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FILE COPY

August 12, 1996

BY HAND DELIVERY

Ms. Blanca S. Bayo, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 960838-TR

Dear Ms. Bayo:

Enclosed for filing in the above-styled docket are the original and fifteen (15) copies of each of the following:

1. Prepared Direct Testimony of William E. Cheek. 08429-96
2. Prepared Direct Testimony of James D. Dunbar, Jr. 08428-96
3. Prepared Direct Testimony of Randy G. Farrar. 08427-96

CMU *Shelfer* Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning the same to this writer.

LEG 1 Copies of Sprint United/Centel's prefiled direct testimony are being served on counsel for MFS by overnight express delivery.

OPC 1 Thank you for your assistance in this matter.

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EPSC-BUREAU OF RECORDS

Yours truly,

John P. Fons
John P. Fons

Enclosures

cc: All parties of record

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08427-96

DOCUMENT NUMBER-DATE

08428 AUG 12 96

FPSC-RECORDS/REPORTING

1 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

2 DIRECT TESTIMONY

3 OF

4 RANDY G. FARRAR

5
6 Q. Please state your name, occupation, and business address.

7
8 A. My name is Randy G. Farrar. I am presently employed as
9 Manager - Network Costing and Pricing for Sprint/United
10 Management Company, an affiliate of United Telephone
11 Company of Florida and Central Telephone Company of
12 Florida. My business address is 2330 Shawnee Mission
13 Parkway, Westwood, Kansas, 66205.

14
15 Q. What is your educational background?

16
17 A. I received a Bachelor of Arts degree from The Ohio State
18 University, Columbus, Ohio, in June 1976, with a major in
19 history. Simultaneously, I completed a major program in
20 economics. Subsequently, I received a Master of Business
21 Administration degree, with an emphasis on Market
22 Research, in March 1978, also from The Ohio State
23 University.

24
25 Q. What is your work experience?

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EPSC-BUREAU OF RECORDS

DOCUMENT NUMBER-DATE

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FPSC-RECORDS/REPORTING

1 A. From 1978 to 1983 I was employed by the Public Utilities
2 Commission of Ohio. In 1980, I was promoted from
3 Financial Analyst to Senior Financial Analyst. My duties
4 included the preparation of Staff Reports of
5 Investigation concerning rate of return and cost of
6 capital. I also designed rate structures, evaluated
7 construction works in progress, measured productivity,
8 evaluated treatment of canceled plant, and performed
9 financial analysis for electric, gas, telephone, and
10 water utilities. I presented written and oral testimony
11 on behalf of the Commission Staff in over twenty rate
12 cases.

13
14 I have been employed by Sprint Corporation or one of its
15 predecessor companies since 1983. From 1983 to 1986 I
16 was Manager - Rate of Return. I presented written and
17 oral testimony before state public utilities commissions
18 in Iowa, Nebraska, South Carolina, and Oregon.

19
20 From 1986 to 1987 I was Manager - Local Exchange Pricing.
21 I investigated alternate forms of pricing and rate
22 design, including usage sensitive rates, extended area
23 service alternatives, intraLATA toll pricing, and
24 lifeline rates.

25

1 From 1987 to 1992 I was Manager - Local Exchange Costing.
2 In 1992 I was promoted to Manager - Network Costing and
3 Pricing. I perform financial analyses for various
4 business cases, which analyze the profitability of
5 entering new markets and expanding existing markets,
6 including Custom Calling, Centrex, CLASS and Advanced
7 Intelligent Network features, CPE products, Public
8 Telephone and COCOT, and intraLATA toll. I am an
9 instructor for numerous training sessions for subsidiary
10 companies, designed to support corporate policy on
11 pricing and costing theory, and to educate and support
12 the use of various costing models. I was a member of the
13 United States Telephone Association's New Services and
14 Technologies Issues Subcommittee from 1989 to 1992, and
15 the Economic Analysis Training Work Group from 1994 to
16 1995. In 1996 I presented written testimony before the
17 Illinois Commerce Commission on the avoided costs of
18 resold services.

19

20 Q. What is the purpose of your testimony?

21

22 A. The purpose of my testimony is to describe the
23 development of costs for tandem switching and transport
24 and the cost associated with transiting a switch. From
25 this information prices for these functions can be

1 developed.

2

3 Q. Please briefly describe the costing methodology used in
4 this proceeding.

5

6 A. I have used a capacity-based costing approach in all
7 costing. The capacity cost approach is a well
8 established methodology used to determine the total
9 service long run incremental cost (TSLRIC) of any
10 service. Total Service Long Run Incremental Cost
11 (TSLRIC) represents the incremental cost of an entire
12 service. (TSLRIC is also known as Long Run Service
13 Incremental Cost (LRSIC) or Total Incremental Cost
14 (TIC)). Specifically, TSLRIC includes all fixed and
15 volume sensitive costs created by offering the service,
16 or avoided by not offering the service. In other words,
17 the TSLRIC of a specific service is equal to the
18 difference between (1) the total cost of the company
19 providing all services, and (2) the total cost of the
20 company providing all services except the specific
21 service.

22

23 The TSLRIC of a group of services is equal to the TSLRIC
24 of each individual service within the group, plus those
25 fixed and volume sensitive costs created by offering that

1 group of services, but are not affected by any of the
2 individual services within the group.

3
4 TSLRIC should include only current or forward looking
5 technologies.

6
7 Typically, TSLRIC studies involve determining the
8 incremental investment associated with a specific
9 service, and applying an appropriate annual charge
10 factor. Unless space capacity is driven by specific
11 services, an average utilization, rather than a
12 theoretical capacity utilization, should be employed
13 since it more accurately reflects the actual costs
14 incurred by the incumbent LEC to provide a network
15 component. A theoretical capacity utilization would
16 result in a cost to the CLEC which is lower than that
17 actually realized by the ILEC, which would uneconomically
18 discourage facilities-based competition.

19
20 Q. Please describe your costing methodology for unbundled
21 tandem switching.

22
23 A. Tandem switching in a Nortel DMS switch consists of two
24 individual cost functions; a traffic sensitive cost and
25 a per call set-up cost. The Bellcore Switching Cost

1 Information System (SCIS) model was used to determine the
2 underlying costs required to provide these functions.
3 SCIS refers to this cost component as "Cost Per Tandem
4 Trunk CCS."
5

6 Q. Please describe the traffic sensitive portion of the
7 tandem switching.
8

9 A. The traffic sensitive cost function consists of the
10 switching equipment necessary to complete both the
11 incoming and outgoing tandem trunk function. The most
12 significant switching equipment involved in this function
13 are main distribution frame and protector, digital trunk
14 controller, and the network module.
15

16 The capacity cost is equal to the utilized cost of the
17 switching equipment divided by the busy hour capacity of
18 that equipment. Each DS1 consists of 24 channels. Since
19 each channel has a busy hour capacity of 36 CCS, the busy
20 hour capacity of each DS1 is 864 CCS (36 CCS times 24
21 channels). SCIS determines the cost per busy hour CCS.
22 Thus, the total investment of busy hour traffic sensitive
23 tandem switching per DS1 is equal to the SCIS busy hour
24 cost per CCS times the DS1 busy hour capacity of 864 CCS.
25

1 Q. Please describe the per call set-up portion of the tandem
2 switching cost.

3
4 A. The per call set-up function consists of two separate
5 cost components. The first is the central processor time
6 required to set up the tandem call. The SCIS model
7 determines this cost as a "getting started cost per
8 millisecond." Multiplying this cost times the number of
9 milliseconds required to set up the call results in a
10 cost per tandem call set-up.

11
12 To determine the tandem call set-up busy hour capacity,
13 the DS1 busy hour capacity of 864 CCS is converted to
14 minutes and divided by the average call duration. This
15 number of busy hour tandem call set-ups is then
16 multiplied by the cost per tandem call set-up to
17 determine total busy hour investment.

18
19 The second cost component involved in the tandem call
20 set-up function is the cost of the SS7 network. The
21 switch SSP cost per octet is derived from the SCIS model.
22 The STP and link costs per octet are derived from the
23 Bellcore Common Channel Signaling Cost Information System
24 (CCSCIS) model. Multiplying these costs times the number
25 of octets required to set up a tandem call results in a

1 total SS7 cost per tandem call set-up. This is
2 multiplied times the number of busy hour call set-ups to
3 determine total busy hour investment.

4
5 Q. How are the busy hour investments converted to a monetary
6 price?

7
8 A. There are two steps. First, each cost function (traffic
9 sensitive, processor set-up, and SS7 set-up) is
10 multiplied by an annual charge factor to determine an
11 annual revenue requirement. Second, the annual amount is
12 divided by 12 to determine a monthly amount.

13
14 Q. Please describe the cost of unbundled transport.

15
16 A. Unbundled transport consists of two separate cost
17 functions. The first is transport termination, which
18 consists of the end office equipment necessary to
19 terminate interoffice traffic at both ends of the route.
20 The most significant termination equipment involved are
21 the fiber optic terminal, DSX1 and DSX3 cross-connects,
22 and mile multiplexers.

23
24 Each equipment component has the capacity of a given
25 number of DS1s. The cost per DS1 is equal to the

1 utilized engineered, furnished and installed (EF&I) unit
2 cost of each component, divided by its DS1 capacity.
3

4 The second transport function is transport mileage, which
5 consists of the installed utilized costs of the actual
6 interoffice facilities. The capacity of the fiber is
7 equal to the capacity of the fiber optic terminal
8 utilizing the fiber.
9

10 Investment is converted to cost by multiplying by an
11 annual charge factor and dividing by 12. Finally, this
12 cost is increased by 15% to account for a reasonable
13 allowance for joint and common costs.
14

15 Q. Please describe the intermediary switching function.
16

17 A. As I understand MFS' request, intermediary switching
18 involves the use of a Sprint switch to connect a MFS
19 switch to another ALEC or ILEC switch, thereby saving MFS
20 the cost of direct connections to those switches. The
21 cost to Sprint is no different from interconnection to a
22 Sprint switch for any other switching function. Thus,
23 the cost of providing intermediary switching is equal to
24 the cost of tandem switching determined above.
25

1 Q. Have you determined Sprint's tandem switching cost and
2 transport cost?

3

4 A. Yes, I have. These costs are reflected in my Exhibit No.
5 RGF-1.

6

7 Q. How did Sprint develop a cost for Interim Telephone
8 Number Portability which is addressed at p. 56 of Mr.
9 Devine's prefiled direct testimony?

10

11 A. Remote Call Forwarding (RCF) is the method Sprint
12 recommends be used for purposes of Interim Telephone
13 Number Portability. In developing the cost, two
14 functions must be evaluated. They are RCF and the cost
15 per call path.

16

17 The RCF investment varies depending on the switch
18 technology. The investment for all technologies includes
19 real-time milliseconds, as well as dedicated memory. A
20 line card may or may not be included in the investment
21 depending on the technology. Software expense has been
22 included although each technology reflects different
23 payment arrangements. Bellcore's SCIS model provides the
24 mechanism from which to develop investment.

25

1 The cost per path reflects the additional investment
2 needed to accommodate multiple simultaneous terminating
3 calls to a single number. Additional memory, processor
4 and usage sensitive line related investment will be
5 required to accommodate the incremental switching
6 activity associated with additional call paths. There
7 will also be added investment associated with
8 transporting call data between the ILEC switch and the
9 CLEC switch. There are limitations to simultaneous
10 forwarded calls depending on the technology.

11

12 Q. What is the cost of RCF in Florida for Sprint?

13

14 A. The cost is set forth in my Exhibit No. RGF-2.

15

16 Q. Does this conclude your testimony?

17

18 A. Yes.

19

20

21

22

23

24

25

LOCAL INTERCONNECTION RATE

DEVELOPMENT SUMMARY

<u>SERVICE/FUNCTION</u>	<u>COST</u>
End Office Interconnection	(1) N/A
Access Tandem Interconnection (2)	
A. Tandem Switching-Per Port	\$337.50
B. Transport	
DS1 Termination	49.54
DS1 Per Mile	0.83
DS3 Termination	365.87
DS3 Per Mile	23.11

(1) Sprint proposes that end office local interconnection be on a bill and keep basis.

(2) A port is a DS1 level interface (24 equivalent voice grade circuits).

(1)
INTERIM NUMBER PORTABILITY
RATE DEVELOPMENT

<u>SERVICE</u>	<u>TSLRIC COSTS</u>				
	<u>FEATURE</u>	<u>6 CALL PATHS</u>	<u>TOTAL</u>	<u>PLUS 15% CONTRIBUTION</u>	<u>LESS 55% DISCOUNT(2)</u>
Residence	\$0.91	\$0.12	\$1.03	\$1.18	\$0.53
Business	0.91	1.02	1.93	2.22	1.00
Additional Paths (Each)	N/A	N/A	0.69	0.79	0.36

- (1) Using Remote Call Forwarding technology.
(2) Discounted for inferior number portability.