size
422 into SBCI's revised LoopCAT. The costs in this table also reflect the change in the way
423 SBCI's cost study calculated DLC installation costs.

424 **Q34. DO NOT MESSRS. PITKIN AND TURNER ALSO ADDRESS SBCI'S**
425 **INCORPORATION OF 448 LINE CABINETS?**

426 A34. Yes.

427 **Q35. WHAT IS THEIR PRIMARY COMPLAINT?**

428 A35. Messrs. Pitkin and Turner complain that SBC should have increased the fill factor for the
429 smaller DLC cabinets to reflect the idea that a smaller size cabinet will be used to better
430 fit demand in an area.²²

431 **Q36. DO YOU AGREE WITH THEIR ARGUMENT ON THIS ISSUE?**

432 A36. No. I do not. SBCI's DLC fill factors are calculated based on all sizes of DLC systems
433 deployed and are, therefore, appropriate to be applied to all sizes of DLC systems in
434 LoopCAT. SBCI does not track fill data by equipment size, so SBCI cannot uniquely
435 identify the fill for a 448 cabinet. In addition, I would say that by their logic, Messrs.
436 Pitkin and Turner would also be implying that the fill for larger systems should be
437 decreased from the average thereby raising costs on larger systems.

²¹ Koch Rebuttal, p. 7.

²² Pitkin/Turner Rebuttal, p. 54.

438 **Q37. IS IT TRUE, AS MESSRS. PITKIN AND TURNER CLAIM, THAT “SBC**
439 **MANIPULATES THE INCORPORATION OF CEVS TO INCREASE COSTS**
440 **WHEN COSTS SHOULD DECREASE?”²³**

441 A37. Absolutely not. Messrs. Pitkin and Turner are incorrect in this assertion. SBC did not
442 “manipulate” anything to produce higher costs. SBCI incorporated CEVs into the cost
443 study, consistent with forward-looking network design information. In order to assess the
444 impact of this change, one must look at the cost of the CEV equipment, the CEV
445 structure costs, the adjustment to the conduit factor to account for structure cost, and the
446 fact that a building factor is not applied to CEV structure investment. When one
447 considers all of these relevant input variables, the incorporation of CEVs actually *lowers*
448 costs, contrary to the claim of Messrs. Pitkin and Turner. One could check this
449 sensitivity in LoopCAT by changing the DLC weightings on the Yearly Input tab to
450 100% CEV and running LoopCAT’s “batch process.” This demonstrates that loop costs
451 decline as a result of CEVs being included in the cost study.

452 **Q38. MESSRS. PITKIN AND TURNER ALSO CLAIM THAT SBCI**
453 **INAPPROPRIATELY SHIFTED THE MIX OF ITS DLC-RTS WHEN**
454 **INCORPORATING 448 LINE DLCS AND CEVS.²⁴ HOW DO YOU RESPOND?**

455 A38. SBCI had to revisit its DLC-RT mix when incorporating the smaller 448 cabinet and the
456 CEV configuration. When revising this data, it was necessary to reevaluate how each
457 remote terminal site in Illinois would be configured on a forward-looking basis and
458 weight the DLC mix accordingly. An explanation of the reason for this shift in mix and
459 the workpapers supporting this mix were produced in discovery.²⁵ Therefore, Messrs.
460 Pitkin’s and Turner’s claim that SBCI did not support or explain this change is incorrect.

²³ Pitkin/Turner Rebuttal, pp. 51-52.

²⁴ Pitkin/Turner Rebuttal, pp. 56-58.

461 In this regard, Messrs. Pitkin and Turner complain about the reduction in the percentage
462 of 672 systems in Zone 1. However, Zone 1, which is the Chicago loop area, includes
463 only 1.45% percent of the feeder plant on DLC systems, and therefore, the impact of
464 changing the mix of large and small RTs in that access area has an insignificant impact
465 on the loop costs in that zone.²⁶ As the chart on page 57 of Messrs. Pitkin's and Turner's
466 rebuttal testimony shows for Zones 2 and 3, the percentage of 672 RTs actually changed
467 very little in the revised cost study (from 6% to 7% in Zone 2 and from 5% to 9% in Zone
468 3). The change in the mix of RT sizes in those two zones was primarily attributable to
469 replacing a number of 2016 systems with CEVs and 448 pair DLC systems. As I have
470 discussed, those two DLC-RT configurations were incorporated into the study upon the
471 recommendation of the Staff and AT&T witnesses.

472 **B. ALLOCATION OF DLC-RT COSTS BETWEEN VOICE AND DSL**

473 **Q39. MR. KOCH AND MESSRS. PITKIN AND TURNER CONTINUE TO MAINTAIN**
474 **THAT IT IS APPROPRIATE TO REDUCE DLC-RT INVESTMENT BY 25% TO**
475 **ACCOUNT FOR THE SHARING OF COSTS BETWEEN VOICE AND DSL.²⁷ IS**
476 **THIS APPROPRIATE?**

477 A39. No. As these witnesses all acknowledge, SBCI's cost study does not include any of the
478 incremental costs necessary to enable the DLCs to provide DSL service. These witnesses
479 suggest that it is appropriate to allocate a portion of the costs associated with the
480 equipment that can be used in the provision of both voice and DSL service. There are
481 several reasons why the RT investment should not be allocated in the manner proposed
482 by these witnesses. First, on the principle of cost causation, the common investment in

²⁵ See SBC's Response to data request 7.3 from the Joint CLEC's Seventh Set of Data Requests.

²⁶ Using the revised 2-wire analog LoopCAT filed in January 2004, re-weighting the Zone 1 RTs to 100% 2016 line DLC cabinet reduces the monthly loop cost by \$0.04.

483 the RT is caused by voice service. DSL functionality can only be added to that RT by
484 adding additional equipment. The cost of this additional equipment is the incremental
485 cost of the DSL, which, as I have testified, is not included in the study to begin with.
486 Second, allocating 25% of RT costs to DSL would only be appropriate if one were to
487 assume that every RT in the forward-looking network would be configured for DSL.
488 This is not the case. Rather, the DLCs equipped for DSL will be some subset of the total
489 number of DLCs deployed. Finally, the allocation proposed by Mr. Koch and Messrs.
490 Pitkin and Turner assume that the subscription rates for voice and DSL would be
491 proportionate to the technical capacities of the equipment. There is no basis to assume
492 that this is the case given that voice services enjoy almost universal penetration while
493 DSL does not.

494 **Q40. STAFF WITNESS KOCH ARGUES THAT, BASED ON INFORMATION HE**
495 **RECEIVED REGARDING ICC DOCKET 00-0393, THE CAPACITY**
496 **ALLOCATED TO DATA SERVICES IN SBCI'S REMOTE TERMINALS IS 25%;**
497 **HE THEREFORE RECOMMENDS A 25% REDUCTION OF RT INVESTMENT**
498 **FOR VOICE SERVICE. HOW DO YOU RESPOND?**

499 A40. I disagree with Mr. Koch. It is true that SBCI used a 75% / 25% allocation in its Project
500 Pronto cost study in Docket 00-0393, but that is entirely irrelevant in this proceeding.

501
502 While I was not involved in the development of the cost study which included the 75% /
503 25% allocation (and therefore I do not know exactly why that allocation was used), it is
504 my understanding that, in Docket 00-0393, the parties had agreed that no pricing issues
505 would be addressed or resolved in that docket – and, in fact, SBCI did not propose rates

²⁷ Koch Rebuttal, pp. 15-16. Pitkin/Turner Rebuttal, p. 76.

506 in that case. Rather, SBCI submitted the cost study in direct response to a question posed
507 by one of the ICC Commissioners. Despite the parties' agreement not to address rates for
508 access to the Pronto DSL architecture – and despite SBCI's arguments that it would not
509 be appropriate to use the cost studies to set prices for such access – the Commission
510 authorized interim rates for the so-called Pronto DSL "UNE." But even the Commission
511 recognized that SBCI "ha[d] not had its full day in court on the issue of the cost based
512 rates that shall apply to" the Broadband UNE.²⁸

513
514 Equally significant, the cost study submitted by SBCI was never adopted by the
515 Commission. In fact, Mr. Koch himself opposed SBCI's cost study, and recommended
516 several changes to it – all of which the Commission adopted.²⁹

517
518 Under these circumstances, it is unreasonable to hold SBCI to an RT equipment
519 allocation used in a cost study developed years ago for an entirely different rate element.
520 As I explained in my direct testimony, here, it is appropriate to assign 100% of the RT
521 equipment investment to UNE loops because the RT equipment is only configured for the
522 provision of voice services – not DSL services, as was the case with Project Pronto.
523 Contrary to Mr. Koch's claim, the RT equipment investment is not common to both voice
524 and data; rather, it is incremental to voice service.

²⁸ Order on Second Rehearing at 25.

²⁹ Order on Rehearing at 25 stated "The rates shall be those developed by Staff witness Koch, with an adjustment for shared and common costs."

525 **Q41. ARE THERE OTHER REASONS WHY MR. KOCH'S RELIANCE ON THE**
526 **ALLOCATION IN SBCI'S COST FILING IN ILLINOIS DOCKET 00-0393 IS**
527 **NOT APPROPRIATE?**

528 A41. Yes. While one might construe that cost study as supportive of such an allocation, I have
529 described above why it is not appropriate. Those older studies did not properly identify
530 the incremental cost of DSL functionality in the DLC system. As I have indicated above,
531 voice services are, from a cost causation perspective, responsible for the costs of the
532 common investment in the RT. This must be true considering the fact that one can
533 configure a voice-only DLC system, but there is no such thing as a DSL-only DLC
534 system. Furthermore, SBCI's proposal not to allocate costs is consistent with this
535 Commission's finding on the high frequency portion of the loop ("HFPL"). There the
536 Commission found that there were no incremental costs associated with using the HFPL,
537 therefore DSL providers using the HFPL should not pay any price for that element.
538 Adoption of the allocation of common RT investment proposed by Mr. Koch and Messrs.
539 Pitkin and Turner would be inconsistent with the Commission's treatment of the HFPL,
540 because that investment is incurred for voice services and does not increase if DSL
541 functionality is added.

542 **Q42. LIKewise, MESSRS. PITKIN AND TURNER REFER TO A TEXAS COST**
543 **STUDY THAT ALLOCATED CERTAIN COSTS BETWEEN VOICE AND DSL.**
544 **WOULD YOUR ANSWER TO MESSRS. PITKIN AND TURNER ON THE**
545 **TEXAS COST STUDY BE THE SAME AS YOUR ANSWER ABOVE TO STAFF**
546 **WITNESS KOCH'S RELIANCE ON AN ILLINOIS COST STUDY FOR**
547 **PROJECT PRONTO?**

548 A42. Yes.

549

550 **C. IDLC VS. UDLC**

551 **Q43. HAS SBCI SIMPLY IGNORED FCC GUIDELINES REGARDING EFFICIENT**
552 **TECHNOLOGY DEPLOYMENT WHEN IT COMES TO IDLC, AS ARGUED BY**
553 **MESSRS PITKIN AND TURNER?³⁰**

554 A43. No. This issue is one on which there has been much debate, and it is a technical issue
555 that is often misunderstood. Messrs. Pitkin and Turner like to confuse things that are
556 cheap with things that are efficient, and this is the case here. It is the opinion of SBC
557 network engineers that IDLC is not the efficient technology for all DLC deployments in
558 the forward-looking network.

559 **Q44. PLEASE EXPLAIN WHAT IS MEANT BY THE TERMS IDLC AND UDLC.**

560 A44. IDLC, which stands for integrated digital loop carrier, refers to a DLC system that is
561 configured in a way that groups of DS0 circuits are routed to a switch at a DS1 level. In
562 other words, individual circuits (*i.e.*, a DS0) are not separated out at the COT in the
563 central office. Rather, the COT routes circuits to the switch through a DS1 circuit.
564 UDLC, which stands for universal digital loop carrier, refers to a DLC system
565 configuration whereby the COT demultiplexes circuits coming in from the field down to
566 the individual circuit or DS0 level before routing circuits to the switch.

567 **Q45. IS IDLC CHEAPER TO DEPLOY ON A PER CIRCUIT BASIS?**

568 A45. Yes. IDLC is cheaper on a per circuit basis.

³⁰ Pitkin/Turner Rebuttal, p. 67

569 **Q46. THEN WHY IS IDLC NOT ALWAYS THE EFFICIENT FORWARD-LOOKING**
570 **TECHNOLOGY CHOICE?**

571 A46. It is not always efficient due to the fact that not all circuits are routed to the switch. If a
572 circuit, once it reaches the central office, will be routed to somewhere other than the
573 switch, then the circuit will have to be on a UDLC configuration. Otherwise, there is no
574 way to hand off that circuit. Examples of circuits not going to the switch would be stand-
575 alone UNE loops that are routed to a CLECs collocation cage. Regular (*i.e.*, non-UNE-P)
576 loops are not directly fed to SBCI's central office switches. Thus those circuits are not
577 efficiently provisioned on IDLC. This issue is also discussed in Mr. White's rebuttal and
578 surrebuttal testimony.

579 **Q47. ON A RELATED ISSUE, MESSRS. PITKIN AND TURNER CRITICIZE YOUR**
580 **POSITION THAT FORWARD-LOOKING COST DEVELOPMENT SHOULD**
581 **NOT ASSUME THAT EACH COT CAN SERVE FOUR REMOTE TERMINALS.**
582 **HOW DO YOU RESPOND TO THEIR TESTIMONY?**

583 A47. I will defer to Mr. White on the technical aspects of this issue. However, I will say from
584 a costing perspective that I believe this is another area where Messrs. Pitkin and Turner
585 cross the line in terms of considering what an efficient forward-looking firm might do
586 and what an omniscient, perfect firm might do. While I cannot speak to all of the
587 engineering considerations, this issue, as I understand it, is one where Messrs. Pitkin and
588 Turner are arguing that, in theory, if all the stars are aligned just right, then one could
589 deploy four RTs per COT. Therefore, they argue that a TELRIC cost study should
590 assume that *every* COT can serve four RTs. I believe that their position is based on an
591 incorrect interpretation of the efficiencies that a TELRIC study must consider. As I
592 described above, TELRIC must be interpreted to make efficient, not perfect, assumptions.
593 Otherwise, facilities-based competition is impossible.

594 **Q48. MESSRS. STARKEY AND BALKE CONTEND THAT LOOPCAT DOES NOT**
595 **ACCOUNT FOR EAST/WEST OR DUAL FEEDER CONFIGURATIONS FOR**
596 **THE COT.³¹ IS THIS TRUE?**

597 A48. No. SBCI's cost study contains both an IDLC and UDLC configuration. The IDLC
598 configuration does account for the use of the East/West optics capability. Therefore, the
599 cost study, in that configuration, appropriately accounts for the 4032 lines that a COT can
600 serve in a dual feeder configuration.

601 **Q49. MESSRS. PITKIN AND TURNER CLAIM THAT DS1 CIRCUITS SERVED OUT**
602 **OF A REMOTE TERMINAL SHOULD HAVE THE COSTS OF COMMON**
603 **EQUIPMENT ALLOCATED ON A PHYSICAL SPACE BASIS RATHER THAN**
604 **A BANDWIDTH BASIS.³² DO YOU AGREE?**

605 A49. No. Like many other assumptions made by Messrs. Pitkin and Turner, they premise this
606 recommendation on the extreme assumption that an RT is completely full with POTS
607 cards, making the RT constrained on a physical space basis. SBCI's utilization data
608 demonstrates that DLC equipment does not operate at full capacity, thereby creating this
609 space constraint. The economic value of a remote terminal's capacity is tied to
610 bandwidth, and, therefore, bandwidth is the economic way to allocate common costs.

611 **D. CHANGES IN DLC COST CALCULATIONS**

612 **Q50. MESSRS. PITKIN AND TURNER ARE CRITICAL OF THE INCLUSION OF**
613 **"CLUSTER VENDOR" MATERIAL COSTS FOR DLC-COT EQUIPMENT IN**
614 **ITS REVISED COST STUDY. PLEASE EXPLAIN WHY THIS MATERIAL WAS**
615 **INCLUDED.**

616 A50. In changing from installation factors based on PICS/DCPR data to installation factors
617 based on general ledger data, SBC had to ensure that costs were appropriately accounted
618 for in the cost study. As SBCI explained in responses to Joint CLEC data request 7.4, the

³¹ Pitkin/Turner Rebuttal, p. 47

³² Pitkin/Turner Rebuttal, pp. 71-72.

619 Cluster Vendor Equipment represents the furnished material from the vendor for
620 installing the given equipment (*i.e.*, Bays 1-3). These components were appropriately
621 added to the cost study because they represent material booked to TCC 520 in the
622 accounting system. Since the general ledger based installation factor is designed to gross
623 up TCC 520 material to installed investment, the “furnished” material from the vendor
624 that flows to TCC 520 must be included as a specific line item in order to appropriately
625 capture the costs. The Cluster Vendor Equipment was added as a specific line item in the
626 revised cost study since the installation factors developed using the underlying general
627 ledger data do not capture these costs. This contrasts with the December 2002 cost study
628 filed by SBCI, in which these vendor furnished material costs were accounted for by the
629 application of the installation factors developed using PICS/DCPR data. For these
630 reasons, Messrs. Pitkin’s and Turner’s claim that “...this is another attempt by SBC to
631 offset the cost reductions...” is wrong. These are legitimate costs that are not elsewhere
632 accounted for in SBCI’s revised cost study.

633 **Q51. MESSRS. PITKIN AND TURNER ALSO POINT TO A CHANGE IN THE WAY**
634 **SALES TAX IS APPLIED TO DLC EQUIPMENT, BOTH HARDWIRE AND**
635 **PLUG-IN, IN THE COST STUDY. DID SBCI’S COST STUDY CHANGE THE**
636 **APPLICATION OF SALES TAX?**

637 A51. Yes.

638 **Q52. WHY DID SBC CHANGE THE APPLICATION OF SALES TAXES TO THIS**
639 **DLC EQUIPMENT?**

640 A52. As in the case of the Cluster Vendor Equipment, the way that sales tax was applied in the
641 cost study is a result of the change from PICS/DCPR as the data source for the
642 development of 257C installation factors to the use of data underlying the general ledger
643 for the development of those factors.

644 **Q53. WITH RESPECT TO MESSRS. PITKIN'S AND TURNER'S CRITICISM OF**
645 **THE CHANGE IN SBC'S CALCULATION OF DSX-1 JACK COSTS, HOW DO**
646 **YOU RESPOND?**

647 A53. The change in the calculation of DSX-1 jack costs is for the same reason as described
648 above. Namely, it is related to the change in the data source for 257C installation factors
649 and the way that sales taxes are treated in the development of those factors.

650 **VI. COPPER-FIBER CROSSOVER POINT**

651 **Q54. WHAT IS STAFF WITNESS KOCH'S POSITION ON THE COPPER-FIBER**
652 **CROSSOVER POINT?**

653 A54. Mr. Koch's position is that the appropriate copper fiber crossover point is 18kft. This is
654 despite the fact that SBC engineers have determined that the appropriate crossover point
655 is 12kft. However, Mr. Koch dismisses that fact, and instead argues that his
656 recommendation is more relevant than that of engineers charged with network
657 deployment. Mr. Koch takes the position that a longer crossover point will purportedly
658 produce a marginally lower incremental cost for 2-wire analog loops that is slightly less
659 than that of a 12 kft crossover point. However, Mr. Koch does not consider the impact of
660 this design on advanced services.

661 **Q55. MR. KOCH ASSERTS THAT YOU DO NOT CONTEND THAT MR. KOCH'S**
662 **PROPOSED CROSSOVER POINT WILL IMPACT THE SERVICES THAT SBC**
663 **PROVISIONS. IS THIS TRUE?**

664 A55. No. As I stated in my rebuttal testimony,³³ certain services require the shorter crossover
665 point to provide sufficient levels of service to meet consumer demand. SBCI's network
666 witness Mr. White discusses this technological issue. Mr. Koch acknowledges the fact

³³*Rebuttal Testimony of James R. Smallwood*, ICC Docket No. 02-0864, SBC Illinois Schedule 4.1, filed January 20, 2004, p. 19.

667 that this is technically correct.³⁴ Therefore, the 12kft crossover point is the “technically
668 correct” crossover point.

669 **Q56. MR. KOCH ARGUES THAT A 12 KFT CROSSOVER POINT WOULD BE**
670 **“GOLD PLATING.” DO YOU AGREE?**

671 A56. No. The forward-looking network can and should be built to support advanced services
672 such as higher speed DSL services and DS1 services. Basing costs on an 18 kft. network
673 that would impede these services would be inappropriate.

674 **VII. INSTALLATION FACTORS**

675 **Q57. STAFF WITNESS LAZARE CONTENDS THAT SBCI’S CABLE**
676 **INSTALLATION FACTORS ARE NOT APPROPRIATE BECAUSE THEY ARE**
677 **EMBEDDED COSTS.³⁵ IS THIS ACCURATE?**

678 A57. No. SBCI’s cable installation factors represent the relationship between cable material
679 costs and installation costs over the last three years. The factor derived from this ratio
680 (*i.e.*, installed cost to cable material cost) is then applied to current cable prices from
681 contracts.

682 **Q58. MR. LAZARE CONTENDS THAT YOU HAVE SIMPLY PLACED THE ONUS**
683 **ON OTHER PARTIES TO DEMONSTRATE WHY THESE COSTS DO NOT**
684 **BELONG.³⁶ WHAT IS YOUR POSITION ON THIS ISSUE?**

685 A58. My position is that SBCI’s factors represent the recent relationship between installation
686 costs and material costs. Absent any evidence that this relationship will change, then the
687 relationship is presumed valid for developing forward-looking costs. It is my opinion

³⁴ Koch Rebuttal, p. 10.

³⁵ *Rebuttal Testimony of Peter Lazare*, ICC Staff Ex. 23.0, ICC Docket No. 02-0864 (hereinafter “Lazare Rebuttal”), p. 6.

³⁶ Lazare Rebuttal, p. 6.

688 that recent data is perfectly valid for estimation purposes. The use of recent data to
689 project trends forward is common and appropriate.

690 **Q59. DO CABLE INSTALLATION FACTORS REPRESENT EMBEDDED COSTS AS**
691 **CLAIMED BY STAFF WITNESS LAZARE AND MESSRS. PITKIN AND**
692 **TURNER?**

693 A59. No. Embedded costs are the costs that are recorded on the company's books. The
694 continued effort of Staff and other parties to equate recent cost ratios to embedded costs
695 is completely misguided. SBCI's cost studies do not attempt to recover the costs
696 recorded in the company's books of account. Rather, recent accounting data is used to
697 project forward-looking costs. This is a completely appropriate use of data in a forward-
698 looking cost study.

699 **Q60. MR. LAZARE CONTENDS THAT CABLE INSTALLATION FACTORS**
700 **REPRESENT REINFORCEMENT COSTS THAT ARE HIGHER THAN NEW**
701 **CONSTRUCTION COSTS AND ARE THEREFORE INAPPROPRIATE FOR**
702 **USE IN A FORWARD-LOOKING COST STUDY.³⁷ DO YOU AGREE?**

703 A60. No. As I discussed above, TELRIC requires that one take the world as it stands and then
704 build an efficient telecommunications network to serve customers. Given that much new
705 construction takes place in areas of new development, while reinforcement jobs take
706 place in areas that are already developed, it is reasonable to conclude that factors that
707 reflect the impact of reinforcement project costs are more reflective of forward-looking
708 costs than are factors that reflect only the cost of new construction.

³⁷ Lazare Rebuttal, pp. 8-10.

709 **Q61. IS IT ACCURATE, AS MR. LAZARE AND MESSRS. PITKIN AND TURNER**
710 **CONTEND, THAT SBCI'S CABLE INSTALLATION FACTORS DO NOT**
711 **APPROPRIATELY REFLECT ECONOMIES OF SCALE?**³⁸

712 A61. No. SBCI's factors will represent a variety of jobs both large and small. This is
713 appropriate in that the construction of a forward-looking network would also reflect large
714 and small jobs. In a forward-looking environment, SBCI would be operating in a
715 competitive environment, where other service providers would also be building networks
716 to compete in the market place. Clearly, in a forward-looking cost study, one cannot
717 simply assume that every customer would select SBCI as their service provider.

718 **Q62. MESSRS. PITKIN AND TURNER SUGGEST THAT YOU DID NOT ADDRESS**
719 **THEIR ARGUMENT REGARDING INSTALLATION FACTORS AND**
720 **REITERATE THEIR CONCERNS IN THEIR REBUTTAL TESTIMONY.**³⁹
721 **COULD YOU PLEASE RESPOND?**

722 A62. Yes. SBCI's rebuttal testimony did, in fact, respond to criticisms made by Messrs. Pitkin
723 and Turner regarding SBCI's installation factors. However, I will specifically respond to
724 each of the criticisms listed by Messrs. Pitkin and Turner in their rebuttal testimony to
725 ensure that SBCI's position is clear on each of these issues.

726 • Installation factors are a "black box" – The term "black box" has typically been used
727 to describe something, such as a computer program, where numbers are fed in and
728 numbers come out, but no one can understand what happens in the middle. That is no
729 one can see inside the "box." Messrs. Pitkin and Turner are now trying to use that
730 term to describe SBCI's accounting system, upon which SBCI's installation factors
731 are based. Their identification of the accounting system as a black box is misplaced.
732 The methods for accounting for expenditures are laid out in some detail by the FCC
733 and by Generally Accepted Accounting Principles ("GAAP"). Furthermore, as
734 discussed by Mr. Dominak, SBCI has made available to AT&T the accounting system
735 data used to develop the installation factors and explanations of how the factors were
736 calculated using that data. Evidently, for Messrs. Pitkin and Turner, the factors are
737 and will remain a black box until they can verify every purchase order, receipt, or
738 time sheet that flows into the accounting system. This is not a reasonable standard.

³⁸ Lazare Rebuttal, p. 10. Pitkin/Turner Rebuttal, pp. 93-94.

³⁹ Pitkin/Turner Rebuttal, pp. 15-16.

739 • Installation factors reflect embedded data – The factors do not reflect embedded cost
740 data. Relying on embedded costs would be a process whereby SBCI would say that
741 “the company spent \$10,000 dollars ten years ago to place 1,000 feet of cable and,
742 therefore, that is what the item costs today.” This is not what installation factors do in
743 the cost study. Installation factors are used to develop installation costs for new
744 equipment. With installation factors SBCI is saying “tomorrow if I want to place
745 1,000 feet of cable in the network, my procurement contract tells me that the cable
746 material will cost me \$1.00 per foot. How do I figure out what it will cost me to
747 install the cable? Well, my accounting data tells me that, over the last three years, it
748 has cost me \$3.00 per foot in installation costs per \$1.00 of material (*i.e.*, my
749 installation factor is 3.0) to install this type of cable. I am not aware of anything that
750 has changed in the installation of cable; therefore, I will estimate that the new cable
751 material cost will also need to be multiplied by a factor of 3.0 to account for
752 installation costs. The combined cost of material (\$1.00 per foot) plus installation
753 (\$1.00 per foot * 3.0 = \$3.00) is \$4.00; therefore, the cost study will calculate an
754 installed cost of \$4,000 for the 1,000 feet of cable.” Note that the end result of
755 \$4,000 is not the same as the embedded cost of \$10,000.

756 • Installation factors do not reflect economies of scale – This is not true. The
757 installation factors represent the average scale of all jobs undertaken in the last three
758 years. In that time, SBCI would have performed everything from very large jobs to
759 very small jobs. Whatever the size of the job, there is no indication that a forward-
760 looking network provider’s scale of construction would be vastly different. This
761 argument reflects Messrs. Pitkin’s and Turner’s desire to make TELRIC a fantasy
762 cost standard that it is not. Namely, they would have the Commission believe that
763 TELRIC requires that one somehow estimate the cost of the perfectly efficient
764 provider that builds a new telecommunications network overnight. A provider who,
765 despite operating in a competitive market, knows every customer that will subscribe
766 to its service, knows exactly what service the customer will want, can build its plant
767 to exactly fit the current demand (without error), will never have to augment that
768 network to meet new demand or changes in demand. In effect, Messrs. Pitkin and
769 Turner are suggesting that the TELRIC standard contemplated an omniscient, God-
770 like telecommunications company that has perfect knowledge of the marketplace and
771 perfect employees. Obviously, such an interpretation of TELRIC would render any
772 chance of facilities based competition completely impossible. This is not a
773 reasonable interpretation of the TELRIC standard and should be rejected.

774 • Installation factors are based largely on non-TELRIC activities – This argument is,
775 again, based on the idea that the forward-looking telecommunications provider will
776 never have to reinforce its network. As Mr. White and I have both discussed, this is
777 not reasonable. SBCI’s installation factors reflect the average cost of building its
778 network. The cost of building a telecommunications network is absolutely a
779 legitimate TELRIC activity.

780 • Installation factors are not accurate – Installation factors represent the average
781 amount of installation cost per dollar of material cost actually spent by the company
782 over a recent period. They are indeed accurate. However, they reflect all of the costs
783 the company had to incur to place plant. Messrs. Pitkin and Turner would rather

784 focus the Commission's attention away from what it actually costs to construct
785 telecommunications plant and on what an initial engineering estimate suggests that it
786 would cost to place plant, full well knowing that it is the final amount spent, and not
787 the original estimate, that is reflective of the company's true cost.

- 788 • Installation factors distort de-averaged UNE costs – Messrs. Pitkin and Turner have
789 not offered evidence to support this claim. They simply argue that installation costs
790 in denser areas *should* be lower than in rural areas. However, that is based on
791 speculation. SBCI's factors, based on statewide data, reasonably reflect the
792 installation costs across UNE zones.
- 793 • Installation factors distort the cost of various UNEs – This argument by Messrs.
794 Pitkin and Turner only applies to DLC equipment, because that is the only account
795 for which the equipment in the account varies. For cable accounts, such as buried
796 copper cable, the equipment does not vary (*i.e.*, buried copper cable is buried copper
797 cable). While it is true that the 257c account does record expenses for various types
798 of equipment other than DLC systems, that does not mean that the factor cannot
799 reasonably estimate the installation costs for DLC. The factor will capture the
800 average installation costs for equipment in that account, one of which is the DLC
801 system. Therefore, on average, the factor is accurate.
- 802 • Installation factors produce obviously illogical results – This is simply not true.
803 Messrs. Pitkin and Turner directed most of their criticisms towards SBCI's
804 PICS/DCPR based factor for DLC. This factor has been replaced with a general
805 ledger based factor that results in a very reasonable estimate of forward-looking costs.
806 This estimate has been accepted by witnesses for Staff and the Attorney General.
- 807 • Installation factors create the significant likelihood of double counting costs – This
808 overly generalized statement is completely inaccurate. Regarding the use of
809 PICS/DCPR based DLC installation factors, AT&T raised the issue of a potential
810 double count resulting from the way that major and minor materials are recorded in
811 that system. SBCI has completely addressed that issue by using data underlying the
812 general ledger to ensure that no double-count exists.

813 **Q63. MESSRS. STARKEY AND BALKE ALSO ADDRESS THE USE OF**
814 **INSTALLATION FACTORS FOR DLC EQUIPMENT.⁴⁰ DO YOU HAVE ANY**
815 **COMMENT ON THEIR TESTIMONY IN THIS AREA?**

816 A63. Yes. First, I would point out that Mr. Balke simply tries to sidestep the fact that, as an
817 Associate Director in the Cost Analysis Division at SBC, he was in charge of the group
818 that conducted UNE loop cost studies and those studies used installation factors for cable
819 and DLC. The very type of factors that he criticizes here. Trying to avoid responsibility

820 by saying “I never directed Ameritech’s installation factor methodology, nor did I
821 provide installation factor – related testimony” does not eliminate the fact that he
822 understood, or should have understood, the way factors were developed and applied in
823 the cost studies conducted under his supervision. Second, Mr. Balke tries to draw a
824 distinction when discussing the DLC installation factors saying that the “historic factor is
825 not applicable to Alcatel equipment.”⁴¹ Again, he is willfully ignoring the fact that he
826 directed the development of cost studies using the same type of factor and assuming the
827 use of the same type of Alcatel equipment, which is the dominant DLC system deployed
828 in Illinois over the period of time from which the factors were developed.

829 **Q64. MESSRS. STARKEY AND BALKE POINT TO A WISCONSIN CASE, IN**
830 **WHICH MR. BALKE WAS INVOLVED AS AN AMERITECH EMPLOYEE,**
831 **WHERE “A MUCH SMALLER INSTALLATION FACTOR WAS REQUIRED.”⁴²**
832 **CAN YOU COMMENT ON THIS ISSUE?**

833 A64. Yes. Messrs. Starkey and Balke make it sound as though Mr. Balke somehow developed
834 a specific factor “that accounted for the Telco engineering and installation” required for
835 Litespan equipment.⁴³ The fact is that Mr. Balke separately identified some vendor costs
836 in the cost study and the applied a plug-in EF&I factor to hardwire equipment and
837 assumed that it was right. Mr. Balke never audited hardwire installation costs and
838 determined that the plug-in factor was, by coincidence, the right factor to apply to the
839 Litespan equipment after separately accounting for vendor costs. While one might try to
840 take “pot-shots” about whether an average factor is appropriate for a particular piece of

⁴⁰ Starkey/Balke Surrebuttal, pp. 35-40.

⁴¹ Starkey/Balke Surrebuttal, p. 36.

⁴² Starkey/Balke Surrebuttal, pp. 43-44.

⁴³ Starkey/Balke Surrebuttal, p. 44.

841 equipment as Messrs. Starkey and Balke are doing here, I find it grossly inappropriate to
842 apply a factor that is completely unrelated to the type of equipment being installed in
843 order to guess at an appropriate level of costs.

844 **Q65. PLEASE RESPOND TO MESSRS. PITKIN'S AND TURNER'S ARGUMENT**
845 **THAT THE COMMISSION SHOULD REJECT THE USE OF IN-PLACE**
846 **FACTORS BECAUSE "THE MAJORITY OF THE INSTALLATION COST IS**
847 **INCLUDED IN THE PRICES LISTED IN THE ALCATEL CONTRACT FOR**
848 **THE DLC EQUIPMENT."**⁴⁴

849 A65. This issue has been discussed at length in other proceedings and in this proceeding.
850 SBCI witness Donald Palmer has addressed this issue in detail. However, I want to be
851 clear that SBC's contract with Alcatel does not cover any of the costs of installing Alcatel
852 equipment in SBCI's network. When SBCI purchases an RT cabinet from Alcatel, it
853 receives a cabinet equipped with electronics, and that is all. SBCI incurs all of the costs
854 for the engineering work and installation work for placing that cabinet in the field.
855 Messrs. Pitkin and Tuner simply refuse to acknowledge this fact. Their arguments on this
856 topic should be dismissed.

857 **Q66. MESSRS. PITKIN AND TURNER ALSO CLAIM THAT YOU FAIL TO**
858 **CONSIDER THE LAND, BUILDING, POWER AND RIGHTS OF WAY COSTS**
859 **APPLIED IN LOOPCAT.⁴⁵ IS THIS TRUE?**

860 A66. No. First, I want to point out that there are no separate "rights of way" costs developed in
861 LoopCAT. Second, it is not accurate that I have ignored those costs in making any
862 comparisons. The installation factor applied in LoopCAT calculates installation costs.
863 Additional cost development for land, building and power investment is appropriate, as
864 those are additional forward-looking costs that will be incurred.

⁴⁴ Pitkin/Turner Rebuttal, p. 65.

865 **Q67. MESSRS. PITKIN AND TURNER CONTINUE TO MAINTAIN THAT SBCI'S**
866 **JAM SYSTEM SHOULD BE USED TO ESTIMATE FORWARD-LOOKING**
867 **COSTS.⁴⁶ DO YOU AGREE THAT JAM IS AN APPROPRIATE SYSTEM?**

868 A67. No. The JAM system is a front-end estimate of construction costs used for capital
869 budgeting purposes and not the end cost of completing construction jobs. Furthermore,
870 JAM is a user-driven cost calculator that provides a high level estimate for the work
871 functions that the engineer contemplates needing for a particular job. On the other hand,
872 the costs recorded in the general ledger reflect the end cost of the job, which is the cost
873 that SBCI actually incurs. It is not surprising that Messrs. Pitkin and Turner would want
874 to use a "lowball" estimate, but it is not appropriate.

875 **Q68. HOW DO YOU RESPOND TO MESSRS. PITKIN'S AND TURNER'S CLAIM**
876 **THAT YOU DISTORTED THEIR CALIFORNIA TESTIMONY REGARDING**
877 **INSTALLATION FACTORS?⁴⁷**

878 A68. I simply stated what they had said, which is that factors can be appropriate or necessary
879 in some instances. They may have limited their statement, but the fact is factors are an
880 appropriate method for costing telecommunications plant and have been used by this
881 Commission in the past. While Pitkin and Turner claim that the JAM system provides
882 more specific data, it does not provide comprehensive data regarding installation costs.
883 This is especially true in light of the way that Messrs. Pitkin and Turner used JAM data.
884 For example, Messrs. Pitkin and Turner did not include any costs for directional boring or
885 the cutting and restoration of concrete when calculating cable installation costs using
886 JAM. This is clearly inappropriate and would clearly understate costs. Further, Messrs.

⁴⁵ Pitkin/Turner Rebuttal, p. 66.

⁴⁶ Pitkin/Turner Rebuttal, p. 19.

⁴⁷ Pitkin/Turner Rebuttal, p. 20.

887 Pitkin and Turner claim to use JAM, but they have manipulated the numbers produced by
888 JAM to such an extent that it is a misstatement to claim that they relied on JAM.

889 **Q69. DO MESSRS. PITKIN AND TURNER DENY THAT THE FCC WIRELINE**
890 **COMPETITION BUREAU (“WCB”) APPROVED THE USE OF**
891 **INSTALLATION FACTORS?**

892 A69. No. In an effort to rebut my statement of fact that the FCC WCB approved the use of
893 installation factors, Messrs. Pitkin and Turner point out that the FCC WCB expressed
894 concern about installation factors and that the installation factors were used in a transport
895 study, rather than a loop cost study. The fact remains that the FCC WCB did not say that
896 installation factors are inconsistent with TELRIC. It is interesting to note that Messrs.
897 Pitkin and Turner point out that it was baseball style arbitration, and when faced with
898 either AT&T’s proposal, or Verizon’s installation factors, the FCC WCB chose to use
899 Verizon’s installation factors. Messrs. Pitkin’s and Turner’s comment that the FCC
900 WCB chose the MSM model, which is not something that is being considered by this
901 Commission, is totally irrelevant.

902 **Q70. DID YOU “ATTEMPT TO TWIST THE FACTS” OF THE POSITIONS OF THE**
903 **GEORGIA AND FLORIDA COMMISSIONS REGARDING THE USE OF**
904 **INSTALLATION FACTORS AS CLAIMED BY MESSRS. PITKIN AND**
905 **TURNER?**

906 A70. No. I simply pointed out that those Commissions continued to rely on installation factors
907 for some portion of cost development. Messrs. Pitkin and Turner do not dispute that fact.

908 **Q71. WHAT IS THE MOST IMPORTANT STATEMENT MADE BY MESSRS.**
909 **PITKIN AND TURNER REGARDING THE USE OF INSTALLATION**
910 **FACTORS?**

911 A71. When discussing the determinations of the Florida and the Georgia Commissions,
912 Messrs. Pitkin and Turner write that “linear loading factors distort costs and should only

913 be used when no other viable option is available.” Of course, Messrs. Pitkin and Turner
914 claim that JAM is the “other viable option,” but Messrs. Pitkin’s and Turner’s use of
915 JAM is not a viable option unless the goal is to systematically understate the forward-
916 looking cost of UNE loops.

917 **Q72. WHY DO YOU SAY THAT MESSRS. PITKIN’S AND TURNER’S USE OF JAM**
918 **WILL SYSTEMATICALLY UNDERSTATE COSTS?**

919 A72. Because Messrs. Pitkin’s and Turner’s use of JAM distorts costs in two ways. First, they
920 use JAM estimates in only the most simplistic way. Second, they manipulate JAM time
921 estimates to account for what they independently claim are forward-looking adjustments
922 to account for “efficiencies.”

923 **Q73. HOW DO MESSRS. PITKIN AND TURNER ONLY USE THE MOST**
924 **SIMPLISTIC JAM ESTIMATES?**

925 A73. They do this by assuming only the most basic functions are required to complete a job.
926 For example, in the case of installing buried cable, Messrs. Pitkin and Turner only
927 assume that two work activities will be required; placing cable and splicing cable. They
928 ignore the fact that SBCI often incurs costs for work activities such as directional boring
929 and the cutting and restoration of concrete, among others. This issue was discussed
930 extensively in the Rebuttal Testimony of Randy White.

931 **Q74. HOW DO MESSRS. PITKIN AND TURNER MANIPULATE THE TIMES IN**
932 **JAM TO SYSTEMATICALLY UNDERSTATE COSTS?**

933 A74. A review of Messrs. Pitkin’s and Turner’s workpapers show that they routinely made
934 unilateral adjustments to the JAM data, while claiming that they used SBCI’s JAM data
935 as their data source. This is clearly misleading. As, Mr. White discussed in his rebuttal
936 testimony, many of these adjustments were inappropriate.

937 **Q75. MESSRS. PITKIN AND TURNER ARGUE THAT THE MODIFICATIONS THAT**
938 **THEY MADE TO JAM TIME ESTIMATES ARE FORWARD-LOOKING**
939 **ADJUSTMENT TO REFLECT THE SAME ECONOMIES OF SALE THAT IS**
940 **ENVISIONED BY TELRIC.⁴⁸ HOW DO YOU RESPOND?**

941 A75. This is just another area where Messrs. Pitkin and Turner make unrealistic assumptions
942 under the guise of TELRIC. Mr. White has described why their adjustments are not
943 appropriate. However, I would point out that such unrealistic assumptions result in costs
944 that would preclude facilities-based competition.

945 **Q76. MESSRS. PITKIN AND TURNER CLAIM THAT YOU DID NOT REBUT THEIR**
946 **ASSUMPTION THAT INSTALLATION FACTORS DISTORT DEAVERAGED**
947 **COSTS. DO YOU AGREE?**

948 A76. No. Messrs. Pitkin and Turner simply speculate that larger pieces of equipment, that they
949 presume will be installed in higher-density markets, will not have proportionately higher
950 installation costs. Hence, their argument goes that the higher-density market costs are
951 distorted by the use of installation factors. I argued as a logical counter point that higher
952 density markets may well have higher construction costs because of more concrete to cut,
953 more traffic that might restrict work hours, and more municipal regulations that might
954 raise the costs of doing business. Messrs. Pitkin and Turner simply make assumptions
955 that have no basis in fact. First, they assume that higher-density markets are only in
956 urban areas. However, there are higher density markets in Access Area C in Illinois. The
957 state capitol, Springfield, is in Access Area C, as is Fairview Heights, IL, which is a
958 major commerce center in downstate Illinois. These areas are high density and will also
959 have large cables placed and large pieces of equipment deployed. Furthermore, Messrs.
960 Pitkin and Turner completely ignore my argument that higher-density areas may well

⁴⁸ Pitkin/Turner Rebuttal, pp. 93-94.

961 have higher construction costs that make the construction costs linear with material price.
962 The bottom line is that Messrs. Pitkin and Turner made what they believe to be a logical
963 assertion that is not grounded in fact. I responded to that with a logical argument as to
964 why their assertion may well be wrong. No party has performed a special study that can
965 deaverage construction costs. The JAM system, supported by Messrs. Pitkin and Turner,
966 does not deaverage costs either. Therefore, the fact that the factors represent statewide
967 average costs should not be a problem for the Commission.

968 **Q77. SO THE JAM SYSTEM SUPPORTED BY MESSRS. PITKIN AND TURNER**
969 **DOES NOT DEAVERAGE COSTS EITHER?**

970 A77. No. Messrs. Pitkin and Turner have spent so much time disparaging SBCI's factor
971 approach, but their main points are completely undermined by the data upon which they
972 rely. Namely, they argue that factors distort deaveraged costs, but, if that is the case, then
973 JAM distorts deaveraged costs in the same way. There major argument of course is that
974 factors rely on "embedded" data. I have attempted to explain the difference between
975 embedded data and actual recent data, but Messrs. Pitkin and Turner ignore that
976 testimony. However, if they are going to argue that factors are "embedded" data, then
977 JAM is also "embedded" data.

978 **Q78. WAS SBCI'S CHANGE OF ITS DLC INSTALLATION FACTOR DATA**
979 **SOURCE FROM PICS/DCPR TO THE GENERAL LEDGER A "BAIT AND**
980 **SWITCH" TACTIC AS CLAIMED BY MESSRS. PITKIN AND TURNER?**

981 A78. No. As I indicated in my rebuttal testimony, SBCI reviewed both data sources and
982 decided to move to the data underlying the general ledger as an appropriate source of data
983 for developing its DLC installation factors, and to use data more current than the data that
984 we derived from the PICS/DCPR database, in order to respond to concerns expressed by

985 Staff and AT&T. Data underlying SBCI's general ledger was already used to develop
986 cable installation factors, and it was a logical move to use that same source for DLC
987 installation factors. Moreover, Messrs. Pitkin's and Turner's distress over the use of
988 general ledger data is difficult to understand since the use of the data resolved their
989 concern over the potential for double counting under the PICS/DCPR approach and had
990 the effect of reducing UNE loop costs under the Company's study.

991 **Q79. MESSRS. PITKIN AND TURNER CLAIM THAT THEY HAVE NOT BEEN**
992 **AFFORDED THE OPPORTUNITY TO REVIEW THE NEW DLC**
993 **INSTALLATION FACTORS BASED ON GENERAL LEDGER DATA. DID SBCI**
994 **PROVIDE THE DATA USED TO CALCULATE THOSE FACTORS?**

995 A79. Yes. SBCI's workpapers, submitted in support of its revised cost study, provided
996 detailed data showing how the factors were calculated. In addition, as Mr. Dominak
997 explains, the Company provided extensive data in response to data requests that provided
998 AT&T with information supporting the development of the installation factors.

999 **Q80. MESSRS. PITKIN AND TURNER CONTINUE TO ARGUE IN TESTIMONY**
1000 **ISSUES SURROUNDING THE DLC INSTALLATION FACTORS BASED ON**
1001 **PICS/DCPR DATA.⁴⁹ ARE THESE ISSUES RELEVANT TO SBCI'S PROPOSED**
1002 **COSTS USING THE REVISED DLC INSTALLATION FACTORS?**

1003 A80. No. The PICS/DCPR factors are not currently used in SBCI's proposed costs and are,
1004 therefore, not relevant.

1005 **Q81. MESSRS. PITKIN AND TURNER CLAIM TO HAVE ALREADY FOUND**
1006 **"ISSUES" WITH THE GENERAL LEDGER DATA. ARE THEIR ISSUES**
1007 **VALID?**

1008 A81. No. The first "issue" is that SBCI made adjustments to the data to make the data
1009 forward-looking. As SBC indicated in the data response cited by Messrs. Pitkin and

1010 Turner, SBC made these adjustments due to one time credits that are not forward-
1011 looking. This is not a problem with general ledger data. Second, Messrs. Pitkin and
1012 Turner point out an “issue” that SBCI, not Messrs. Pitkin and Turner, found with respect
1013 to factors and fully disclosed in a data request response. Messrs. Pitkin and Turner quote
1014 a portion of the response but conveniently omit the full response in which the impact of
1015 this “issue” was calculated. The full response shows that the impact of this issue was *de*
1016 *minimus*.⁵⁰ Third, Messrs. Pitkin and Turner point to the fact that there was an increase
1017 in the plug-in installation factor when changing from the PICS/DCPR factor. Of course,
1018 they do not mention at that point that the hardwire costs decreased dramatically in that
1019 same change, resulting in overall lower costs. They claim that plug-in costs, if anything,
1020 should go down because of the alleged double-count in the application PICS/DCPR-
1021 based factors. However, they neglect the fact that the alleged double count only dealt
1022 with hardwire, not plug-in equipment.

1023 **VIII. PREMISES TERMINATION ISSUES**

1024 **Q82. MR. LAZARE CONTENDS THAT SBCI'S TRAVEL TIMES ARE**
1025 **INAPPROPRIATE. CAN YOU RESPOND?**

1026 A82. Yes. I will make three points regarding Mr. Lazare’s rebuttal testimony on the issue of
1027 travel times. First, Mr. Lazare apparently read very literally a passage in my rebuttal
1028 testimony in which I was apparently not precise enough in my wording. I stated that a
1029 technician’s travel time would reflect the time to travel from “...the garage in the
1030 beginning of the day or from the last work site if this is a second job.” Mr. Lazare

⁴⁹ Pitkin/Turner Rebuttal, pp. 38-44.

1031 interpreted that as my saying that a technician only performs two jobs per day. That is
1032 not what I meant. In hindsight, I should have used the word “subsequent” in place of
1033 “second.” My point was that the travel times in the cost study did not contemplate
1034 having a technician return to the garage in between every job. Second, with respect to
1035 my testimony regarding the fact that the travel time would also include setting up work
1036 site protection (*i.e.*, cones around the truck) and contacting the customer, I was simply
1037 pointing out that the technician must do more than simply drive. Finally, with respect to
1038 Mr. Lazare’s statement that in a TELRIC environment “...technicians could walk from
1039 one service drop to the next...,”⁵¹ Mr. Lazare is engaging in a hypothetical that TELRIC
1040 does not contemplate.

1041 **Q83. WHAT ASSUMPTIONS ARE IMPLICIT IN MR. LAZARE’S STATEMENT**
1042 **THAT GOES BEYOND THE EFFICIENCY ASSUMPTIONS IN TELRIC?**

1043 A83. Mr. Lazare would appear to be assuming two things that are inconsistent with TELRIC’s
1044 efficiency standard and crossover into the assumption of a perfect firm. First, Mr. Lazare
1045 would be assuming that all customers in a neighborhood would order service at the same
1046 time. Hence the technician’s ability to walk from one job to the next. Second, Mr.
1047 Lazare is apparently assuming that a monopoly environment would still exist because he
1048 is assuming that SBCI would have every customer on the block. TELRIC contemplates
1049 an efficient, competitive market outcome. In a forward-looking competitive market,
1050 SBCI might only have service to one customer in a neighborhood.

⁵⁰ See SBCI’s response to data request BFP-530.

⁵¹ Lazare Rebuttal, p.16.

1051 **Q84. MESSRS. PITKIN AND TURNER CLAIM THAT “SBC SIMPLY REJECTED**
1052 **MR. DUNKEL’S RECOMMENDATION” FOR CORRECTING THE DOUBLE**
1053 **COUNT OF NID AND DROP COSTS BETWEEN THE EXPLICIT LINE ITEMS**
1054 **IN THE COST STUDY AND THE CABLE INSTALLATION FACTORS. IS THIS**
1055 **CORRECT?**

1056 A84. No. SBC reviewed Mr. Dunkel’s testimony and made the appropriate adjustment to
1057 eliminate any double-count.

1058 **Q85. HOW DID SBCI ELIMINATE THE DOUBLE COUNT OF NID AND DROP**
1059 **INVESTMENTS FROM ITS COST STUDY?**

1060 A85. SBCI removed the dollars associated with this investment from its accounting data
1061 related to the cable installation factors and then recalculated those factors after removing
1062 the NID and Drop investments.

1063 **Q86. DOES MR. DUNKEL ACKNOWLEDGE THAT SBCI’S ADJUSTMENT WAS**
1064 **APPROPRIATE?**

1065 A86. Yes. In his surrebuttal testimony dated February 20, 2004, Mr. Dunkel states that SBCI’s
1066 method “is an acceptable way to correct the double counting, and is the method I used in
1067 my Rebuttal Testimony.” I agree with Mr. Dunkel on this point, and I find it interesting
1068 that Messrs. Pitkin and Turner do not. In this instance, Messrs. Pitkin and Turner appear
1069 to be saying that SBCI should have continued to rely on its “linear loading factors” to
1070 capture premises termination investment. This is contrary to Messrs. Pitkin’s and
1071 Turner’s recommendation that an explicit identification of costs be used.

1072 **Q87. WHAT IS YOUR RESPONSE TO MESSRS. PITKIN’S AND TURNER’S CLAIM**
1073 **THAT “SBC DID SOMETHING BEHIND THE SCENES TO ITS BLACK-BOX**
1074 **LINEAR LOADING FACTORS...”?**

1075 A87. SBC did not do anything “behind the scenes.” SBC removed the investments associated
1076 with premises termination field reporting codes (“FRCs”) by removing those dollars from

1077 the cable accounts into which those FRCs are aggregated. SBCI provided AT&T and
1078 other parties with the workpapers for this adjustment.

1079 **Q88. MESSRS. PITKIN AND TURNER CLAIM THAT SBCI DID NOT**
1080 **APPROPRIATELY IMPLEMENT THE MDU ADJUSTMENTS INTO**
1081 **LOOPCAT.⁵² DO YOU AGREE?**

1082 A88. No. Messrs. Pitkin and Turner claim that SBCI should have incorporated MDUs by
1083 using data on a geographically deaveraged basis, but their method is unsound.

1084 **Q89. DID STAFF ACCEPT SBCI'S IMPLEMENTATION OF MULTIPLE DWELLING**
1085 **UNITS IN ITS LOOPCAT MODEL?**

1086 A89. Yes. In his rebuttal testimony, Dr. James Zolnierek accepted SBCI's implementation of
1087 MDUs in its LoopCAT model.

1088 **Q90. WHY IS MESSRS. PITKIN'S AND TURNER'S METHOD FOR DEAVERAGING**
1089 **MDUS UNSOUND?**

1090 A90. By using the 2000 Census, they claim that they were able to extract the total housing
1091 structures for each "urban" area. However, these Census Bureau "urban" areas are not, in
1092 fact, consistent with this Commission's Access Areas. Instead, these "urban" areas are
1093 the Census Bureau's definitions of "Urbanized Areas" and "Urban Clusters." "Urbanized
1094 Areas" are defined as "densely settled areas containing at least 50,000 people, and in
1095 other places with a population of 2,500 or more." "Urban Clusters" are defined as
1096 "densely settled areas with a population of 2,500 to 49,999." Therefore, by using these
1097 census definitions, the CLECs have wrongly assumed that all "urban" areas in the Census
1098 Bureau's data are the same as UNE Access Areas. They are not; in fact, almost all of the
1099 areas that AT&T categorizes as an urban area under the Census Bureau guidelines are

1100 located in Access Area C, not A. Therefore, the CLECs' MDU premise termination
1101 estimations are not TELRIC compliant. More specifically, Messrs. Pitkin and Turner
1102 have dichotomously broken MDU percentage regions into urban and rural. They have
1103 correctly noted that Zone A "Urban" is only located in the Chicago area. What they have
1104 failed to account for is that this zone consists of a very localized area of Chicago, namely
1105 Chicago's Downtown Loop. Therefore, it is completely inaccurate to use the US Census
1106 data for the Chicago, IL MSA, which includes both out of state areas (Gary, IN) and
1107 locations that have been zoned, by the Commission, as Zone B and Zone C.

1108 **IX. MISCELLANEOUS ISSUES**

1109 **Q91. MESSRS. PITKIN AND TURNER CONTINUE TO ARGUE THAT THE MIX OF**
1110 **AERIAL AND BURIED DISTRIBUTION PLANT SHOULD BE USED TO**
1111 **DETERMINE THE MIX OF ARIEL AND BURIED DROPS.⁵³ DO YOU AGREE?**

1112 A91. No. As I have indicated in my previous testimony, the mix of distribution plant is
1113 measured as the number of sheath feet of cable in the distribution plant whereas the mix
1114 of aerial and buried drop plant is measured as a count of the individual drops placed. The
1115 method of measuring these two facility mixes is different and should not be considered
1116 interchangeable as argued by Messrs. Pitkin and Turner. The forward-looking mix for
1117 drops was based on a SME estimate and reflects the fact that the majority of home
1118 owners in a forward-looking network would want and would receive buried drop plant.
1119 This is an appropriate forward-looking assumption and should be adopted.

⁵² Pitkin/Turner Rebuttal, p. 55.

⁵³ Pitkin/Turner Rebuttal, pp. 77-78.

1120 **Q92. MESSRS. PITKIN AND TURNER CRITICIZE THE FACT THAT THE COST**
1121 **STUDY ASSUMES AN FDI FOR EVERY LOOP, EFFECTIVELY IGNORING**
1122 **DIRECT FED LOOPS.⁵⁴ WHAT IS YOUR RESPONSE ON THIS ISSUE?**

1123 A92. The percentages relied upon by Messrs. Pitkin and Turner to make their alleged
1124 adjustment reflects the fact that there are significant amounts of loop plant in SBCI's
1125 existing network that are not interfaced. This results in a number of loops that are
1126 counted as all feeder plant that would be interfaced in the forward-looking environment.
1127 This causes the estimate used by Messrs. Pitkin and Turner to be too high.

1128 **Q93. MESSRS. PITKIN AND TURNER CONTINUE TO ARGUE THAT THE**
1129 **NUMBER OF FDI TERMINATIONS PER WORKING LOOP SHOULD BE**
1130 **CALCULATED AS A FUNCTION OF FILL.⁵⁵ DO YOU AGREE?**

1131 A93. No. The fact that FDIs are designed by manufacturers to terminate two distribution pairs
1132 for one feeder pair is clear. Even the Marconi literature on FDIs submitted by Messrs.
1133 Pitkin and Turner point to this fact. Messrs. Pitkin and Turner are arguing that the
1134 Commission ignore standard industry design criteria for the simple purpose of reducing
1135 their clients cost for a UNE loop.

1136 **Q94. WHAT IS YOUR RESPONSE TO MESSRS. PITKIN'S AND TURNER'S**
1137 **CONTINUED CLAIM THAT SBCI'S DISTRIBUTION AREAS ARE**
1138 **INEFFICIENT?⁵⁶**

1139 A94. This argument by Messrs. Pitkin and Turner is another exercise in sheer speculation.
1140 Without any evidence, they simply make the claim that the distribution areas mapped out
1141 by engineers that actually studied the geographic area are wrong. Instead, according to
1142 Messrs. Pitkin and Turner, these distribution areas are simply inefficient. This is nothing

⁵⁴ Pitkin/Turner Rebuttal, pp. 79-81.

⁵⁵ Pitkin/Turner Rebuttal, pp. 81-83

⁵⁶ Pitkin/Turner Rebuttal, pp. 83-85.

1143 more than an unsubstantiated argument that relies on the ambiguity of TELRIC as a way
1144 to raise doubt. After all, Messrs. Pitkin and Turner would argue that the distribution
1145 areas are “embedded,” so they cannot be efficient.

1146 **Q95. IS IT APPROPRIATE TO ELIMINATE LOOPS THAT HAVE MORE THAN**
1147 **18,000 FEET OF DISTRIBUTION CABLE AS ADVOCATED BY MESSRS.**
1148 **PITKIN AND TURNER?⁵⁷**

1149 A95. Absolutely not. Messrs. Pitkin and Turner are simply asking the Commission to ignore
1150 some of the most expensive loops because they believe those loops would not exist in a
1151 forward-looking environment. I disagree. TELRIC requires that one assume that the
1152 existing wirecenter locations remain fixed. Of course, customer locations remain fixed.
1153 Therefore, the loops that Messrs. Pitkin and Turner would throw out would absolutely
1154 exist in the forward-looking network. These loops should be counted. The assumptions
1155 made by Messrs. Pitkin and Turner with respect to this issue and many other TELRIC
1156 modeling issues effectively assumes a “scorched earth” approach, not the “scorched
1157 node” approach that they purport to espouse.

1158 **Q96. MESSRS. PITKIN AND TURNER ARGUE THAT THERE IS “NO**
1159 **JUSTIFICATION” FOR USING ARES DATA TO DEVELOP LOOP LENGTHS**
1160 **“GIVEN THAT THE LEIS DATA REFLECTS 100% OF THE LOOPS.”⁵⁸ DO**
1161 **YOU AGREE?**

1162 A96. No. While the LEIS and ARES databases each have valid network data, it is reasonable
1163 to use the ARES loop length data because it represents actual feeder and distribution
1164 lengths. As I discussed in my rebuttal testimony,⁵⁹ the ARES data used in the cost study
1165 represented approximately 5 million loops in the state of Illinois. This data was the best

⁵⁷ Pitkin/Turner Rebuttal, pp. 85-87.

⁵⁸ Pitkin/Turner Rebuttal, pp. 87-88.

1166 data available at the time the study was conducted and represents a more than adequate
1167 base of data from which one can model SBCI's loop costs.

1168 **Q97. IS THE ASSUMPTION USED TO ALLOCATE SBCI'S CABLE INVENTORY**
1169 **INAPPROPRIATE AS MESSRS. PITKIN AND TURNER CONTEND?**⁶⁰

1170 A97. No. SBCI's method is a reasonable way to allocate the inventory. The Commission
1171 should note that Messrs. Pitkin and Turner do not provide any evidence on this issue.
1172 Like so many other issues, they simply claim that SBCI's data or assumptions are wrong,
1173 and by default their own assumptions are right. This is nothing but rank speculation and
1174 should be rejected.

1175 **Q98. PLEASE RESPOND TO MESSRS. PITKIN'S AND TURNER'S COMMENTS ON**
1176 **THEIR METHOD FOR CALCULATING THE MIX OF STRUCTURE TYPES.**⁶¹

1177 A98. Again, Messrs. Pitkin and Turner appear to have simply made assumptions regarding the
1178 number of sheaths per route mile and backed into numbers based on those assumptions.
1179 Messrs. Pitkin and Turner claim that this adjustment is necessary because of an
1180 unreasonably high percentage of underground distribution cable in LoopCAT. However,
1181 as I discussed in the section of this testimony dealing with MDUs, the "rural" areas that
1182 SBCI serves in Illinois contain many densely populated areas. This calls into question
1183 their basic premise for requiring an adjustment at all, much less an adjustment that is
1184 grounded in assumptions that they do not have data to support.

⁵⁹ Smallwood Rebuttal, p. 100.

⁶⁰ Pitkin/Turner Rebuttal, p. 88.

⁶¹ Pitkin/Turner Rebuttal, p. 89.

1185 **Q99. SHOULD COSTS BE DEVELOPED AT THE WIRECENTER LEVEL AS**
1186 **ADVOCATED BY MESSRS. PITKIN AND TURNER?** ⁶²

1187 A99. No. SBCI's costs are developed at the Access Area level consistent with SBCI's
1188 wholesale tariff. The Commission has not requested, much less required, such discreet
1189 modeling. Further, much of the data that is used in cost development is at the company
1190 level, not the wirecenter level. Even Messrs. Pitkin and Turner use statewide average
1191 inputs for such significant cost drivers as fill factors, thereby undermining the degree of
1192 precision that they purport to have in their "more granular" cost studies.

1193 **Q100. MR. DUNKEL ADVOCATES A CHANGE TO THE CALCULATION AND**
1194 **APPLICATION OF SBCI'S BUILDING FACTOR. HAVE YOU REVIEWED MR.**
1195 **DUNKEL'S ADJUSTMENTS?**

1196 A100. Yes.

1197 **Q101. HOW DID MR. DUNKEL ADJUST THE BUILDING FACTOR TO REMOVE**
1198 **THE INVESTMENT IN ELECTRONICS THAT HE CLAIMS SHOULD NOT**
1199 **HAVE THE BUILDING FACTOR APPLIED?**

1200 A101. While Mr. Dunkel did not clearly indicate his method, nor provide his workpapers, it
1201 appears that he arrived at his revised building factor by removing two-thirds of SBCI's
1202 257c investment.

1203 **Q102. DID MR. DUNKEL PROVIDE ANY EVIDENCE OR SUPPORT FOR THIS**
1204 **ASSUMPTION UNDERLYING HIS REVISED BUILDING FACTOR?**

1205 A102. No.

⁶² Pitkin/Turner Rebuttal, pp. 89-91

1206 **Q103. ARE YOU AWARE OF ANY DATA THAT COULD BE USED TO SUPPORT**
1207 **SUCH AN ADJUSTMENT CALCULATION AS RECOMMENDED BY MR.**
1208 **DUNKEL?**

1209 A103. No. I am not aware of any data that would allow for an accurate adjustment to SBCI's
1210 building factor to remove the investment in electronic equipment that is not actually
1211 housed in a building. SBCI's accounting system is simply not designed to track data
1212 based on a building/no building distinction.

1213 **Q104. WHAT IS YOUR RECOMMENDATION ON THIS ISSUE?**

1214 A104. Given the lack of data to develop an adjusted building factor, I recommend that SBCI's
1215 methodology for calculating building costs be adopted. This is a reasonable method for
1216 calculating the building factor and is consistent with the method that has been adopted by
1217 this Commission in the past.

1218 **X. CONCLUSION**

1219 **Q105. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

1220 A105. Yes.