BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DIRECT TESTIMONY

OF

JIMMY R. DAVIS

Q. Please state your name, place of employment, position and business address.

A. My name is Jimmy R. Davis. I am employed by Sprint/United Management Company as a Senior Manager – Network Costing at 6450 Sprint Parkway, Overland Park, Kansas 66251. I am appearing in this proceeding on behalf of Sprint-Florida, Incorporated (hereafter referred to as "Sprint" or the "Company").

Q. What is your educational background?

A. I received a Bachelor of Science Degree in Civil Engineering from North Carolina State University in Raleigh, North Carolina. In 1990, I received a Master of Business Administration Degree from East Carolina University, in Greenville, North Carolina. I have also received telephony related continuing education through company sponsored technical training in Planning, Network, and Field Operations.

Q. What is your work experience?

A. After a two-year tour in Building Engineering, I transferred to the Network Planning Department of Carolina Telephone in Tarboro, North Carolina where I had responsibility for that company's Capital Recovery Program. There my job functions involved statistically based mortality studies of telephone physical

property, depreciation expense budgeting, property valuations, and cost studies including capital planning. From 1989 to 1993, I served as Carolina Telephone's Technical Training Manager where I had responsibility for providing network related technical skills training to that company's craft and lower level management employees. After a two-year assignment in the Corporate Training Organization, I was assigned, in 1995, to a Customer Services Manager Position in Jacksonville, North Carolina. There I was responsible for the turn-up and maintenance of Network and Outside Plant for approximately 115,000 access lines. I was also responsible for installation and maintenance of residential and small business services including high-speed data (special) services. In 1998, I transferred to Kansas City where I continued to work in the Customer Services Organization spending the majority of that time as a Standards and Process Manager responsible for the Sprint Local Telephone Division's National Standard Methods and Procedures for Outside Plant Construction and Maintenance Operations. I then transferred to my current position in June of 2001, where I represent Sprint's ILEC and CLEC operations in performing and analyzing cost studies for collocation and for the non-recurring charges associated with making connections to the ILEC network.

Q. Have you previously testified before a state regulatory commission?

A. Yes. I have testified in the states of Florida and Missouri representing Sprint's ILEC and CLEC operations.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony deals with the costing issues of this arbitration. I will address to issues 3, 12, 13, 19, 20 and 21a as they relate to cost.

Issue 3 (a) What, if any, is the appropriate loop acceptance process for a new install?

(b) When should billing for a newly installed loop begin?

Q. Has this issue been resolved by the parties?

A. Yes. It is my understanding that the parties have resolved this issue and it is no longer being disputed. To the extent this understanding is incorrect, Sprint reserves the right to file testimony addressing this issue.

Issue 12. What are the appropriate monthly recurring charges, if any, for line splitting?

Q. Have KMC and Sprint reached agreement on terms and conditions associated with issue 12?

A. Yes. All that remains is for Sprint and KMC to agree to the rates.

Q. Does Sprint intend to comply with FCC rules requiring line splitting?

A. Yes. Since the CLEC purchasing a UNE Loop already controls the entire loop spectrum, no additional charge will be assessed for the high-frequency portion of the UNE Loop used in line splitting.

Q. Are any additional Sprint-provided central office facilities necessary for CLECs to provide line splitting services?

A. Yes. Certain collocation facilities pending under Florida Collocation Dockets 981834-TP and 990321-TP would be necessary to connect the equipment of the voice CLEC and the data CLEC. DS0 interconnection cabling in 100-pair increments is necessary to pass voice and data traffic between the two CLECs.

For the state of Florida, Sprint has proposed CLEC self provisioning of collocation arrangements using Sprint's approved contractors. This eliminates Sprint's need to have a non-recurring charge for cross-connect cable installation. As outlined below, Sprint does have monthly recurring charges pending for cross-connect cabling to recover the cost of shared cable racking and to enable Sprint to recover removal cost for cable, left behind by CLECs, on an amortized basis.

In direct connections between the CLECs, the required cabling would be DS0 co-carrier cross-connect cabling (CCXC) in 100-pair increments as outlined in Section 12 of the Interconnection Agreement. The applicable collocation element and rate pending under Florida Collocation Dockets 981834-TP and 990321-TP is DSO Co-Carrier Cross Connect with an MRC of $3.80 per 100 pair. This element

and rate can be seen on line 23 of page 9 of Sprint's Post Hearing Statement and Brief filed on April 1, 2004 associated with Florida Dockets 981834-TP and 990321-TP, attached as Exhibit JRD-1.

If the CLECs were connected through Sprint's MDF, the required element would be DS0 Switchboard Cable in 100-pair increments. The applicable collocation element and rate pending under Florida Collocation Dockets 981834-TP and 990321-TP is DS0 Switchboard Cable with an MRC of $4.51 per 100 pair. This element and rate can be seen on line 22 of page 9 of Sprint's Post Hearing Statement and Brief referenced above.

Q. Do any of Sprint's other pending collocation rates under Florida Dockets 981834-TP and 990321-TP apply when CLECs install co-carrier cross connects and attach them to Sprint's central office infrastructure (cable racking)?

A. Yes. In addition, Sprint's pending nonrecurring charges for Major Augment Application, Transmission Engineering, and Administrative and Project Management fees would apply. Sprint's pending rates are as follows:

Major Augment Fee = $ 1,613.29

Major Augment – Admin & Project Mgmt Fee = $ 1,451.88

Major Augment – Transmission Engineering Fee = $ 1,672.88

(Applies if cable racking has to be added or other engineering work is necessary for other augment activity)

It is important to note that the above fees also cover any other major augment activity (i.e. power cable adds) the CLEC wishes to complete in conjunction with adding co-carrier cross connects.

Q. Would these charges apply in every line splitting scenario?

A. No. In situations where the second CLEC shares a cage with the first (Issue 21a) or the second CLEC is adjacent to the first, meaning there is no common area between the two collocation arrangements, Sprint would not levy charges provided the CLECs' equipment is directly connected using cross connects installed by the CLECs.

Q. Is it necessary for this Commission to reevaluate these pending rates as part of this arbitration?

A. No. This Commission, the Commission Staff, and the intervening parties in the Florida Generic Collocation Dockets 981834-TP and 990321-TP put forth extensive efforts that need not be duplicated in this proceeding. Interaction among interested parties for these dockets officially began with the filing of direct testimony for the first set of issues on December 19, 2002. An additional four rounds of testimony by Sprint, Staff and CLEC witnesses; hundreds of interrogatories and requests for the production of documents; and two hearings

including post-hearing statements and briefs have come and gone during the ensuing year and a half. We are currently waiting for the Staff recommendation to be published on July 22, 2004 and a Commission order scheduled for August 24, 2004 (prior to the scheduled hearing for this arbitration). KMC had more than ample opportunity to become involved in those proceedings, but did not. To rehash these issues and rates in this arbitration would essentially render useless the industry and Commission resources expended in the generic docket which examined the exact same issues and rates.

Q. In summary, does Sprint totally agree with KMC's proposed resolution of Issue 12?

A. No. KMC proposes that since "KMC or a third party purchases the entire unbundled loop or combination, there are no other monthly recurring charges associated with Line Splitting arrangements." As discussed above, additional collocation cross connect facilities may be necessary to provide line splitting services, and Sprint must be allowed cost recovery for applicable elements that are already before the Commission and pending approval under Florida Collocation Dockets 981834-TP and 990321-TP.

<u>Issue 13:</u> What are the appropriate rates, terms and conditions for the performance of routine network modifications by Sprint:

(a) for loops?

(b) for dedicated transport?

Q. What is the dispute between Sprint and KMC?

A. Both parties agree that Sprint is obligated to make routine network modifications in the provision of unbundled loops and transport. However, both parties do not agree regarding the pricing for such modifications. KMC claims that **any and all** routine network modifications for loops and transport are included in Sprint's recurring rates. Sprint disagrees. The Act and FCC rules do not require ILECs to provide access to network elements for free. The Triennial Review Order (TRO) does not mandate that the costs of routine network modifications be recovered via recurring charges but also allows for the application of non-recurring charges (par. 640). Neither does the TRO state that such modifications are always reflected in its existing recurring rates, but simply cautions state commissions to ensure that double recovery does not occur. In this testimony, Sprint clearly shows that the times that Sprint seeks cost recovery for routine network modifications are those occasions where such costs are not included in its TELRIC loop and transport rates.

Q. What is Sprint's position on Issue 13?

A. Sprint makes "routine" network modifications under the normal course of business without levying additional charges. However, Sprint is proposing language in the new interconnection agreement stating that KMC will compensate Sprint for the costs of network modifications made on behalf of KMC to the extent that costs are not already recovered in the unbundled loop and transport rates.

Q. What activities identified by the FCC as routine modifications does Sprint perform for CLECs at no additional charge?

A. As can be seen from the attached price list (Exhibit JRD-2), Sprint performs cable rearrangements in ready access terminals (discussed in detail below), installs smart jacks, line cards, and multiplexing (through EELs), and provisions dark fiber all without additional charges.

Q. The FCC listed "rearrangement or splicing of cable" in the Triennial Review Order (par 634) as a routine network modification. What cable rearrangements does Sprint routinely make when provisioning service for its retail and wholesale customers?

A. Sprint routinely rearranges cable to enable the provisioning of service to a desired location by way of above ground "ready access" terminals. Ready access terminals include the black colored terminals seen attached to aerial telephone cable as well as the pedestals connected to buried telephone cable seen sticking up out of the ground in the public right-of-way. The ability to make rearrangements is necessary for efficient use of outside plant facilities; therefore, such activities are considered standard operating procedure and are performed under the normal course of business. Under normal situations, a single loop can be provisioned to a desired location through a series of no more than 3 cable pair rearrangements in ready access terminals.

Q. Does Sprint charge CLECs extra for cable rearrangement consisting of no more than 3 cable pair rearrangements in ready access terminals?

A. No. Cable rearrangements such as those described above are performed under the normal course of business. As seen on the attached price list (Exhibit JRD-2), the cost of up to three cable pair rearrangements utilizing ready access terminals are already included in the loop NRCs charged to CLECs.

Q. What steps does Sprint take if more than three cable pair rearrangements utilizing ready access terminals are necessary?

A. Rearrangements involving more than three pair rearrangements for a single loop in ready access terminals generally require some form of new construction to ensure efficient utilization of outside plant facilities, thus enabling Sprint to meet its required service intervals. New Construction would not be considered a routine network modification per paragraph 632 of the TRO. All work exceeding the rearrangement of three pairs per loop ordered are subject to reimbursement to the extent they are dedicated for use by KMC and will be priced on an individual case basis because of the high variability of the work that would have to be done.

Q. What other network modification activities are subject to a cost beyond that which is already recovered in the unbundled loop and transport (NRC and MRC) rates?

A. The installation of doublers/repeaters and their associated housing could exceed the cost already recovered in the unbundled loop and transport rates. Sprint proposes to treat such installations as "Special Construction". Sprint already has

an established criterion for deciding when to bill end customers for "Special Construction".

Q. What are the conditions that cause a network modification to be declared "special construction" resulting in extra charges to the end customer?

A. Consistent with section E14.2.7 of Sprint's "Access Service Tariff" for the state of Florida effective January 1, 1997, special construction is required when suitable facilities are not available to meet a customer's order for service and one or more of the following conditions exist:

a) Sprint **has no other requirement** for the facilities constructed at the customer's request.

b) The customer requests that service be furnished using a type of facility, or via a route, other than that which Sprint would otherwise utilize in furnishing the requested service.

c) The customer requests the construction of more facilities than required to satisfy the initial order for service; and submits a mutually agreed upon facility forecast.

d) The customer requests construction be expedited resulting in added cost to Sprint.

Q. Does Sprint charge its own customers for special construction in the same manner, at parity, that it is proposing to charge KMC?

A. Yes. Sprint applies the same principles for determining when to charge KMC for making routine network modifications to provide access to unbundled loops and transport as it does for charging customers buying tariffed special access services. For those times when customers request services that require additional work on Sprint's part that are not covered in the tariffed rates, Sprint determines pricing on an individual case basis (ICB).

Q. Has Sprint developed standard rates for the installation of repeaters and doublers?

A. Yes, Sprint has developed standard NRCs for the installation of repeaters and doublers which take into account the cost of material, engineering, and installation labor. These standard prices along with supporting work papers are attached as exhibit JRD-2.

Q. How often is it necessary for Sprint to charge a CLEC for the installation of Repeaters and Doublers?

A. Very infrequently. As a result, Sprint does not track this information, however according to our associates in Sprint Business Solutions for Wholesale, the last known example of charging a CLEC for the installation of a repeater/doubler for any of the 18 states where Sprint operates as an ILEC took place in Florida in March of 2003 (more than a year ago).

Issue 19 When will cross-connect charges apply?

Q. Has this issue been resolved by the parties?

A. Yes. It is my understanding that the parties have resolved this issue and it is no longer being disputed. To the extent this understanding is incorrect, Sprint reserves the right to file testimony addressing this issue.

Issue 20 When should billing for circuit facility assignments/terminations and related cable begin?

Q. Has this issue been resolved by the parties?

A. Yes. It is my understanding that the parties have resolved this issue and it is no longer being disputed. To the extent this understanding is incorrect, Sprint reserves the right to file testimony addressing this issue.

Issue 21a. Should KMC be allowed to provision cross-connects within its collocation space without application or additional charges by Sprint?

Q. Have KMC and Sprint reached agreement on terms and conditions associated with issue 21 part a)?

A. Yes. All that remains is for Sprint and KMC to agree to the rates.

Q. Does Sprint seek cost recovery for cross-connects installed within KMC's collocation space (part a of issue 21)?

A. No. Sprint does not levy charges to a CLEC when they work within their own collocation space. An example of this would be two CLECs connecting their respective line splitting equipment within a shared cage. Although Sprint does not levy charges, KMC has chosen to leave this issue open.

Q. Please summarize your direct testimony.

A. Sprint recognizes that it is recovering the cost for the entire loop under a line splitting scenario. Sprint should be allowed to recover the cost of any collocation related DS0 cross-connect cabling which must be added in order for CLECs to engage in line splitting. Sprint has applicable rates pending under Florida Generic Dockets 981834-TP and 990321-TP for collocation. These rates have already undergone extensive scrutiny and KMC should not be allowed to circumvent the efforts of all the interested parties participating in these dockets.

Sprint does not generally charge extra for "routine network modifications" but there are limited circumstances where additional charges are necessary in order for Sprint to recover its costs as it is legally entitled to do.

Sprint does not levy any charges to a CLEC when they work within their own collocation space.

Q. Does this conclude your direct testimony?

A. Yes.

	Section II: Rate List - Physical and Virtual Collocation Elements		
Line	Element	NRC	MRC
	Administrative, Engineering and Project Management Fees		
2	New Collocation - Admin., Transm. Engr. & Project Management Fee	$4,935.51	
4	Minor Augment - Administrative & Project Management Fee	$581.58	
7	Major Augment - Administrative & Project Management Fee	$1,451.88	
	Security Cage Construction		
10	Security Cage - Engineering	$688.54	
11	Security Cage - Construction	By CLEC	
	DC Power		
14	Power Costs - Connection to Power Plant up to 30 Amps	By CLEC	$5.69
15	Power Costs - Connection to Power Plant 35-60 Amps	By CLEC	$8.04
16	Power Costs - Connection to Power Plant 70-100 Amps	$533.90	$17.10
17	Add Per Foot Over 110 Linear Feet	$2.42	$0.24
18	Power Costs - Connection to Power Plant 125-200 Amps	$533.90	$34.42
19	Add Per Foot Over 110 Linear Feet	$2.42	$0.45
	AC Power		
20	Cost per AC Outlet Installation (per outlet 20 amps)	$106.78	
21	Cost per Additional Set of Overhead Lights	$106.78	
	Cross Connect Facilities		
22	DS0 Switchboard Cable Per 100-Pr	By CLEC	$4.51
23	DS0 Co-Carrier Switchboard Cable Per 100 Pr.	By CLEC	$3.80
24	DS1 Cross Connect (Per 28 DS1s)	By CLEC	$6.36
25	DS1 Co-Carrier Cross Connect (Per 28 DS1s)	By CLEC	$4.81
26	DS3 Cross Connect (Per 12 DS3s)	By CLEC	$18.19
27	DS3 Co-Carrier Cross Connect (Per 12 DS3s)	By CLEC	$7.48
28	Optical Cross-Connect Per 4 Fibers	By CLEC	$8.96
29	Optical Cross-Connect Co-Carrier Per 4 Fibers	By CLEC	$8.83
32	Internal Cable - 48 Fiber	$1,074.69	$3.25
33	Internal Cable - Per 100-Pr Copper Stub Cable	$185.30	$2.93

ROUTINE MODIFICATION OF FACILITIES

Price List

		NRC/MRC
A. Rearrangement of Cable		
1. Rearrangement of Up to 3 Pairs per UNE Loop Ordered		*Included in UNE NRC/MRC*
2. Rearrangements Requiring More Than 3 Pairs per UNE Loop Ordered		ICB
B. Dedicated Repeater/Doubler Installation Cost (incl. 4 slot housing and 1 card), per location		
1. Repeater Equipment Case w/ Repeater Card (for T-1 applications)		
a) Where Special Construction Does Not Apply (Card Installation Only)		*Included in UNE NRC/MRC*
b) Where Special Construction Applies, Non Recurring Charge		
- Florida	$	1,842.01
2. Doubler Equipment Case w/ Doubler Card (for HDSL applications)		
a) Where Special Construction Does Not Apply (Card Installation Only)		*Included in UNE NRC/MRC*
b) Where Special Construction Applies, Nonrecurring Charge		
- Florida	$	2,075.24
C. Smart Jack		*Included in UNE NRC/MRC*
D. Line Card Installation		*Included in UNE NRC/MRC*
E. Multiplexing		*Included in UNE NRC/MRC*

ROUTINE MODIFICATION OF FACILITIES

Price List

	NRC/MRC
Note: Multiplexer pricing available through Enhanced Extended Loop (EELs) facility leases	
F. Dark Fiber Provisioning	
1. Locations where dark fiber is available and no splicing is required	*Included in UNE NRC/MRC*
2. Locations where either available dark fiber does not exist or additional splicing is required	ICB

	Type of Labor	Hourly Rate	Labor Hours	FLORIDA Total Labor Costs	Material	Total Cost
Aerial Repeater and Housing						
- Repeater Housing (incl. Engineering)	Engineering	$ 58.01	8.00	$ 464.12	$ 733.46	$ 1,197.58
- Trip Charge	Installer	$ 52.75	0.33	17.58		17.58
- Housing and Stub Cable Placement	Installer	$ 52.75	0.50	26.38		26.38
- Open Splice Case/Cable Sheaths	Installer	$ 52.75	0.50	26.38		26.38
- Pair Identification	Installer	$ 52.75	0.25	13.19		13.19
- Splice Repeater Stub Into Cable	Installer	$ 52.75	0.50	26.38		26.38
- Grounding	Installer	$ 52.75	0.17	8.79		8.79
- Test Pairs	Installer	$ 52.75	0.25	13.19		13.19
- Place/Close Splice Case	Installer	$ 52.75	0.12	6.33		6.33
- Place Repeater Card and Seal Housing	Installer	$ 52.75	0.12	6.33	55.29	61.62
Material and Labor Cost - Aerial Housing Installation			10.74	$ 608.66	$ 788.75	$ 1,397.41
Add: Common Cost Factor						13.68%
Total Cost - Aerial Housing and Repeater Installation						$ 1,588.58
Copper Feeder Plant Mix - Aerial						2.30%
Weighted Aerial Repeater Cost						$ 36.54
Buried Repeater and Housing						
- Repeater Housing (incl. Engineering)	Engineering	$ 58.01	8.00	$ 464.12	$ 733.46	$ 1,197.58
- Trip Charge	Installer	$ 52.75	0.33	17.58		17.58
- Place Mounting Pole	Installer	$ 52.75	0.50	26.38		26.38
- Place Buried Ground Wire	Installer	$ 52.75	0.50	26.38		26.38
- Dig Splice Pit	Installer	$ 52.75	0.50	26.38		26.38
- Open Cable Sheath	Installer	$ 52.75	0.50	26.38		26.38
- Pair Identification	Installer	$ 52.75	0.25	13.19		13.19
- Splice repeater Stub(s) into Buried Cable	Installer	$ 52.75	0.12	6.15		6.15
- Test All Pairs	Installer	$ 52.75	0.12	6.15		6.15
- Encapsulate All Pairs, Place and Seal Buried Closure	Installer	$ 52.75	0.12	6.15		6.15
- Back Fill trench	Installer	$ 52.75	0.25	13.19		13.19
- Place Repeater Card and Seal Housing	Installer	$ 52.75	0.12	6.33	55.29	61.62

Material and Labor Cost - Buried Housing Installation			11.30	$ 638.38	$ 788.75	$ 1,427.13	
Add: Common Cost Factor						13.68%	
Total Cost - Buried Housing and Repeater Installation						$ 1,622.36	
Copper Feeder Plant Mix - Buried						51.70%	
Weighted Buried Repeater Cost						$ 838.76	
Underground Housing and Repeater Installation							
- Repeater Housing (incl. Engineering)	Engineering	$ 58.01	8.00	$ 464.12	$ 733.46	$ 1,197.58	
- Trip Charge	Installer	$ 52.75	0.67	35.17		35.17	
- Set Up Safety Devices	Installer	$ 52.75	1.00	52.75		52.75	
- Access and Clear Manhole (Pump Water/Blow Air)	Installer	$ 52.75	2.00	105.51		105.51	
- Place Repeater Housing	Installer	$ 52.75	2.00	105.51		105.51	
- Access and Open Splice Case/Cable Sheath	Installer	$ 52.75	1.00	52.75		52.75	
- Splice Equipment into Underground Cable	Installer	$ 52.75	1.00	52.75		52.75	
- Pair Identification	Installer	$ 52.75	0.50	26.38		26.38	
- Test All Involved Pairs	Installer	$ 52.75	0.25	13.19		13.19	
- Grounding	Installer	$ 52.75	0.33	17.58		17.58	
- Place, Seal and Pressurize Splice Case	Installer	$ 52.75	0.25	13.19		13.19	
- Place Repeater Card and Seal Housing	Installer	$ 52.75	0.12	6.33	55.29	61.62	
- Pressurize Equipment Housing	Installer	$ 52.75	0.25	13.19		13.19	
- Exit and Clear Manhole	Installer	$ 52.75	2.00	105.51		105.51	
Material and Labor Cost - Underground Housing Installation			19.37	$ 1,063.92	$ 788.75	$ 1,852.67	
Add: Common Cost Factor						13.68%	
Total Cost - Underground Housing and Repeater Installation						$ 2,106.12	
Copper Feeder Plant Mix - Underground						45.90%	
Weighted Underground Repeater Cost						$ 966.71	
WEIGHTED AVERAGE REPEATER AND HOUSING COST						$ 1,842.01	

Note: Two persons required for all Installer related job function for underground installations

	Type of Labor	Hourly Rate	Labor Hours	FLORIDA Total Labor Costs	Material	Total Cost
Aerial Doubler and Housing						
- Housing (incl. Engineering)	Engineering	$ 58.01	8.00	$ 464.12	$ 733.46	$ 1,197.58
- Trip Charge	Installer	$ 52.75	0.33	17.58		17.58
- Housing and Stub Cable Placement	Installer	$ 52.75	0.50	26.38		26.38
- Open Splice Case/Cable Sheaths	Installer	$ 52.75	0.50	26.38		26.38
- Pair Identification	Installer	$ 52.75	0.25	13.19		13.19
- Splice Stub Into Cable	Installer	$ 52.75	0.50	26.38		26.38
- Grounding	Installer	$ 52.75	0.17	8.79		8.79
- Test Pairs	Installer	$ 52.75	0.25	13.19		13.19
- Place/Close Splice Case	Installer	$ 52.75	0.12	6.33		6.33
- Place Doubler Card and Seal Housing	Installer	$ 52.75	0.12	6.33	260.66	266.99
Material and Labor Cost - Aerial Housing Installation			10.74	$ 608.66	$ 994.12	$ 1,602.78
Add: Common Cost Factor						13.68%
Total Cost - Aerial Housing and Doubler Installation						$ 1,822.04
Copper Feeder Plant Mix - Aerial						2.30%
Weighted Aerial Doubler Cost						$ 41.91
Buried Doubler and Housing						
- Housing (incl. Engineering)	Engineering	$ 58.01	8.00	$ 464.12	$ 733.46	$ 1,197.58
- Trip Charge	Installer	$ 52.75	0.33	17.58		17.58
- Place Mounting Pole	Installer	$ 52.75	0.50	26.38		26.38
- Place Buried Ground Wire	Installer	$ 52.75	0.50	26.38		26.38
- Dig Splice Pit	Installer	$ 52.75	0.50	26.38		26.38
- Open Cable Sheath	Installer	$ 52.75	0.50	26.38		26.38
- Pair Identification	Installer	$ 52.75	0.25	13.19		13.19
- Splice Stub(s) into Buried Cable	Installer	$ 52.75	0.12	6.15		6.15
- Test All Pairs	Installer	$ 52.75	0.12	6.15		6.15
- Encapsulate All Pairs, Place and Seal Buried Closure	Installer	$ 52.75	0.12	6.15		6.15
- Back Fill trench	Installer	$ 52.75	0.25	13.19		13.19
- Place Doubler Card and Seal Housing	Installer	$ 52.75	0.12	6.33	260.66	266.99

Material and Labor Cost - Buried Housing Installation			11.30	$ 638.38	$ 994.12	$ 1,632.50
Add: Common Cost Factor						13.68%
Total Cost - Buried Housing and Doubler Installation						$ 1,855.83
Copper Feeder Plant Mix - Buried						51.70%
Weighted Buried Doubler Cost						$ 959.46
Underground Housing and Doubler Installation						
- Housing (incl. Engineering)	Engineering	$ 58.01	8.00	$ 464.12	$ 733.46	$ 1,197.58
- Trip Charge	Installer	$ 52.75	0.67	35.17		35.17
- Set Up Safety Devices	Installer	$ 52.75	1.00	52.75		52.75
- Access and Clear Manhole (Pump Water/Blow Air)	Installer	$ 52.75	2.00	105.51		105.51
- Place Housing	Installer	$ 52.75	2.00	105.51		105.51
- Access and Open Splice Case/Cable Sheath	Installer	$ 52.75	1.00	52.75		52.75
- Splice Equipment into Underground Cable	Installer	$ 52.75	1.00	52.75		52.75
- Pair Identification	Installer	$ 52.75	0.50	26.38		26.38
- Test All Involved Pairs	Installer	$ 52.75	0.25	13.19		13.19
- Grounding	Installer	$ 52.75	0.33	17.58		17.58
- Place, Seal and Pressurize Splice Case	Installer	$ 52.75	0.25	13.19		13.19
- Place Doubler Card and Seal Housing	Installer	$ 52.75	0.12	6.33	260.66	266.99
- Pressurize Equipment Housing	Installer	$ 52.75	0.25	13.19		13.19
- Exit and Clear Manhole	Installer	$ 52.75	2.00	105.51		105.51
Material and Labor Cost - Underground Housing Installation			19.37	$ 1,063.92	$ 994.12	$ 2,058.04
Add: Common Cost Factor						13.68%
Total Cost - Underground Housing and Doubler Installation						$ 2,339.58
Copper Feeder Plant Mix - Underground						45.90%
Weighted Underground Doubler Cost						$ 1,073.87
WEIGHTED AVERAGE DOUBLER AND HOUSING COST						$ 2,075.24

Note: Two persons required for all Installer related job function for underground installations

Company ID		Company	CO Technician (400)	CO Tech Travel Time	CO Engineer (040)	OSP Installer (300)	Installer Travel Time	OSP Engineer (030)	Common Cost Factor	Copper Feeder Plant Mix Aerial	Buried	Underground
39	FLORIDA		52.92	5.24	58.71	52.75	5.24	58.01	13.68%	2.30%	51.70%	45.90%