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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

REFILED REBUTTAL TESTIMONY

OF

STEVEN M. MCMAHON

Q. Please state your name and business address.

A. My name is Steven M. McMahon. I am employed by Sprint/United Management Company as Senior Manager-Network Costing. My business address is 6360 Sprint Parkway, Overland Park, Kansas 66251.

Q. Are you the same Steven M. McMahon that filed direct testimony in this proceeding?

A. Yes, I am.

Q. What is the purpose of your refiled rebuttal testimony?

A. The purpose of my refiled rebuttal testimony is to respond to the direct testimony and exhibits sponsored by BellSouth Telecommunications, Inc. (BST) witnesses Alophonso J. Varner and D. Daonne Caldwell with regard to nonrecurring charges (NRCs) that BST has proposed.

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FPSC-RECORDS ADMINISTRATION

1 **Q. What is Sprint's overall position with respect to the**
2 **level of non-recurring charge prices?**

3

4 A. Sprint believes that NRCs should reflect the costs an
5 efficient firm would incur in providing Unbundled
6 Network Elements (UNEs). The examples provided herein
7 will indicate that the NRCs proposed by BST do not meet
8 this test and are indeed excessive.

9

10 Specific examples to be addressed include the total
11 cumulative NRCs that an ALEC (Alternative Local
12 Exchange Company) would encounter when ordering typical
13 Unbundled Network Elements (UNEs) such as; 2-wire xDSL-
14 capable loops, Loop Conditioning, 2-wire Enhanced
15 Extended Links (EELs) and High Capacity DS3 Loops.

16

17 **Q. What are NRCs?**

18

19 A. NRCs are amounts that are assessed for one-time
20 activities performed by ILECs on behalf of ALECs which
21 involve the processing of orders and the installation
22 of UNEs.

23

24 **Q. Should the Commission anticipate that the work tasks**
25 **and work times that are the basis for non-recurring**

1 **costs to be significantly different amongst ILECs,**
2 **supporting dramatic NRC price differences?**

3

4 A. No. All ILECs are implementing fiber, copper, digital
5 loop carriers, operational support systems and other
6 forward-looking, state-of-the-art technologies and
7 processes that would require similar work tasks and
8 work times that should result in comparable NRCs.

9

10 **Q. Are there significant differences between what Sprint**
11 **considers reasonable and BellSouth's total NRCs for a**
12 **basic 2-wire xDSL-capable loop?**

13

14 A. Yes, an ALEC wishing to order a 2-wire xDSL-capable
15 loop would pay higher NRCs in BST territory than what
16 Sprint considers reasonable.

17

18 **Q. What are the main reasons for the significant price**
19 **differences between what BellSouth proposes and what**
20 **Sprint considers to be reasonable?**

21

22 A. With regards to BST, the main reasons are due to
23 inflated prices involving three of the four components
24 that make-up this scenario; 1) Loop Qualification, 2)
25 Service Order, 3) Loop Conditioning or "Loop

1 Modification" and 4) 2-wire xDSL Loop Installation.
2 Sprint concurs with BST's charges for only one of these
3 components, the Electronic Service Order NRC. The
4 other three components to this scenario each have
5 different reasons (with a common underlying theme) for
6 contributing to the overall difference. The
7 differences for each of these three components will be
8 addressed below.

9
10 **Q. Why is BellSouth's Loop Qualification non-recurring**
11 **charge of \$189.37 not considered reasonable?**

12
13 A. The main reason that this BST charge is about seven
14 times greater than it should be is primarily due to
15 excessive engineering research time. BST claims that
16 it takes 165 minutes to review the plant records.
17 Sprint's ILEC operations perform this function in only
18 35 minutes. Reference exhibit SMM-4. That is a 2 hour
19 and 10 minute discrepancy between the two companies.
20 Sprint utilizes an electronic database to research
21 Outside Plant records, and while BST's documentation
22 was not clear whether or not their records are
23 mechanized, the time estimate of 135 minutes to develop
24 a loop make-up tends to suggest that BST is still using
25 paper records. It should be noted that Sprint's 35

1 minutes for OSP engineering also includes researching
2 electrical parameter and disturber information, while
3 BST's 135 minutes does not.

4

5 **Q. Why is BellSouth's Loop Conditioning or "Loop**
6 **Modification" non-recurring charge of \$120.98 not**
7 **considered to be reasonable?**

8

9 A. There are four main reasons. First, Sprint assumes
10 that a minimum of 25 pairs, or an entire binder group,
11 would be conditioned for load coil removal at the same
12 time. BST only assumes 10 pairs at a time. However,
13 performing this work on only 10 pairs at a time is
14 inconsistent with the fact that cable pairs are
15 normally grouped in 25 pair binders. This not only
16 aids the technicians who must find specific cable pairs
17 within large cable sheaths but also facilitates the
18 administration of cables/pairs. All ILECs are
19 implementing cable spectrum management plans that
20 reserve selected binder groups for (retail and
21 wholesale) high speed data services that must be free
22 of inhibitors. Such cable pair management plans are
23 done at the binder group level for ease of
24 administration and because some inhibitors cannot be
25 located in adjacent binder groups. Since BST has

1 greater densities, larger cable sizes and the retail
2 economical need to perform such activities on an even
3 greater number of pairs at one time than more rural
4 ILECs, one would expect that BST would perform this
5 loop conditioning function on a minimum of 50 or 100
6 pairs at a time.

7

8 **Q. Are load coils required to provide quality voice-grade**
9 **service?**

10

11 A. Generally, load coils are not required for any loops
12 that are shorter than 18kf. However, they are required
13 to provide standard voice-grade service to customers
14 locations beyond 18kf. Therefore, Sprint's position is
15 that load coils ought to be removed in bulk from all
16 loops that are shorter than 18kf (i.e. at a minimum of
17 25 pairs at a time) and left in-place on loops longer
18 than 18kf. This would enable any ILEC to efficiently
19 minimize costs associated with load coil removal.

20

21 **Q. Are there reasons why BellSouth should, in reality, be**
22 **removing load coils at every opportunity presented?**

23

24 A. If for no other reason than to support its own sizable
25 marketing roll-out of its own retail DSL service

1 offering, it is unlikely that BST engineering and
2 operations are implementing loop conditioning for only
3 10 pairs at a time. BST's own website noted that plant
4 investments were being made to significantly increase
5 the number of telephone lines that meet the technical
6 specifications. It seems intuitive that in order to
7 meet their own marketing initiatives that the telephone
8 plant would be conditioned in a more efficient manner,
9 such as conditioning entire 50 and/or 100 pair binder
10 groups at a time.

11

12 **Q. For the 10 loops at time that the BellSouth cost model**
13 **assumes, are an appropriate number allocated to ALECs?**

14

15 A. Absolutely not. BST makes adjustments that allocate
16 costs for 6 of every 10 loops conditioned to ALECs.
17 BST's Unbundled Loop Modification Recovery Cost Study
18 input file states *"Of the 10 lines being conditioned on*
19 *a field visit; 2 will be recovered through (other) UNE*
20 *applications, 4 from BST; and 4 leftover."* The "4
21 leftover" are used in the XDSL loop calculations and
22 two others will be charged to ALECs when they order the
23 other two UNEs that require conditioning. The BST
24 study assumes that ALECs will be experiencing total
25 penetration of 60% in BST territory within the near

1 future. This level of assumed ALEC market penetration
2 is questionable at best.

3
4 A more proper methodology would be to determine the
5 loop conditioning costs on a unit (cable pair) basis.
6 Then, whoever uses the "modified" cable pair would bear
7 the cost of conditioning. This approach works fairly
8 across all market share penetrations ranging from 0% to
9 100%.

10

11 **Q. What is the second main reason that BellSouth's "Loop**
12 **Modification" non-recurring charge of \$120.98 is not**
13 **considered reasonable?**

14

15 A. The second major reason is because Sprint pays
16 significantly less to splicing contractors to perform
17 the same work activities in the State of Florida than
18 what the BST model generates based upon BST work time
19 estimates.

20

21 **Q. Can you provide an "apples-to-apples" example of a**
22 **specific work activity that validates this notion?**

23

24 A. Yes. A specific example is seen with load coil removal.
25 To perform this activity, there are three main

1 functions, 1) Set-up, 2) Open and Close Splice
2 Enclosure and 3) Deload cable pairs. While there are
3 cost differences involving the first two functions as
4 well, this example focuses on the third function only;
5 the actual "deloading" of the cable pairs.
6
7 Sprint is paying contractors at a much lesser cost to
8 perform these same work activities in the state of
9 Florida than what BST claims it costs to utilize its
10 own workforces. Sprint pays contractors an average of
11 \$3.06 per cable pair for this activity in underground
12 plant and an average of \$1.61 per cable pair when in
13 aerial or buried plant. The BST cost model allots 1.5
14 hours for the same work in all three OSP environments.
15 Assuming BST's average "Cable Splicer" labor rate is
16 \$44.06 per hour, one can see why Sprint considers BST's
17 charges excessive. Sprint pays contractors an average
18 of \$1.61 to deload a cable pair in aerial and buried
19 plant while the BST cost model allocates something
20 closer to \$6.61 per cable pair ($44.06 \times 1.5 \text{ hrs} / 10$).
21 This difference is less dramatic when working in
22 underground plant (\$3.06 vs. \$6.61), but is still
23 significant.

24

1 **Q. When you discuss "removing" a load coil or "unloading"**
2 **a pair, what work is actually involved?**

3

4 A. Generally, the load coil is not actually removed, it is
5 just disconnected from the cable pair. This involves
6 snipping off the 4 wires that connect the coil to the
7 cable pair and then reconnecting the two ends of the
8 cable pair. In larger cables, this generally requires
9 removing a connector that splices twenty-five pairs at
10 a time, pulling out the load coil wires and replacing
11 the connector. The actual work time involved in making
12 the connections is no more than a minute or two, but
13 set-up time can be significant, particularly when
14 working in manholes. This is why Sprint prefers to
15 unload a minimum of 25 pairs at one time, instead of
16 unloading only 10. It is far more efficient.

17

18 **Q. Can you provide another example of a specific work**
19 **activity that validates the notion that BellSouth has**
20 **utilized inflated work times in their non-recurring**
21 **cost model?**

22

23 A. Yes. Another example involves bridged tap removal.
24 Again, we will ignore, for the moment, the cost
25 differences that involve set-up time and opening and

1 closing the splice enclosure, and focus on the specific
2 work function of removing bridged tap. BST allots 45
3 minutes for their technicians to remove bridged tap
4 (snip two wires). This equates to roughly \$4.50 per
5 pair as the BST model assumes 10 are removed at the
6 same time. For this same work function, Sprint pays
7 contractors an average of 45 cents per pair in
8 underground plant and 39 cents per pair in aerial and
9 buried plant.

10

11 **Q. What work is actually involved in "removing" bridged**
12 **tap?**

13

14 A. As with load coils, no plant is actually removed. The
15 two wires of the cable pair are simply cut off and
16 capped. In splices in larger cables, this may require
17 removing a connector that splices twenty-five pairs at
18 a time, pulling out the bridged pair and replacing the
19 connector.

20

21 **Q. What about BellSouth's assumptions regarding the**
22 **locations for removing bridged tap?**

23

24 A. BST has assumed that 3 bridged taps would always need
25 to be removed and assumed that 33% of bridged tap would

1 need to be removed in manholes. However, most bridged
2 taps occur in distribution plant where there is
3 primarily aerial and buried cable and very little
4 underground cable. Cable pairs are very rarely bridged
5 in the feeder plant where most underground cable
6 occurs, precisely to avoid the high cost of re-entering
7 those manhole splices.

8
9 The fact is that virtually all bridged tap removal
10 could be done in aerial or buried cable, at far less
11 cost. In the few instances in which cable pairs are
12 bridged in a manhole splice, it is very likely that the
13 pair could be trimmed at the point at which it leaves
14 the conduit system and becomes aerial or buried for
15 distribution. This would be far less costly than
16 opening a splice in a manhole.

17
18 Furthermore, cutting off the pair at the serving
19 terminal at the same time that the xDSL service is
20 installed would bring many loops into compliance at
21 very little incremental cost. Cutting off the pair at
22 the serving terminal is a common practice. That is,
23 the technician could remove the bridged tap while doing
24 the connection of the xDSL loop to the customer's drop.
25 This would eliminate a separate trip, separate set-up

1 time and separate tear-down time. The only additional
2 time would be the few minutes that it would take to cut
3 the wires or remove them from the connector.

4

5 **Q. What is the third reason that BellSouth's "Loop**
6 **Modification" non-recurring charge of \$120.98 is**
7 **considered unreasonable?**

8

9 A. The third, main reason is because BST's costs are not
10 based upon realistic underground, buried and aerial
11 plant mix factors. Sprint researched its Outside Plant
12 records in the State of Florida to determine the
13 frequency that work would need to be performed in each
14 of these environments at the first two load points.
15 Sprint found that the first load point is within
16 underground plant 59.2% of the time. The second load
17 point was found to be in underground plant 51.6% of the
18 time. These percentages do not support BST's 90%
19 underground assumption utilized in the BST cost model.

20

21 **Q. How does plant mix impact non-recurring costs?**

22

23 A. The costs associated with accessing cable pairs is
24 significantly higher when technicians need to obtain
25 such access in underground outside plant facilities

1 (manholes) versus aerial/buried OSP environments. For
2 instance, it is more time-consuming to enter a manhole
3 to perform loop conditioning activities than it is to
4 perform the same procedures within aerial or buried OSP
5 facilities. This is largely due to the fact that
6 manhole work must be performed by a minimum of 2
7 technicians for safety reasons. Additionally, such
8 underground facilities must be ventilated to be purged
9 of potentially dangerous gases and often need to be
10 pumped out for water. Alternatively, these activities
11 are not required when working in aerial and/or buried
12 OSP facilities and usually only one technician is
13 required. Even with a buried OSP environment, the
14 locations requiring cable pair access (i.e. splices and
15 terminals) are usually brought up out of the ground
16 into a pedestal for easy access.

17

18 **Q. Are BellSouth's load point assumptions reasonable and**
19 **consistent with realistic network designs?**

20

21 A. No. BST makes no acknowledgement of plant mix
22 differences between load points #1 and #2. The fact is
23 that load point #2 will be found to be in aerial and
24 buried plant more often than load point #1. Sprint's

1 Outside Plant record research efforts validate this
2 conclusion.

3

4 Additionally, BST provides no explanation as to why
5 their cost model assumes that 2.1 load point locations
6 would exist. It would be inconsistent with standard
7 OSP Engineering rules for customer end sections to be
8 located within 3,000 feet from a load point.

9 Therefore, load point #3, normally at around 15kf,
10 should not be considered or included in any loop
11 conditioning costing equations for loops that are
12 shorter than 18kf in length.

13

14 **Q. What is the forth major reason that BellSouth's "Loop**
15 **Modification" non-recurring charge of \$120.98 is**
16 **considered unreasonable?**

17

18 A. The forth major reason is because BST assumes that
19 42.79% of DSL loops would require "modification". This
20 assumption is not supported by the results of Sprint's
21 Outside Plant records research. Sprint found that only
22 3.2% of its loops less than 18,000 feet in length would
23 require the removal of load coils. Again, Sprint's
24 loop conditioning plant mix is based upon actual
25 information per Outside Plant records researched in the

1 State of Florida. One would expect that BST would have
2 even fewer loaded loops than Sprint. Loaded loops are
3 more prevalent in rural territories due to the
4 economics associated with implementing forward-looking
5 fiber-fed DLC network infrastructures in less densely
6 populated areas.

7

8 **Q. Are BellSouth's proposed installation charges for 2-**
9 **wire xDSL-capable UNE loops based upon efficient**
10 **methods and procedures and reasonable work time**
11 **estimates?**

12

13 A. No. The non-recurring charges proposed by BST assume
14 manual processes and unreasonable work times. BST
15 claims it takes about 7 total labor hours to install a
16 standard 2-wire xDSL-capable loop. The only BST work
17 time component that appears reasonable is technician
18 travel for which BST allocates 20 minutes. The
19 remaining 6 1/2 hours of labor is due to BST's
20 assumption of manual work activities and inflated work
21 times.

22

23 For instance, BST's costs include 2.5 hours for
24 "Service Inquiry" work functions. The descriptions
25 provided include various work group activities such as

1 "screens documents" and "reviews request" and
2 "processes order". These do not reflect the operations
3 of an efficient service provider.

4
5 BST's costs also include 3.8755 hours for the actual
6 installation of an xDSL-capable loop. Sprint's
7 position is that such loops do not need to be
8 "designed" circuits as claimed by BST. BST relies on
9 this unfounded categorization in an attempt to justify
10 the excessive labor times associated with manual order
11 coordination and dispatching of technicians.

12
13 Other work activities comprising BST's 3.8755 hours for
14 "Connect & Turn-up Testing" include the following:
15 "assigns workforces; ensures dispatch; performs manual
16 order coordination; resolves trouble". Time spent on
17 trouble resolution activities should not be included.
18 These maintenance costs are captured in the annual
19 charge factors and are reflected in the monthly loop
20 rates.

21
22 The remaining reasons are due to questionable work
23 times allocated by BST for certain other work
24 functions. For instance, BST allocates 0.2833 hours
25 (17 minutes) to "wire circuit at collocation site".

1 Sprint allocates a more reasonable 9 minutes to place
2 and test this jumper on the MDF. All this involves is
3 a technician running a jumper wire from the OSP cable
4 pair terminal block to the collocater's terminal block
5 on the MDF. The costs associated with additional
6 engineering and jumpers for "test point access" are
7 unnecessary.

8
9 Additionally, the BST cost model allocates a total of
10 1.921 hours for an I&M field technician to hook-up a
11 single 2-wire xDSL-capable loop. This is about double
12 the time that it takes in reality.

13
14 **Q. Is BellSouth's proposed disconnect charges for xDSL-**
15 **capable UNE loops reasonable?**

16
17 **A.** No. In reality, ILECs leave such loops in place as
18 "cut-throughs" and/or "DCOPs" (Dedicated Central Office
19 Plant) in order to avoid the unnecessary costs
20 associated with dispatching a technician to disconnect
21 and reconnect when a new customer orders service for
22 the same location. For most services, including POTs
23 and xDSL-capable loops, the same cable pair(s) can be
24 reused. BST should not be allowed to charge for

1 disconnects, as such, for copper pair-based xDSL
2 services.

3

4 **Q. Are BellSouth's non-recurring charges for a 2-wire**
5 **Enhanced Extended Link (EEL) reasonable?**

6

7 A. No. An ALEC wishing to order a new, 2-wire voice-grade
8 loop with 1/0 multiplexing and DS1 transport would pay
9 much higher NRCs in BST territory than what Sprint
10 considers to be reasonable.

11

12 In the case of BST, one would pay \$633.30. This
13 includes the inflation of work times by an additional
14 5.2403 hours over what BST allocates for the individual
15 UNEs.

16

17 **Q. For BellSouth, are these additional work times**
18 **justified?**

19

20 A. No. Sprint sees no reason why it should cost more to
21 provision a combination of these network elements when
22 the individual elements could be ordered separately at
23 a lesser total NRC. BST is apparently relying on the
24 concept that it will take extra time to coordinate such

1 orders. Sprint's experience does not support that
2 concept.

3

4 **Q. Does Sprint find any other BST nonrecurring charges**
5 **unreasonable?**

6

7 A. Yes. Sprint finds that most all of BST's NRCs appear to
8 be similarly inflated. Another example is with High
9 Capacity DS3 Loops.

10

11 For example, BST allocates 19.35 hours (\$910.45) to
12 install a DS3 Facility Termination including 4.25 hours
13 for service inquiry; 3.88 hours of engineering; and
14 11.22 hours connect & test. In reality, this entire
15 effort takes closer to a total of 2 labor hours, with
16 one hour for engineering and another hour for the
17 actual DS3 card installation and testing.

18

19 **Q. Does this conclude your rebuttal testimony?**

20

21 A. Yes.

Nonrecurring Charges - Loop Qualification

(A)	(B)	(C)	(D)	(E)	(F) (D)/60*(E)	(G)	(H) (F)*(G)
Step #	Step Description	Position Title	Time Estimate (Minutes)	Loaded Labor Rate	Cost	Probability	Weighted Cost
Pre-Order Loop Inquiry Process - NEAC							
<i>Order Faxed</i>							
1	Faxed order is date and time stamped. Send back receipt confirmation to CLEC.	NEAC Analyst	5	\$26.65	\$2.22		
2	Key into Carrier Access Tracking System (CATS).	NEAC Analyst	5	\$26.65	\$2.22		
3	The request is validated.	NEAC Analyst	5	\$26.65	\$2.22		
4	Service order is generated in the Service Order Entry (SOE) system.	NEAC Analyst	15	\$26.65	\$6.66		
			<u>30</u>		<u>\$13.33</u>	40.00%	\$5.33
<i>Order Sent through IRES</i>							
1	The request is validated.	NEAC Analyst	5	\$26.65	\$2.22		
2	Service order is generated in the Service Order Entry (SOE) system.	NEAC Analyst	15	\$26.65	\$6.66		
			<u>20</u>		<u>\$8.88</u>	60.00%	<u>\$5.33</u>
	Total NEAC Cost						<u>\$10.66</u>
* Probability based on mix of how CLEC orders are received today.							
Pre-Order Loop Inquiry Process - Field Team							
1	Order is pulled from the printer.	Facility Coordinator	1	\$30.07	\$0.50	100.00%	\$0.50
2	Terminal and cable pair are researched. Mapviewer is accessed. Cable IPID is identified for the loop. Loop makeup is accessed in Mapviewer and loop makeup is run. Loop makeup information is added to the remark section of the service order.	Facility Coordinator	23	\$30.07	\$11.53	100.00%	\$11.53
3	Electrical Parameters are researched and added to the remark section of the service order.	Facility Coordinator	5	\$30.07	\$2.51	100.00%	\$2.51
4	Disturber data researched and added to the remark section of the service order.	Facility Coordinator	5	\$30.07	\$2.51	100.00%	\$2.51
5	The service order is closed.	Facility Coordinator	1	\$30.07	\$0.50	100.00%	\$0.50
			<u>35</u>				<u>\$17.54</u>
	Total Field Team Cost						<u>\$17.54</u>

Total Loop Qualification Cost

\$28.20