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# Sprint - Florida, Incorporated 

Investigation into Pricing Unbundled Network Elements

Docket No. 990649-TP

## Testimony and Exhibits Only

November 7, 2001

# BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION 

DIRECT TESTIMONY
OF
KENT W. DICKERSON
Q. Please state your name, business address, employer and current position.
A. My name is Kent W. Dickerson. My business address is 6360 Sprint Parkway, Overland Park, KS 66251. I am employed as Director - Cost Support for Sprint/United Management Company.
Q. Please summarize your qualifications and work experience.
A. My qualifications and work experience are summarized in Exhibit KWD-1.
Q. What is the purpose of your Testimony?
A. My testimony sponsors the TELRIC cost studies on behalf of Sprint-Florida, Inc. ("Sprint"). for the following list of unbundled network elements (UNEs):

Loop (all types)
Loop Sub-Elements
Dark Fiber (Loop and Interoffice)
Loop, Switch and Transport Combinations
Enhanced Extended Links
Network Interface Devices
Inside Wire

Annual Charge Factors<br>Expense Studies

My testimony, in concert with Sprint's cost study filing, will describe how Sprint's UNE cost studies for the items listed above are developed to be forward-looking, deaveraged, and specific to the markets served by Sprint in Florida.

I am sponsoring the Sprint Cost Study (Volume II) which is identified as Exhibit KWD-2 and also includes the narratives (Volume I) and the workpapers (Volume III). Although I am the primary witness for the Cost Study, there are sections of the Cost Study, narratives and workpapers which are the responsibility of other witnesses. Exhibit KWD-3, which is included as an attachment to my testimony, identifies each section of Sprint's Cost Study and the Sprint witness that supports the section.

## Q. Please describe the responsibility assignments of Sprint's witnesses in this docket.

A. My testimony addresses the deaveraged cost studies listed above. In addition, I will provide a description of Sprint's TELRIC study process.

Mr. Michael Hunsucker provides testimony on the appropriate prices for all UNEs. His testimony provides Sprint's positions on the price deaveraging issues in this docket.

Mr. Talmage Cox's testimony addresses unbundled dedicated and common transport and elements for local switching.

Mr. Jimmy Davis' testimony addresses the non-recurring charges for all UNEs.

Mr. Terry Talken provides testimony on unbundled Signaling and Call Related Databases.

Mr. Brian Staihr presents testimony on the appropriate cost of capital inputs utilized in Sprint's TELRIC studies.
Q. Please describe Sprint's position on an appropriately developed TELRIC cost of service study.
A. Sprint believes that the major characteristics of an appropriately developed TELRIC cost of service study are as follows:

1. The ILEC's prices for interconnection and unbundled network elements will recover the forward-looking costs directly attributable to the specified element, as well as a reasonable allocation of forward-looking common costs. (FCC Order, para. 682.)
2. Per-unit costs will be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with network usage); that is, the per unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element. (FCC Order, para. 682.)
3. Directly attributable forward-looking costs will include the incremental costs of shared facilities and operations. Those costs will be attributed to specific elements to the greatest extent possible. Certain shared costs that have conventionally been treated as common costs (or overheads) will be attributed to the individual elements to the greatest extent possible. (FCC Order, para. 682.)
4. The forward-looking pricing methodology for interconnection and unbundled network elements should be based on costs that assume that wire centers will be placed at the ILEC's current wire center locations. The reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements. (FCC Order, para. 685.)
5. Only forward-looking, incremental costs are included in a TELRIC study. (FCC Order, para 690.)
6. Retailing costs, such as marketing or customer billing costs associated with retail services, are not attributable to the production of network elements that are offered to interconnecting carriers and are not included in the forward-looking direct cost of an element. (FCC Order, para. 691.)
Q. Please describe the generic approach used by Sprint in performing TELRIC studies.
A. Sprint uses a consistent approach in performing TELRIC studies for the unbundled network elements. The following steps can generally describe the TELRIC study methodology:
A. Determine Network Design. The study begins with a determination of the forward-looking, most efficient network architecture. The network design is based on existing wire center locations, as directed in the FCC Order, and reflects currently available technology, which is appropriate and efficient for current and reasonably foreseeable demand levels.
B. Determine Forward-Looking Installed Cost. Using Sprint's current vendor material costs and labor rates specific to Sprint's serving area, the incremental installed costs for all investment required to build a functioning unbundled network element are determined. The investments considered are those meeting the incremental cost causative standard laid out in the FCC Order. Determination of the incremental investments is based on the long run as defined in FCC Order, Paragraph 692 and total element demand quantities.
C. Develop Capital and Expense Costs. Capital and Expense Costs reflect the total cost of owning and operating a specific type of asset. They are developed at the FCC account level and include the annual cost of depreciation, a return on investment, income taxes, maintenance expenses, network operations expense (testing, monitoring), and other taxes.

Related to the depreciation and return on investment components of these factors, the FCC provides clear direction in paragraph 703 of the First Report and Order in Docket No. 96-98 as follows:

> "We conclude that an appropriate calculation of TELRIC will include a depreciation rate that reflects the true changes in economic value of an asset and a cost of capital that appropriately reflects the risks incurred by an investor."

Accordingly, as addressed in the testimony of Mr. Brian Staihr, Sprint's cost of capital complies with the FCC's directives and reflects a "riskadjusted cost of capital."

The forward-looking, efficient levels of direct maintenance, network operations expense and other taxes were developed using Sprint's actual experience with owning and operating the associated forwardlooking technologies in Florida. Costs associated with obsolete technologies were excluded from the forward-looking TELRIC results.
D. Determine Reasonable Contribution to Common Costs. The FCC Order provides clear direction that the price of unbundled elements should include a reasonable allocation of common costs. In accordance with this direction, Sprint includes a contribution to common costs in its TELRIC study results. This is accomplished by calculating a percentage-loading factor, which is applied uniformly to all unbundled element TELRIC results.

## Issue 3

## What are xDSL capable loops?

## Q. Will you please address issue 3 ?

A. As a general and practical matter, xDSL capable loops are copper loops that are 18,000 feet in length or shorter. To be xDSL capable, a loop must not contain any devices that impede the xDSL frequency signaling such as repeaters, load coils or excess bridged tap. Copper loops which contain any of these three will require loop conditioning to remove the repeaters, load coils or excess bridged tap. The associated non-recurring charges for this
loop conditioning work is explained in the testimony of Sprint witness Mr. Jimmy Davis.

To be technically correct, it should be noted that some fiber fed NGDLC vendors have recently developed plug-in cards that can be used at the NGDLC location to provide xDSL service to customers served by the NGDLC. However, to this point in time neither the FCC nor the Florida Public Service Commission has designated these plug-in cards as subject to UNE unbundling. Therefore, the current practical result in Florida is that unbundled xDSL capable loops will be copper or copper distribution loop sub-elements.
Q. Do some CLECs request xDSL capable loops in excess of 18,000 feet in length?
A. Yes. In those cases Sprint will provide any available copper loop in excess of 18,000 feet at the ALEC's request. Sprint will perform any loop conditioning requested by the ALEC and the ALEC will be charged for that loop conditioning work. As a loop length in excess of 18,000 feet is beyond the generally accepted industry standard limit for xDSL, Sprint will accept no responsibility for the xDSL capabilities of conditioned copper loops longer than 18,000 feet.
Q. Should a cost study for xDSL capable loops make distinctions based on loop length and/or the particular DSL technology to be deployed?
A. Other than the 18,000 feet distinction described above, no. As described above, copper loops 18,000 feet and shorter that contain no repeaters, load coils or excess bridged tap require no further cost study distinctions. As described more fully in the testimony of Mr. Jimmy Davis, Sprint makes logical distinctions in the NRCs for loop conditioning depending on whether the loop is longer or shorter than 18,000 feet. Sprint's recurring charges, however, require no distinction in the underlying loop cost other than for standard issues of loop length, terrain, customer density, plant mix, etc. that are already reflected in Sprint's unbundled loop cost studies.

## Issue 7-Appropriate Assumptions

What are the appropriate assumptions and inputs for the following items to be used in the forward-looking recurring UNE cost studies?

## Depreciation

Q. Please describe the Depreciation inputs used to develop Sprint's forward-looking cost of UNEs.
A. The FCC's TELRIC pricing requirement for unbundled network elements requires the depreciation component of TELRIC be based on forward-looking economic lives of the underlying UNE asset categories (Paragraph 703 of FCC First Report and Order 96-98). Accordingly, Sprint has developed forward-looking economic lives for all UNE asset categories and normally utilizes these lives in its UNE cost studies. In this filing, however, Sprint has made what it hopes the Commission will find to be an appropriate and practical concession, and has used the depreciation lives ordered for BellSouth's use in Phase Il of this docket.

## Tax Rates

Q. What tax rates were utilized in Sprint's UNE cost studies?
A. Sprint's filing utilizes the Federal and State income tax, state ad valorem tax, and the Regulatory Assessment Fee tax rates currently in effect in Florida. The Federal and State income tax and state ad valorem tax are reflected in the specific inputs utilized in Sprint's annual charge factor development, which are contained in the ACF section of the cost study documentation. The Regulatory Assessment Fee Tax is included in the common cost factor development and application.

## Structure Sharing

Q. Please describe the structure sharing input.
A. Structure sharing refers to the portion of aerial structure (poles), and buried cable and conduit excavation costs, that are shared with other companies. The structure sharing inputs are expressed in terms of the percent of costs assigned to telephone, which equates to the percentage of the structure cost that is borne by the ILEC. The reciprocal of this input factor represents the portion of the structure cost that is borne by companies other than the ILEC, such as power and/or cable companies. The model inputs are segregated between feeder and distribution sub-loop components, by aerial, buried and
underground plant mix, and by each of the nine customer density zones. Sprint's inputs are located at the tab labeled "Loop". The structure sharing inputs are also discussed in section III.B. 4 of the Loop documentation.

The structure sharing inputs for underground and buried feeder and distribution cables were set at $90 \%$ for the majority of the customers served by Sprint. This level of cost sharing of $10 \%$ exceeds the degree of structure cost sharing currently experienced by Sprint in Florida and thus allows for some forward-looking increase in structure sharing opportunities. The structure sharing inputs for the plowing construction technique used for placing buried feeder and distribution cables were set at $100 \%$ to reflect the reality that when plowing, the trench is closed over during the placement of the cable, thus eliminating the possibility of other entities placing cables in the same trench.

The structure sharing input for poles was set at $31 \%$ for all density zones. This input is based on an analysis of Sprint's experience specific to Florida, both with renting pole space from other entities and with allowing other entities to rent space on Sprint owned poles. Workpaper 9 in the loop documentation details the Florida-specific analysis supporting this model.

## Q. Why are the opportunities to share below-ground construction costs with power and cable companies limited?

A. In addition to the considerable difficulty in scheduling simultaneous cable placements among diverse utilities, there are work coordination, safety, and available space considerations which make significant sharing of buried and underground construction costs unlikely.

For example, the National Electric Safety Code requires a minimum of 12 inches of well-tamped earth fill separating power and telephone cables placed in the same trench. This is necessary to protect persons working on telephone cables that are not equipped or qualified to work with the voltage levels of power company cables. This critical precaution, requiring that any trenches shared with power companies be dug at least 12 inches deeper or wider, significantly increases the cost of creating the trench and reduces the savings opportunities for sharing trenches with power companies. Further, the locations for telephone company central offices, power company sub-stations and cable company head-ends often do not correspond. Therefore, it is not possible to share a common trench because the feeder routes for each company's facilities do not originate from the same geographic locations.

The structure sharing opportunity for buried cable is limited to the single point in time when the trench is initially opened. Trenches must be backfilled prior
to cable being placed into service. Therefore, in order to share the cost of the trench, companies must be willing to place cable at a specific location, at the same point in time. This limits the sharing with other companies to those instances where the timing of each companies' need for facility construction is perfectly aligned. This reality further limits structure-sharing opportunities.

## Structure Costs

Q. Please describe the structure cost input.
A. Structure costs are the costs for structures (conduit systems, trenches, poles) supporting copper and fiber feeder and distribution cable. The structure cost inputs fall into two basic categories: the type of construction activity (e.g., trench and backfill, cut and restore sod, plowing, bore cable) and the percent of construction done using the various construction activities (e.g., buried distribution cable construction done using plowing $37 \%$ of the time and boring $59 \%$ of the time for the high customer density zones.). Sprint's inputs are filed in the Loop section of the documentation, and described in section III.B.4.

Sprint's Florida-specific structure cost inputs were developed based on an analysis of the entire 1999 and 2000 contractor construction costs and activities as tracked in Sprint's Network Construction Activity Program (NETCAP). As such, it provides the most current, verifiable and pertinent data available for predicting the forward-looking costs of construction in the
same markets from which the data was drawn. The workpapers supporting the structure cost inputs are located in the loop documentation.

## Fill Factors

Q. Could you please describe the term fill factor?
A. Yes. Fill factors are the percentage of available network capacity utilized. Utilization is due to the following three factors:

Anticipation of future needs: When engineering and constructing telecommunications facilities, local exchange companies ("LECs"), both ILECs and alternative LECs ("ALECs"), attempt to anticipate future needs. For example, it is more cost-effective to dig a trench once and install facilities necessary to meet additional forecasted demand, than to dig up the trench and install new facilities every time a new loop is required.

## Capacity Acquired in "Blocks": Telecommunications plant capacity is

 acquired in large blocks. For example, towards the high end, copper cable is only available in step increments that increase by 600 pairs for the next larger size $(2400,3000,3600,4200)$. Therefore, unused capacity will exist while demand grows into the available capacity.Construction Time: An engineering interval (the period of time necessary to plan and construct facilities) is required when replacing or expanding capacity.

Efficient deployment of cable balances the cost-benefit relationship of unused capacity and the cost of installation. Inadequate capacity results in the Company's inability to meet its customers' expectations for new service installation intervals. The current levels of cable fill in Sprint's Florida network today allows our customers to generally enjoy a service level of 3 days or less for new service installation. The same cable fill is needed to meet ALECs' expectations for parity in the provisioning of new service installations for unbundled local loops.
Q. Please describe Sprint's cable fill factors used in this filing.
A. Sprint's cable fill factor inputs are located in the Loop section of the documentation in the Density Cable Sizing Factor Table. A full description of this model input development is contained in section III.B. 4 of the loop documentation. The associated workpapers may also be found with the loop documentation.

Sprint's feeder cable fill factors were developed based on Florida wire center-specific data for feeder cable fills. The feeder cable fill inputs were adjusted to reflect the reality that the cost model must select the ultimate cable size from the available cable sizes which results in some additional non-utilized cable pairs. The distribution cable fill inputs were set at $100 \%$ in concert with a model input of two distribution pairs per household. The
assumption of two distribution pairs per household reflects the actual and forward-looking, least-cost practice of placing two distribution cable pairs at each house at the point of initial construction. This practice is the least cost method of meeting customer demand for multiple lines to a household and avoids costly inefficient construction to place second lines at a later date.

## Manholes

Q. How were Sprint's cost model inputs for Manholes/Handholes developed?
A. Sprint's cost model inputs for manholes are located in the loop documentation. The associated workpaper is located in the loop documentation. Sprint's Florida-specific material and labor costs and manhole/handhole spacing was used to develop these inputs. The structure sharing inputs for manholes were set at a conservative level in excess of Sprint's actual experience to allow for some possible increase in structure sharing for manholes and handholes on a forward-looking basis. The sharing input for conduit is set at $100 \%$, consistent with the fact the model places no conduits in excess of those necessary for underground telephone cables and thus there is no spare conduit (or associated cost) to sell to an outside party.

## Fiber and Copper Cable

Q. Please describe Sprint's inputs for Fiber and Copper cable.
A. Sprint's cost model inputs for fiber and copper cable are found in Loop section of the documentation. A full description of the process used to develop these inputs is contained in the Section III.B. 4 of the loop documentation along with work papers showing the development of the inputs for SLCM. A summary description of the cable cost input development is provided below.

The material cost portion of Sprint's inputs for fiber and copper cable was developed using Sprint's current vendor cost for purchasing cable and adding Florida-specific sales tax due on those purchases. An analysis of Sprint's cable installations in Florida for 1998-2000 was done to develop a cost that includes exempt and other material (such as splice enclosures and cable mounting hardware) overhead and cable placement, splicing and engineering costs. The data analyzed for this Florida-specific cost input was obtained from Sprint's Project Administration and Costing System (PACS).

## Drops

Q. Please describe Sprint's cost model inputs related to Drop wires and terminals.
A. Sprint's cost model inputs for drop wire and terminals are found in the Loop documentation. The process and workpapers used to develop these inputs
is described in the loop documentation. A summary description of these inputs is provided below.

The drop wire and terminal inputs reflect Sprint's current vendor material costs and applicable Florida-specific sales tax and exempt material loadings. The placement cost portion of the inputs for aerial drops and both aerial and buried terminals are based on Florida-specific labor hour costs and labor hour estimates provided by Sprint outside plant experts working in Florida. The placement cost for a buried drop is based on Sprint's Florida-specific contractor cost for buried drop placement.

## Network Interface Devices (NIDs)

Q. Please describe Sprint's cost study process and associated inputs for NIDs.
A. The cost study, narrative description, and results for NIDs is contained under the tab labeled "NID" of the cost study. Sprint has provided the cost for 6line and 25 -line NIDs suitable for POTS applications and the cost for a Smartjack for DS1 applications. The material cost portion of these UNEs reflects Sprint's current vendor purchase cost for the three respective NID types. Installation of NIDs and Smartjack devices is included in the nonrecurring charge cost study.

## Digital Loop Carrier (DLC)

Q. Please describe the DLC cost inputs.
A. The DLC cost inputs are found in the loop documentation. A complete description of the DLC cost model inputs with supporting workpapers is found in the inputs section of the loop documentation. A summary description of the DLC inputs is provided below.

The DLC inputs reflect the combined material cost and engineering, outside plant, and central office installation labor costs for an installed DLC. The inputs include the cost of DLC site preparation including obtaining permits and concrete pad site engineering and installation. The material costs reflect Sprint's current vendor purchase prices and Florida-specific labor rates for engineering and installation. The labor hours for engineering and installation were provided by Sprint employees responsible for DLC engineering and installation.

As explained and illustrated in Section III.B. 4 of the loop documentation, Sprint's DLC inputs for stand-alone unbundled loops reflect the additional equipment requirements necessary to deliver dedicated unbundled loops to ALEC customers collocated at the central office. This additional equipment is the Central Office Terminal and DS-0 level line card. As further explained in the UNE-P (combined loop and local switching) section, the DLC inputs are appropriately modified to reflect a lower cost GR-303 Integrated DLC (IDLC) configuration. This IDLC configuration can be utilized in UNE-P
applications because the link between the DLC and the switch can be combined with other customers served by the DLC and integrated straight into the switch on a common path. This reduces the cost of the DLC inputs by removing the central office equipment and DS-0 level line card costs necessary in stand-alone UNE loop applications.

## Expenses

Q. Please explain how expenses are considered in Sprint's UNE cost study process.
A. The incorporation of forward-looking expense estimates in Sprint's UNE cost study process falls into four basic categories and/or processes: 1. The direct maintenance associated with capital investments underlying the various UNEs (e.g., buried copper cable maintenance, digital circuit equipment maintenance); 2. Other Direct Expenses associated with capital investments underlying UNEs (e.g., circuit engineering, cable pair record maintenance, trunk engineering); 3. Forward-looking common cost loadings; and 4. Expenses avoided when selling wholesale level UNEs vs. retail sales costs (e.g., billing and postage costs). I will address each of these expense categories and processes.

## 1. Direct Maintenance

The direct maintenance expenses associated with UNE capital investments are applied in the UNE cost study process by including a direct maintenance expense component in the Annual Charge Factor. The Annual Charge

Factor (ACF) development is explained in detail in the ACF section of the documentation. Using the relationship of Florida-specific 2000 direct maintenance to the associated gross capital investment, the direct maintenance expense loadings shown in the Annual Charge Factor Module Input Worksheet were developed. By applying these Florida-specific direct maintenance loadings to the corresponding forward-looking capital investment, an estimate of forward-looking direct maintenance is included in the UNE cost study.

## 2. Other Direct and Common Expenses

In the UNE cost study process it is necessary to consider forward-looking direct expenses beyond the direct maintenance expenses described above. Sprint has developed the Other Direct and Common (ODC) cost study model and process. This model and process is described in detail in the ODC section of the documentation. This study identifies the additional forwardlooking direct expenses, such as traffic engineering or assignment functions, and develops loading relationships to the applicable UNE. The loading relationships for each Other Direct Expense account is based on four basic approaches explained in the ODC cost study narrative. Within the ODC study, the Assignment Driver provides the basis for each direct expense assignment to the various UNEs. The forward-looking TELRIC UNE investments are used to develop the other direct expense loading percentages thus assuring a forward-looking level of expense estimate.

Common costs such as furniture, office equipment, general purpose computers and corporate operations are also developed in the ODC study process. This portion of the ODC study process is also explained in detail in the narrative and study workpapers supporting the ODC study.

## 3. Avoided Cost Study

An integral part of the Other Direct and Common Cost study process is the consideration of expenses that can be avoided when selling UNEs on a wholesale basis versus sales of services on a retail basis. Sprint's expense study processes identify these "avoided costs" using its Avoided Cost model and study process (ACS) which is explained in detail in the ACS section of the documentation. The result of the ACS is fed into the ODC cost study described above. The ACS is an activity-based cost study process that identifies the avoided expense by expense category (subaccount) and assigns these expenses to service groups, based on an activity driver. The use of the ASC study process assures that Sprint's UNE cost study results properly exclude retail expenses that can be avoided when selling UNEs on a wholesale basis.

## Issue 9

What are the appropriate recurring rates (averaged or deaveraged as the case may be) and non-recurring charges for each of the following UNEs?

## Q. How does the FCC define an unbundled loop?

A. Paragraph 167 of FCC 99-238 states:
"We modify the definition of the loop network element to include all features, functions, and capabilities of the transmission facilities, including dark fiber and attached electronics (except those used for the provision of advanced services, such as DSLAMs) owned by the incumbent LEC, between an incumbent LEC's central office and the loop demarcation point at the customer premises."

## 2-Wire Voice Grade Loop

Q. Please describe the UNE Loop TELRIC study process.
A. Sprint's forward-looking wire-center specific costs of unbundled 2-wire loops are found in the Loop section of the documentation. Contained in this documentation is a narrative description of the UNE loop cost study process, the UNE Loop cost results for every Sprint Wire Center in Florida, and the cost model inputs used to generate these forward-looking cost estimates. Mr. Hunsucker's testimony addresses the prices for UNE loops resulting from the wire center UNE loop costs in the study and sponsored by this testimony.

The UNE loop cost study process follows the UNE cost study process outlined in the introduction of my testimony. As explained in the narrative filed in the loop section, Sprint utilized SCLM to develop the forward-looking capital investments for unbundled loops. The individual inputs used in SCLM are provided in the loop documentation. The forward-looking capital investments generated by SLCM were fed into Sprint TELRIC UNE model, which combines the results of forward-looking investment and expense studies and generates wire center level monthly costs. The associated expense studies utilized within the Sprint TELRIC UNE model are also explained in detail in the documentation and elsewhere in this testimony.

Sprint's UNE loop cost studies are based on inputs developed using current, Florida-specific data where possible, so as to best predict the cost of serving specific wire centers within Florida. SLCM utilizes very granular customer density information in conjunction with the Sprint Florida-specific inputs so as to produce the best possible deaveraged UNE Loop cost estimates upon which to base pricing decisions.
Q. What factors affecting deaveraged UNE loop costs were considered in Sprint's UNE Loop TELRIC study?
A. The cost of unbundled local loops varies more on a geographic basis than any other UNE defined by the FCC's 96-325 Order. Under the broad category of physical geography, numerous factors affect the cost of providing loops to a specific customer location.

1. Customer Density - Customer density is the single largest factor impacting the cost of local loops. Customer density is commonly expressed in terms of customers or access lines per square mile. The
density of customers impacts loop cost in an inverse manner: the higher the customer density, the lower the cost of the local loop. This relationship is linked to a few fundamental issues, the first being a trench, conduit or aerial pole route is required regardless of whether a 25 pair or 2400 pair cable is placed. From this it is obvious the greater the customer density the more customers that can be served along a feeder or distribution cable route. Therefore, customer density ultimately determines how many customers or loops there are over which to spread the cost of digging the trench, placing conduit, and/or placing aerial pole line.

Customer density also drives the unit cost of other equipment components associated with loops. Loop components such as Serving Area Interfaces (SAls) (the point of interconnection between feeder and distribution cables), Digital Loop Carrier (DLC) devices, and Drop Terminals, for example, are all similarly impacted by customer density and exhibit lower per unit costs as customer density increases.
2. Distance - The distance of a given customer location from the central office increases loop costs as the distance increases. This relationship between customer location compared to central office location results from the obvious need to place more cable, trenches, conduit, and/or aerial pole lines as the distance or length of the loop increases. As distance increases it generally increases the need for, and overall cost
of, maintenance. Assuming constant customer density, longer cables have more splice points and resulting exposure to risk. Greater number of splice points means there are more areas for possible failure due to lightning, water, rodents, vandalism, and accidents. •
3. Terrain - The type of terrain in which cable is placed impacts both the cost of the initial cable placement and the maintenance of the cable. The cost of below-ground cable construction increases as the presence and hardness of rock increases. Terrain factors such as the water table, trees, and wetlands all affect the initial construction cost of loops and subsequent maintenance expense.
4. Weather - The extremes of weather affect the cost of maintaining cable and therefore significantly influence the type of cable placed (buried, aerial or underground). The cost of maintaining aerial plant in geographic areas that frequently experience hurricanes is certainly greater than those areas that seldom encounter these conditions.
5. Local Market Conditions - Issues such as local zoning laws requiring below-ground plant, screening and landscaping around SAI and DLC sites, construction permits and restrictions, heavy presence of concrete and asphalt, traffic flows, and local labor costs, all impact the construction and maintenance costs of loop plant and will vary between locations.

Sprint's use of SLCM in conjunction with Sprint-Florida-specific inputs allows the wire center-specific cost estimates to reflect the geographic specific impacts of all of the issues discussed above.

## 4-Wire Analog Loop

Q. How were the costs of 4-wire analog loops developed?
A. The wire center-specific monthly recurring costs for unbundled 4 -wire analog loops is contained in documentation included with this filing. As explained in the narrative provided, the 4 -wire loop cost is developed using the 2 -wire loop cost study results explained above. To account for the increased cost of two copper pairs for those 4 -wire loops served on copper, the 2-wire copper outside plant investment was doubled along with CO Termination and fiber bandwidth requirements. No other adjustments were necessary. The 4-wire analog loop cost study results, descriptive narrative, and workpapers are filed in the documentation.

## 2-Wire ISDN/IDSL Loop

Q. Does the cost of unbundled 2-wire ISDN/IDSL loops vary from 2-wire voice grade loops?
A. Yes. The cost of DLC line cards needed for 2-wire ISDN/IDSL loops is greater than those required for 2 -wire voice grade loops. Additionally, for those loops served on fiber fed DLCs there is increased bandwidth requirements for the 2-wire ISDN/IDSL loops over that required for 2-wire
voice grade loops. Sprint has acknowledged these two necessary cost impacts through the development of a BRI-ISDN/IDSL loop. This loop cost is found in the cost study along with a narrative description and calculations.

## 2-Wire XDSL-Capable Loop

Q. Does the cost of 2-wire xDSL-Capable loops differ from the cost of 2wire voice grade loops?
A. No, given the current limitation of 2 Wire xDSL-Capable loops to copper only. The forward-looking network design used within SLCM to develop the 2 -wire voice grade loop is also capable of supporting xDSL service for those loops served on copper. The forward-looking network design is free from any load coils, repeaters, or excess bridged taps that would otherwise inhibit xDSL technology on those copper loops. The 2-wire xDSL-capable loop monthly recurring costs are identical to the 2 -wire voice grade costs. However, as explained in Mr. Davis' testimony, the FCC has allowed ILECs to charge for the conditioning of copper loops in the embedded network so as to enable their use for xDSL technology. In accordance with the FCC Order's directive, Mr. Davis' testimony sponsors the loop conditioning non-recurring charges that may apply on 2-wire xDSL-capable loops.

## 4-Wire xDSL-Capable Loops

Q. How were the costs for these 4 -wire loop types developed?
A. As explained for 2-wire xDSL-capable loops above, the forward-looking network design used for 4 -wire analog loops requires no further adjustment for these additional 4 -wire loop types ( 4 -wire $\times D S L$ assumed to be provisioned on copper only). The monthly recurring cost for these 4 -wire DSL loop types is the same as the cost of the 4 -wire analog loops and therefore no separate cost study is necessary. As with 2-wire DSL loops, some loop conditioning NRCs may apply as explained in Mr. Davis' testimony.

## DS-1 Loops and DS-0 56K/64K Loops

Q. How were the costs for DS-1 loops developed?
A. The costs for DS-1 and DS-0 loops were developed in a similar fashion as described for the 2 -wire ISDN/IDSL loop above. The cost study reflects the additional investment to provide DS-1 functionality in the form of additional electronics needed at the central office and any remote terminal, and customer premises. The additional bandwidth required by a DS-1 loop is accounted for within the DS-1 calculations found within SLCM. The calculation of this DS-1 loop cost is explained and shown in the Loop documentation.

## High Capacity Loops (DS-3, OC-3, OC-12, OC-48)

Q. Please describe the cost study process for High Capacity DS-3 unbundled loops.
A. The cost study results, narrative, and workpapers for DS-3 unbundled loops are found behind the tab named High Capacity Loops. A full description is contained in that documentation and I will summarize here. In order to model the cost of fiber facilities associated with DS3 loops, the existing DS-3 customers in Florida were geo-coded into Sprint's Loop Cost Model (SLCM). This allowed SLCM to model the fiber cable in the feeder and distribution cable plant associated with DS-3 customer locations. All of the necessary SLCM inputs related to installed fiber cable costs are the same as previously discussed for other loop types. The deaveraged fiber costs by wire center are shown in the High Capacity Loop study. The High Capacity Loop documentation and SLCM documentation describe the SLCM network design and model calculations created for this purpose.

## Q. Please describe the cost study process for High Capacity OC-3, OC-12 and OC-48 unbundled loops.

A. The cost study results, narrative, and workpapers for DS-3 unbundled loops are filed behind the tab named High Capacity Loops. A full description is contained in that documentation and I will summarize here. The cost of fiber cable facilities for unbundled OC-3, OC-12 and OC-48 loops is the same as used for the unbundled DS-3 loop study described above. The corresponding OC-n level terminal costs for each OC-n level unbundled loop are broken out between common terminal costs and plug-in DS-3 level card costs. This will allow the ALEC customers to manage their card costs to best match their bandwidth needs.

## Dark Fiber - Loop and Transport

Q. How was the dark fiber - loop cost study performed?
A. The dark fiber - loop cost study results, narrative, and workpapers are found in the Dark Fiber section of the documentation. A full description is contained in that documentation and I will summarize here. The cost of fiber cable was developed in SLCM using the same inputs as described for all previous unbundled loop types. The dark fiber documentation and SLCM documentation describe the SLCM network design and model calculations created for this purpose. The dark fiber - loop costs are calculated in two distinct components--feeder and distribution.

The dark fiber - loop feeder result by wire center is calculated based on the per fiber cost of feeder routes created in SLCM to service existing DS-3 customer locations and forward-looking DLC sites. The dark fiber - loop distribution cost is the same as calculated by wire center for DS-3 unbundled loops and described above.
Q. Please describe the dark fiber - interoffice facilities.
A. The dark fiber - interoffice facilities cost study results, narrative and workpapers are behind the tab named Dark Fiber. A full description is contained in that documentation and I will summarize here. The cost of fiber cable was developed in SLCM using the same inputs as described for all previously described unbundled loop types. The dark fiber documentation and SLCM documentation describe the SLCM network design and model calculations created for this purpose.

The first step in the dark fiber - interoffice facilities cost study was to analyze Sprint's Florida-specific interoffice transport routes to determine the number of fiber strands required to provide the bandwidth requirements on any given route. A minimum fiber cable size of 36 fibers was assumed based on Sprint's network planning practices.

Using actual DS-3 demand as inputs to SLCM, the number of lit fiber strands necessary to meet that route's bandwidth requirements is determined. At this point, the fiber cable strands for interexchange bandwidth requirements is added in SLCM. The IX fiber routes follow existing DLC fiber feeder and DS-3 fiber distribution to the full extent possible so as to result in maximum degree of cable structure sharing between loop and interoffice facilities. These calculations are performed for each wire center to determine a statewide weighted average of interoffice dark fiber costs.

## Sub-Loop Elements

Q. How was the sub-loop cost study performed?
A. The sub-loop cost study results, narrative, and workpapers are found in loop documentation. A full description is contained in that documentation and I will summarize here. Given the infancy and uncertainty of sub-loop unbundling, Sprint proposes the sub-loop elements of feeder and distribution as the appropriate level of initial sub-loop unbundling. Should significant demand materialize for further unbundling it may be appropriate to establish even smaller sub-loop elements in the future. Due to still developing industry standards, practices and experience with sub-loop unbundling, it is not possible to predict the forward-looking costs of establishing ALEC interconnection to these sub-loop elements with any certainty. Therefore, the interconnection costs to access sub-loop elements should be handled on an individual case basis until such time as standard network arrangements, ordering and provisioning practices have developed.

The cost of the sub-loops' feeder and distribution is taken straight from the same SLCM runs used to generate the cost for all other unbundled loop types. The associated models, process and model inputs are the same as previously described.

## Inside Wire

Q. How was the Inside Wire cost study performed?
A. The cost study results, narrative, and workpapers for unbundled inside wire is found under the tab Inside Wire. A full description is contained in that documentation and I will summarize here. The cost study accounts for two scenarios where Sprint might own inside wire. The scenarios include interbuilding cable, where the cable is part of a campus or office park and connects the buildings; and intrabuilding cable, which includes riser and plenum cable. Riser cable is the cable running vertically within a building and plenum cable runs horizontally within a building.

Given that the demand for inside wire as unbundled network element is unknown and the variability between locations where Sprint owns inside wire, Sprint developed building block costs for the elements associated with inside wire. The building block costs include per foot prices for various cable sizes and serving area interfaces. By location, a price will be built based on the amount of cable the ALEC wishes to purchase as a UNE.

## Packet Switching

Q. Does Sprint's filing contain a cost study for unbundled packet switching?
A. No. Sprint's filing in this proceeding does not include a cost study or proposed rate for the packet switching unbundled element. Section
51.319(c)(3)(B) requires an incumbent LEC to provide unbundled packet switching only if the following conditions are satisfied:
"(i) The incumbent LEC has deployed digital loop carrier systems, including but not limited to, integrated digital loop carrier or universal digital loop carrier systems; or has deployed any other system in which fiber optic facilities replace copper facilities in the distribution section (e.g., end office to remote terminal, pedestal or environmentally controlled vault);
(ii) There are no spare copper loops capable of supporting the xDSL services the requesting carrier seeks to offer; (iii) The incumbent LEC has not permitted a requesting carrier to deploy a Digital Subscriber Line Access Multiplexer in the remote terminal, pedestal or environmentally controlled vault or other interconnection point, nor has the requesting carrier obtained a virtual collocation arrangement at these subloop interconnection points as defined by 51.319 (b); and (iv) The incumbent LEC has deployed packet switching capability for its own use."

To date, Sprint has not deployed DSLAMs at its DLCs locations. Therefore, it cannot, and has no obligation under the FCC's rules, to provide packet switching as a UNE. When and if Sprint deploys a DSLAM at a DLC and the additional 3 criteria listed above are met, Sprint will develop and make
available to requesting carriers the packet switching unbundled network element.

## Issue 12-UNE Combinations

Without deciding the situations in which such combinations are required, what are the appropriate recurring and non-recurring rates for the following UNE combinations:
"UNE platform" consisting of: loop (all), local (including packet, where required) switching (with signaling), and dedicated and shared transport (through and including local termination);

## UNE-P

Q. Please describe Sprint's cost study for combined loop, switch and transport (UNE-P).
A. Sprint's cost study, detailed narrative, and workpapers for UNE-P 2-wire loops and switch ports are found in the UNE-P section of the documentation. Sprint's UNE-P cost study reflects the network economies available through use of integrated DLC (IDLC) that is possible when loop and switch UNEs are sold on a combined basis. Sprint's UNE-P cost study adjustments reflecting the cost reducing effects of IDLC are explained in detail in the cost study narrative. The SLCM inputs are the same as for UNE 2-wire loop with the exception of the DLC inputs as mentioned above, and a second run of

SLCM was done solely for determining the cost of loops using IDLC. Sprint witness Mr. Cox addresses in his testimony the switch port cost reductions possible under an UNE-P arrangement. Mr. Davis addresses the nonrecurring charge for switch translations work necessary to meet ALEC specific trunk routing requests.

The dedicated or common transport component of UNE-P is not reflected in Sprint's cost study output because it is not possible to predict where the ALEC will request its traffic to be routed (Sprint's dedicated transport cost study has approximately 500 point-to-point routes). However, both the dedicated transport and common transport UNE options are available as part of UNE-P and the cost of the transport ordered by the ALEC would simply be added to the cost of UNE-P in Sprint's cost study filing. The testimony of Mr. Davis addresses the non-recurring charges associated UNE-P.

## UNE-P 2-Wire ISDN/ISDL

Q. Are there similar adjustments needed to reflect the cost of combined 2wire ISDN loops and switch ports?
A. Yes. The integrated GR303 switch and DLC network configuration that yields cost savings for combined POTS loop and switch ports are available for ISDN-BRI. An additional ISDN-BRI loop and port combination is also provided. IDSL is a non-switched service and therefore UNE-P is not applicable.

## Enhanced Extended Link (EEL)

Q. Please describe Sprint's cost study for Enhanced Extended Link (EEL).
A. Sprint's cost study, detailed narrative and associated workpapers for EEL are found under the tab named EEL. Depending on the transport routes requested by the ALEC, there are hundreds of possible combinations of loop and transport routes possible. Sprint has not attempted to list all of these possible combinations, but has simply shown the additional costs for multiplexing equipment that are needed for DS-0 to DS-1 and DS-1 to DS-3 EEL combinations in the EEL Monthly Recurring Charges table. The development of these simple multiplexing cost additives is provided in the cost study filing along with illustrative drawings and descriptions. Mr. Davis' testimony addresses any applicable non-recurring charges associated with EELs.

## Q. Does this conclude your testimony?

A. Yes.

## KENT DICKERSON

## QUALIFICATIONS

I received a Bachelor of Science degree from the University of Missouri - Kansas City in 1981 with a major in Accounting. In 1984, I passed the national exam and am a Certified Public Accountant in the State of Missouri.

From 1981 to 1983, I was employed as a Corporate Income Tax Auditor II for the Missouri Department of Revenue. From 1983 to 1985, I worked for Kansas Power and Light (now Western Resources) in the Tax and Internal Audit areas. I joined United Telephone Midwest Group in September, 1985 as a staff accountant in the Carrier Access Billing area. Thereafter, I moved through a progression of positions within the Toll Administration and General Accounting areas of the Finance Department.

In 1987, I was promoted into the Carrier and Regulatory Services group as a Separations/ Settlement Administrator performing Federal and Intrastate access/toll pool settlement, reporting and revenue budgeting functions. I was promoted to Manager - Pricing in June, 1989 where I performed FCC regulatory reporting and filing functions related to the United Telephone - Midwest Group Interstate Access revenue streams.

In 1991, I was promoted to Senior Manager - Revenue Planning for United Telephone - Midwest Group. While serving in this position my responsibilities accepted a position within the Intrastate Regulatory operations of Sprint/United Telephone Company of Missouri where my responsibilities included regulatory compliance, tariff filings, and earnings analysis for the Missouri company's intrastate operations.

Since December 1994, I have set-up and directed a work group which performs cost of service studies for retail services, wholesale unbundled network elements cost studies, and state and federal Universal Service Fund cost studies. Over the last 5 years I have been charged with developing and implementing cost study methods which conform with Total Service Long Run Incremental Cost ("TSLRIC") and Total Element Long Run Incremental Cost ("TELRIC") methodologies. I am responsible for written and oral testimony, serving on industry work groups, and participating in technical conferences related to TSLRIC/TELRIC costing methodology, filing of studies within individual 18 states that comprise Sprint's Local Telephone Division (LTD) and providing cost expertise to Sprint's participation in regulatory cost dockets outside of the LTD territories. I have testified in Florida, Nevada, North Carolina, Texas, Kansas, Missouri, Georgia, and Wyoming regarding TSLRIC/TELRIC cost matters.

## See Cost Study Binders Vol I, II, and III.

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OF
TALMAGE O. COX, III
Q. Please state your name, business address, employer and current position.
A. My name is Talmage O. Cox, III. My business address is 6360 Sprint Parkway, Overland Park, Kansas, 66251. I am employed as Senior Manager Network Costing for Sprint/United Management Company.
Q. What is your educational background?
A. I received an Associate in Arts Degree from National Business College, Roanoke, Virginia, in 1977 with a major in Business Administration -Accounting. Subsequently, I received a Bachelor of Science Degree from Tusculum College - Greeneville, Tennessee, in 1986 with a major in Business Administration.
Q. What is your work experience?
A. I have worked for Sprint since 1978. Prior to my current position, I have held several positions with Sprint in costing. I developed cost studies and methodology associated with various services and special projects for state jurisdictional filings in Tennessee and Virginia. While working in this position, I was the Telecordia Switching Cost Information System (SCIS) Administrator for ten years responsible for coordinating model questions with Telecordia and assisting other users when needed. For the past five years, in my current position I have primary responsibility for developing the costing methodology and the module for interoffice transport associated with Sprint's Unbundled Network Element (UNE) transport cost. In addition to transport, I also currently have responsibility for developing the costing methodology and the module for switching associated with Sprint's UNE switching cost.
Q. On whose behalf are you testifying?
A. I am testifying on behalf of Sprint-Florida, Inc. ("Sprint").
Q. Have you previously testified before other Public Utility Commissions?
A. Yes. I have previously testified before state regulatory commissions in Kansas and Texas.
Q. What is the purpose of your Testimony?
A. My testimony is two-fold:

First, I respond to the following issues:

Issues $7(0), 7(p), 7(r), 9(a)(13), 9(a)(15)$, and $9(a)(16)$.
Issue 7. What are the appropriate assumptions and inputs for the following items to be used in the forward-looking recurring UNE cost studies?
(o). switching networks and associated variables
(p). traffic data
(r). transport system costs and associated variables

Issue 9. (a) What are the appropriate recurring rates and nonrecurring charges for each of the following UNEs?
(13). Circuit switching (where required)
(15). Shared interoffice transmission
(16). Dedicated interoffice facilities

My responses are from a perspective of how the underlying costs of the transport and switching related UNEs relate to specific issues raised in this docket. Sprint's witness Mr. Michael R. Hunsucker provides testimony regarding the appropriate method to develop the pricing of transport and switching. Sprint's witness Mr. Jimmy R. Davis provides testimony addressing the non-recurring charges associated with transport and switching.

Second, my testimony also supports Sprint's recurring cost studies associated with unbundled network elements in the following categories:
I. Transport
II. Switching For purposes of clarity, I address each of the specific issues under the transport and switching categories. Unless otherwise identified, all nonrecurring charges for the above are addressed by Sprint's witness, Mr. Jimmy R. Davis.
Q. Which portions of Sprint's cost study filing are you supporting?
A. In addition to my testimony, I support certain portions of Sprint's cost study. Exhibit KWD-3 to the testimony of Sprint witness, Mr. Kent W. Dickerson identifies the portions of Sprint's cost study filings that I support.

## I. Transport

Q. How does the FCC define unbundled interoffice transmission facilities?
A. FCC Rule 51.319 (d) defines unbundled Interoffice Transmission Facilities "... as incumbent LEC transmission facilities dedicated to a particular customer or carrier, that provide telecommunications between wire centers owned by incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunications carriers."

The unbundled Interoffice Transmission Facilities element, or simply "transport", is composed of the two basic network components: terminals and fiber cable. Terminals are the equipment housed at the central office locations and serve as entry and exit points for telecommunications traffic to be moved between interoffice points in the network. In the majority of today's transport networks, and certainly in a forward-looking network, these interoffice terminals will be optically capable. Additionally, the fiber transport routes in a forward-looking network are constructed in ring design, which provides diverse routing capability in the event of a fiber cable cut, or terminal node failure. This forward-looking transport network design is commonly referred to as survivable SONET ring technology.
Q. What does the FCC 96-325 First Report and Order state regarding the unbundling of transmission facilities?
A. FCC 96-325, First Report and Order, Paragraph 440, states, "We require incumbent LECs to provide unbundled access to shared transmission facilities between end offices and the tandem switch. Further, incumbent LECs must provide unbundled access to dedicated transmission facilities between LEC central offices or between such offices and those of competing carriers. This includes, at a minimum, interoffice facilities between end offices and serving wire centers (SWCs), SWCs and IXC POPs, tandem switches and SWCs, end offices or tandems of the incumbent LEC, and the wire centers of incumbent LECs and requesting carriers. The incumbent LEC must also provide, to the
extent discussed below, all technically feasible transmission capabilities, such as DS1, DS3, and Optical Carrier levels (e.g. OC-3/12/48/96) that the competing provider could use to provide telecommunications services. We conclude that an incumbent LEC may not limit the facilities to which such interoffice facilities are connected, provided such interconnection is technically feasible, or the use of such facilities. In general, this means that incumbent LECs must provide interoffice facilities between wire centers owned by incumbent LECs or requesting carriers, or between switches owned by incumbent LECs or requesting carriers. For example, an interoffice facility could be used by a competitor to connect to the incumbent LEC's switch or to the competitor's collocated equipment."

Sprint's Transport Cost Module (TCM) was developed to determine the TELRIC of interoffice transport for DS0, DS1, DS3, OC3, and OC12 in support of unbundled elements.
(r) Transport System Costs and Associated Variables:
Q. What are the network components that Sprint includes in the development of transport system costs?
A. The development of interoffice transport system costs for UNEs should include all of the direct cost components required for the service to be fully functional. The transport system cost inputs should utilize/recognize the following items:

- Fiber optic cable
- Fiber tip cable
- Fiber patch panel
- Fiber optic terminals (OC-3, OC-12, and OC-48)
- OC-3 cards
- OC-12 cards
- DS-3 cards
- DS-1 cards
- Installation cost
- Capacity
- Utilization factors
- Pole and conduit factors
- Annual charge factors
- Aerial, buried, underground mix

All of these components are included in Sprint's transport costing process as shown in Volume I of Exhibit KWD-2, Section "Transport".
Q. Should traffic volume (Associated Variables) be considered in the development of transport costs?
A. Yes. The largest single determinant in the unit cost of a DS0, DS1, DS3, OC3 or OC12 transport circuit, is the volume of telecommunications traffic transmitted over a specific transport route. This volume of traffic, or demand, determines both the appropriate capacity sizing of the terminal equipment and fiber cable. Additionally, it defines the units over which these costs are spread. In cost determination, this basic principle is referred to as utilization. As volumes of traffic vary across specific transport routes, so do the sizing and utilization of terminals and fiber cable, and ultimately the resulting unit costs.
Q. Should terminal bandwidth OC3, OC12, OC48 (Associated Variables) be considered in the development of transport costs?
A. Yes. As traffic volumes or demand increases, larger terminals with increased capacity are used. Use of larger terminals associated with increased traffic volume results in greater economies and lower unit costs.

A basic characteristic of fiber cable is that the volume of traffic is a function of the optical terminal's bandwidth/capacity (OC3, OC12, and OC48) placed on the fiber ring. From this basic principle, it follows that the same traffic volume that drives the unit cost of the terminals is also a major determinant in the transport unit cost of the fiber. The same relationship exists for fiber as for terminals, in that the more traffic that a specific transport route carries the lower the unit cost of DS0, DS1, DS3, OC3 or OC12 on that route.
Q. Should distance (Associated Variables) be considered in the development of transport costs?
A. Yes. It is obvious that as the distance around a transport ring increases, more fiber cable must be placed, thereby increasing the cost of bandwidth on that ring. Related to the impacts of distance on transport unit costs is the fact that as distance increases, the likelihood for needing multiple survivable SONET rings to connect the two network end points increases. The potential use of multiple rings to transport traffic between certain end offices is unavoidable due to ultimate capacity constraints of terminal equipment and the need to construct fiber rings that link the predominant communities which originate and terminate the largest volumes of traffic on any given ring. Two communities with a relatively smaller need (i.e. volume) for transporting traffic between themselves would normally not exist on the same ring. Therefore, in order to transport the relatively lower volumes of traffic between these two communities having lower volumes of traffic, multiple rings are required to establish the circuit. For example when two remotes that are homed off of two different host switches have local calling to each other, each remote is on a different ring back to its host switch.
Q. What are Sprint's assumptions associated with the development of transport terminal cost inputs?
A. The transport terminal cost inputs should recognize the following key assumption items:

- Transport Terminal Cost is Based on Sprint-Florida Specific Data
- Utilizes Forward Looking Technology
- Includes Optical Based Transmission Equipment Costs Only
- Capable of Costing OC3, OC12, and OC48 Transport Rings Individually
- Reflects the Use of LEC's Existing Wire Centers

More specifically, the terminal cost should be developed by terminal bandwidth (OC3, OC12, and OC48) and should include all of the common components required to make it operational. This would include the following components: relay racks, shelves, line interface, common shelf processor, tributary shelf processor, receive/transmit access module, tributary transceiver, line shelf power supply, common shelf power supply, ring controller, synchronizer card, USI-LAN interface, software, cables, cover, DS3 switch, transmitters, craft interface equipment and software, and common complement of spare equipment. In addition to the above common equipment, additional line or drop interface equipment will be required for the hand off of DS0's, DS1's, DS3's, OC3's and OC12's.
Q. What is the appropriate method for the development of Sprint's terminal cost inputs?
A. Sprint's cost model inputs for terminals are filed in Volume II of Exhibit KWD-2, under the Transport section. The interoffice transport terminal cost inputs reflect Sprint's current vendor material costs and applicable Florida specific sales tax. The engineering/installation labor inputs were developed by Sprint Engineering as typical work durations considered appropriate for this cost study. Florida specific labor rates were also utilized.

ISSUE 9: (a) What are the appropriate recurring rates (averaged or deaveraged as the case may be) and non-recurring charges for each of the following UNEs?
(15) Shared interoffice transmission
Q. What does the FCC say about the rates for transport?
A. FCC 96-325, First Report and Order, Paragraph 822, states,
"Typically, transmission facilities between tandem switches and end offices are shared facilities. Pursuant to our rate structure guidelines, states may establish usage-sensitive or flat-rated charges to recover those costs."

Sprint agrees, and has calculated its TELRIC for dedicated transport on a monthly recurring, flat-rated basis. Sprint also has calculated common transport on a recurring per minute of use (MOU) basis. A study summary titled "Transport Cost Module" is included behind the "Transport" tab in Volume I of Exhibit KWD-2. The testimony of Mr. Jimmy R. Davis addresses the non-recurring charges associated with transport.
Q. Please describe your transport TELRIC methodology for shared interoffice transport (Common Transport).
A. Sprint calculated a weighted average common transport element on a per minute of use basis. This common transport element represents a weighted average cost per DS1 of all the extended area service (EAS) routes associated with Sprint's local exchanges, divided by the average MOU's per DS1. The average MOU's per DS1 was based on a Florida specific traffic study of common use switched trunks. Sprint's witness Mr. Michael R. Hunsucker will provide testimony regarding the appropriate method to develop the pricing of common transport.
(16) Dedicated interoffice transmission
Q. What does the FCC state regarding the rates for transport?
A. FCC 96-325 First Report and Order, Paragraph 820 states,
"Our rule that dedicated facilities shall be priced on a flat-rated basis applies to dedicated transmission links because these facilities are dedicated to the use of a specific customer."

Sprint agrees, and has calculated its TELRIC for dedicated transport on a monthly recurring flat-rate basis. A study summary titled "Transport Cost Module" is included behind the "Transport" tab in Volume I of Exhibit KWD-2. The testimony of Mr. Jimmy R. Davis addresses the nonrecurring charges associated with transport.
Q. Please describe the transport TELRIC methodology for dedicated transport.
A. The TELRIC methodology is similar for both dedicated and common transport. Sprint created its own Transport Cost Module (TCM), which exists as an Excel workbook. TCM determines the TELRIC of interoffice transport, individually for each fiber optic transmission ring. The cost study narrative and results for transport is contained in Volume I of Exhibit KWD-2, Tab "Transport".

# Q. What is the difference between point-to-point and fiber ring transmission systems? 

A. Fiber ring technology represents the current state-of-the-art transport design. The most significant characteristic is the use of fiber rings, rather than point-to-point connections, which provide route diversity. Should the cable making up part of the ring be broken, traffic is automatically rerouted over the remainder of the ring. Ring technology has become the industry standard technology, such that asynchronous point-to-point systems can no longer be purchased from vendors.
Q. What percent of Sprint's transmission network in Florida did Sprint model?
A. Sprint modeled $100 \%$ of its transmission systems in Florida.
Q. Please describe the TCM.
A. The TCM has three input sheets, and several calculating worksheets. The first input sheet is "TransInputs." The user inputs the following material, engineering and installation cost data by component.

Component Description:

- Fiber optic cable
- Fiber tip cable
- Fiber patch panel
- Fiber optic terminals (OC-3, OC-12 and OC-48)
- OC-3 cards
- OC-12 cards
- DS-3 cards
- DS-1 cards
- Installation cost
- Capacity
- Utilization factors
- Pole and conduit factors
- Annual charge factors
- Aerial, buried, underground mix

The second input sheet is "Trans_Rings." The user inputs each transport ring's characteristics, redesigned as necessary using least cost, forwardlooking technology. For example, a current transport system between three locations may be provided through three separate, point-to-point transmission systems. TCM, in most cases, reflects this network as a single fiber ring with three fiber optic terminals. The following is a listing of the Trans_Rings - Ring Characteristic inputs.

Trans_Rings - Ring Characteristics Inputs:

- $\quad$ Ring Name
- Ring Number
- Segment Name
- Ring Type
- Segment Actual Miles
- Number of Repeaters
- Terminal Size
- Number of DS1 Terminations
- Fiber Tip Cable (Per Fiber) Util.
- Fiber Patch Panel (Per Fiber) Util.
- SONET Terminal Shelf (OC3, OC12 and OC48) Util.
- OC12 Card Util.
- OC3 Card Util.
- DS3 Card Util.
- DS1 Card Util.
- DSX3 Cross Connect Shelf
- DSX3 Cross Connect Card
- DSX1 Cross Connect Jack Field
- Channel Bank Shelf
- Channel Bank Card
- Aerial Fiber (Per Fiber) Util/Sharing
- Underground Fiber (Per Fiber) Util/Sharing
- Buried Fiber (Per Fiber) Util/Sharing
- OC3 Card (For Ded. OC3 Service)

The third input sheet is the "Trans_Routes." The user inputs each of the transport routes for the development of a route specific common and dedicated transport cost for DSO, DS1, DS3, OC3, and OC12. In addition to the route, the user will input the appropriate rings that the route will utilize. The following is a listing of the Trans_Routes inputs.

Trans_Routes Inputs:

- Route Originating
- Route Terminating
- Non Sprint Node
- $\quad 1^{\text {st }}-8^{\text {th }}$ Ring Number Utilized
Q. Please describe the calculations performed by the TCM worksheets.
A. There are five basic steps to the TCM calculations for dedicated (DSO, DS1, DS3, OC3 and OC12) transport. The first step is performed by Worksheet A of the TCM, which converts the total utilized capacity of each type of transmission equipment into a cost per DS1.

The second step is performed by Worksheet $B$, which calculates the costs of each of six types of interconnections. The six interconnection types are OC12 termination, OC3 termination, DS3 termination, DS1 termination, terminal pass-through, and fiber pass-through.

The third step is performed on Worksheet C , which calculates the cost per route mile of fiber facilities, or transit. This cost includes the costs of providing route diversity, or protection.

The fourth step is performed by Worksheet $D$. The termination and transit costs of each fiber ring are determined using the information in Worksheets $\mathrm{A}, \mathrm{B}$, and C . The end result is the termination and transit costs of dedicated DSO, DS1, DS3, OC3, and OC12 transport.

The fifth step is performed by the Weighted Termination/Distance Summary worksheet. The termination and transit cost from the individual summaries are converted to a weighted average cost for termination and transit for each of the dedicated bandwidth options DS0, DS1, DS3, OC3, and OC12.

The common cost factor, which is added to the results to develop the forward-looking economic cost, takes place on each of the individual DSO, DS1, DS3, OC3 and OC12 Summaries.
Q. What does the FCC Order state regarding fill factors?
A. FCC 96-325, First Report and Order, Paragraph 682 states,
"Per-unit costs shall be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with network usage); that is, the per-unit costs associated with the element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element."
Q. Please describe what is meant by "reasonably accurate fill factors" (FCC Order Paragraph 682).
A. Fill or utilization factors are the percentage of available network capacity actually used. Utilization is due to three factors.

1. When engineering and building telecommunications facilities, LECs attempt to anticipate future needs. For example, it is more cost-effective to dig a trench once and install additional facilities, than to dig a trench and install new facilities every time a new loop is required.
2. It is the nature of the telecommunications industry that capacity is acquired in large blocks. Additional available capacity will exist while demand grows into the available capacity.
3. An engineering interval, a period of time necessary to plan and construct facilities, is required when replacing or expanding capacity.

Efficient deployment balances the cost-benefit relationship of unused capacity and the cost of installation. Not enough capacity results in inefficient rework (e.g. digging new trenches every month); while too much capacity is an inefficient use of resources (e.g., burying plant that will never be used).
Q. Is the use of a theoretically high, optimal utilization factor appropriate for telephone companies such as Sprint-FIorida?
A. No. With certain sections of Sprint-Florida being rural it does not have sufficient traffic to maintain a high utilization factor. This is in large part due to the nature of transmission capacity. For example, an OC-3 system has the capacity of 3 DS3s, and OC-12 system has the capacity of 12 DS3s. When an OC-3 system is exhausted and replaced with the larger OC-12 system, its maximum utilization at the time of cutover is only $25 \%$ (3 DS3s / 12 DS3s). In reality, the cutover takes place prior to absolute exhaustion, so the actual utilization at cutover will be less than $25 \%$.

The same utilization phenomenon occurs when cutting over from an OC12 to an OC-48 system.
Q. How are the ring costs converted into transport route specific cost?
A. The process consists of the following steps. As an example, the cost of the Fort Myers - Fort Myers Beach DS1 route will be described here. The same process is repeated for each route listed on the "Dedicated Transport Rate Summary" worksheet (Dedicated_Rate tab) found in Volume II of Exhibit KWD-2 under the Transport section.

The first step, takes the input from the Trans_Routes worksheet of the input module to the Dedicated Transport Rate Summary worksheet in the TRANS04.XLS workbook for the development of the transport route cost, in this example the route is Fort Myers - Fort Myers Beach.

The second step is to identify which ring or rings would the DS1 be routed over for the route Fort Myers - Fort Myers Beach. Once the ring is identified along with the ring number of the associated ring, the ring number is entered in the column to the right of the listed route, columns labeled $1^{\text {st }}, 2^{\text {nd }}, 3^{\text {rd }}$, through $8^{\text {th }}$. Through the use of lookup formulas, the model will pull the cost from the Weighted Termination/Distance Summary for the ring number input to provide the dedicated economic cost for the route listed. Instances where multiple rings are required, the sum of the DS1 cost for each ring will become the route specific cost. The Fort Myers to Fort Myers Beach route utilizes only one ring, which results in the cost per DS1 being displayed on an individual route basis on the Dedicated Transport Rate Summary worksheet in column M labeled Dedicated DS1 Rate. This can be validated by looking at the Weighted Termination/Distance Summary worksheet for ring number 81 which has the same monthly cost per DS1 shown in column S of the Weighted Termination/Distance Summary worksheet. Both of these worksheets (Dedicated Transport Rate Summary, Weighted Terminaton/Distance Summary) can be found in the TRANS04.XLS workbook or in Volume II of Exhibit KWD-2 under the Transport Section. Sprint witness Mr. Michael R. Hunsucker provides testimony regarding the appropriate method to develop the pricing of transport. Sprint witness Mr. Jimmy R. Davis provides testimony regarding the non-recurring charges associated with transport.

## II. Circuit Switching

Q. What does the FCC 96-325 First Report and Order state regarding switching as a UNE?
A. FCC 96-325, First Report and Order, Paragraph 412, states, "We defined the local switching element to encompass line-side and trunkside facilities plus the features, functions, and capabilities of the switch. The line-side facilities include the connection between a loop termination at, for example, a main distribution frame (MDF), and a switch line card. Trunk-side facilities include the connection between, for example, trunk termination at a trunk-side cross-connect panel and a trunk card. The "features, and capabilities" of the local switch include the basic switching function of connecting lines to lines, lines to trunks, trunks to lines, trunks to trunks."

ISSUE 7: What are the appropriate assumptions and inputs for the following items to be used in the forward-looking recurring UNE cost studies?
(o). switching networks and associated variables
(p). traffic data
Q. What assumptions and inputs did Sprint use in its recurring cost studies for forward-looking switching network costs?
A. Sprint uses the FCC's original recommendations in the First Report and Order to develop recurring switching costs. FCC 96-325, First Report and Order, Paragraph 810 states,

> "We conclude that a combination of a flat-rated charge for line ports, which are dedicated to a single new entrant, and either a flatrate or per-minute usage charge for the switching matrix and for trunk ports, which constitute shared facilities, best reflects the way costs for unbundled switching are incurred and is therefore reasonable."

Consistent with the FCC's recommendation, Sprint has developed costs for local switching via three separate components: usage sensitive switching, a flat-rated port, and flat-rated features. A detailed description of the methodology used by Sprint in developing switching costs can be found in Volume I of Exhibit KWD-2. In general, the approach for switching cost development is to distinguish between the fixed and variable switch cost components. The variable component's investment in the switch are divided by the call attempts and minutes of use (MOU), while the fixed components of the switch are divided by the lines in the switch.
Q. Please describe the models used by Sprint for development of circuit switching costs.
A. The costing methodology for circuit switching is developed using an Excelbased Switching Cost Module (SCM) described in Volume I of Exhibit KWD-2. Total investment is derived from the Telcordia SCIS (Switching Cost Information System) model, and combined with actual usage information and company-specific vendor switch discounts to derive TELRIC investment results for each host office complex. The SCIS model is a widely used and accepted industry model for determining switching investment.

Since SCIS only considers vendor-specific hardware investments in each central office, software and power investment required to provide basic switching functionality are determined separately and included with the SCIS results in the SCM investment inputs.
Q. What calculations are performed in the Switching Cost Module?
A. The SCM TELRIC methodology for local switching consists of six basic steps. The calculations for one particular switch, Apopka, Florida, can be found in Volume II of Exhibit KWD-2, under the Switching tab. This process is repeated for each switch studied. The first step is to determine the total forward-looking switching investment using the SCIS model. Individual Host switches in Florida, which are predominantly Nortel DMS-100 technology, were modeled. The Nortel switch technology represents the predominant technology deployed by Sprint in Florida. However, Lucent switch technology for 5ESS switches were also studied.

Switch investment is segregated into six investment categories. These are:

1. Getting Started - the investment required to provide call set-up costs.
2. Fixed Line - the investment required to terminate the local loop in the central office. It is composed primarily of a line card, the main distribution frame, and protector.
3. Line Usage - the investment associated with usage sensitive lineside switching. It consists primarily of line concentration equipment, digital links, controllers, and a portion of the network modules. Trunk Usage - the investment with usage sensitive trunkside switching. It is composed primarily of digital trunk controllers, DS1 links, and a portion of the network modules. Umbilical Usage the usage sensitive investment in host-remote links.
4. SS7 Link - investment associated with the SSP (Service Signaling Point) located in the central office. This investment information is summarized in Volume II of Exhibit KWD-2, tab "Switching," on the page titled "Common Switching Calculations." Switch specific demand data for MOU and call set-up derived from traffic studies are included on the "Common Switching Calculations" page.

The second step is to determine the number of processor milliseconds required to process each type of call. In the "SetUp" worksheet, actual line side and trunk side call attempts by office are multiplied by the applicable processor milliseconds per call attempt to determine the weighting of total milliseconds that are line or trunk side related. This weighting is applied to the total host and remote getting started investment from the "Expenses" worksheet to determine the line side and trunk side setup costs on per MOU and per attempt basis. This information, shown in Volume II, tab "Switching," on the page titled "Processor Usage," is vendor proprietary.

The third step is to derive monthly expense per investment category by multiplying the investment by the appropriate forward-looking annual charge factor. This is shown in Volume II of Exhibit KWD-2, tab "Switching," on the page titled "Monthly Expenses."

> The fourth step is to calculate the cost per call set-up, by call type. This is accomplished by determining the total processor cost per call type, and dividing by the call attempts based on actual switch-specific demand. The resulting calculations, costs per call attempt for both the line and trunk side of the switch, are shown Volume II of Exhibit KWD-2, tab "Switching," on the page titled "Cost Per Call Set-Up."

The fifth step is to calculate the cost per MOU by call type. This is accomplished by determining the total usage (duration) cost by call type, and dividing by the appropriate MOU. This calculation is shown in Volume II of Exhibit KWD-2, tab "Switching," on the page titled "Cost Per MOU." The TELRIC results (excluding the common cost factor) for each central office in Florida are summarized in the "Cost Summary" worksheet, found in Volume II of Exhibit KWD-2. At this point common costs are not included.
Q. How does SCM segregate costs?
A. The SCM TELRIC switching results are segregated into two distinct switching cost types:

1. Host/Remote complex
2. Tandem offices

Switching costs are provided on a per exchange basis. Each exchange reflects the cost characteristics of the host/remote switching complex providing service to that exchange. These exchange level results are weighted to reflect a study area/state weighted average result.

ISSUE 9: (a) What are the appropriate recurring rates and non-recurring charges for each of the following UNEs?
(13). Circuit switching (where required);
Q. Please describe how Call Termination costs are calculated?
A. The "Call Termination" worksheet, in Volume II of Exhibit KWD-2, tab "Switching," shows the calculations for the Apopka exchange. Call termination costs include the processor call set-up related costs plus duration costs associated with the line, trunk, and host-remote umbilical investment. The TELRIC results for each central office are summarized in the "CT_CA_Summary" workssheet and the "CT_MOU_Summary" worksheet. Sprint calculated a single weighted average set-up cost on a per call attempt basis. The call set-up cost consists primarily of the central processor cost required to set-up the call. In addition to the set-up cost, a cost per MOU was developed for the duration cost of end office call terminations for the entire service area as shown at the top of the worksheet. The MOU costs consist primarily of the line and trunk investment portions of the switch. Common costs are included in these results. This process of separating the call set-up cost from the duration cost is referred to as the bifurcated cost development process.
Q. Can local switching costs be readily separated into two elements?
A. Yes. The Telecordia Switching Cost Information System (SCIS), has a standard output for processor call set-up related costs. Thus, switching costs can be reliably separated into call set-up and per MOU costs to support a bifurcated cost development process.
Q. Please describe the costing methodology for switching ports.
A. The total line termination investment calculated in SCIS for each office is multiplied by the annual charge factor, divided by twelve in the "Expenses" worksheet, and then divided by the number of lines per office on the page titled "Cost per MOU" (MOU worksheet). The calculations for the Apopka office can be found in Volume II of Exhibit KWD-2, on the page titled "Cost per MOU" (MOU worksheet). This process is repeated for each switch studied. Common costs are added on the page titled "Local Switching Costs" (Local Switching worksheet) and the statewide average is calculated on the page titled "Local Switching Rate Bands" (LS Rate Bands worksheet). The average voice grade port cost reflects the percentage of GR303 lines modeled. The port costs for non-voice grade services, i.e. ISDN-BRI, ISDN-PRI, PBX DS1, and PBX DID are also calculated using SCIS investment tables and port specific inputs.
Q. Please describe the costing methodology for features.
A. The SCIS/IN model is used to determine the cost of the most prevalent features. In total, twenty-four Centrex features, eight CLASS features, ten Custom Calling features, and eight BRI-ISDN features were studied. Actual usage and demand information for Florida was used in the SCIS/IN model.

Second, the SCIS/IN model only aggregates resource costs for the switch resources consumed, along with costs for any additional hardware required to provide the feature. Software costs are added separately.

Third, the annual charge factor is applied to derive an annual cost.

Fourth, the annual cost is divided by twelve to derive a monthly cost.

Fifth, the common cost factor is applied to determine the total cost of the features in each category, for a total feature package cost.

## Q. How does Sprint propose to offer switching features purchased with an unbundled port?

A. Sprint has developed feature packages that may be purchased with a switching port. Individual feature packages for Custom Calling, CLASS, Centrex and BRI-ISDN may be selected to provision on individual access lines. This will alleviate ALECs from having to purchase feature capability for their customers who do not desire features, while allowing Sprint to recover its feature-related costs on a per port basis.
Q. Should carriers be permitted to purchase unbundled features without purchasing the switching port?
A. No. As supported by the FCC, feature capability is an integral part of the switch. Sprint's approach is to allow the ALEC to customize the switching ports it purchases from Sprint. The ALEC cannot purchase feature capability without first purchasing the switching port.
Q. Please describe the costing methodology for local tandem switching.
A. The tandem switching cost methodology is the same as for local switching. It is assumed that the cost of local tandem switching is equal to local trunk-to-trunk switching. An example for the Apopka office is shown on the page titled "Tandem Switching Costs" (Tandem Switching worksheet) page included in Volume II of Exhibit KWD-2, tab "Switching."
Q. When does the local tandem switching cost apply?
A. The SCM calculates a single weighted average cost for Sprint's entire service area. However, for costing purposes, specific offices that provide a local tandem switching function were identified. These local tandem switches and resulting pricing are addressed in the testimony of Sprint's witness, Mr. Michael R. Hunsucker. Tandem switching charges apply if local traffic goes through both a local tandem switch and an end-office switch to reach a customer; both rates would apply (as well as common transport) and are simply added together.
Q. Please describe the costing methodology for UNE-P lines.
A. As described in Volume I of Exhibit KWD-2, UNE-P is comprised of a loop and switch port combination. Essentially, the cost for UNE-P is the sum of the cost of all the elements in the platform. This cost study accounts for the combination of loops and switch ports.

The elements of UNE-P for this filing consist of a 2-wire loop and switching port. The benefits that result are related to using a GR-303 switch interface. The primary difference between the cost of a loop and port that are sold in combination (UNE-P) and those elements purchased on a standalone basis, is the result of the technology used to provide the elements. The technical difference between unbundled loops and ports purchased as part of UNE-P, is that the GR-303 interface is used in place of an analog interface. With GR-303, the Integrated Digital Loop Carrier (IDLC) Central Office Terminal (COT) is integrated with the central office switch. This permits connectivity between the switch and COT at the DS1 level in lieu of individual switch line cards and COT line cards connected back to back with analog jumpers. The positive economies for loops sold in combination with switching are related to the differences in labor and material in the IDLC system and to the substitution of DS-1 level for line level switch and COT interfaces.
Q. What is the UNE-P cost and when does it apply?
A. The cost consists of the per exchange UNE-P loop and UNE-P statewide average port cost. The study results contained in Volume II of Exhibit KWD-2, tab Loop, include an average UNE-P switch port cost. The complete UNE-P cost includes both loop and port costs for each exchange. The UNE-P cost would apply whenever a combined switched line and port are concurrently purchased. Application of these costs and pricing are addressed in the testimony of Sprint's witness, Mr. Michael R. Hunsucker.
Q. Does this conclude your direct testimony?
A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION DIRECT TESTIMONY

## OF

Jimmy R. Davis
Q. Please state your name, place of employment, 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 6360 Sprint Parkway, Overland Park, Kansas 66251. I am testifying on behalf of Sprint Communications L.P. ("Sprint").
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 Sprint - 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 a Sprint-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 a 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.
Q. What is the purpose of your testimony in this proceeding?
A. The purpose of my testimony is to support the Sprint - Florida, INC (Sprint) "Non-Recurring Charge (NRC) Study" and to explain the assumptions made and principles utilized in development of the NRCs associated with ordering and installing Unbundled Network Elements ("UNEs").

Non-recurring charges are one-time charges assessed for activities performed by Sprint on behalf of Alternative Local Exchange Carriers (ALECs) which involve the processing of orders and the installation of UNEs. Due to the quantity of NRCs involved with this proceeding, I will only address the categories and/or particular items that warrant discussion due to complexity of the subject and/or costing methodology. Additional details regarding each UNE NRC costing methodology can be found within the body of the cost study, which includes further descriptions, methodology and workpapers. My testimony also addresses in whole, issues \#8, \#10 and \#11, and in part, issues \#9(a) and \#12 as identified in Appendix A of this Commission's "Second Revised Order on Procedures" issued March 16, 2000. Sprint witness Mr. Kent Dickerson will also address issues \#9(a) and \#12.
Q. Which portions of Sprint's cost study filings are you supporting?
A. In addition to my testimony, Exhibit KWD-3 to the testimony of Sprint witness Kent Dickerson identifies the portions of Sprint's cost study filings that I support.
Issue 8: What are the appropriate assumptions and inputs for the following items to be used in the forwardlooking non-recurring UNE cost studies?
(a) network design;
(b) OSS design;
(c) labor rates;
(d) required activities;
(e) mix of manual versus electronic activities;
(f) other.
Q. What guiding principles did Sprint utilize in developing nonrecurring charges for UNEs?
A. Sprint utilized principles set out by the FCC and this Commission. First, the Company assumed a "forward-looking" network as defined by the FCC. That is, the network utilized in the development of

NRCs meets the FCC criteria of being "the most efficient, least-cost and reasonable technology currently available for purchase".

In compliance with these principles, Sprint assumed the use of Next Generation Digital Loop Carriers ("NGDLCs") in the development of NRCs for unbundled loops and assumed the availability of a "fully automated" Operations Support System (OSS) for an ALEC to submit Local Service Requests ("LSRs") to the Company. Automated facility assignment, order routing, switch activation and dispatch have also been assumed as part of the Company's forwardlooking network.

Second, again assuming a forward-looking network, Sprint developed charges that relate as closely as possible to actual costs incurred, rather than developing a single "average" charge. Consequently, ALECs will pay non-recurring charges that relate directly to work actually performed on their behalf which, in turn, will ensure that Sprint neither over, nor under-recovers, non-recurring costs.
Q. Would you please describe in more detail how non-recurring charges were developed for unbundled network elements?
A. Yes. The purpose of the NRC study is to determine the cost of initiating, changing and providing unbundled element services for ALEC customers. These charges are based on the amount of time required to complete an activity and the cost of performing that activity. The charges represent the most current wage rates and time components related to UNE services.

The study consists of four main steps:

1. Identifying the work activities or tasks necessary to complete service order, installation, and other related provisioning functions for each unbundled element.
2. Identifying the work times related to performing each function.
3. Identifying the labor rates for each work group that completes the activity and multiplying that amount by the time required to complete the activity.
4. Grouping the costs by appropriate activities to develop a cost by unbundled network element.

## Q. Have you included a contribution for common cost in the NRCs?

A. Yes. A contribution for common costs was included as a component in the total NRC cost. Mr. Kent Dickerson will explain the development of the factor used to determine the level of common costs included in the NRC rates.
Q. What categories of NRCs are reflected in the study?


#### Abstract

A. There are three general categories of functions reflected in the study of non-recurring charges: 1. Service Order Charges 2. Installation Charges 3. Other Installation Charges

Each of the four main study steps I described previously are performed with respect to each of these categories of non-recurring charges.


Q. Please describe the first category of non-recurring charges Service Order Charges.
A. A Service Order Charge covers the cost of work performed by Sprint in connection with receiving, recording and processing ALEC requests for service. Sprint has developed three categories of Service Order Charges.

1) A Service Order Charge is applied to all orders for new service received from ALECs.
2) A Listing Only Charge is applied to orders received through the Local Service Request (LSR) process to provide directory listings only. (Note: Sprint also provides a "batch" process that is generally used by ALECs for providing directory listings.)
3) A Change Order Charge is applied when an ALEC requests a change in a port feature.
Q. Has Sprint developed Service Order Charges based on the availability of a fully automated OSS for ordering service?
A. Yes. Sprint has developed two general categories of Service Order Charges: Electronic Service Order Charges and Manual Service Order Charges.

Electronic Service Order Charges are applied to orders when an ALEC has elected to use Sprint's automated ordering platforms. In this case, it is assumed that a service order will directly flow into the Company's OSS on a fully automated basis. The majority of the costs, therefore, will result from the processing of orders that, due to errors in the data provided on the ALEC's LSR, require some form of
manual intervention to complete. Typically, this might include requesting service at an address that does not exist or is not complete (such as a missing apartment number). In addition, the LSR might not contain sufficient information to identify the existing service that is being transferred from Sprint to the ALEC. In all cases, Sprint will attempt to manually correct the information and may also contact the ALEC for clarification or correction.

Manual Service Order Charges are applied when an order is not transmitted to Sprint through the automated OSS, such as when an order is placed over the telephone or by facsimile.

## Q. Is Sprint's development of Electronic and Manual Service Order Charges consistent with the utilization of a least cost, forwardlooking technology?

A. Yes, it is. In order to be considered forward looking, a technology must be currently available, most efficient and least cost. Sprint believes that the proposed Electronic/Manual service order structure best meets these criteria in a broad range of situations.
Q. In what ways does Sprint's service order structure meet the criteria of being least cost and most efficient?
A. An automated service ordering interface requires investment on the part of both the ALEC that is sending the orders and the ILEC that receives them. A decision as to whether an automated ordering system is "most efficient" must consider the financial impact on both parties. Sprint has an automated platform in place to serve ALECs that find it more economical to use this method. The Company also provides a manual process that ALECs may elect to use if implementing an automated interface is not economical for them due to low order volume or other reasons. ALECs presently use both methods to transmit orders to Sprint in Florida. Since it is likely that ALECs will use the ordering option, which is in their best economic interest, both manual and automated ordering are forward-looking approaches.

## Q. Is there a difference in the cost to Sprint for processing Electronic and Manual service orders?

A. Yes. As one might expect, the NRC for processing a manual service
order is higher. This methodology facilitates charges that relate as
closely as possible to actual non-recurring costs incurred, rather than
developing a single "average" charge.

Issue 9: (a) What are the appropriate recurring rates (averaged or deaveraged as the case may be) and non-recurring charges for each of the following UNEs?
(1) 2-wire voice grade loop;
(2) 4-wire analog loop;
(3) 2-wire ISDN/IDSL loop;
(4) 2-wire xDSL-capable loop;
(5) 4-wire xDSL-capable loop;
(6) 4-wire 56 kbps loop;
(7) 4-wire 64 kbps loop;
(8) DS-1 loop;
(9) high capacity loops (DS3 and above);
(10) dark fiber loop;
(11) subloop elements (to the extent required by the Commission in Issue 4);
(12) network interface devices;
(13) circuit switching (where required);
(14) packet switching (where required);
(15) shared interoffice transmission;
(16) dedicated interoffice transmission;
(17) dark fiber interoffice facilities;
(18) signaling networks and call-related databases;
(19) OS/DA (where required)
Q. Does Sprint's non-recurring cost study address each of the unbundled network elements listed in Issue 9(a)?
A. Yes, where applicable. The various UNE NRCs are listed on the first few pages of the Non-Recurring Cost Study.
Q. Please describe the second category of non-recurring charges Installation Charges.
A. The Installation Charge section of the NRC cost study is subcategorized into 13 different UNE types including loops (all types), pre-order loop qualification, loop conditioning, dark fiber, UNE-P, EELs, switching, features, customized routing, operator services and transport. Each sub-section contains a description of the costing methodology or elements utilized to derive the applicable NRC rates.
Q. Please describe the "loop" sub-category of non-recurring charges - Installation Charges.
A. For analog, digital, XDSL-capable loops and subloops, the NRC recovers the cost of work performed for connection or reconnection of 2-Wire and/or 4-Wire loops. Two possible installation charges may be applied for each installation:

New Install: This charge recovers the cost of installing an unbundled loop on behalf of an ALEC for an end user who is not an existing customer of Sprint. The charge will also apply to a loop where there is no existing "Cut Through" or "Dedicated Central Office Plant" in place.

Re-install or Migrate: This charge recovers the cost of installing an unbundled loop when an existing Sprint end user is migrating to an ALEC, or when there is an existing "Cut Through" or "Dedicated Central Office Plant" in place.

These charges are designed to ensure that the Loop Installation Charge reflect the costs that would be incurred for each installation in a forward-looking network environment. The description and methodology sections within the cost study for each of these elements provides more detail.

Issue 10: What is the appropriate rate, if any, for customized routing?
Q. Please describe the specific Non-recurring charges that apply to customized routing.
A. Three separate non-recurring charges have been identified forcustomized routing. Only those charges applicable to a specificcustomized routing request would apply.They are:

- Switch Analysis Charge
- Host Switch Translations
- Remote Switch Translations
Time estimates and Florida-specific loaded labor rates were used todevelop the charges shown in the cost study.
Issue 11: What is the appropriate rate if any, for lineconditioning, and in what situations should the rateapply?
Q. Can TELRIC principles be applied to loop conditioning non- recurring cost methodologies?
A. Yes. The Commission has found that pricing on the basis of forward-looking costs is a key element in fostering competition in the localservices market. Sections $51.319(a)(3)(B)$ and $(C)$ of the Rules statethat line conditioning costs must be recovered "in accordance withthe Commission's forward-looking pricing principles...," and thatILECs shall recover nonrecurring loop conditioning costs "in compliance with rules governing nonrecurring costs in Section 51.507(e)," that is, based on the ILECs' forward-looking economic costs.

These TELRIC pricing principles should be followed with respect to costs associated with load coil removal on loops that are shorter than 18,000 feet. While Bridged Tap and Repeater removals must be accomplished on a per loop basis, Load Coil removals for loops shorter than 18,000 feet, can be accomplished most efficiently by performing the work on a bulk-basis. An efficient service provider should develop charges for loop conditioning that are based on TELRIC principles, recognizing logical economies of scale and leastcost methodologies, including an assumption that the ILEC will remove Load Coils in groups of at least 25 at a time for loops shorter than 18,000 feet.

## Q. What does line conditioning entail?

A. Line Conditioning (Loop Conditioning) is the process that may be used in conjunction with Loop Qualification for provisioning an XDSLcapable loop. After receiving the loop make-up data, it is the customer's option to request Loop Conditioning. This includes the necessary work in the outside plant needed to provide a facility that will allow the transmission of high-speed digital service, such as DSL. This work may include the removal of Load Coils, Repeaters and/or Bridged Taps.
Q. What is the purpose of "loading" cable pairs?
A. Load Coils are placed at regular intervals on copper cable pairs that are 18,000 feet or longer. Their purpose is to improve the transmission quality for voice grade services on these longer pairs by reducing the signal loss caused by the capacitance of the telephone cable. Copper pairs that are less than 18,000 feet long do not require loading to provide voice grade services.

## Q. Will digital services, such as xDSL, work on a pair that has Load Coils?

A. No. Load Coils will block the transmission of digital services including xDSL-based services for both copper-fed and NGDLCprovisioned xDSL-capable loops. This is the reason that forwardlooking networks are designed with loops that are short enough to avoid the need for Load Coils.
Q. When you discuss "removing" a Load Coil or "unloading" a pair, what work is actually involved?
A. Generally, the load coil is not actually removed; it is just disconnected from the cable pair. This involves snipping off the 4 wires that connect the coil to the cable pair and then reconnecting the two ends of the cable pair. In larger cables, this may involve removing a connector that splices twenty-five pairs at a time, pulling out the load coil wires and replacing the connector. The actual work time involved in making the connections is no more than a minute or two, but set-up time can be significant, particularly when working in manholes. This is why Sprint will unload multiple pairs at one time when working on loops under 18,000 feet in length, instead of unloading only the pair required for the current order.

## Q. Please explain the purpose of Repeaters in the voice network.

A. A repeater is generally used to amplify a signal over a copper loop. Without such amplification, the signal will decay over distance. The types of repeaters that are found in cable plant are not used for voice grade circuits. They are specialized modifications to the voice network that are installed to support digital services such as T1 and ISDN. The existence of a repeater will interfere with xDSL signals.
Q. Please define Bridged Tap and describe the impact on xDSL services.
A. Bridged Tap is any piece of the cable pair that is not in the direct path between the customer and the switching device. In the following illustration, sections "A" and "B" are considered to be bridged tap. Bridged Tap is an issue because it degrades the quality of any type of signal. This issue is magnified when xDSL is placed on a loop. For voice transmission on a non-loaded Revised Resistance Design (RDD) cable pair, Bridged Tap cannot exceed 6,000 feet. Sprint utilizes industry standard Carrier Serving Area (CSA) guidelines which limits total bridged tap to 2,500 feet, with no single bridged tap exceeding 2,000 feet for DSL capable loops.


## Bridged Tap

In this example, let's say that sections of the cable pair "A" and "B" are both $2,000^{\prime}$ long. So, the total bridged tap is 4,000 '. This is acceptable for voice but not for xDSL. In order to be used for xDSL, we would need to eliminate 1,500 ' of the bridged tap. In this example, this could be done by cutting the pair off at the customer's location, eliminating Bridged Tap "B". Only enough bridged tap to get the total under 2,500 feet has to be removed. So it would not be necessary to remove both " $A$ " and " $B$ ".
Q. Is it possible to consistently remove bridge taps in multiple quantities?
A. No. Bridge taps occur at random in Sprint's network rather than in 25 pair complements like load coils. Many locations may only have one bridge tap in a particular splice.

## Q. What work is actually involved in "removing" Bridged Tap?

A. As in load coils, no plant is actually removed. The two wires of the cable pair are simply cut off and capped. Sprint's position is that excessive bridged tap can be removed the majority of the time in above ground enclosures like the customer's serving terminal (where the customer's drop wire connects to the distribution cable).

## Q. Please explain how the Sprint proposed Loop Conditioning costs were developed.

A. The description and methodology section of the Loop Conditioning cost study contains a full explanation of the actual computations summarized here. Sprint's loop conditioning cost methodology is based upon unit costs contained in current contracts Sprint has with outside plant contractors in Florida to perform the work functions necessary to condition cable pairs. For load coil removal on loops over 18,000 feet, all bridged tap and repeater removals, the costs are determined on a per location basis, dependent upon the type of outside plant facilities (Underground-Ug, Aerial-Ae or Buried-Bu). This methodology enables Sprint to recover costs that vary with the different types of plant conditions encountered when performing loopconditioning activities. For instance, it is more time-consuming to perform loop-conditioning activities in manholes than it is to perform the same procedures on aerial or buried outside plant (OSP) facilities. Unlike the aerial and buried OSP environments, a single technician cannot perform (loop conditioning) work activities in the manholes because a minimum of two technicians is required for safety reasons. The time required for pumping out water and purging potentially dangerous gases is also not required when working in aerial and buried OSP facilities. Since manholes are usually located and accessed in city streets, there are additional costs associated with setting up traffic control as opposed to aerial and buried environments where utility trucks can usually pull off the roadway.

Sprint also assumes that the majority of cable pair access locations involve quick and easy access to the cable pairs via "ready access" splice enclosures when working in both aerial and buried plant facilities. The utilization of such enclosures is common industry practice - even in buried plant environments as the cable pair access locations are usually brought above ground into a pedestal.

Sprint's costing methodology accounts for the significant labor cost differences associated with accessing cable pairs to perform loop conditioning activities when working in these different OSP environments.

To avoid the potential problem with double counting engineering and travel time when multiple conditioning activities occur on one cable pair, Sprint calculated a separate one time per loop charge for "Engineering" and "Travel". Perhaps more important, Sprint offers an alternate, TELRIC-based view of load coil removal for loops under 18,000 feet in length. Because cable pairs are generally loaded in groups of 25, and loading is not required at all on loops under 18,000 feet, separate costs were determined based on a more efficient load coil removal process. Sprint considers it reasonable to spread the
fixed costs of accessing the cable pairs across all pairs that would be unloaded in a 25 pair binder group. The incremental labor costs associated with unloading 24 more cable pairs was added to a single engineering and travel charge and then divided by 25 to determine the cost per pair for the entire binder group. The costing methodology utilized by Sprint represents the "least-cost, most efficient" standard established by the FCC.
Q. Are there non-recurring charges associated with Switch Ports?
A. No. Sprint assumes $100 \%$ "flow-through" for port installation. That is, installation is processed automatically through the Sprint OSS with no manual intervention. Therefore, no non-recurring charge is applied.
Q. What Non-Recurring Charges does Sprint apply for Custom Calling Features, CLASS and Centrex Features?
A. Sprint provides a standard package of Custom Calling Features and CLASS features with each port purchased. Again, Sprint assumes $100 \%$ flow-through for these standard packages, with installation processed automatically through OSS and no manual intervention required. Therefore, no non-recurring charge is applied. Certain of the standard Custom Calling Features and CLASS features may be
mutually exclusive, such as two different types of call forwarding. In these cases, the ALEC will need to specify which option is desired when the port is initially ordered. If subsequent changes to the features are requested, a Service Order - Change charge would be applied. However, no additional installation charge would be applied for the change.

In contrast to the above, Centrex features require manual switch programming. Installation charges are, therefore, applied for the standard Centrex package, as well as for several less frequently requested, labor intensive, individual Centrex Features.

Issue 12: Without deciding the situations in which such combinations are required, what are the appropriate recurring and non-recurring rates for the following UNE combinations:
(a) "UNE Platform" consisting of: loop (all), local (including packet, where required) switching (with signaling), and dedicated and shared transport (through and including local termination);
(b) "extended links," consisting of:
(1) loop, DS0/1 multiplexing, DS1
$\quad$ interoffice transport;
(2) DS1 loop, DS1 interoffice transport;
(3) DS1 loop, DS1/3 multiplexing, DS3 interoffice transport.


#### Abstract

Q. Describe how the non-recurring rates were developed for "UNE platform". A. Sprint's NRCs for the UNE platform combinations are listed on page 13 of the Non-Recurring Cost Study. For a new 2-wire analog UNE$P$, the charge is equal to the cost of the local loop installation. This is because Sprint assumes 100\% flow-through automated systems whereby there is no installation charge for the port.


Q. Describe how the non-recurring rates were developed for "extended links".
A. For "Enhanced Extended Links" also known as "EELs", three costing scenarios are addressed:

EEL 1 - includes the DS0 loop, DS0/1 multiplexing and DS1 transport. For the first line, the NRC consists of the labor required for a field visit to connect the service at a cross-connect, terminal, and NID/Protector (equal to the loop installation charge) which is added to the labor associated with performing the DSO/1 multiplexing and DS1 transport provisioning functions. For the $2^{\text {nd }}$ through $24^{\text {th }}$ lines that are to share this initial DS1 transport facility, a reduced NRC per line occurs since an additional DS1 transport facility installation charge is not required.

EEL 2 - includes a DS1 loop, DS1/0 multiplexing and DS1 transport. The NRC is the simple addition of the NRCs for these individual UNEs. This includes the labor required for a field visit to connect the service at a cross-connect, terminal, and NID/Protector which is added to the labor associated with the DS1 transport provisioning function.

EEL 3 - includes a DS1 loop, DS1/3 multiplexing and DS3 transport. The NRC for the initial line includes the labor required for a field visit to connect the service at a cross-connect, terminal, and NID/Protector (equal to the DS1 loop installation charge) which is added to the labor associated with the DS1/3 multiplexing and DS3 transport provisioning functions. For the $2^{\text {nd }}$ through $28^{\text {th }}$ DS1s that are to share this initial DS3 transport facility, a reduced NRC per DS1
line occurs since an additional DS3 transport facility installation charge is not required.

## Q. Please discuss the last category of non-recurring charges Other Installation Charges.

A. Trouble Isolation and Testing Charge is billed when an ALEC reports trouble on a facility and it is discovered that the cause is outside of Sprint's network, as in the case of inside wire or trouble in the ALEC's network. The trouble isolation charge includes two components. The first recovers the cost of conducting tests at the central office and the second recovers the cost of dispatching an outside technician to determine the cause.

Other UNE charges found within this category includes those associated with Originating Point Code Service, Global Address Translations, Nid Installation, Cooperative Testing, Trip Charges, Dark Fiber End-to-End Testing and Loop Tag and Label. The costing methodology utilized for each of these NRCs can be found in the description and methodology sections within the "Other Charges" category of the NRC cost study.
Q. Are the work times utilized in Sprint's NRC studies comparable to the commission ordered NRC work times for BellSouth in Docket No. 990649-TP?
A. In most cases the work times that the Florida PUC ordered for BellSouth are higher than the work times reflected in Sprint's filed NRC studies. Sprint's studies were developed based on assumptions of automated forward looking, least cost, most efficient operating systems and procedures that may not exist but are consistent with TELRIC study procedures. Sprint believes that the appropriate work steps and times are included in our studies.
Q. Does this conclude your testimony?
A. Yes, it does.

# BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION 

## DIRECT TESTIMONY

OF
Terry D. Talken
Q. Please state your name, business address, employer and current position.


#### Abstract

A. My name is Terry D. Talken. I am employed by Sprint/United Management Company as Manager of Network Costing. My business address 6360 Sprint Parkway, Overland Park KS 66251. Q. Please describe your educational background and relevant work experience. A. I received a Bachelor of Science and Business Administration degree from the University of Missouri - Columbia in 1991 with a major in Accounting. Also in 1991, I passed the national exam and am a Certified Public Accountant (CPA) in the State of Kansas. I am currently working towards the completion of a Master of Business Administration degree with emphasis in Finance and Information Technology from the University of Missouri Kansas City.

Prior to joining Sprint, I practiced as a CPA. From 1991 to 1992, I was employed as a staff auditor with the public accounting firm of Baird, Kurtz


and Dobson, LLP. In this capacity I was responsible for the audits and compilation of financial reports for publicly traded and privately held businesses. From 1991 to 1996, I was employed as a consultant with the public accounting firm of Frederick and Warinner, LLC (now known as Warinner, Gesinger \& Associates, LLC). In this capacity I managed the audits of privately held telecommunication providers and their subsidiaries. Additionally, I was responsible for regulatory reporting, which included preparing cost studies in accordance with FCC Parts 36 and 69. With Frederick and Warinner, I also developed traffic study models that produced results used for engineering and regulatory reporting requirements.

I joined Sprint in 1997 as a senior analyst in the Local Customer Billing area. I accepted a promotion to senior analyst in Network Costing area of the Regulatory Affairs group in 1998. Through a series of promotions I obtained my current position, Manager of Network Costing, in April 2000. I am responsible for the development and analysis of cost models for the pricing of Unbundled Network Elements (UNEs), reciprocal compensation, and other product offerings in accordance with the Total Element Long Run Incremental Cost ("TELRIC") costing methodology.
Q. What is the purpose of your testimony in this proceeding?
A. The purpose of my testimony is to support Sprint - Florida, Inc. ("Sprint") recurring cost studies associated with the following unbundled network elements:
I. Signaling Networks and Call-related databases
II. E911 Services
Q. What specific issues are you addressing?
A. I address the following issues as established in the Second Revised Order on Procedure:

Issue 5: For which signaling networks and call related databases should rates be set?

Issue 6: What are the appropriate assumptions and inputs for the following items to be used in the forward-looking recurring UNE cost studies?

Item(q): signaling system costs

Issue 9(a): What is the appropriate recurring rates for each of the following UNEs?

Item(18): signaling networks and call-related databases

For purposes of clarity, I address each of the issues under the areas identified earlier. Unless otherwise identified, all non-recurring charges for the above are addressed by Sprint's witness, Mr. Jimmy R. Davis.
Q. Which portions of Sprint's cost study filings are you supporting?
A. In addition to my testimony, I support specific portions of the Sprint cost study. Exhibit KWD-3 to the testimony of Sprint witness Mr. Kent Dickerson identifies the portions of Sprint's cost study filings that I support.
II. SIGNALING NETWORKS AND CALL-RELATED DATABASES
Q. For which signaling networks and call related databases should rates be set?
A. Sprint proposes UNE rates for the following call-related database items:

- 911/E911
- STP Ports and STP Switching (SS7 Interconnection)
- Database Query Services
Q. Please describe the general TELRIC methodology used for each of these services.
A. The following TELRIC methodology is used for all services except 911:

1. Determine direct expense associated with the service.
2. Determine the direct investment associated with the service.
3. Multiply the investment by the annual charge factor to determine the annual direct costs.
4. Add common cost.
5. Divide total economic cost by the appropriate number of units to determine the total economic cost per unit.
Q. What prices for $911 /$ E911 does Sprint recommend?
A. In the State of Florida, Sprint's arrangement with the local Public Safety Answering Point (PSAP) recovers all recurring costs of this service outside of any transport required by the ALEC to connect its switch with Sprint's 911 tandem. Sprint's witness, Mr. Talmage Cox, addresses transport costing. Further, all non-recurring charges related to E911 will be addressed by Sprint's witness, Mr. Jimmy Davis.
Q. Please define Signaling System Seven (SS7) interconnection.
A. SS7 interconnection consists of Signal Transfer Point (STP) ports, interconnecting facilities, and STP switching usage. The costs for these unbundled network elements are included in Volume II of Exhibit KWD-2 under the Miscellaneous UNEs tab in the SS7 Cost Module section. The common channel signaling interconnection service provides a signaling path for SS7 between a customer designated point of signaling premises and a Sprint STP. This two-way signaling path provides interconnection to the out-of-band signaling network in order to transmit and receive information related to call completion.

The STP port provides the customer access to the Sprint STP, which acts as a packet switch to route out-of-band signaling. It is in some respects
similar to the concept of access to a local switch through a port. An STP port requires use of a link port card and processor costs.

The STP transport link is the facility that connects the ALEC customer's designated premises to the Sprint STP. The link may be provisioned as a DS0 ( 56 Kbps ) or as an DS1 (1.544 Mbps), at the option of the requesting ALEC. The interconnecting links are provisioned in mated pairs connecting to diversely located STPs consistent with industry technical standards for out-of-band signaling network diversity requirements.

STP switching usage consists of the cost of routing ISDN User Part (ISUP) messages through a STP. The cost of SS7 switching is determined by the number of individual interoffice trunks using a STP port. The rate is applied on the basis of equivalent 56 Kbps trunks per month. The optional DS1 rate is simply 24 times the 56 Kbps rate. STPs are deployed in mated pairs for network reliability, and interconnecting carriers must provision links to each STP in a mated pair.

## Q. How are the forward-looking economic costs of Signaling System Seven (SS7) interconnection developed (Issue 7(q))?

A. The TELRIC methodology and costing assumptions associated with STP Ports and Switching are detailed in Volume I, under the SS7 tab. Care has been taken to exclude port costs from the STP switching usage investment. Florida-specific annual charge factors, equipment fill factors,
and demand are used in the calculations. The applicable transport link and multiplexing costs are calculated in the Transport and Multiplexing Cost Modules. Costing methodology associated with Transport and Multiplexing are addressed in the testimony of Sprint's witness, Mr. Talmage Cox.
Q. Please define the database query services Sprint proposes.
A. Sprint LTD's intelligent network database services consist of the following: Local Number Portability (LNP) Line Information Database (LIDB) Calling Name (CNAM) Toll Free Code (TFC) 800/888/877
Q. How are the forward-looking economic costs of database query services developed?
A. Again, detailed descriptions and cost studies for these services can be found in Volume II of Exhibit KWD-2 under the Miscellaneous UNEs tab in the SS7 Cost Module section.

In general, LIDB, CNAM, and TFC services are provided via a diverse pair of Service Control Points (SCPs) located in Johnson City and Bristol, Tennessee. Because these three services use the same SCPs, a common per query cost is developed based on the common investment.

Next, annual expenses incurred specific to the type of service are identified and a per query expense calculated. Finally, the per-query costs of query transport and switching from the local STPs in Florida to the National STPs are added. These three cost elements are summed to arrive at a total cost per query.

The LNP database is housed in a separate pair of SCPs with Advanced Intelligent Network Capabilities required for this service. Accordingly, a unique per query cost is developed for this service. The remaining calculations are similar to the other database query services. All services utilize the same national STP platform. Care has been exercised to ensure no duplication of investment occurs within the cost studies.

## Q. Does this conclude your direct testimony?

A. Yes, it does.

OF
MICHAEL R. HUNSUCKER
Q. Please state your name and business address.
A. My name is Michael R. Hunsucker. I am Director-Regulatory Policy, for Sprint-United Management Company. My business address is 6360 Sprint Parkway, Overland Park, Kansas 66251.
Q. Please describe your educational background and work experience.
A. I received a Bachelor of Arts degree in Economics and Business Administration from King College in 1979.

I began my career with Sprint in 1979 as a Staff Forecaster for Sprint/United Telephone in Bristol, Tennessee, and was responsible for the preparation and analysis of access line and minute of use forecasts. While at Southeast Group, I held various positions through 1985 primarily responsible for the preparation and analysis of financial operations budgets, capital budgets and Part 69 cost allocation studies. In 1985, I assumed the position of Manager - Cost Allocation Procedures for Sprint

United Management Company and was responsible for the preparation and analysis of Part 69 allocations including systems support to the 17 states in which Sprint/United operated. In 1987, I transferred back to Sprint/United Telephone and assumed the position of Separations Supervisor with responsibilities to direct all activities associated with the jurisdictional allocations of costs as prescribed by the FCC under Parts 36 and 69. In 1988 and 1991, respectively, I assumed the positions of Manager - Access and Toll Services and General Manager - Access Services and Jurisdictional Costs responsible for directing all regulatory activities associated with interstate and intrastate access and toll services and the development of Part 36/69 cost studies including the provision of expert testimony as required.

In my current position as Director - Regulatory Policy for Sprint/United Management Company, I am responsible for developing state and federal regulatory policy and legislative policy for Sprint's Local Telecommunications Division. Additionally, I am responsible for the coordination of regulatory/ legislative policies with other Sprint business units.
Q. Have you previously testified before state Public Service Commissions?
A. Yes. I have previously testified before state regulatory commissions in South Carolina, Florida, Illinois, Pennsylvania, Nebraska, North Carolina, Georgia, and Maryland.
Q. What is the purpose of your testimony?
A. The purpose of my testimony is to address on behalf of Sprint-Florida, Inc. ("Sprint") Issues 1, 2, 4, 5, 6, 9, 12, and 13 of the Tentative List of Issues, as set forth in Order No. PSC-01-1592-PC0-TP, issued August 2, 2001.
Q. Which portions of Sprint's cost study filings are you supporting?
A. In addition to my testimony, Exhibit KWD-3 to the testimony of Sprint witness Kent Dickerson identifies the portions of Sprint's cost study filings that I support.

Issue 1: What factors should the Commission consider in establishing rates and charges for UNEs (including deaveraged UNEs and UNE combinations)?
Q. What is the appropriate basis for the pricing of unbundled network elements?
A. Unbundled network element (UNE) rates should be based on forwardlooking economic costs. This is not only the economically appropriate basis for the pricing of UNEs, it is required by Section 252 (d)(1) of the Telecom Act of 1996 and the FCC rules implementing that section of the Act. Where economic costs vary significantly, prices should be deaveraged consistent with FCC Rule 51.505(f).
Q. What are the requirements of Section 252(d)(1) of the Telecom Act of 1996?
A. Section $252(\mathrm{~d})(1)$ sets forth the pricing standards for Interconnection and Unbundled Network Elements. Specifically, it requires that rates for these elements
(A) shall be-
(i) based on the cost (determined without reference to a rate-ofreturn or other rate-based proceeding) of providing the interconnection or network element (whichever is applicable), and (ii) nondiscriminatory, and
(B) may include a reasonable profit.
Q. What rules did the FCC adopt implementing that section of the Act?
A. In its August 8, 1996 First Report and Order in Docket 96-98, the FCC concluded that the Act requires that prices for UNEs be set at forward- looking economic costs. Specifically, the FCC adopted a version of total service long run incremental costs (TSLRIC) as the methodology to be used in determining the costs of UNEs. The FCC refers to its methodology as Total Element Long Run Incremental Costs (TELRIC) - a nomenclature that reflects that the methodology is applied to the costing of discrete network elements or facilities, rather than the cost of a service or services provided over that facility.

The FCC's TELRIC methodology is set forth in Part 51.505(b) of its Rules:
"Total element long-run incremental cost. The total element long-run incremental cost of an element is the forward-looking cost over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, such element, calculated taking as given the incumbent LEC's provision of other elements.
(1) Efficient network configuration. The total element long-run incremental cost of an element should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers.
(2) Forward-looking cost of capital. The forward-looking cost of capital shall be used in calculating the total element long-run incremental cost of an element. (3) Depreciation rates. The depreciation rates used in calculating forwardlooking economic costs of elements shall be economic depreciation rates."
Q. Are there costs, other than the TELRIC costs, described above that should be included in the forward-looking economic costs of unbundled network elements?
A. Yes. The FCC's currently effective Rules (Part 51.505 (a)) define the forward-looking economic cost of an unbundled network element to be the sum of TELRIC costs plus "...a reasonable allocation of forward-looking common costs...." As such, Sprint has developed and applied a common cost factor of $12.03 \%$ to its unbundled network element costs. Mr. Dickerson describes how this common cost factor was developed.
Q. Why are forward-looking economic costs the economically appropriate basis for pricing unbundled network elements?
A. A fundamental objective of the Telecom Act of 1996 is to open all telecommunications markets to competition. Congress recognized that there are substantial barriers to entry into the local exchange market. In particular, the local exchange network is highly capital intensive. Facilitybased entrants are confronted by the formidable hurdle of having to devote substantial capital resources, over an extended period of time, to construct a local network prior to winning any customers or generating any revenues.

Section 251 of the Act provides new entrants alternative avenues for entering the local exchange market. First, new entrants can simply resell the services of the incumbent. In other words, they can win customers and gain market share without having to construct any of their own network facilities. Second, new entrants can obtain unbundled network elements from the incumbent. This not only provides new entrants more flexibility in creating services (e.g., the ability to provide expanded local calling areas), but also provides a critical pricing signal for a new entrant's "make or buy" decision in acquiring network facilities. Simply put, new entrants will be incented to build facilities where they can do so at lower costs than they would pay the incumbent for the equivalent network element or elements, and to buy unbundled elements where the incumbent's prices for those elements are lower than the new entrant's cost of constructing those facilities.

The forward-looking cost standard for unbundled network elements provides a measure of the costs that would be incurred by an efficient supplier to provide a particular network element. Correspondingly, it will provide the appropriate marketplace signals to competitors, creating an incentive for them to construct their own facilities when they can do it more efficiently than the incumbent LEC, and discouraging uneconomic investment where they cannot provide the facilities at a lower cost than the incumbent.

Conversely, to the extent that unbundled network element prices deviate from economically efficient levels, such prices will distort infrastructure investment decisions of the new entrants. If network elements are priced above economic costs, it will provide an incentive for competitors to deploy their own facilities, even though in actuality the incumbent can provide those facilities at lower prices. On the other hand, if network elements are priced below economic costs, it will discourage competitors from deploying facilities even though they could do so at a cost that is lower than the incumbent's economic costs.
Q. What is the appropriate basis for pricing non-recurring charges for unbundled network elements?
A. Non-recurring charges should also be based on forward-looking costs. In the first instance, the Act requires unbundled network elements to be based on costs. Logically, the same cost standard that applies to the recurring costs of those elements should also apply to the non-recurring costs associated with provisioning those elements. Moreover, nonrecurring costs, as well as recurring costs, enter into competitors' decisions to construct their own facilities or to buy unbundled elements from the incumbent LEC. As discussed above, the incumbent LEC's prices should be based on economic costs in order to provide the appropriate pricing signals for competitors in their "make or buy" decisions. The benefits of setting the recurring charge for unbundled network elements at forward-looking economic costs would be diminished or lost if non-recurring charges associated with those elements were not similarly based on forward-looking economic costs.
Q. How should the forward-looking economic costs for non-recurring charges be determined?
A. The forward-looking costs for non-recurring charges should reflect the costs that would be incurred in performing those functions in relation to the forward-looking network that is the basis for calculating the recurring costs and rates for the unbundled network element. Just as the recurring costs for an efficiently designed network based on current technology can differ from the embedded costs of the existing network, so can the non-recurring costs associated with provisioning elements in that forward-looking network differ from the non-recurring costs associated with provisioning elements in the existing network.
Q. What is the relationship between the pricing requirements of the Telecom Act and rate deaveraging for unbundled network elements?
A. As discussed above, the Telecom Act requires that the prices for unbundled network elements be cost-based, and the FCC Rules define cost-based to mean forward-looking economic costs (TELRIC plus a reasonable share of forward-looking common costs). However, the forward-looking costs of providing an element are not necessarily uniform throughout an incumbent LEC's service territory. For example, Sprint's unbundled 2 -wire loop costs, including an allocation of common costs, range from a low of $\$ 11.78$ a month to a high of $\$ 306.78$ a month, while the statewide average cost in Sprint-Florida's serving area is $\$ 30.00$. Although that average cost does, indeed, reflect TELRIC costs, it does not follow that pricing all unbundled loops in Sprint-Florida's serving area at the company-wide average forward-looking cost would meet the requirements of the Act. To do so would result in unbundled loops in the lowest cost areas being priced over 2.5 times their actual forward-looking costs, while unbundled loops in the highest cost area would be priced at approximately one-tenth of their forward-looking cost. Clearly, prices that deviate from costs by that magnitude do not meet the Act's requirement for cost-based rates, nor do they provide the correct marketplace signals to competitors in their decision to build their own facilities or buy unbundled network elements from the incumbent. Thus, deaveraging of unbundled network elements is necessary to avoid the pricing distortions inherent in rate averaging.
Q. What do the FCC's rules require in terms of rate deaveraging?
A. In Section 51.507(f) of its Rules, the FCC requires that unbundled network elements be geographically deaveraged into at least three cost-related zones. These can be either the zones established for the deaveraging of interstate transport rates, or zones determined by the state commission. I will discuss Sprint's proposal for geographically deaveraging UNE prices later in my testimony.
Q. What factors should the Commission consider in establishing rates for UNE combinations?
A. As discussed above, the governing FCC rules require UNE rates to be based on forward-looking economic costs. That same criteria is applicable to combinations of unbundled network elements. As a general principle, the rate for a UNE combination should be the sum of the rates for those UNE elements that comprise that combination. However, there are occasions where simply summing those individual UNE costs is inappropriate. For example, the local switching UNE includes the cost of a line card. In the case of unbundled loops provided using a Digital Loop Carrier (DLC), two voice-grade line cards are included in the cost of the unbundled loop: one at the DLC-remote terminal and one at the DLCcentral office terminal. When loop and switching are provided in combination, only the voice-grade line card at the DLC-remote terminal is required. If the UNE combination of loop and switching were priced at the sum of the individual UNEs, CLECs would be effectively paying for three line cards, although only one voice-grade line card would be used in provisioning that combination. Therefore, the appropriate price for that UNE combination would be the sum of the loop and switching UNE rates, less the costs of two line cards. The purpose of this adjustment, and any deviations from the general principle that UNE combinations be priced at the sum of the individual UNEs included in that combination, is to accurately reflect the actual forward-looking costs of that UNE combination.
Q. Are there other factors the Commission should take into consideration in establishing rates for UNEs (including deaveraged UNEs and UNE combinations)? For example, incumbent LECs' retail rates are not typically cost-based, nor are they deaveraged to any great degree. Should that be factored into a determination of the rates for unbundled network elements, including deaveraged rates and rates for UNE combinations?
A. No. Although Sprint fully appreciates the differences between existing retail rate structures and levels and the rate levels and structures for unbundled network elements, how these differences should be resolved is equally clear to Sprint. Consistent with the mandate of the Telecom Act of 1996, unbundled network elements should be priced at forward-looking economic costs. To the extent that retail rate levels or rate structures are inconsistent with unbundled network element prices, those retail rates should be restructured to bring them into consistency with unbundled network prices. Alternatively stated, the answer lies in moving retail rates toward economic cost levels, and not in introducing distortions in the pricing of unbundled network elements to bring them into conformance with the uneconomic pricing of incumbent LEC retail services.
Q. What impact has the Commission decision in the BellSouth pricing docket had on prices Sprint is proposing in this filing?
A. Sprint has conducted a review of the Commission Orders in the BellSouth docket issued on May $25^{\text {th }}, 2001$, and October $18^{\text {th }}$ 2001. Based on this review, Sprint has attempted to incorporate what it believes to be the Commission's decisions into this filing (e.g. modified Sprint banding methodology).
Q. Why is the Commission's decision in the BellSouth proceeding (Phase II) important to Sprint?
A. Because Sprint operates as both a CLEC and an ILEC in Florida, Sprint is concerned about the state-wide, industry-wide application of Commission decisions. First, Sprint's ILEC must be treated in the same fashion as the other ILECs in Florida with regard to cost methodologies, cost input requirements and pricing principles. Second, Sprint's CLEC must be able to purchase unbundled network elements from ILECs in the state that are developed/established on a similar basis as Sprint's ILEC is required to provide to CLECs in the state. This is necessary to ensure that Sprint Corporation - an ILEC and a CLEC - is not disadvantaged in the state.

Issue 2(a): What is the appropriate methodology to deaverage UNEs and what is the appropriate rate structure for deaveraged UNEs?
Q. What general principles should the Commission apply in determining the degree to which rates for unbundled elements are deaveraged?
A. As a general principle, and as noted earlier in my testimony, rates should be deaveraged to the degree necessary to achieve a result wherein the averaged rate does not deviate significantly from the actual forwardlooking cost of providing that element anywhere within the defined zone. While it is impossible to quantify with absolute precision what "significant" deviations of rates from costs are, Sprint generally believes that differences between rates and costs in excess of $20 \%$ would be of sufficient magnitude to potentially distort competitors' investment decisions. Using that criteria, Sprint believes that an incumbent LEC should be required to construct a deaveraged rate schedule such that the average rate in each zone is no more than $20 \%$ higher or $20 \%$ lower than the forward-looking cost of providing that element.
Q. What specific criteria should underlay this Commission's requirements for incumbent LECs to deaverage their unbundled network elements?
A. Sprint would advocate the following criteria:

First, as discussed previously, prices for unbundled network elements should be deaveraged to the degree necessary to avoid significant deviations between the rate that is charged for an unbundled network element and the actual forward-looking costs of providing that element in a specific geographic area. This means that the degree of deaveraging can vary both across elements and among incumbent LECs. For example, the costs of providing some unbundled network elements in different geographic areas simply do not vary significantly. There is little or no economic benefit, therefore, in deaveraging the rates for those elements. On the other hand, the forward-looking economic costs of other elements can vary significantly, as evidenced by the example for unbundled loops discussed previously. Clearly, those rates should be deaveraged into a sufficient number of zones, such that the rate for each zone does not significantly deviate from the actual forward-looking costs of providing that element for any area included in that zone. As such, the number of zones appropriate for the deaveraging of one element is not necessarily the appropriate number of zones for some other element, where the disparity in costs across geographic areas might be substantially more or less.

Second, the degree of rate deaveraging should be based on both administrative considerations and a realistic assessment of the extent to which limited rate averaging would not materially, adversely impact competition and investment decisions. At the extreme, for example, unbundled loop costs differ almost on a customer-by-customer basis. Customer or location-specific unbundled loop rates may meet the theoretical ideal of cost-based rates, but they would equally be an administrative nightmare, for both Sprint as well as its competitors ordering unbundled loops. Furthermore, that degree of deaveraging is not necessary to provide economically correct pricing signals to new entrants. Typically, a competitor enters the local market with the intention of serving all or a substantial segment of that market, and not just one or two customers.

Some degree of averaging of unbundled element rates does not necessarily distort competitors' investment decisions for several reasons. First, the deviations, both positive and negative, between the averaged rate and the actual forward-looking costs will to some extent be offsetting. Second, and most important, if rates are deaveraged such that there are not significant differences between the average rate and the actual forward-looking costs, the impact of that rate averaging will, by definition, be minimal and is unlikely to have a material impact on a competitor's investment decisions.

Third, Sprint proposes that forward-looking costs be deaveraged on a wire center basis. Using the wire center as the unit of cost analysis is reasonable for a number of reasons. The wire center generally conforms to the market definitions and plans of new entrants, and therefore, as previously discussed, averaging costs at this level is not likely to distort their entry or marketing decisions. Moreover, deaveraging costs below the wire center level entails not only more complex cost modeling, but would impose significant additional costs on both incumbent LECs and competitors in administering such a rate structure.

Fourth, incumbent LECs should be required to group wire centers into zones, and develop rates based on the weighted average cost of the UNE for all wire centers within each zone, subject to the constraint that the average rate for a UNE zone should not deviate by more than $20 \%$ from the wire center forward-looking cost of that UNE for any wire center included in that zone. However, it would not be unreasonable to permit a wider range of deviation in the lowest and highest cost zones, recognizing the larger cost variances in the lowest and highest cost areas and the undesirability of creating an excessive number of zones. Sprint's proposed deaveraging methodology is intended to provide a balance between cost-based rates and administrative ease - both for incumbent LECs and new entrants.
Q. What level of deaveraging did this Commission require of BellSouth in this proceeding?
A. The Commission adopted a modified Sprint proposal that resulted in three bands and placed approximately $61 \%, 34 \%$ and $5 \%$ of the access lines into each of the three bands. Therefore, Sprint has collapsed the number of bands produced by its methodology to produce a similar distribution of access lines.

Issue 2(b): For which of the following UNEs should the Commission set deaveraged rates?
(1) loops (all)
(2) local switching
(3) Interoffice transport (dedicated and shared)
(4) other (including combinations)
Q. What unbundled network elements should be deaveraged?
A. As was stated in Sprint's Post Hearing Brief in Phase II of this docket, filed on November 21, 2000, the forward-looking economic costs for unbundled loops, subloops, local ports and local switching usage, common and dedicated transport, and dark fiber all vary significantly by geographic area. However, Sprint, as indicated in its Brief, requests that only the recurring rates for loops and related combinations be deaveraged.

Despite Sprint's evidence demonstrating that the recurring costs for unbundled loops, subloops, local ports and local switching usage, common and dedicated transport, and dark fiber all vary significantly by geographic area, it has become increasingly evident that the industry, including the CLECs, have expressed no interest in wanting deaveraged switching and transport.

Sprint does not believe there are such cost differences in the nonrecurring elements to warrant deaveraged prices. Therefore, Sprint does not recommend that non-recurring charges be deaveraged.
Q. What did this Commission order in the BellSouth proceeding relative to this issue?
A. The Commission ordered BellSouth only to deaverage the recurring costs/prices of all varieties of loops below DS3, sub-loops, and combinations containing such loops.
Q. What has Sprint proposed to deaverage in this filing?
A. Consistent with the interests of CLECs and consistent with what the Commission ordered in the BellSouth proceeding, Sprint is proposing to deaverage the recurring costs of loops below DS3, sub-loops and combinations containing such loops. The deaveraged prices for those elements are set forth in MRH Exhibit 1.

Issue 4 (a): Which subloop elements, if any, should be unbundled in this proceeding, and how should prices be set?
(b): How should access to subloop elements be provided, and how should prices be set?
Q. How does the FCC define the subloop unbundled network element?
A. In Section 51.319(a)(2) of its rules, the FCC defines the subloop network element "...as any portion of the loop that is technically feasible to access at terminals in the incumbent LEC's outside plant, including inside wire. An accessible terminal is any point on the loop where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within. Such points may include, but are not limited to, the pole or pedestal, the network interface device, the minimum point of entry, the single point of interconnection, the main distribution frame, the remote terminal, and the feeder/distribution interface".

Because subloops are, for the most part, a newly defined network element, it is impossible to determine precisely what subloop elements CLECs will seek to obtain. It would, therefore, be a difficult - if not an impossible - task to identify and develop prices for every conceivable subloop element, nor is it a useful exercise to do so in the absence of demonstrated demand for those elements. To date, Sprint has not been requested to provide subloop elements to any CLEC in Florida.

In any event, Sprint believes that, if there is any demand, the preponderance of demand for subloop elements will be for feeder or distribution plant. Therefore, Sprint has developed costs and proposed rates for these two components of the loop. To the extent that a CLEC requires different subloop elements, and it is technically feasible to provision such elements, Sprint will determine the rates for those subloop elements on an individual case basis, utilizing the TELRIC costing standard. If future experience demonstrates widespread demand for subloop elements in addition to feeder and distribution, Sprint will develop (and incumbent LECs generally should be required to develop) generic rates for such subloop elements. Rates for subloop elements should be based on the same costing and pricing principles as all other loop-related UNEs: that is, subloop elements should be based on TELRIC, and should be deaveraged to the extent they exhibit significant geographical differences.

# Q. How should access to such subloops be provided, and how should they be priced? 

A. As discussed in Mr. Dickerson's testimony, the lack of experience and standardized practices for interconnection with subloops renders it infeasible at this time for Sprint to develop a generic forward-looking cost for subloop interconnection. Therefore, Sprint proposes to price this interconnection on an individual case basis. As Sprint gains experience, and when industry standards and practices are developed, Sprint anticipates it should be feasible to establish generic rates for subloop interconnection.

Issue 5: For which signaling networks and call-related databases
should rates be set?
Q. For which signaling networks and call-related databases should rates be set?
A. As discussed in Mr. Talken's testimony, Sprint proposes UNE rates for the following call-related database items:

- 911/E911
- STP Ports and STP Switching (SS7 Interconnection)
- Database Query Services

Issue 6: Under what circumstances, if any, is it appropriate to recover non-recurring costs through recurring rates?
Q. Do the FCC rules allow for the recovery of non-recurring costs through recurring rates?
A. Yes. Although the general principle is that recurring costs should be recovered by recurring rates, Section 51.507(e) of the FCC Rules permits deviations from that general principle:
"(e) State commissions may, where reasonable, require incumbent LECs to recover nonrecurring costs through recurring charges over a reasonable period of time. Nonrecurring charges shall be allocated efficiently among requesting telecommunications carriers, and shall not permit an incumbent LEC to recover more than the total forward-looking economic cost of providing the applicable element."
Q. Under what circumstances would it be appropriate to recover nonrecurring costs through recurring rates?
A. To the extent that high non-recurring charges are a significant barrier to competitive entry, it may be appropriate to require at least a portion of those non-recurring charges be recovered through recurring rates.

Absent such compelling circumstances, Sprint believes that non-recurring costs should be recovered through non-recurring rates. Requiring nonrecurring costs to be recovered through recurring charges raises a number of difficult policy and administrative issues. On the one hand, the incumbent LEC would be financially exposed if the CLEC discontinues service before the non-recurring costs are fully recovered. On the other hand, the incumbent LEC could over-recover its non-recurring costs unless it tracked each service installation and reduced its recurring rate at the point where the non-recurring costs built into that recurring rate were fully recovered.
Q. Does Sprint propose in this filing to recover any non-recurring costs through recurring rates?
A. No.

ISSUE 9(a): What are the appropriate recurring rates (averaged or deaveraged as the case may be) and non-recurring charges for each of the following UNEs?
(1) 2-wire voice grade loop;
(2) 4-wire voice grade loop;
(3) 2-wire ISDN / IDSL loop;
(4) 2-wire xDSL-capable loop;
(5) 4-wire xDSL-capable loop;
(6) 4-wire 56 kbps loop;
(7) 4-wire 64 kbps loop;
(8) DS-1 loop;
(9) high capacity loops (DS3 and above);
(10) dark fiber loop;
(11) subloop elements (to the extent required by the Commission In Issue 4);
(12) network interface devices;
(13) circuit switching (where required);
(14) packet switching (where required);
(15) shared interofffice transmission;
(16) dedicated interoffice transmision;
(17) dark fiber interoffice facilities;
(18) signaling networks and call-related databases;
Q. What are Sprint's proposed UNE rates?
A. Sprint's proposed UNE rates are summarized in MRH Exhibit 1, "Network Element Price List-Sprint Florida". The proposed UNE rates were derived from the cost studies presented by the Sprint cost witnesses in this proceeding. The proposed rates are calculated as the sum of TELRIC costs plus allocated common costs.
Q. Please describe how you developed the deaveraged rate bands in MRH Exhibit 1.
A. The deaveraged rate bands were developed pursuant to Sprint's proposed criteria for deaveraging, as discussed previously. First, wire center specific costs were developed for each element to be deaveraged. Second, the wire centers were then grouped or banded such that the actual cost of each wire center in the band does not deviate from the proposed rate in the band by more than $20 \%$. Finally, rate bands were combined such that the distribution of lines in each band was consistent with the distribution mandated by this Commission for BellSouth.

The derivation of the proposed bands are provided in MRH Exhibit 2. In this exhibit I provide a summary of the number and percentage of access lines in each band, as well as the proposed rate for each band. This exhibit also separately lists every wire center in each of the bands, as well as the percent deviation between the wire center specific costs and the proposed rate for the band into which that wire center falls.
Q. What is Sprint's proposed deaveraged rate structure for unbundled loops?
A. Sprint's proposed deaveraged rate structure for unbundled loops is provided in MRH Exhibit 2. The proposed rate bands were developed consistent with the deaveraging criteria described previously. Strictly applying the $20 \%$ deviation rule resulted in 9 bands as shown in MRH Exhibit 3. However, consistent with what the Commission mandated in the Phase II proceeding (BellSouth), Sprint aggregated wire centers in the high cost and low cost bands such that the distribution of lines in each band was consistent with the distribution required for BellSouth.

MRH Exhibit 2 contains the proposed rates for analog 2-wire loops. The same 3 bands were also used for analog 4 -wire, 2 -wire ISDN, DS-0 digital data, and DS1 loops to be consistent with what Sprint believes the Commission established for all loop-related elements consistent with the rate bands established for 2 -wire analog loops. The banded rates for these loops are provided in MRH Exhibit 1.

## Q. What is Sprint's proposed deaveraged rate structure for subloops?

A. As discussed in my testimony regarding Issue 4, Sprint has developed generic rates for the feeder and distribution subloop elements. Sprint's proposed deaveraged rates for feeder and distribution are provided in MRH Exhibit 1.

Again, in accordance with Sprint's understanding of what the Commission ordered in the Phase II proceeding, Sprint utilized the same rate bands for the feeder sub-element as the 2 -wire analog loop resulting in 3 rate bands.

The same 3 rate bands were used also for the 4 -wire feeder and distribution subloop elements. The rates for these two elements were calculated by adding to the respective 2 -wire feeder and distribution rate a uniform amount equal to the additional costs of provisioning these types of loops. The banded rates for the 4 -wire feeder and distribution subloop elements are also provided in MRH Exhibit 1.
Q. Is Sprint's banding proposal consistent with the banding the Commission ordered in the Phase II (BellSouth) proceeding?
A. Yes, it is. Sprint understands that the Commission adopted Sprint's $+/-$ $20 \%$ banding proposal in the Phase II proceeding. This produced a total of 5 bands for BellSouth's unbundled loops. Furthermore, the Commission ultimately agreed to collapse the 5 bands into 3 , expressing concerns about competitive impact and high rates in the higher cost band. Likewise, Sprint's $+/-20 \%$ would produce 9 bands for Sprint. Employing similar rationale and mechanics, Sprint is proposing to collapse its 9 bands into 3 bands such that the distribution of lines in each band is consistent with the Commission-ordered BellSouth bands.
Q. What is Sprint's proposed rate structure for local switching?
A. Local switching is comprised of two distinct elements: usage and ports. The switch port element includes the fixed or per line cost associated with the provision of local switching, and therefore Sprint proposes that the port charge be assessed on a per line basis. The usage component includes costs that are usage sensitive, and therefore Sprint proposes that these costs be recovered through a per minute of use charge.

The cost of a switch port for a PBX trunk is significantly more than the cost of a switch port for a basic access line interconnection. Therefore, separate switch port rates were developed for each of these service types.

Sprint's proposed local switching rates are provided in MRH Exhibit 1.
Q. Please describe Sprint's metholodogy for pricing switch usage.
A. The cost of switching a telephone call consists of two distinct cost components. One is incurred on a per message basis, the other on a per minute basis. The per message cost, also known as call set-up cost, consists primarily of the amount of time the switch's central processor requires to set-up the call. Understanding that the length of all calls vary significantly, Sprint believes that utilizing a bifurcated rate structure (segregating the switching charge into a call setup charge and a call duration charge) most accurately matches the charges to the underlying costs, thereby ensuring that the costs are recovered appropriately. As is stated in Sprint witness Cox's testimony, switching costs can be easily separated into call set-up and per MOU costs to support this bifurcated cost development process. Sprint's proposed bifurcated switching rates are provided in MRH Exhibit 1 under the heading Reciprocal Compensation.
Q. What is Sprint's proposed rate structure for dedicated transport?
A. As explained in the testimony of Sprint witness Cox, transport costs are developed on a route-by-route (i.e., wire center-to-wire center) basis. Dedicated transport costs were developed for DS1, DS3, OC3, and OC12. However, OC3 and OC12 service is not available on all routes in Florida.

Sprint has developed weighted statewide average termination and transit rates in accordance with Sprint's understanding of the Commission's ruling in the Phase II proceeding. The weighted average termination and transit rates were then applied on a route- by-route basis to determine route-specific dedicated transport rates. Sprint's proposed dedicated transport rates are provided in MRH Exhibit 4.
Q. What is Sprint's proposed rate structure for common transport?
A. Sprint witness Cox developed the weighted average DS1 cost for transport within each local and EAS calling area for each exchange. This weighted average DS1 rate was then divided by 364,194 , which is based on a Florida-specific traffic study of common use switched trunks.

Sprint has filed statewide average common transport rates in accordance with its understanding of the Commission's ruling in the Phase II proceeding. Sprint's proposed common transport rate is provided in MRH Exhibit 1.
Q. What is Sprint's proposed rate structure for tandem switching?
A. The tandem switching rate was developed following the same approach that was used for common transport. Sprint witness Cox first developed the tandem switching costs for each local exchange and EAS calling area. Sprint has proposed a statewide average tandem switching rate found in MRH Exhibit 1.

# Q. What is Sprint's proposed rate structure for dark fiber? 

A. Dark fiber costs were developed for interoffice, feeder, and distribution plant dark fiber.

Sprint witness Dickerson calculated interoffice fiber costs for each wire center. The costs were developed on a per foot, per fiber basis. Sprint believes that the cost variances derived for the interoffice fiber are not sufficient to warrant deaveraging. Therefore, Sprint proposes a statewide average interoffice dark fiber rate as shown in MRH Exhibit 1.

Sprint witness Dickerson also calculated the fiber feeder costs by wire center. Sprint proposes a statewide average feeder dark fiber rate as shown in MRH Exhibit 1.

Sprint has limited fiber distribution plant, and therefore lacks sufficient data to develop a deaveraged dark fiber cost for fiber distribution plant. Sprint, therefore, proposes to use an average cost as the rate for distribution fiber. The proposed rate is provided in MRH Exhibit 1.

The rate for a dark fiber loop would be the sum of the statewide averaged dark fiber feeder and distribution rates.

Issue 9(b): Subject to the standards of the FCC's Third Report and Order, should the Commission require ILECs to unbundle any other elements or combinations of elements? If so, what are they and how should they be priced?
Q. Will this proceeding result in the establishment of rates for all UNEs identified in the FCC's rules?
A. No. In its Third Report and Order in CC Docket 98-147 and Fourth Report and Order in CC Docket 96-98, released December 9, 1999, the FCC added to its list of UNEs the requirement for incumbent LECs to unbundle the high frequency portion of the loop spectrum, an arrangement commonly referred to as "line sharing". This UNE was not included in the stipulated list of UNEs for which rates would be determined in this proceeding. It is Sprint's understanding that the Commission will initiate a separate proceeding to determine rates for this UNE.

Also, the FCC has defined Operational Support Systems (OSS) as an unbundled network element. The rates for OSS are being addressed in a separate proceeding, and are not included in this filing.
Q. Are there any other UNEs or UNE combinations that the Commission should require ILECs to unbundle in this proceeding?
A. No.

Issue 12: Without deciding the situations in which such combinations are required, what are the appropriate recurring and non-recurring rates for the following UNE combinations:
(a) "UNE platform" consisting of: loop (all), local (including packet, where required) switching (with signaling), and dedicated and shared transport (through and including local termination);
(b) "extended links," consisting of:
(1) loop, DSO/1 multiplexing, DS1 interoffice transport;
(2) DS1 loop, DS1 interoffice transport;
(3) DS1 loop, DS1/3 multiplexing, DS3 interoffice transport.
Q. What is Sprint's proposed rate structure for the UNE-platform?
A. The UNE platform consists of the loop, switch port, usage sensitive switching, and transport. With the exception of the loop, the rate for the UNE platform should be the sum of the statewide average rates for each individual element. In the case of loop and switch port, costs (such as line card costs associated with loops provisioned through a DLC) that are included in each element when bought on a standalone basis can be eliminated when they are provided in combination. Therefore, it was necessary to develop a combined loop and port cost for each wire center. The combined costs were then banded based on the 2-wire banding results, resulting in 3 rate bands, as shown in MRH Exhibit 1.
Q. What is Sprint's proposed rate structure for enhanced extended loops (EELs)?
A. Because EELs consist of the loop and transport unbundled elements, Sprint proposes that the rate for an EEL will be calculated as the sum of the banded loop rate and route-specific dedicated transport rate in the combination. Furthermore, multiplexing rates necessary for EEL have been developed as shown in MRH Exhibit 1.
Q. What are the current FCC rules pertaining to an incumbent LECs
obligation to combine elements?
A. Section 51.315(b) of the FCC's Rules states that "Except upon request, an incumbent LEC shall not separate requested network elements that the incumbent LEC currently combines."
Q. How did the Florida PSC define "currently combined"?
A. The Commission defined "currently combined" in Docket No. 000828-TP, Order No. PSC-01-1095-FOF-TP to mean those combinations that are, in fact, already combined and physically connected at the time a requesting carrier places an order.

Issue 13: When should the recurring and non-recurring rates and charges take effect?
Q. When should the UNE rates that will be determined in this proceeding take effect?
A. Sprint recommends that carriers be required to file UNE rates that conform to the Commission's Order 60 days after the release of the Order. Those rates would become effective on the date they are filed.
Q. Does that conclude your testimony?
A. Yes.






| Sub-Loops |  |  |  |
| :--- | :--- | :--- | :--- |
| Sub-Loop Interconnection (Stub Cable) |  |  |  |
| 2-Wire Feeder |  |  |  |
|  | Band 1 | $\$$ | 13.36 |



|  |  |  |  |
| :---: | :---: | :---: | :---: |
| Individual Features |  |  |  |
| 3 Way Conf / Consult / Hold Transfer | \$ $\quad 1.80$ | \$ | 18.77 |
| Conf Calling - 6 Way Station Control | \$ 2.56 | \$ | 18.77 |
| Dial Transfer to Tandem Tie Line | \$ 0.13 | \$ | 100.48 |
| Direct Connect | \$ 0.02 | \$ | 18.77 |
| Meet Me Conference | \$ $\quad 17.20$ | \$ | 28.63 |
| Multi-Hunt Service | \$ $\quad 0.11$ | \$ | 18.77 |
|  |  |  |  |
| TANDEM SWITCHING |  |  |  |
|  |  |  |  |
| Tandem Switching per MOU - Statewide Average | \$ 0.002213 |  |  |
|  |  |  |  |
| Transport |  |  |  |
|  |  |  |  |
| Transport - DS0 Dedicated - Install | Dedicated Transport Price List | \$ | 192.85 |
| Transport - DS1 Dedicated - Install | Dedicated Transport Price List | \$ | 182.15 |
| Transport - DS3 Dedicated - Install | Dedicated Transport Price List | \$ | 192.85 |
| Transport - OC3 Dedicated | Dedicated Transport Price List | \$ | 192.85 |
| Transport - OC12 Dedicated | Dedicated Transport Price List | \$ | 192.85 |
|  |  |  |  |
| DS1 to DS1 Cross Connect |  | \$ | 182.15 |
| DS3 to DS3 Cross Connect |  | \$ | 192.85 |
| OC3 to OC3 Cross Connect |  | \$ | 192.85 |
| OC12 to OC12 Cross Connect |  | \$ | 192.85 |
|  |  |  |  |
| Dark Fiber Transport - Initial Installation, 1-4 Patch Cords, per C.O. |  | \$ | 193.55 |
|  |  |  |  |
| Common Transport, per minute of use | \$ 0.000947 |  |  |
|  |  |  |  |
| 911 and E911 Database Access |  |  |  |
|  |  |  |  |
| 911 Trunk 2 Wire Analog |  | \$ | 151.80 |
| DS-0 transport to Sprint's 911 tandem office | Dedicated Transport \& Multiplexing | \$ | 192.85 |
|  |  |  |  |





Sprint-Florida
Loop Banding Module
Proposed Deaveraged Loop Rates


| 1 | KSSMFLXDRS0 | 15,039 | 15,039 |
| :---: | :---: | :---: | :---: |
| 1 | WNGRFLXADSO | 25,720 | 25,720 |
| 1 | MOISFLXADS1 | 24,089 | 24,089 |
| 1 | - NFMYFLXADSO | 17,528 | 17,528 |
| 1 | - NPLSFLXCDSO | 38,278 | 38,278 |
| 1 | - CLMTFLXADSO | 23,648 | 23,648 |
| 1 | - APPKFLXADS1 | 34,593 | 34,593 |
| ! | - KSSMFLXBDS1 | 15,243 | 15,243 |
| ! | - CPCRFLXBDS 1 | 30,799 | 30,799 |
| , | - TLHSFLXHDSO | 11,992 | 11,992 |
| : | - LSBGFLXADSO | 38,021 | 38,021 |
| $!$ | - TLHSFLXCDSO | 27,025 | 27,025 |
| , | - OCALFLXADSO | 62,998 | 62,998: |
| ! | - KSSMFLXADSO | 50,046 | 50,046 |
| , | - ORCYFLXCRSO | 15,533 | 15,533 |
| $\because$ | - Glgcflxadso | 35.678 | 35,678 |
| $\therefore$ | - TVRSFLXADSO | 16.016 | 16,016 |
| $?$ | - KSSMFLXCRS1 | 10,391 | 10,391 |
| 2 | - OCALFLXBDSO | 33,311 | 33,311 |
| $\because$ | - PTCTFlXADSO | 57,531 | 57,531 |
| 2 | - BVHLFLXADSO | 16,138 | 16,138 |
| 2 | - MTDRFLXARSO | 17,073 | 17,073 |
| 2 | - SVSSFlXARSO | 7,695 | 7,695 |
| 2 | - TLHSFLXFDSO | 27,051 | 27,051 |
| 2 | - BLVWFLXADSO | 23,864 | 23,864 |
| 2 | - SNISFLXADSO | 12,870 | 12,870 |
| 2 | - CRVWFLXADSO | 19,065 | 19,065 |
| 2 | - CYLKFLXADSO | 43,181 | 43,181 |
| 2 | - NFMYFLXBRSO | 18,544 | 18,544 |
| 2 | - FTMYFLXBRSO | 16,202 | 16,202 |
| 2 | - CHSWFLXARSO | 4,655 | 4,655 |
| 2 | - DDCYFLXADS1 | 13,655 | 13,655 |
| 2 | - SBNGFLXADS1 | 29,570 | 29,570 |
| 2 | - MTVRFLXARSO | 1,813 | 1,813 |
| 2 | - ESTSFLXARSO | 20,022 | 20,022 |
| 2 | - LKHLFLXARSO | 2,216 | 2,216 |
| 2 | - SGBHFLXARSO | 6,218 | 6,218 |
| 2 | - PNGRFLXADS1 | 29,036 | 29,036 |
| 2 | - SNRSFLXARSO | 6,305 | 6,305 |
| 2 | - CPHZFLXADSO | 12,523 | 12,523 |
| 2 | - lhacflxadso | 18,138 | 18,138 |
| 2 | - HOWYFLXARSO | 1,894 | 1,894 |
| 2 | - AVPKFLXADSO | 12,155 | 12,155 |
| $\because$ | - MRNNFLXADSO | 12,052 | 12,052 |
| 2 | - INVRFLXADS1 | 29,913 | 29,913 |
| 2 | - CRRVFLXADSO | 16.311 | 16.311 |
| $\because$ | - PNISFLXADSO | 9,803 | 9,803 |
| 2 | - FTMDFLXARSO | 3.443 | 3.443 |
| $\because$ | - SVSPFLXARSO | 5,875 | 5,875 |
| $\because$ | HMSPFLXARS0 | 11.032 | 11,032 |
| $\because$ | STCDFLXARSO | 23,237 | 23,237 |
| 2 | SNANFLXARSO | 4,142 | 4,142 |
| $?$ | WCHLFLXADSO | 7,603 | 7,603 |
| 2 | GVLDFLXARSO | 6,178 | 6,178 |
| 2 | STRKFLXADS0 | 7,992 | 7.992 |
| 3 | MDSNFLXADSO | 5,424 | 5.424 |
| , | - WLWdFlXarso | 9,065 | 9,065 |
| 3 | - ARCDFLXADSO | 15,733 | 15,733 |


| -20.29\% | 12.66\% | \$ | 23.91 | \$ | 46.12 | \$ | 43.15 | \$ | 349.48 | \$ | 38.83 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -20.08\% | 12.95\% | \$ | 23.97 | \$ | 45.87 | \$ | 46.99 | \$ | 181.08 | \$ | 42.43 |
| -18.42\% | 15.30\% | \$ | 24.47 | \$ | 47.15 | \$ | 45.70 | \$ | 211.19 | \$ | 45.13 |
| -18.18\% | 15.65\% | \$ | 24.54 | \$ | 47.22 | \$ | 46.07 | \$ | 296.01 | \$ | 42.01 |
| -16.26\% | 18.35\% | \$ | 25.12 | \$ | 48.22 | \$ | 46.07 | \$ | 156.58 | \$ | 48.20 |
| -15.37\% | 19.61\% | \$ | 25.38 | \$ | 48.74 | \$ | 47.34 | \$ | 218.79 | \$ | 45.88 |
| -14.08\% | 21.44\% | \$ | 25.77 | \$ | 49.39 | \$ | 48.08 | \$ | 261.14 | \$ | 47.01 |
| -13.96\% | 21.60\% | \$ | 25.81 | \$ | 49.15 | \$ | 43.78 | \$ | 104.24 | \$ | 49.90 |
| -13.63\% | 22.07\% | \$ | 25.91 | \$ | 49.86 | \$ | 49.11 | \$ | 91.44 | \$ | 44.39 |
| -13.20\% | 22.69\% | \$ | 26.04 | \$ | 49.99 | \$ | 47.64 | \$ | 178.63 | \$ | 47.81 |
| -13.18\% | 22.72\% | \$ | 26.04 | \$ | 49.93 | \$ | 49.01 | \$ | 204.44 | \$ | 46.80 |
| -12.13\% | 24.19\% | \$ | 26.36 | \$ | 50.66 | \$ | 48.97 | \$ | 256.46 | \$ | 43.28 |
| -9.01\% | 28.60\% | \$ | 27.29 | \$ | 52.27 | \$ | 49.15 | \$ | 142.16 | \$ | 48.84 |
| -8.83\% | 28.85\% | \$ | 27.35 | \$ | 52.55 | \$ | 48.96 | \$ | 240.08 | \$ | 48.96 |
| -7.48\% | 30.77\% | \$ | 27.75 | \$ | 53.38 | \$ | 49.65 | \$ | 295.36 | \$ | 50.13 |
| -4.43\% | -16.96\% | \$ | 28.67 | \$ | 55.36 | \$ | 48.72 | \$ | 191.64 | \$ | 48.46 |
| -3.62\% | -16.26\% | \$ | 28.91 | \$ | 55.96 | \$ | 52.20 | \$ | 112.96 | \$ | 50.20 |
| -3.15\% | -15.84\% | \$ | 29.05 | \$ | 56.04 | \$ | 42.63 | \$ | 104.18 | \$ | 55.35 |
| -3.05\% | -15.76\% | \$ | 29.08 | \$ | 55.96 | \$ | 55.30 | \$ | 203.53 | \$ | 51.03 |
| -2.36\% | -15.16\% | \$ | 29.29 | \$ | 56.46 | \$ | 50.48 | \$ | 166.47 | \$ | 51.93 |
| -1.05\% | -14.02\% | \$ | 29.68 | \$ | 57.41 | \$ | 47.28 | \$ | 162.01 | \$ | 48.91 |
| -0.84\% | -13.84\% | \$ | 29.74 | \$ | 57.55 | \$ | 52.38 | \$ | 214.04 | \$ | 49.53 |
| 1.68\% | -11.65\% | \$ | 30.50 | \$ | 59.07 | \$ | 56.02 | \$ | 118.63 | \$ | 50.76 |
| 2.36\% | -11.06\% | \$ | 30.70 | \$ | 59.18 | \$ | 52.67 | \$ | 199.85 | \$ | 55,81 |
| 3.43\% | -10.13\% | \$ | 31.02 | \$ | 59.98 | \$ | 52.49 | \$ | 217.75 | \$ | 52.71 |
| 4.16\% | -9.50\% | \$ | 31.24 | \$ | 60.23 | \$ | 51.80 | + | 304.21 | \$ | 61.75 |
| 5.71\% | -8.15\% | \$ | 31.71 | \$ | 61.36 | \$ | 55.60 | \$ | 221.99 | \$ | 50.98 |
| 7.72\% | -6.40\% | \$ | 32.31 | \$ | 61.84 | \$ | 53.03 | \$ | 354.61 | \$ | 61.39 |
| 8.25\% | -5.94\% | \$ | 32.47 | \$ | 63.02 | \$ | 50.78 | \$ | 223.17 | \$ | 54.91 |
| 8.85\% | -5.42\% | \$ | 32.65 | \$ | 63.28 | \$ | 52.70 | \$ | 152.18 | \$ | 51.92 |
| 10.15\% | -4.29\% | \$ | 33.04 | \$ | 64.46 | \$ | 52.52 | \$ | 814.87 | \$ | 48.87 |
| 12.16\% | -2.54\% | \$ | 33.64 | \$ | 65.36 | \$ | 56.71 | \$ | 136.02 |  | 53.14 |
| 12.39\% | -2.35\% | \$ | 33.71 | \$ | 65.18 | \$ | 58.10 | \$ | 174.67 | \$ | 59.53 |
| 15.16\% | 0.06\% | \$ | 34.54 | \$ | 67.81 | \$ | 41.95 | \$ | 118.65 | \$ | 43.00 |
| 15.28\% | 0.17\% | \$ | 34.58 | \$ | 67.21 | \$ | 60.81 | \$ | 187.05 | \$ | 54.39 |
| 16.12\% | 0.90\% | \$ | 34.83 | \$ | 68.39 | \$ | 54.40 | \$ | 140.58 | \$ | 44.03 |
| 18.77\% | 3.20\% | \$ | 35.62 | \$ | 69.22 | \$ | 55.55 | \$ | 147.81 | \$ | 63.08 |
| 23.23\% | 7.08\% | \$ | 36.96 | \$ | 71.79 | \$ | 60.86 | \$ | 201.65 | + | 65.44 |
| 24.01\% | 7.75\% | \$ | 37.20 | \$ | 72.25 | \$ | 57.87 | \$ | 445.90 | \$ | 62.18 |
| 24.61\% | 8.27\% | \$ | 37.38 | \$ | 72.63 | \$ | 57.48 | \$ | 1.177.49 | \$ | 64.54 |
| 24.70\% | 8.35\% | \$ | 37.40 | \$ | 72.92 | \$ | 59.94 | \$ | 228.71 | \$ | 57.89 |
| 27.56\% | 10.84\% | \$ | 38.26 | \$ | 74.81 | \$ | 60.27 | \$ | 137.72 | \$ | 58.66 |
| 30.91\% | 13.75\% | \$ | 39.27 | \$ | 75.78 | \$ | 61.43 | \$ | 310.97 | \$ | 63.77 |
| 31.75\% | 14.48\% | \$ | 39.52 | \$ | 76.76 | \$ | 64.82 | \$ | 316.42 | \$ | 58.90 |
| 34.50\% | 16.87\% | \$ | 40.34 | \$ | 78.44 | \$ | 63.87 | \$ | 186.29 | \$ | 67.51 |
| 35.97\% | 18.14\% | \$ | 40.78 | \$ | 79.21 | \$ | 62.52 | \$ | 279.02 | \$ | 66.61 |
| 37.46\% | 19.44\% | \$ | 41.23 | \$ | 80.21 | \$ | 62.96 | \$ | 159.27 | \$ | 73.82 |
| 40.86\% | 22.39\% | \$ | 42.25 | \$ | 82.98 | \$ | 65.86 | \$ | 193.22 | \$ | 59.94 |
| 49.69\% | 30.07\% | \$ | 44.90 | \$ | 87.86 | \$ | 69.27 | \$ | 216.24 | \$ | 76.34 |
| 50.22\% | 30.53\% | \$ | 45.06 | \$ | 87.80 | \$ | 67.60 | \$ | 143.54 | \$ | 74.41 |
| 50.33\% | 30.62\% | \$ | 45.09 | \$ | 88.41 | \$ | 66.67 | \$ | 271.53 | \$ | 72.32 |
| 64.36\% | 42.81\% | \$ | 49.30 | \$ | 95.86 | \$ | 74.98 | \$ | 526.12 | \$ | 84.25 |
| 66.57\% | 44.74\% | \$ | 49.96 | \$ | 97.86 | \$ | 78.82 | \$ | 217.63 | \$ | 75.81 |
| 70.71\% | 48.33\% | \$ | 51.20 | \$ | 100.13 | \$ | 76.72 | \$ | 278.84 | \$ | 81.79 |
| 71.33\% | 48.87\% | \$ | 51.39 | \$ | 100.55 | \$ | 81.22 | \$ | 188.96 | \$ | 71.51 |
| 76.60\% | -23.01\% | \$ | 52.97 | \$ | 103.98 | \$ | 81.90 | \$ | 237.23 | \$ | 74.57 |
| 76.83\% | -22.92\% | \$ | 53.04 | \$ | 103.86 | \$ | 80.94 | \$ | 215.60 | \$ | 81.19 |
| 77.93\% | -22.43\% | \$ | 53.37 | \$ | 104.86 | \$ | 78.74 | \$ | 317.82 | \$ | 84.49 |


| 121 | 3 | DFSPFLXADS0 | 9,776 | 9,776 |
| :---: | :---: | :---: | :---: | :---: |
| 122 | 3 | SLHLFLXARSO | 5,567 | 5,567 |
| 123 | 3 | UMTLFLXARS0 | 8,567 | 8,567 |
| 124 | 3 | CFVLFLXADSO | 7,610 | 7,610 |
| 125 | 3 | OKLWFLXADSO | 4,454 | 4,454 |
| 126 | 3 | OKCBFLXADS1 | 24,148 | 24,148 |
| 127 | 3 | TLHSFLXGRSO | 4,940 | 4,940 |
| 128 | 3 | CLTNF $\quad$ XARS0 | 9,675 | 9,675 |
| 129 | 3 | SNDSFLXARSO | 2,051 | 2,051 |
| 130 | ; | TLCHFLXARSO | 4,073 | 4.073 |
| 131 | ; | L8LLFLXADS0 | 9,782 | 9,782 |
| 132 | 3 | BSHNFLXADS0 | 12,635 | 12,635 |
| 133 | 3 | OCNFFLXARSO | 6,101 | 6,101 |
| 134 | 3 | LKPCFLXARSO | 13,872 | 13,872 |
| 135 | 3 | ALVAFLXARS1 | 1,778 | 1,778 |
| 136 | 3 | MRHNFLXARSO | 3,074 | 3,074 |
| 137 | ? | BWLGFLXARS0 | 1,701 | 1,701 |
| 138 | 3 | IMKLFLXARS0 | 7,045 | 7,045 |
| 139 | ; | ASTRFLXARSO | 1.578 | 1,578 |
| 140 | 3 | WLSTFLXARS0 | 6,776 | 6,776 |
| 141 | 3 | GNWDFLXARS0 | 915 | 915 |
| 142 | 3 | PANCFLXARSO | 1.162 | 1,162 |
| 143 | : | SSPRFLXARSO | 1.727 | 1,727 |
| 144 | 3 | BNFYFLXARSO | 5.210 | 5,210 |
| 145 | $\therefore$ | MNTIFLXADSO | 7.331 | 7,331 |
| 146 | . | FRPTFLXARSO | 3,235 | 3,235 |
| 147 | 3 | CTDLFLXARSO | 1,436 | 1.436 |
| 148 | ; | LWTYFLXARS0 | 1,247 | 1,247 |
| 149 | ; | ALFRFLXARS0 | 1,743 | 1,743 |
| 150 | 3 | BAKRFLXADSO | 2,841 | 2,841 |
| 151 | 3 | GDRGFLXADSO | 2,387 | 2,387 |
| 152 | 3 | - MALNFLXARSO | 1,390 | 1,390 |
| 153 | 3 | CHLKFLXARSO | 1,447 | 1,447 |
| 154 | 3 | ZLSPFLXARSO | 2,646 | 2,646 |
| 155 | 3 | - PNLNFLXARSO | 1,311 | 1,311 |
| 156 | 3 | - STMKFLXARSO | 773 | 773 |
| 157 | 3 | LEE FLXARSO | 1,238 | 1,238 |
| 158 | 3 | SPCPFLXARLO | 1,164 | 1,164 |
| 159 | 3 | - GLDLFLXARSO | 863 | 863 |
| 160 | 3 | GNVLFLXARSO | 1,509 | 1,509 |
| 161 | 3 | EVRGFLXARS1 | 1,752 | 1,752 |
| 162 | 3 | RYHLFLXARSO | 1,602 | 1,602 |
| 163 | 3 | - WSTVFLXARSO | 899 | 899 |
| 164 | 3 | - KGLKFLXARSO | 339 | 339 |
| 165 | 3 | - KNVLFLXARSO | 744 | 744 |


| 79.67\% | -21.68\% | \$ | 53.89 | \$ | 105.42 | \$ | 82.61 | \$ | 252.68 | \$ | 82.51 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 83.11\% | -20.18\% | \$ | 54.92 | \$ | 107.45 | \$ | 78.60 | \$ | 573.27 | \$ | 93.56 |
| 86.14\% | -18.85\% | \$ | 55.83 | \$ | 109.61 | \$ | 83.94 | \$ | 241.73 | \$ | 90.37 |
| 87.83\% | -18.12\% | \$ | 56.34 | \$ | 110.15 | \$ | 82.78 | \$ | 337.90 | \$ | 90.81 |
| 90.09\% | -17.14\% | \$ | 57.02 | \$ | 111.96 | \$ | 72.92 | \$ | 708.69 | \$ | 85.92 |
| 91.93\% | -16.33\% | \$ | 57.57 | \$ | 112.78 | \$ | 84.57 | \$ | 390.97 | \$ | 103.53 |
| 92.20\% | -16.21\% | \$ | 57.65 | \$ | 113.13 | \$ | 83.23 | \$ | 613.84 | \$ | 91.25 |
| 97.45\% | -13.93\% | \$ | 59.23 | \$ | 116.60 | \$ | 88.31 | \$ | 404.49 | \$ | 102.32 |
| 98.99\% | -13.26\% | \$ | 59.69 | \$ | 117.46 | \$ | 88.01 | \$ | 219.96 | \$ | 85.62 |
| 99.43\% | -13.06\% | \$ | 59.82 | \$ | 117.41 | \$ | 87.19 | \$ | 265.83 | \$ | 94.80 |
| 101.37\% | -12.22\% | \$ | 60.40 | \$ | 118.42 | \$ | 85.78 | \$ | 371.06 | \$ | 101.33 |
| 104.48\% | -10.86\% | \$ | 61.33 | \$ | 120.32 | \$ | 87.89 | \$ | 254.42 | \$ | 95.91 |
| 105.54\% | -10.40\% | \$ | 61.65 | \$ | 121.07 | \$ | 84.34 | \$ | 765.39 | \$ | 102.24 |
| 107.29\% | -9.63\% | \$ | 62.18 | \$ | 122.10 | \$ | 86.16 | \$ | 461.04 | \$ | 108.29 |
| 110.10\% | -8.41\% | \$ | 63.02 | \$ | 123.44 | \$ | 87.83 | \$ | 546.78 | \$ | 99.39 |
| 110.24\% | -8.35\% | \$ | 63.06 | \$ | 124.31 | \$ | 87.38 | \$ | 359.83 | \$ | 101.84 |
| 110.28\% | -8.33\% | \$ | 63.07 | \$ | 124.53 | \$ | 89.81 | \$ | 308.64 | \$ | 93.77 |
| 116.88\% | -5.45\% | \$ | 65.05 | \$ | 128.18 | \$ | 88.60 | \$ | 386.76 | \$ | 107.86 |
| 118.92\% | -4.57\% | \$ | 65.67 | \$ | 128.64 | \$ | 88.04 | \$ | 649.05 | \$ | 107.46 |
| 119.72\% | -4.22\% | \$ | 65.91 | \$ | 129.59 | \$ | 98.86 | \$ | 289.12 | \$ | 103.25 |
| 124.06\% | -2.33\% | \$ | 67.21 | \$ | 132.33 | \$ | 95.47 | \$ | 251.38 | \$ | 104.25 |
| 134.20\% | 2.09\% | \$ | 70.25 | \$ | 137.87 | \$ | 94.92 | \$ | 259.58 | \$ | 120.12 |
| 152.26\% | 9.97\% | \$ | 75.67 | \$ | 149.04 | \$ | 91.51 | \$ | 1,326.93 | \$ | 131.32 |
| 152.42\% | 10.04\% | \$ | 75.72 | \$ | 149.09 | \$ | 112.06 | \$ | 324.52 | \$ | 108.02 |
| 189.55\% | 26.22\% | \$ | 86.85 | \$ | 171.10 | \$ | 123.87 | \$ | 554.80 | \$ | 146.96 |
| 191.17\% | 26.93\% | \$ | 87.34 | \$ | 172.30 | \$ | 115.34 |  | 388.65 | + | 141.23 |
| 201.96\% | 31.63\% | \$ | 90.57 | \$ | 179.13 | \$ | 117.15 | \$ | 398.20 | \$ | 136.12 |
| 205.44\% | 33.15\% | \$ | 91.62 | \$ | 180.73 | \$ | 116.00 | \$ | 670.61 | \$ | 142.02 |
| 219.63\% | 39.34\% | \$ | 95.87 | \$ | 189.51 | \$ | 120.72 | \$ | 413.61 | \$ | 147.60 |
| 251.05\% | 53.04\% | \$ | 105.30 | \$ | 207.92 | \$ | 142.04 | \$ | 541.69 | \$ | 172.13 |
| 252.80\% | 53.80\% | \$ | 105.82 | \$ | 209.14 | \$ | 140.42 | \$ | 513.77 | \$ | 169.36 |
| 263.18\% | 58.32\% | \$ | 108.94 | \$ | 214.95 | \$ | 141.34 | \$ | 499.81 | \$ | 167.65 |
| 265.78\% | 59.46\% | \$ | 109.72 | \$ | 216.89 | \$ | 140.03 | \$ | 424.57 | \$ | 164.76 |
| 273.41\% | 62.78\% | \$ | 112.00 | \$ | 221.64 | \$ | 137.82 | \$ | 645.67 | , | 184.20 |
| 295.15\% | 72.26\% | \$ | 118.53 | \$ | 234.23 | \$ | 153.59 | \$ | 833.20 | \$ | 195.43 |
| 297.55\% | 73.31\% | \$ | 119.25 | \$ | 236.09 | \$ | 142.73 | \$ | 1,000.14 | \$ | 181.98 |
| 355.08\% | 98.39\% | \$ | 136.50 | \$ | 270.73 | \$ | 162.02 | \$ | 713.71 | \$ | 218.82 |
| 382.66\% | 110.41\% | \$ | 144.77 | \$ | 287.33 | \$ | 169.32 | \$ | 825.05 | - | 239.44 |
| 399.78\% | 117.87\% | \$ | 149.91 | \$ | 297.24 | \$ | 180.82 | \$ | 746.85 | + | 240.95 |
| 415.14\% | 124.57\% | \$ | 154.52 | \$ | 306.04 | \$ | 190.29 | \$ | 963.57 | \$ | 252.37 |
| 415.63\% | 124.78\% | \$ | 154.66 | \$ | 305.41 | \$ | 174.73 | \$ | 1,754.60 | + | 313.06 |
| 426.88\% | 129.68\% | \$ | 158.04 | \$ | 313.41 | \$ | 190.66 | \$ | 823.35 | \$ | 255.69 |
| 434.16\% | 132.86\% | \$ | 160.22 | \$ | 318.04 | \$ | 185.21 | \$ | 749.23 | \$ | 240.00 |
| 444.09\% | 137.19\% | \$ | 163.20 | \$ | 318.93 | \$ | 199.98 | \$ | 664.05 |  | 248.71 |
| 922.78\% | 345.86\% | \$ | 306.78 | \$ | 611.18 | \$ | 330.66 | \$ | 2,730.35 | \$ | 585.44 |

## Sprint-Florida <br> Loop Banding Module <br> Deaveraged Loop Rates - Non-Collapsed

| Rate Banding Summary |  |  |  |  |  | Monthly Price |  |  | Monthly Price | Monthly Price |  | Monthly Price | Monthly Price |  | Monthly Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rate |  | Number | Total Lines | Percent of Total |  |  |  |  |  |  |  |  |  |  |  |
|  | ID | Rate Band | Wire Centers | Served | Lines |  | 2-Wire |  | 4-Wire |  | DS-0 56/64K | DS-1 |  | ISDN-BRI |  | ISDN-PRI |
| \% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | 1 | Rate Band 1 | 4 | 111,921 | 5.11\% | \$ | 12.27 | \$ | 22.54 | \$ | 30.01 | \$ 181.84 | \$ | 25.93 | \$ | 181.84 |
| 11 | 2 | Rate Band 2 | 23 | 716,638 | 32.70\% | \$ | 19.57 | \$ | 37.12 | \$ | 40.68 | \$ 215.98 | \$ | 37.36 | \$ | 215.98 |
| 12 | 3 | Rate Band 3 | 34 | 849,845 | 38.77\% | \$ | 27.68 | \$ | 53.24 | \$ | 49.27 | \$ 206.32 | \$ | 49.05 | \$ | 206.32 |
| 13 | 4 | Rate Band 4 | 20 | 265,211 | 12.10\% | \$ | 38.54 | \$ | 74.96 | \$ | 61.49 | \$ 260.70 | \$ | 63.63 | \$ | 260.70 |
| 14 | 5 | Rate Band 5 | 28 | 202,255 | 9.23\% | \$ | 57.42 | \$ | 112.64 | \$ | 83.90 | \$ 361.62 | \$ | 93.21 | \$ | 361.62 |
| 15 | 6 | Rate Band 6 | 8 | 23,091 | 1.05\% | \$ | 83.91 | \$ | 165.39 | \$ | 115.05 | \$ 508.32 | \$ | 133.96 | \$ | 508.32 |
| 16 | 7 | Rate Band 7 | 7 | 12,795 | 0.58\% | \$ | 109.88 | \$ | 217.16 | \$ | 141.79 | \$ 597.76 | \$ | 175.77 | \$ | 597.76 |
| 17 | 8 | Rate Band 8 | 8 | 9,366 | 0.43\% | \$ | 151.99 | \$ | 301.00 | \$ | 180.09 | \$ 985.93 | \$ | 255.88 | \$ | 985.93 |
| 18 | 9 | Rate Band 9 | 1 | 744 | 0.03\% | \$ | 306.78 | \$ | 611.18 | \$ | 330.66 | \$ 2,730.35 | s | 585.44 | \$ | 2,730.35 |
| 22. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | pany |  | 133 | 2,191,866 | 100.00\% | \$ | 30.00 | \$ | 57.90 | \$ | 52.04 | \$ 238.80 | \$ | 52.58 | \$ | 238.80 |

3 Company Wide
25
26 Rate Band Detail (Sorted by 2-wire Monthly Cost (TELRIC)

| Rate Band | Exchange | Wire Center | Total Lines Served | Total Lines Served | Total Lines Served | Total Lines Served | Total Lines Served | Total Lines Served | Deviation From Company Average |  |  | Monthly Cost |  | Monthly Cost |  | Monthly Cost |  | Monthly Cost |  | Monthly Cost |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Company | 2-Wire | 4-Wire | DS-0 56/64K | DS-1 | ISDN-BRI | 2-wire | 2-wire |  | 2-Wire |  | 4-Wire |  | DS-0 56/64K |  | DS-1 |  | DN-BRI |
| , |  | MTLDFLXADS1 | 13,828 | 13,828 |  |  |  |  | -60.74\% | -3.98\% | \$ | 11.78 | \$ | 21.67 | \$ | 34.89 | \$ | 75.92 | \$ | 21.24 |
| ; |  | TLHSFLXADSO | 77.168 | 77,168 |  |  |  |  | -60.17\% | -2.59\% | \$ | 11.95 | \$ | 21.81 | \$ | 27.74 | \$ | 95.01 | \$ | 26.57 |
| , |  | TLHSFLXERSO | 11,179 | 11,179 |  |  |  |  | -56.49\% | 6.39\% | \$ | 13.05 | \$ | 23.98 | \$ | 34.39 | \$ | 980.29 | \$ | 32.42 |
| : |  | SHLMFLXADSO | 9,746 | 9,746 |  |  |  |  | -51.43\% | 18.78\% | \$ | 14.57 | \$ | 27.84 | \$ | 36.04 | \$ | 103.78 | \$ | 20.08 |
| $\because$ |  | WNPKFLXADS1 | 48,235 | 48.235 |  |  |  |  | -44.77\% | -15.32\% | \$ | 16.57 | \$ | 31.17 | \$ | 39.10 | \$ | 66.17 | \$ | 30.96 |
| \% | - | FTWBFLXADS0 | 23,487 | 23,487 |  |  |  |  | -40.71\% | -9.10\% | \$ | 17.78 | \$ | 33.67 | \$ | 38.62 | \$ | 113.87 | \$ | 31.10 |
| 2 | - | CYLKFLXBRSO | 30,176 | 30,176 |  |  |  |  | -39.98\% | -7.98\% | \$ | 18.00 | \$ | 33.60 | \$ | 38.16 | \$ | 279.01 | \$ | 40.68 |
| - | - | FTWBFLXBDS0 | 20,900 | 20,900 |  |  |  |  | -39.49\% | -7.24\% | \$ | 18.15 | \$ | 34.84 | \$ | 39.50 | \$ | 161.67 | \$ | 27.03 |
| ? | - | FTMYFLXCDS2 | 38,646 | 38,646 |  |  |  |  | -38.95\% | -6.41\% | \$ | 18.31 | \$ | 34.68 | \$ | 40.88 | \$ | 109.18 | \$ | 33.08 |
| 2 |  | NPLSFLXDDSO | 63,565 | 63,565 |  |  |  |  | -38.53\% | -5.76\% | \$ | 18.44 | \$ | 34.79 | \$ | 40.45 | \$ | 186.15 | \$ | 38.60 |
| $:$ | - | ALSPFLXADSO | 54,425 | 54,425 |  |  |  |  | -38.38\% | -5.53\% | \$ | 18.48 | \$ | 34.95 | \$ | 39.75 | \$ | 157.84 | \$ | 35.18 |
| , | . | LKBRFLXADS 1 | 45,503 | 45,503 |  |  |  |  | -37.99\% | -4.93\% | \$ | 18.60 | \$ | 35.24 | \$ | 39.39 | \$ | 177.42 | \$ | 35.45 |
| , | - | NNPLFLXADS 1 | 62,624 | 62,624 |  |  |  |  | -37.33\% | -3.92\% | \$ | 18.80 | \$ | 35.53 | \$ | 37.40 | \$ | 359.38 | \$ | 38.78 |
| 2 | - | TLHSFLXBDSO | 26,193 | 26,193 |  |  |  |  | -35.41\% | -0.98\% | \$ | 19.37 | \$ | 36.70 | \$ | 41.35 | \$ | 161.78 | \$ | 34.80 |
| 2 | - | VLPRFLXADS0 | 15,510 | 15,510 |  |  |  |  | -35.29\% | -0.80\% | \$ | 19.41 | \$ | 37.03 | \$ | 40.15 | \$ | 161.59 | \$ | 32.68 |
| 2 | - | FTMYFLXADS0 | 24,419 | 24,419 |  |  |  |  | -33.49\% | 1.97\% | \$ | 19.95 |  | 37.58 | \$ | 40.88 | \$ | 82.57 | \$ | 31.95 |
| 2 | - | CSLBFLXADS 1 | 21,375 | 21,375 |  |  |  |  | -33.03\% | 2.67\% | \$ | 20.09 | \$ | 38.35 | \$ | 40.90 | \$ | 349.67 | \$ | 37.08 |
| 2 | - | DESTFLXADS0 | 24,669 | 24,669 |  |  |  |  | -30.57\% | 6.44\% | \$ | 20.83 | \$ | 39.61 | \$ | 41.55 | \$ | 280.59 | \$ | 41.74 |
| 2 | - | FTMBFLXARS0 | 12,442 | 12,442 |  |  |  |  | -29.75\% | 7.70\% | \$ | 21.07 | \$ | 40.26 | \$ | 43.19 | \$ | 611.38 | \$ | 42.10 |
| 2 | - | GLRDFLXADSO | 47,832 | 47,832 |  |  |  |  | -29.56\% | 7.99\% | \$ | 21.13 | \$ | 40.24 | \$ | 42.93 | \$ | 203.64 | \$ | 40.70 |
| 2 | . | CPCRFLXADSO | 35,895 | 35,895 |  |  |  |  | -29.40\% | 8.24\% | \$ | 21.18 | \$ | 40.49 | \$ | 42.72 | \$ | 148.39 | \$ | 38.52 |
| 2 | - | VLPRFLXBRSO | 7.881 | 7,881 |  |  |  |  | -27.48\% | 11.18\% | \$ | 21.75 | \$ | 41.94 | \$ | 42.54 | \$ | 87.50 | \$ | 34.56 |
| 2 | - | BNSPFLXADS1 | 60,794 | 60,794 |  |  |  |  | -26.01\% | 13.43\% | \$ | 22.19 | \$ | 42.21 | \$ | 42.02 | \$ | 359.46 | \$ | 44.63 |
| 2 | - | LDLKFLXARSO | 24,782 | 24,782 |  |  |  |  | -25.32\% | 14.49\% | \$ | 22.40 | \$ | 42.68 | \$ | 44.86 | \$ | 229.60 | \$ | 44.23 |
| 2 | - | ORCYFLXADSO | 13.755 | 13,755 |  |  |  |  | -24.34\% | 15.99\% | \$ | 22.69 | \$ | 43.60 | \$ | 44.11 | \$ | 227.54 | \$ | 36.75 |
| 2 | - | WNDRFLXARSO | 10,319 | 10,319 |  |  |  |  | -23.11\% | 17.89\% | \$ | 23.06 | \$ | 44.03 | \$ | 44.42 | \$ | 434.67 | \$ | 46.72 |
| 2 | - | BCGRFLXARS1. | 3,211 | 3,211 |  |  |  |  | -22.26\% | 19.18\% | \$ | 23.32 | \$ | 45.16 | \$ | 43.94 | \$ | 67.90 | \$ | 38.06 |
| ; | - | FTWBFLXCRS0 | 4,698 | 4,698 |  |  |  |  | -21.58\% | -15.01\% | \$ | 23.52 | \$ | 44.94 | \$ | 44.18 | \$ | 187.30 | \$ | 42.83 |


| 61 | 3 | TLHSFLXDDS0 | 44,310 | 44,310 |
| :---: | :---: | :---: | :---: | :---: |
| 62 | 3 | OCALFLXCRSO | 11,020 | 11,020 |
| 63 | ; | - KSSMFLXDRS0 | 15,039 | 15,039 |
| 64 | $\because$ | WNGRFLXADSO | 25,720 | 25,720 |
| 65 |  | - MOISFLXADS1 | 24,089 | 24,089 |
| 66 | $\because$ | - NFMYFLXADSO | 17,528 | 17,528 |
| 67 | $\because$ | NPLSFLXCDS0 | 38,278 | 38,278 |
| 68 | $\because$ | - Clmitaxadoso | 23,648 | 23,648 |
| 69 | ' | - APPKFLXADS1 | 34,593 | 34,593 |
| 70 | ? | - KSSMFLXBDS1 | 15,243 | 15,243 |
| 71 | ; | - CPCRFLXBDS1 | 30,799 | 30,799 |
| 72 | 4 | - TLHSFLXHDSO | 11,992 | 11,992 |
| 73 | 3 | - LSBGFLXADS0 | 38,021 | 38,021 |
| 74 | 3 | - TLHSFLXCDSO | 27,025 | 27,025 |
| 75 | 3 | - OCALFLXADSO | 62,998 | 62,998 |
| 76 | 3 | - KSSMFLXADSO | 50,046 | 50,046 |
| 77 | 3 | - ORCYFLXCRSO | 15,533 | 15,533 |
| 78 | 3 | GLGCFLXADSO | 35,678 | 35,678 |
| 79 | 3 | - TVRSFLXADSO | 16,016 | 16,016 |
| 80 | 3 | - KSSMFLXCRS1 | 10,391 | 10,391 |
| 81 | 3 | - OCALFLXBDSO | 33,311 | 33,311 |
| 82 | 3 | - PTCTFlXADSO | 57,531 | 57,531 |
| 83 | 3 | BVHLFLXADSO | 16,138 | 16,138 |
| 84 | 3 | MTDRFLXARS0 | 17,073 | 17,073 |
| 85 | 3 | - SVSSFLXARSO | 7,695 | 7,695 |
| 86 | 3 | - TLLHSFLXFDS0 | 27,051 | 27,051 |
| 87 | 3 | BLVWFLXADS0 | 23,864 | 23,864 |
| 88 | 3 | SNISFLXADSO | 12,870 | 12,870 |
| 89 | 3 | CRVWFLXADSO | 19,065 | 19,065 |
| 90 | 3 | CYLKFLXADSO | 43,181 | 43,181 |
| 91 | 3 | NFMYFLXBRSO | 18,544 | 18,544 |
| 92 | 3 | FTMYFLXBRS0 | 16,202 | 16,202 |
| 93 | ; | CHSWFLXARSO | 4,655 | 4,655 |
| 94 | 4 | DDCYFLXADS1 | 13,655 | 13,655 |
| 95 | 4 | SBNGFLXADS1 | 29,570 | 29,570 |
| 96 | 4 | MTVRFLXARS0 | 1,813 | 1,813 |
| 97 | 4 | ESTSFLXARSO | 20,022 | 20.022 |
| 98 | $\stackrel{1}{4}$ | LKHLFLXARSO | 2,216 | 2,216 |
| 99 | 4 | SGBHFLXARSO | 6.218 | 6,218 |
| 100 | , | PNGRFLXADS1 | 29,036 | 29,036 |
| 101 | 4 | SNRSFLXARSO | 6,305 | 6,305 |
| 102 | 4 | CPHZFLXADS 0 | 12,523 | 12,523 |
| 103 | 4 | LHACFLXADSO | 18,138 | 18,138 |
| 104 | 4 | - HOWYFLXARSO | 1,894 | 1,894 |
| 105 | 4 | AVPKFLXADSO | 12,155 | 12,155 |
| 106 | 4 | MRNNFLXADS0 | 12,052 | 12,052 |
| 107 | 4 | INVRFLXADS1 | 29,913 | 29,913 |
| 108 | 4 | CRRVFLXADSO | 16,311 | 16,311 |
| 109 | 4 | PNISFLXADSO | 9,803 | 9,803 |
| 110 | 4 | FTMDFLXARSO | 3,443 | 3,443 |
| 111 | 4 | SVSPFLXARSO | 5,875 | 5,875 |
| 112 | 4 | HMSPFLXARSO | 11,032 | 11,032 |
| 113 | 4 | STCDFLXARSO | 23,237 | 23,237 |
| 114 | 9 | SNANFLXARSO | 4,142 | 4,142 |
| 115 | 5 | WCHLFLXADS0 | 7,603 | 7,603 |
| 116 | 3 | GVLDFLXARSO | 6,178 | 6,178 |
| 117 | 5 | STRKFLXADSO | 7,992 | 7,992 |
| 118 | 5 | MDSNFLXADSO | 5,424 | 5,424 |
| 119 | 5 | WLWDFLXARS0 | 9,065 | 9,065 |
| 120 | 5 | ARCDFLXADS0 | 15,733 | 15,733 |
| 121 | 5 | DFSPFLXADSO | 9,776 | 9,776 |
| 122 | 5 | - SLHLFLXARSO | 5,567 | 5,567 |



| $-14.06 \%$ | $\$$ | 23.79 | $\$$ | 45.42 | $\$$ |
| ---: | :--- | :--- | :--- | :--- | :--- |
| $-13.74 \%$ | $\$$ | 23.87 | $\$$ | 45.95 | $\$$ |
| $-13.61 \%$ | $\$$ | 23.91 | $\$$ | 46.12 | $\$$ |
| $-13.39 \%$ | $\$$ | 23.97 | $\$$ | 45.87 | $\$$ |
| $-11.59 \%$ | $\$$ | 24.47 | $\$$ | 47.15 | $\$$ |
| $-11.33 \%$ | $\$$ | 24.54 | $\$$ | 47.22 | $\$$ |
| $-9.25 \%$ | $\$$ | 25.12 | $\$$ | 48.22 | $\$$ |
| $-8.28 \%$ | $\$$ | 25.38 | $\$$ | 48.74 | $\$$ |
| $-6.88 \%$ | $\$$ | 25.77 | $\$$ | 49.39 | $\$$ |
| $-6.76 \%$ | $\$$ | 25.81 | $\$$ | 49.15 | $\$$ |
| $-6.40 \%$ | $\$$ | 25.91 | $\$$ | 49.86 | $\$$ |
| $-5.93 \%$ | $\$$ | 26.04 | $\$$ | 49.99 | $\$$ |
| $-5.90 \%$ | $\$$ | 26.04 | $\$$ | 49.93 | $\$$ |
| $-4.77 \%$ | $\$$ | 26.36 | $\$$ | 50.66 | $\$$ |
| $-1.39 \%$ | $\$$ | 27.29 | $\$$ | 52.27 | $\$$ |
| $-1.20 \%$ | $\$$ | 27.35 | $\$$ | 52.55 | $\$$ |
| $0.27 \%$ | $\$$ | 27.75 | $\$$ | 53.38 | $\$$ |
| $3.57 \%$ | $\$$ | 28.67 | $\$$ | 55.36 | $\$$ |
| $4.45 \%$ | $\$$ | 28.91 | $\$$ | 55.96 | $\$$ |
| $4.96 \%$ | $\$$ | 29.05 | $\$$ | 56.04 | $\$$ |
| $5.07 \%$ | $\$$ | 29.08 | $\$$ | 55.96 | $\$$ |
| $5.81 \%$ | $\$$ | 29.29 | $\$$ | 56.46 | $\$$ |
| $7.24 \%$ | $\$$ | 29.68 | $\$$ | 57.41 | $\$$ |
| $7.46 \%$ | $\$$ | 29.74 | $\$$ | 57.55 | $\$$ |
| $10.19 \%$ | $\$$ | 30.50 | $\$$ | 59.07 | $\$$ |
| $10.93 \%$ | $\$$ | 30.70 | $\$$ | 59.18 | $\$$ |
| $12.09 \%$ | $\$$ | 31.02 | $\$$ | 59.98 | $\$$ |
| $12.88 \%$ | $\$$ | 31.24 | $\$$ | 60.23 | $\$$ |
| $14.56 \%$ | $\$$ | 31.71 | $\$$ | 61.36 | $\$$ |
| $16.74 \%$ | $\$$ | 32.31 | $\$$ | 61.84 | $\$$ |
| $17.31 \%$ | $\$$ | 32.47 | $\$$ | 63.02 | $\$$ |
| $17.96 \%$ | $\$$ | 32.65 | $\$$ | 63.28 | $\$$ |
| $19.37 \%$ | $\$$ | 33.04 | $\$$ | 64.46 | $\$$ |
| $-12.70 \%$ | $\$$ | 33.64 | $\$$ | 65.36 | $\$$ |
| $-12.52 \%$ | $\$$ | 33.71 | $\$$ | 65.18 | $\$$ |
| $-10.37 \%$ | $\$$ | 34.54 | $\$$ | 67.81 | $\$$ |
| $-10.27 \%$ | $\$$ | 34.58 | $\$$ | 67.21 | $\$$ |
| $-9.62 \%$ | $\$$ | 34.83 | $\$$ | 68.39 | $\$$ |
| $-756 \%$ | $\$$ | 35.62 | $\$$ | 69.22 | $\$$ |
| $-4.08 \%$ | $\$$ | 36.96 | $\$$ | 71.79 | $\$$ |
| $-3.48 \%$ | $\$$ | 37.20 | $\$$ | 72.25 | $\$$ |
| $-3.01 \%$ | $\$$ | 37.38 | $\$$ | 72.63 | $\$$ |
| $-2.94 \%$ | $\$$ | 37.40 | $\$$ | 72.92 | $\$$ |
| $-0.71 \%$ | $\$$ | 38.26 | $\$$ | 74.81 | $\$$ |
| $1.89 \%$ | $\$$ | 39.27 | $\$$ | 75.78 | $\$$ |
| $2.55 \%$ | $\$$ | 39.52 | $\$$ | 76.76 | $\$$ |
| $4.69 \%$ | $\$$ | 40.34 | $\$$ | 78.44 | $\$$ |
| $5.83 \%$ | $\$$ | 40.78 | $\$$ | 79.21 | $\$$ |
| $6.99 \%$ | $\$$ | 41.23 | $\$$ | 80.21 | $\$$ |
| $9.63 \%$ | $\$$ | 42.25 | $\$$ | 82.98 | $\$$ |
| $16.51 \%$ | $\$$ | 44.90 | $\$$ | 87.86 | $\$$ |
| $16.92 \%$ | $\$$ | 45.06 | $\$$ | 87.80 | $\$$ |
| $17.01 \%$ | $\$$ | 45.09 | $\$$ | 88.41 | $\$$ |
| $-14.15 \%$ | $\$$ | 49.30 | $\$$ | 95.86 | $\$$ |
| $-12.99 \%$ | $\$$ | 49.96 | $\$$ | 97.86 | $\$$ |
| $-10.83 \%$ | $\$$ | 51.20 | $\$$ | 100.13 | $\$$ |
| $-10.51 \%$ | $\$$ | 51.39 | $\$$ | 100.55 | $\$$ |
| $-7.75 \%$ | $\$$ | 52.97 | $\$$ | 103.98 | $\$$ |
| $-7.64 \%$ | $\$$ | 53.04 | $\$$ | 103.86 | $\$$ |
| $-7.06 \%$ | $\$$ | 53.37 | $\$$ | 104.86 | $\$$ |
| $-6.15 \%$ | $\$$ | 53.89 | $\$$ | 105.42 | $\$$ |
| $-4.35 \%$ | $\$$ | 54.92 | $\$$ | 107.45 | $\$$ |


| 123 | 5 | - | UMTLFLXARSO | 8,567 | 8,567 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 124 | 5 | - | CFVLFLXADSO | 7.610 | 7,610 |
| 125 | \% | - | OKLWFLXADS0 | 4,454 | 4,454 |
| 126 | \% | - | OKCBFLXADS 1 | 24,148 | 24,148 |
| 127 | 5 | - | TLHSFLXGRS0 | 4,940 | 4,940 |
| 128 | 5 | - | CLTNFLXARSO | 9,675 | 9,675 |
| 129 | \% | - | SNDSFLXARS0 | 2,051 | 2,051 |
| 130 | $\xi$ | - | TLCHFLXARSO | 4,073 | 4,073 |
| 131 | $\because$ | - | LBLLFLXADS0 | 9,782 | 9,782 |
| 132 | $\stackrel{3}{ }$ | - | BSHNFLXADS0 | 12,635 | 12,635 |
| 133 | '; | - | OCNFFLXARSO | 6,101 | 6,101 |
| 134 | $\because$ | - | LKPCFLXARS0 | 13.872 | 13.872 |
| 135 | ; | - | ALVAFLXARS 1 | 1,778 | 1,778 |
| 136 | 5 | - | MRHNFLXARS0 | 3,074 | 3,074 |
| 137 | 6 | - | BWLGFLXARS0 | 1.701 | 1.701 |
| 138 | 3 | - | IMKLFLXARS0 | 7,045 | 7,045 |
| 139 | 5 | - | ASTRFLXARS0 | 1,578 | 1,578 |
| 140 | 3 | - | WLSTFLXARS0 | 6,776 | 6,776 |
| 141 | 5 | - | GNWDFLXARSO | 915 | 915 |
| 142 | 0 | - | PANCFLXARSO | 1.162 | 1.162 |
| 143 | 6 | - | SSPRFLXARSO | 1.727 | 1,727 |
| 144 | 5 | - | BNFYFLXARS0 | 5,210 | 5,210 |
| 145 | 6 | - | MNTIFLXADS0 | 7,331 | 7,331 |
| 146 | $\theta$ | - | FRPTFLXARS0 | 3,235 | 3,235 |
| 147 | 6 | - | CTDLFLXARS0 | 1,436 | 1,436 |
| 148 | Q | - | LWTYFLXARSO | 1,247 | 1,247 |
| 149 | 6 | - | ALFRFLXARSO | 1,743 | 1,743 |
| 150 | 7 | - | BAKRFLXADS0 | 2,841 | 2,841 |
| 151 | 7 | - | GDRGFLXADSO | 2,387 | 2,387 |
| 152 | 7 | - | MALNFLXARSO | 1,390 | 1,390 |
| 153 | \% | - | CHLLKFLXARS0 | 1,447 | 1,447 |
| 154 | 7 | - | ZLSPFLXARS0 | 2,646 | 2,646 |
| 155 | ? | - | PNLNFLXARS0 | 1,311 | 1,311 |
| 156 | 7 | - | STMKFLXARSO | 773 | 773 |
| 157 | 3 | - | LEE FLXARS0 | 1,238 | 1,238 |
| 158 | 8 | - | SPCPFLXARLO | 1,164 | 1,164 |
| 159 | 8 | - | GLDLFLXARS0 | 863 | 863 |
| 160 | ${ }^{8}$ | - | GNVLFLXARS0 | 1,509 | 1,509 |
| 161 | 3 | - | EVRGFLXARS 1 | 1,752 | 1,752 |
| 162 | 8 | - | RYHLFLXARS0 | 1,602 | 1,602 |
| 163 | a | - | WSTVFLXARSO | 899 | 899 |
| 164 | : | - | KGLKFLXARS0 | 339 | 339 |
| 165 | 3 | - | KNVLFLXARSO | 744 | 744 |


| $88.14 \%$ | $-2.77 \%$ | $\$$ | 55.83 | $\$$ | 109.61 |
| ---: | ---: | ---: | ---: | ---: | ---: |


| Originating | Terminating | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS0 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS1 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS3 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { OC3 } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS12 } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALFRFLXARSO - Alford | CTDLFLXARSO-Cottondale | 40.43 | 140.67 | 2,005.87 | 5,415.68 | NA |
| ALFRFLXARSO - Alford | GDRGFLXADS0 - Grand Ridge | 44.72 | 209.60 | 2,969.76 | 8,016.71 | NA |
| ALFRFLXARSO - Alford | GNWDFLXARSO - Greenwood | 44.41 | 204.63 | 2,830.67 | 7,636.19 | NA |
| ALFRFLXARSO - Alford | MALNFLXARSO - Malone | 44.41 | 204.63 | 2,830.67 | 7,636.19 | NA |
| ALFRFLXARSO - Alford | MRNNFLXADS0 - Marianna | 40.43 | 140.67 | 2,005.87 | 5,415.68 | NA |
| ALFRFLXARSO - Alford | NSN - Graceville* | 26.15 | 165.81 | 2,226.71 | 6,001.89 | NA |
| ALFRFLXARSO - Alford | SNDSFLXARS0-Sneads | 44.72 | 209.60 | 2,969.76 | 8,016.71 | NA |
| ALSPFLXADSO - Altamonte Springs | APPKFLXADS1-Apopka | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11,995.16 |
| ALSPFLXADSO - Altamonte Springs | CSLBFLXADS 1 - Casselberry | 28.86 | 71.20 | 1,027.33 | 2,774.60 | 9,416.99 |
| ALSPFLXADS0 - Altamonte Springs | GLRDFLXADS0 - Goldenrod | 28.86 | 71.20 | 1,027.33 | 2,774.60 | 9,416.99 |
| ALSPFLXADSO - Altamonte Springs | KSSMFLXBDS 1 - Reedy Creek | 39.15 | 298.44 | 5,456.27 | 14,819.23 | 51,478.40 |
| ALSPFLXADS0 - Altamonte Springs | LKBRFLXADS 1 - Lake Brantley | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11,995.16 |
| ALSPFLXADSO - Altamonte Springs | MNTIFLXADSO - Montverde | 47.35 | 479.55 | 8,594.36 | NA | NA |
| ALSPFLXADSO - Altamonte Springs | MTLDFLXADS 1 - Maitland | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11,995.16 |
| ALSPFLXADSO - Altamonte Springs | NSN - Celebration* | 24.88 | 266.41 | 5,042.65 | 13,705.64 | NA |
| ALSPFLXADSO - Altamonte Springs | NSN - East Orange* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| ALSPFLXADSO - Altamonte Springs | NSN - Geneva* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| ALSPFLXADS0-Altamonte Springs | NSN - Lake Buena Vista* | 24.59 | 259.87 | 4,859.64 | 13,204.96 | NA |
| ALSPFLXADS0-Altamonte Springs | NSN - Orlando* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16,727.53 |
| ALSPFLXADS0-Altamonte Springs | NSN - Ovieda* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16,727.53 |
| ALSPFLXADS0 - Altamonte Springs | NSN - Sanford* | 21.85 | 96.52 | 1,253.06 | NA | NA |
| ALSPFLXADS0 - Altamonte Springs | WNDRFLXARSO - Windermere | 35.96 | 228.10 | 4,453.34 | 12.111.39 | 42,300.13 |
| ALSPFLXADS0 - Altamonte Springs | WNGRFLXADSO - Winter Garden | 35.67 | 221.57 | 4,270.33 | 11,610.72 | 40,509.73 |
| ALSPFLXADS0 - Altamonte Springs | WNPKFLXADS1 - Winter Park | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11,995.16 |
| ALVAFLXARS0 - Alva | BNSPFLXADS1 - Bonita Springs | 38.44 | 282.76 | 5,983.31 | 16,297.05 | 57,267.86 |
| ALVAFLXARS0-Alva | CPCRFLXADS0 - Cape Coral | 38.44 | 282.76 | 5,983.31 | 16,297.05 | 57,267.86 |
| ALVAFLXARS0 - Alva | CPCRFLXBDS1 - North Cape Coral | 38.44 | 282.76 | 5,98331 | 16,297.05 | 57,267.86 |
| ALVAFLXARS0 - Alva | CYLKFLXBRSO-Regional Airport | 4218 | 365.39 | 7,330,30 | 19,946 16 | 69,812.08 |
| ALVAFLXARS0 - Alva | FTMBFL XADS0 - Fort Myers Beach | 4035 | 32487 | 7.16190 | 19.521 .41 | 68,798.02 |
| ALVAFLXARS0 - Alva | FTMYFLXADS0 - Fort Myers | 3844 | 282.76 | 5.98331 | 16.297.05 | 57,267.86 |
| ALVAFLXARS0 - Alva | FTMYFLXBDS 0 - East Fort Myers | 38.44 | 282.76 | 5,983.31 | 16,297.05 | 57,267.86 |
| ALVAFLXARSO - Alva | FTMYFLXCDS 2 - South Ft Myers | 40.35 | 324.87 | 7,161.90 | 19,521.41 | 68,798.02 |
| ALVAFLXARSO - Alva | LHACFLXADSO - Lehigh Acres | 38.44 | 282.76 | 5,983.31 | 16,297.05 | 57.267.86 |
| ALVAFLXARS0 - Alva | NFMYFLXADSO - North Fort Myers | 40.35 | 324.87 | 7,161.90 | 19,521.41 | 68,798.02 |
| ALVAFLXARSO - Alva | PNISFL XADSO - Pine Island | 40.35 | 324.87 | 7,161.90 | 19,521.41 | 68,798.02 |
| ALVAFLXARS0 - Alva | SNISFLXADS0-Sanibel-Captiva Islands | 40.35 | 324.87 | 7,161.90 | 19,521.41 | 68,798.02 |
| APPKFLXADS1- Apopka | CSLBFLXADS1 - Casselberry | 32.51 | 151.82 | 2,318.20 | 6,270.17 | 21,412.15 |
| APPKFLXADS1-Apopka | GLRDEFLXADSO - Goldenrod | 32.51 | 151.82 | 2,318.20 | 6,270.17 | 21,412.15 |
| APPKFLXADS1-Apopka | KSSMFLXBDS 1 - Reedy Creek | 35.50 | 217.82 | 4,165.40 | 11,323.66 | 39,483.24 |
| APPKFLXADS 1 - Apopka | LKBRFLXADS1-Lake Brantley | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11,995.16 |
| APPKFLXADS1-Apopka | MNTIFLXADSO - Montverde | 34.05 | 185.82 | 3,269.86 | NA | NA |
| APPKFLXADS1-Apopka | MTDRFLXARSO-Mt. Dora | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| APPKFLXADS1-Apopka | MTLDFLXADS1 - Maitiand | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11,995.16 |
| APPKFLXADS1-Apopka | NSN - Celebration* | 21.23 | 185.79 | 3,751.78 | 10,210.07 | NA |
| APPKFLXADS1-Apopka | NSN - East Orange* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| APPKFLXADS1-Apopka | NSN - Lake Buena Vista* | 20.46 | 168.88 | 3,278.39 | 8,914.98 | 31,122.33 |
| APPKFLXADS 1 - Apopka | NSN - Orlando* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| APPKFLXADS1-Apopka | WNDRFLXARS0 - Windermere | 32.31 | 147.48 | 3,162.47 | 8,615.82 | 30,304.97 |
| APPKFLXADS1 - Apopka | WNGRFLXADSO - Winter Garden | 32.02 | 140.95 | 2,979.45 | 8,115.15 | 28,514.57 |


| Originating | Terminating | $\begin{gathered} \text { Dedicated } \\ \text { DS0 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS1 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS3 } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { OC3 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS12 } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APPKFLXADS1-Apopka | WNPKFLXADS 1 - Winter Park | 29.28 | 80.62 | 1,290.87 | 3.495 .57 | 11,995.16 |
| ARCDFLXADS0 - Arcadia | PTCTFLXADS0 - Port Charlotte | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| ARCDFLXADSO-Arcadia | WCHLFLXADSO-Wauchula | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| ARCDFLXADSO-Arcadia | ZLSPFLXARSO - Zolfo Springs | 38.54 | 284.88 | 7,008,14 | 19,136.71 | 67,927.20 |
| ASTRFLXARS0 - Astor | CLMTFLXADS0 - Clermont | 43.71 | 193.32 | 3,479.72 | 9,447.79 | NA |
| ASTRFLXARSO-Astor | ESTSFLXARSO - Eustis | 43.71 | 193.32 | 3,479.72 | 9,447.79 | NA |
| ASTRFLXARSO - Astor | GVLDFLXARS0 - Groveland | 58.16 | 425.71 | 9,018.89 | 24,565.74 | NA |
| ASTRFLXARS0 - Astor | HOWYFLXARSO - Howey-in-the-Hills | 47.74 | 258.16 | 4,328.92 | NA | NA |
| ASTRFLXARSO-Astor | LDLKFLXARSO - Lady Lake | 50.72 | 306.11 | 5,671.00 | 15,406.69 | NA |
| ASTRFLXARSO-Astor | LSBGFLXADS1 - Leesburg | 43.71 | 193.32 | 3,479.72 | 9,447.79 | NA |
| ASTRFLXARS0-Astor | MTDRFLXARSO-Mt. Dora | 43.71 | 193.32 | 3,479.72 | 9,447.79 | NA |
| ASTRFLXARS0 - Astor | MTVRFLXARS0 - Monteverde | 47.46 | 253.63 | 4,202.03 | NA | NA |
| ASTRFLXARS0 - Astor | TVRSFLXADS0-Tavares | 43.71 | 193.32 | 3,479.72 | 9,447.79 | NA |
| ASTRFLXARS0-Astor | UMTLFLXARSO - Umatilla | 43.71 | 193.32 | 3,479.72 | 9,447.79 | NA |
| AVPKFLXADS0-Avon Park | LKPCFLXARSO - Lake Placid | 41.33 | 346.49 | 7,767.06 | 21,176.98 | NA |
| AVPKFLXADS0 - Avon Park | SBNGFLXADS1-Sebring | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| AVPKFL XADS0-Avon Park | SLHLFLXARSO - Spring Lake | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| AVPKFL XADS0 - Avon Park | WCHLFLXADSO - Wauchula | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| BAKRFL XADS0 - Baker | CRVWFLXADSO-Crestview | 35.32 | 58.48 | 671.07 | NA | NA |
| BAKRFLXADS0 - Baker | DESTFLXADSO - Destin | 46.35 | 235.86 | 4,670.51 | NA | NA |
| BAKRFLXADS0 - Baker | DFSPFLXADSO - Defuniak Springs | 46.35 | 235.86 | 4,670.51 | NA | NA |
| BAKRFLXADS0 - Baker | FTWBFLXADS0 - Fort Walton Beach | 46.35 | 235.86 | 4,670.51 | NA | NA |
| BAKRFLXADS0 - Baker | NSN - Laurel Hill* | 21.75 | 95.04 | 1,211.58 | NA | NA |
| BAKRFLXADS0 - Baker | SHLMFLXADSO - Shalimar | 50.16 | 297.04 | 5,417.23 | NA | NA |
| BAKRFLXADS0 - Baker | VLPRFLXADS0-Valparaiso | 46.35 | 235.86 | 4,670.51 | NA | NA |
| BCGRFLXARS1 - Boca Grande | CPHZFLXADSO-Cape Haze | 36.25 | 73.38 | 1,088.34 | 2,941.49 | NA |
| BCGRFLXARS1 - Boca Grande | NSN - Englewood* | 22.27 | 103.41 | 1,445.84 | NA | NA |
| BCGRFLXARS1- Boca Grande | PNGRFLXADS 1 - Punta Gorda | 53.97 | 358.26 | 8,096.48 | 22,078.19 | NA |
| BCGRFLXARS 1 - Boca Grande | PTCTFLXADSO - Port Charlotte | 36.25 | 73.38 | 1,088.34 | 2,941.49 | NA |
| BLVWFLXADSO-Belleview | LDLKFLXARSO - Lady Lake (821) | 36.21 | 233.60 | 4,607.07 | 12,531.96 | 43,804.07 |
| BLVWFLXADSO-Belleview | NSN - Citra* | 24.97 | 268.26 | 6,060.16 | NA | NA |
| BLVWFLXADSO-Belleview | NSN - Dunnelion* | 24.56 | 259.37 | 5,811.26 | 15.844.35 | 55,901.44 |
| BLVWFLXADSO-Belleview | NSN - Mcintosh* | 2497 | 268.26 | 6,060 16 | NA | NA |
| BLVWFL.XADSO-Belleview | NSN - Orange Springs* | 2082 | 176.81 | 3,500.44 | NA | NA |
| BLVWFLXADSO-Belleview | OCALFLXADSO-Ocala | 36.16 | 232.39 | 5,539 17 | 15,117.94 | 53,556.27 |
| BLVWFLXADSO-Belleview | OCALFLXCRS0 - Highlands | 40.67 | 332.11 | 7,364.44 | 20.075.49 | 70,779.40 |
| BLVWFLXADSO-Belleview | OCNFFLXARS0 - Forest | 40.67 | 332.11 | 7,364.44 | 20,075.49 | 70,779.40 |
| BLVWFLXADSO-Belleview | OKLWFLXADSO-Ocklawaha | 28.36 | 60.22 | 719.88 | 1.933.46 | 6,409.12 |
| BLVWFLXADSO-Belleview | SSPRFLXARSO-Salt Springs | 40.67 | 332.11 | 7,364.44 | 20,075.49 | 70,779.40 |
| BLVWFLXADSO-Belleview | SVSSFLXARSO - Silver Springs Shores | 29.48 | 84.98 | 1,412.88 | 3,829.35 | 13,188.76 |
| BLVWFLXADSO - Belleview | WLWDFLXARSO - Wildwood | 30.74 | 112.79 | 2,191.29 | 5,958.90 | 20,803.92 |
| BNFYFLXARSO - Bonifay | DFSPFLXADSO - Defuniak Springs | 34.35 | 192.45 | 3,455.32 | 9,381.04 | 32,536.49 |
| BNFYFLXARSO - Bonifay | NSN - Chipley* | 17.95 | 113.43 | 1,726.45 | 4,669.25 | NA |
| BNFYFLXARSO - Bonifay | NSN - Graceville* | 17.95 | 113.43 | 1,726.45 | 4,669.25 | NA |
| BNFYFLXARSO - Bonifay | NSN - Vernon* | 17.95 | 113.43 | 1,726.45 | 4,669.25 | NA |
| BNFYFLXARSO-Bonifay | PNLNFLXARS0-Ponce Leon | 37.08 | 252.76 | 4,177.63 | NA | NA |
| BNFYFLXARSO - Bonifay | RYHLFLXARS0-Reynolds Hill | 32.19 | 144.85 | 2,122.99 | NA | NA |
| BNFYFLXARSO - Bonifay | WSTVFLXARSO - Westville | 29.63 | 88.29 | 1,505.60 | 4,083.03 | 14,095.90 |
| BNSPFL_XADS1 - Bonita Springs | CYLKFLXADS0-Cypress Lake | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |


| Originating | Terminating | $\begin{gathered} \text { Dedicated } \\ \text { DSO } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS1 } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS3 } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \mathrm{OC} 3 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS12 } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BNSPFLXADS1 - Bonita Springs | FTMBFLXADS0 - Fort Myers Beach | 40.35 | 324.87 | 7,161.90 | 19.521 .41 | 68,798.02 |
| BNSPFLXADS1 - Bonita Springs | FTMDFLXARSO - Fort Meade | 50.90 | 557.96 | 12.720 .60 | 34,692.75 | NA |
| BNSPFL XADS 1 - Bonita Springs | FTMYFLXADSO - Fort Myers | 35.01 | 207.03 | 4,829.09 | 13.175 .32 | 46,609.53 |
| BNSPFLXADS1-Bonita Springs | FTMYFLXBDSO - East Fort Myers | 35.01 | 207.03 | 4,829.09 | 13.175.32 | 46,609.53 |
| BNSPFLXADS 1 - Bonta Springs | GLGCFLXADSO-Golden Gate | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| BNSPFLXADS1-Bonta Springs | NNPLFLXADS1 - North Naples | 35.01 | 207.03 | 4,829.09 | 13.175 .32 | 46,609.53 |
| BNSPFLXADS1-Bonita Springs | NPLSFLXCDSO - Naples | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| BNSPFLXADS1-Bonita Springs | NPLSFLXCOSO - Naples Moorings | 35.01 | 207.03 | 4,829.09 | 13.175.32 | 46,609.53 |
| BNSPFLXADS 1 - Bonita Springs | NPLSFLXCDSO - Naples Southeast | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| BSHNFLXADSO - Bushnell | HOWYFLXARS - Howey-in-the-Hills | 39.09 | 297.24 | 6,388.38 | NA | NA |
| BSHNFLXADSO - Bushnell | LSBGFLXADS 1 - Leesburg | 36.16 | 232.39 | 5,539.17 | 15,117.94 | 53,556.27 |
| BSHNFLXADSO - Bushnell | WLWDFLXARSO - Wildwood | 41.27 | 345.18 | 7,730.46 | 21,076.84 | 74,360.19 |
| BVHLFLXADSO - Beverly Hilis | CHSWFLXARSO - Chassahowitzka | 42.95 | 382.30 | 7,803.69 | 21,241.24 | NA |
| BVHLFLXADSO - Beverly Hills | CRRVFLXADSO - Crystal River | 29.90 | 94.13 | 1,669.09 | 4,530.30 | 15,695.32 |
| BVHLFLXADSO - Beverly Hills | HMSPFLXARSO - Homosassa Springs | 29.90 | 94.13 | 1,669.09 | 4,530.30 | 15,695.32 |
| BVHLFLXADSO - Beverly Hills | INVRFLXADS0-Inverness | 29.90 | 94.13 | 1,669.09 | 4,530.30 | 15,695.32 |
| BVHLFLXADSO-Beverly Hills | NSN - Dunnellon* | 14.04 | 26.97 | 272.09 | 726.41 | 2,345.17 |
| BWLGFLXARSO - Bowling Green | FTMDFLXARS0 - Fort Meade | 53.51 | 350.94 | 7,891.51 | 21,517.44 | NA |
| BWLGFLXARSO - Bowling Green | WCHLFLXADSO-Wauchula | 53.51 | 350.94 | 7,891.51 | 21,517.44 | NA |
| BWLGFLXARSO - Bowling Green | ZLSPFLXARSO - Zolfo Springs | 53.51 | 350.94 | 7,891.51 | 21,517.44 | NA |
| CFVLFLXADS0-Crawfordville | NSN - Alligator Point* | 18.48 | 125.03 | 2,050.99 | 5,557.11 | NA |
| CFVLFLXADS0-Crawfordville | NSN - Carrabelle* | 18.48 | 125.03 | 2,050.99 | 5,557.11 | NA |
| CFVLFLXADS0-Crawfordville | PANCFLXARS0 - Panacea | 28.49 | 63.18 | 802.84 | 2,160.43 | 7,220.77 |
| CFVLFLXADSO - Crawfordville | SPCPFLXADS0 - Sopchoppy | 30.16 | 99.89 | 1,830.14 | 4,970.90 | 17,270.87 |
| CFVLFLXADSO - Crawfordville | STMKFLXARSO-St. Marks | 28.36 | 60.22 | 719.88 | 1,933.46 | 6,409.12 |
| CFVLFLXADS0-Crawfordville | TLHSFLXADSO-Calhoun | 30.16 | 99.89 | 1,830.14 | 4,970.90 | 17,270.87 |
| CHLKFLXARSO - Cherry Lake | GNVLFLXARSO - Greenville | 54.26 | 363.03 | 7,264.42 | 19,765.92 | NA |
| CHLKFLXARSO - Cherry Lake | LEE FLXARS0-Lee | 39.30 | 122.36 | 1,493.43 | NA | NA |
| CHLKFLXARSO - Cherry Lake | MDSNFLXADSO - Madison | 35.80 | 66.15 | 885.81 | 2,387.41 | NA |
| CHSWFLXARS 0 - Chassahowitzka | CRRVFLXADS0 - Crystal River | 55.46 | 382.30 | 7,803.69 | 21,241.24 | NA |
| CHSWFLXARS0 - Chassahowitzka | HMSPFLXARS0-Homosassa Springs | 55.46 | 382.30 | 7,803.69 | 21,241.24 | NA |
| CHSWFLXARS0 - Chassahowitzka | INVRFLXADSO - inverness | 55.46 | 382.30 | 7,803.69 | 21,241.24 | NA |
| CLMTFLXADSO-Clermont | ESTSFLXARSO - Eustis | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| CLMTFLXADSO-Clermont | GVLDFLXARSO - Groveland | 36.16 | 232.39 | 5,539.17 | 15,117.94 | 53,556.27 |
| CLMTFLXADSO-Clermont | HOWYFLXARS0 - Howey-in-the-Hills | 34.25 | 190.36 | 3,396.75 | NA | NA |
| CLMTFLXADSO-Clermont | KSSMFLXBDS1-Reedy Creek | 29.11 | 76.87 | 1,185.94 | 3,208.52 | 10,968.67 |
| CLMTFLXADSO-Clermont | LDLKFLXARSO - Lady Lake | 36.43 | 238.30 | 4,738.83 | 12,892.45 | 45,093.15 |
| CLMTFLXADSO-Clermont | LSBGFLXADS1 - Leesburg | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| CLMTFLXADSO-Clermont | MNTIFLXADSO - Montverde | 33.15 | 165.91 | 3,195.42 | 8,688.01 | 30,310.68 |
| CLMTFLXADSO-Clermont | MTDRFLXARSO - Mt. Dora | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| CLMTFLXADSO-Clermont | NSN - Celebration* | 24.71 | 262.66 | 4,937.72 | 13,418.58 | NA |
| CLMTFLXADSO-Clermont | NSN - Lake Buena Vista* | 17.56 | 104.80 | 1,484.88 | 4,008.35 | 13,576.43 |
| CLMTFLXADSO-Clermont | NSN - Orlando* | 24.72 | 262.92 | 4,945.04 | 13,438.61 | 46,793.78 |
| CLMMTFLXADSO-Clermont | TVRSFLXADS0 - Tavares | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| CLMTFLXADSO-Clermont | UMTLFLXARSO - Umatilla | 34.39 | 193.32 | 3,479.72 | 9,447.79 | NA |
| CLMTFLXADSO-Clermont | WNDRFLXARSO-Windermere | 35.79 | 224.36 | 4,348.41 | 11,824.34 | 41,273.64 |
| CLMTFLXADSO-Clermont | WNGRFLXADSO - Winter Garden | 35.50 | 217.82 | 4,165.40 | 11,323.66 | 39,483.24 |
| CLTNFLXARS0-Clewiston | LBLLFLXADSO-LaBelle | 38.94 | 116.71 | 2,301.09 | 6,259.30 | NA |
| CLTNFLXARSO - Clewiston | MRHNFLXARSO - Moore Haven | 38.94 | 116.71 | 2,301.09 | 6,259.30 | NA |


| Originating | Terminating | Dedicated DSO | Dedicated DS1 | Dedicated DS3 | Dedicated OC3 | Dedlcated DS12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CPCRFLXADSO - Cape Coral | CPCRFLXBDS 1 - North Cape Coral | 29.06 | 75.74 | 1,154.22 | 3,121.73 | 10,658.33 |
| CPCRFLXADSO - Cape Coral | FTMBFLXADS0 - Fort Myers Beach | 34.40 | 193.58 | 3,487.04 | 9,467.82 | 32,846.83 |
| CPCRFLXADSO - Cape Coral | FTMYFLXADSO - Fort Myers | 2906 | 75.74 | 1,154.22 | 3.121.73 | 10.658 .33 |
| CPCRFLXADSO-Cape Coral | FTMYFLXBDS 0 - East Fort Myers | 38.44 | 28276 | 5,983.31 | 16.297 .05 | 57.267 .86 |
| CPCRFL XADSO-Cape Coral | LHACFLXADS 0 - Lehigh Acres | 38.44 | 282.76 | 5,983.31 | 16,297.05 | 57.267.86 |
| CPCRFLXADSO - Cape Coral | NFMYFLXADSO - North Fort Myers | 29.06 | 75.74 | 1,154.22 | 3.121.73 | 10,658.33 |
| CPCRFLXADSO-Cape Coral | PNGRFLXADS1-Punta Gorda | 41.97 | 360.61 | 8,162.37 | 22.258.44 | 78,585.53 |
| CPCRFLXADSO- Cape Coral | PNISFLXADSO - Pine Island | 34.40 | 193.58 | 3.487.04 | 9,467.82 | 32.846 .83 |
| CPCRFLXADSO - Cape Coral | SNISFLXADSO - Sanibel-Captiva islands | 34.40 | 193.58 | 3,487.04 | 9,467.82 | 32,846.83 |
| CPCRFLXBDS 1 - North Cape Cora | NFMYFLXADSO - North Fort Myers | 29.06 | 75.74 | 1,154.22 | 3,121.73 | 10,658.33 |
| CPCRFLXBDS1 - North Cape Coral | PNGRFLXADS 1 - Punta Gorda | 41.97 | 360.61 | 8,162.37 | 22,258.44 | 78,585.53 |
| CPCRFLXBDS 1 - North Cape Coral | PNISFLXADSO-Pine Island | 34.40 | 193.58 | 3,487.04 | 9,467.82 | 32,846.83 |
| CPCRFLXBDS 1 - North Cape Coral | PNISFLXADSO - Pine Island | 34.40 | 193.58 | 3,487.04 | 9,467.82 | 32,846.83 |
| CPCRFLXBDS 1 - North Cape Coral | SNISFLXADSO - Sanibel-Captiva Islands | 34.40 | 193.58 | 3,487.04 | 9,467.82 | 32,846.83 |
| CPCRFLXBDS1 - North Cape Coral | SNISFLXADS0 - Sanibel-Captiva Islands | 34.40 | 193.58 | 3,487.04 | 9,467.82 | 32,846.83 |
| CPHZFL XADSO - Cape Haze | NSN - Englewood* | 17.71 | 30.02 | 357.50 | NA | NA |
| CPHZFLXADSO - Cape Haze | PNGRFLXADS1 - Punta Gorda | 53.97 | 358.26 | 8,096.48 | 22,078.19 | NA |
| CPHZFLXADSO - Cape Haze | PTCTFLXADS0 - Port Charlotte | 36.25 | 73.38 | 1,088.34 | 2,941.49 | NA |
| CRRVFLXADSO - Crystal River | HMSPFLXARSO - Homosassa Springs | 29.90 | 94.13 | 1,669.09 | 4,530.30 | 15,695.32 |
| CRRVFLXADSO-Crystal River | INVRFLXADS0 - Inverness | 29.90 | 94.13 | 1,669.09 | 4,530.30 | 15,695.32 |
| CRRVFLXADS0 - Crystal River | NSN - Yankeetown* | 18.30 | 121.10 | 1,941.19 | 5,256.71 | 18,040.49 |
| CRVWFLXADS - Crestview | DESTFLXADSO - Destin | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| CRVWFLXADSO-Crestview | DFSPFLXADS0 - DeFuniak Springs | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| CRVWFLXADSO-Crestview | FTWBFLXADSO - Fort Walton Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| CRVWFLXADS0 - Crestview | NSN - Laurel Hill* | 18.12 | 36.56 | 540.51 | NA | NA |
| CRVWFLXADS0-Crestview | SHLMFLXADS0 - Shalimar | 36.44 | 238.56 | 4,746.15 | 12,912.48 | 45,164.77 |
| CRVWFLXADSO-Crestview | VLPRFLXADSO - Valparaiso | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| CSLBFLXADS 1 - Casselberry | GLRDFLXADSO - Goldenrod | 28.86 | 71.20 | 1,027.33 | 2,774.60 | 9,416.99 |
| CSLEBFLXADS 1 - Casselberry | KSSMFLXBDS 1 - Reedy Creek | 38.72 | 289.02 | 5,192.73 | 14,098.26 | 48,900.23 |
| CSLBFLXADS 1 - Casselberry | LKBRFLXADS1-Lake Brantley | 32.51 | 151.82 | 2,318.20 | 6,270.17 | 21,412.15 |
| CSLBFLXADS 1 - Casselberry | MNTIFLXADSO - Montverde | 46.93 | 470.14 | 8,330.83 | NA | NA |
| CSLBFLXADS 1 - Casselberry | MTLDFLXADS1 - Maitland | 32.51 | 151.82 | 2,318.20 | 6,270.17 | 21,412.15 |
| CSLBFLXADS 1 - Casselberry | NSN - Celebration* | 24.46 | 256.99 | 4,779.11 | 12,984.66 | NA |
| CSLBFLXADS 1 - Casselberry | NSN - East Orange* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16,727.53 |
| CSLBFLXADS1-Casselberry | NSN - Geneva* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16.727.53 |
| CSLBFLXADS 1 - Casselberry | NSN - Lake Buena Vista* | 23.69 | 240.08 | 4,305.72 | 11,689.58 | 40,539.32 |
| CSLBFLXADS 1 - Casselberry | NSN - Orlando* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16,727.53 |
| CSLBFLXADS 1 - Casselberry | NSN - Ovieda* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16,727.53 |
| CSLBFLXADS 1 - Casselberry | NSN - Sanford* | 20.41 | 167.72 | 2,280.40 | NA | NA |
| CSLBFLXADS 1 - Casselberry | WNDRFLXARS0 - Windermere | 35.54 | 218.69 | 4.189 .80 | 11,390.42 | 39,721.96 |
| CSLBFLXADS 1 - Casselberry | WNGRFLXADS0 - Winter Garden | 35.24 | 212.15 | 4,006.79 | 10,889.74 | 37,931.56 |
| CSLBFLXADS 1 - Casselberry | WNPKFLXADS1 - Winter Park | 28.86 | 71.20 | 1,027.33 | 2,774.60 | 9,416.99 |
| CTDLFLXARSO-Cottondale | GDRGFLXADS0-Grand Ridge | 32.75 | 157.23 | 2,469.49 | 6,684.06 | NA |
| CTDLFLXARSO - Cottondale | GNWDFLXARSO - Greenwood | 32.53 | 152.26 | 2,330.41 | 6,303.55 | NA |
| CTDLFLXARSO-Cottondale | MALNFLXARSO - Malone | 32.53 | 152.26 | 2,330.41 | 6,303.55 | NA |
| CTDLFLXARSO-Cottondale | MRNNFLXADS0-Marianna | 29.63 | 88.29 | 1,505.60 | 4,083.03 | 14,095.90 |
| CTDLFLXARSO-Cottondale | NSN - Chipley* | 17.95 | 113.43 | 1,726.45 | 4,669.25 | NA |
| CTDLFLXARSO-Cottondale | NSN - Graceville* | 17.95 | 113.43 | 1,726.45 | 4,669.25 | NA |
| CTDLFLXARSO-Cottondale | SNDSFLXARS0 - Sneads | 32.75 | 157.23 | 2,469.49 | 6,684.06 | NA |


| Originating | Terminating. | $\begin{gathered} \hline \text { Dedicated } \\ \text { DSO } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS } 1 \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS3 } \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { OC3 } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS12 } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CYLKFLXADSO-Cypress Lake | CPCRFLXBDS 1 - North Cape Coral | 29.06 | 75.74 | 1,154.22 | 3,121.73 | 10,658.33 |
| CYLKFLXADSO-Cypress Lake | CYLKFLXBRSO - Regional Airport | 34.71 | 200.47 | 3,679.81 | 9,995.20 | 34,732.72 |
| CYLKFLXADSO-Cypress Lake | FTMBFLXADSO - Fort Myers Beach | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| CYLKFLXADSO-Cypress Lake | FTMYFLXADSO - Fort Myers | 35.01 | 207.03 | 4,829.09 | 13.175.32 | 46,609.53 |
| CYLKFLXADSO-Cypress Lake | FTMYFLXBDS 0 - East Fort Myers | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| CYLKFLXADSO-Cypress Lake | FTMYFLXCDS2 - South Ft Myers | 30.97 | 117.84 | 2.33281 | 6.346 .09 | 22,188.50 |
| CYLKFLXADSO-Cypress Lake | LHACFLXADSO - Lehigh Acres | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| CYLKFLXADSO-Cypress Lake | NFMYFLXADSO - North Fort Myers | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22.188 .50 |
| CYLKFLXADSO - Cypress Lake | PNISFLXADSO - Pine Island | 3097 | 11784 | 2,332 81 | 6.346 .09 | 22,188.50 |
| CYLKFLXADSO-Cypress Lake | SNISFLXADSO - Sanibel-Captiva Islands | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| CYLKFLXBRSO-Regional Airport | FTMYFLXCDS2-South Fl Myers | 34.71 | 200.47 | 3.679 .81 | 9,995.20 | 34,732.72 |
| DDCYFLXADS 1 - Dade City | NSN - Tampa-Central* | 1754 | 27.23 | 279.41 | NA | NA |
| DDCYFLXADS1-Dade City | NSN - Tampa-North* | 17.54 | 27.23 | 279.41 | NA | NA |
| DDCYFLXADS1-Dade City | NSN - Zephryhills* | 1754 | 27.23 | 279.41 | NA | NA |
| DDCYFLXADS1-Dade City | SNANFLXARSO-San Antonio | 28.87 | 71.55 | 1,037.09 | 2,801.30 | 9.512 .48 |
| DDCYFLXADS 1 - Dade City | TLCHFLXARS0 - Trilacoochee | 28.87 | 71.55 | 1,037.09 | 2,801.30 | 9,512.48 |
| DESTFLXADSO - Destin | DFSPFLXADS0-DeFuniak Springs | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| DESTFLXADSO - Destin | FRPTFLXARS0 - Freeport | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| DESTFLXADSO-Destin | FTWBFLXADS0 - Fort Walton Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| DESTFLXADSO-Destin | GLDLFLXARSO-Glendale | 36.41 | 237.87 | 4,726.63 | 12,859.07 | 44,973.79 |
| DESTFLXADSO-Destin | PNLNFLXARS0 - Ponce Leon | 36.40 | 237.69 | 4,721.75 | NA | NA |
| DESTFLXADSO - Destin | SGBHFLXARSO - Seagrove Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| DESTFLXADSO-Destin | SHLMFLXADSO-Shalimar | 36.44 | 238.56 | 4,746.15 | 12,912.48 | 45,164.77 |
| DESTFLXADSO - Destin | SNRSFLXARSO - Santa Rosa Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38.493.06 |
| DESTFLXADS - Destin | VLPRFLXADS0 - Valparaiso | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| DFSPFLXADS0 - DeFuniak Springs | FRPTFLXARS0 - Freeport | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| DFSPFLXADS0 - DeFuniak Springs | FTWBFLXADS0 - Fort Walton Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38.493.06 |
| DFSPFLXADS0 - DeFuniak Springs | GLDLFLXARSO-Glendale | 28.37 | 60.48 | 727.20 | 1,953.49 | 6,480.74 |
| DFSPFLXADS0 - DeFuniak Springs | NSN - Paxton* | 22.51 | 213.95 | 4,539.95 | NA | NA |
| DFSPFLXADS0-DeFuniak Springs | PNLNFLXARSO - Ponce Leon | 35.44 | 60.31 | 722.32 | NA | NA |
| DFSPFLXADS0 - DeFuniak Springs | RYHLFLXARS0 - Reynoids Hill | 36.91 | 249.01 | 4,072.70 | NA | NA |
| DFSPFLXADS0 - DeFuniak Springs | SGBHFLXARSO-Seagrove Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38.493.06 |
| DFSPFLXADS0 - DeFuniak Springs | SHLMFLXADSO - Shatimar | 36.44 | 238.56 | 4,746.15 | 12,912.48 | 45,164.77 |
| DFSPFLXADS0 - DeFuniak Springs | SNRSFLXARSO - Santa Rosa Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| DFSPFLXADS0 - DeFuniak Springs | VLPRFLXADSO - Valparaiso | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| DFSPFLXADS0 - DeFuniak Springs | WSTVFLXARS0 - Westville | 34.35 | 192.45 | 3,455.32 | 9,381.04 | 32,536.49 |
| ESTSFLXARS0-Eustis | GVLDFLXARS0-Groveland | 41.63 | 353.20 | 7,954.95 | 21,691.00 | 76,556.41 |
| ESTSFLXARS0-Eustis | HOWYFLXARS0 - Howey-in-the-Hills | 34.04 | 185.65 | 3,264.98 | NA | NA |
| ESTSFLXARS0-Eustis | LDLKFLXARSO - Lady Lake | 36.21 | 233.60 | 4,607.07 | 12,531.96 | 43,804.07 |
| ESTSFLXARSO - Eustis | LSEGFLXADS 1 - Leesburg | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| ESTSFLXARS0 - Eustis | MTDRFLXARSO-Mt. Dora | 3110 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| ESTSFLXARSO-Eustis | MTVRFLXARSO - Monteverde | 33.84 | 181.12 | 3,138 10 | NA | NA |
| ESTSFLXARS0 - Eustis | TVRSFLXADS0-Tavares | 3110 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| ESTSFLXARSO - Eustis | UMTLFLXARS0 - Umatilla | 34.39 | 193.32 | 3,479 72 | 9,447.79 | NA |
| EVRGFLXARS - Everglades | NPLSFLXCDS0 - Naples | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46;609.53 |
| FRPTFLXARSO - Freeport | GLDLFLXARSO-Glendale | 36.41 | 237.87 | 4,726.63 | 12,859.07 | 44,973.79 |
| FRPTFLXARSO - Freeport | PNLNFLXARSO - Ponce Leon | 36.40 | 237.69 | 4,721.75 | NA | NA |
| FRPTFLXARS0 - Freeport | SGBHFLXARSO - Seagrove Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| FRPTFLXARSO - Freeport | SNRSFLXARSO - Santa Rosa Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |


| Originating | Terminating | $\begin{gathered} \text { Dedicated } \\ \text { DS0 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DSI } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS3 } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ 0 C 3 \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS12 } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FRPTFLXARSO - Freeport | VLPRFLXADSO - Valparaiso | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| FTMBFLXADS0 - Fort Myers Beach | CPCRFLXBDS1 - North Cape Coral | 34.40 | 193.58 | 3,487.04 | 9,467.82 | 32,846.83 |
| FTMBFLXADS0 - Fort Myers Beach | NFMYFLXADS0 - North Fort Myers | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| FTMBFLXADSO - Fort Myers Beach | NNPLFLXADS1 - North Naples | 40.35 | 324.87 | 7,161.90 | 19,521.41 | 68,798.02 |
| FTMBFLXADS0 - Fort Myers Beach | NPLSFLXCDSO - Naples | 40.35 | 324.87 | 7,161.90 | 19,521.41 | 68,798.02 |
| FTMBFL XADS0 - Fort Myers Beach | PNISFLXADS0 - Pine Island | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| FTMBFLXADSO - Fort Myers Beach | SNISFLXADS0 - Sanibel-Captiva Islands | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| FTMDFLXARSO - Fort Meade | NSN - Bartow* | 39.77 | 384.71 | 8,353.93 | 22,764.54 | NA |
| FTMDFLXARSO - Fort Meade | NSN - Lakeland* | 39.77 | 384.71 | 8,353.93 | 22,764.54 | NA |
| FTMYFLXADSO - Fort Myers | CPCRFLXBDS1 - North Cape Coral | 29.06 | 75.74 | 1,154.22 | 3,121.73 | 10,658.33 |
| FTMYFLXADSO - Fort Myers | FTMBFLXADSO - Fort Myers Beach | 30.97 | 117.84 | 2,332.81 | 6.346.09 | 22,188.50 |
| FTMYFLXADS0 - Fort Myers | IMKLFLXARSO - Immokalee | 35.01 | 207.03 | 4.829 .09 | 13.175.32 | 46,609.53 |
| FTMYFLXADSO - Fort Myers | LBLLFLXADSO - LaBelle | 38.54 | 284.88 | 7.008.14 | 19,136.71 | 67.927.20 |
| FTMYFLXADSO - Fort Myers | LHACFLXADSO - Lehigh Acres | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| FTMYFLXADSO - Fort Myers | NFMYFLXADS0 - North Fort Myers | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| FTMYFLXADSO - Fort Myers | NNPLFLXADS1 - North Naples | 35.01 | 207.03 | 4,829 09 | 13,175.32 | 46.609.53 |
| FTMYFLXADSO - Fort Myers | NPLSFLXCOSO-Naples | 3501 | 207.03 | 4,829.09 | 13.175.32 | 46,609.53 |
| FTMYFLXADSO - Fort Myers | PNGRFLXADS1-Punta Gorda | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67.927.20 |
| FTMYFLXADSO - Fort Myers | PNISFLXADSO - Pine Island | 30.97 | 117.84 | 2,332 81 | 6,346.09 | 22.188 .50 |
| FTMYFLXADSO - Fort Myers | SNISFLXADSO - Sanibel-Captiva Islands | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22.188 .50 |
| FTMYFLXBDSO - East Fort Myers | CPCRFLXBDS 1 - North Cape Coral | 38.44 | 282.76 | 5,983.31 | 16,297.05 | 57.267.86 |
| FTMYFLXBDS 0 - East Fort Myers | CYLKFLXBRSO-Regional Airport | 38.75 | 289.65 | 6,176.08 | 16,824.43 | 59,153.75 |
| FTMYFLXBDS 0 - East Fort Myers | FTMBFL XADS0 - Fort Myers Beach | 40.35 | 324.37 | 7,161.90 | 19,521.41 | 68,798.02 |
| FTMYFLXBDSO - East Fort Myers | FTMYFLXADSO - Fort Myers | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| FTMYFLXBDSS - East Fort Myers | FTMYFLXCDS2 - South Ft Myers | 40.35 | 324.87 | 7,161.90 | 19.521.41 | 68,798.02 |
| FTMYFLXBDSS - East Fort Myers | LHACFLXADSO - Lehigh Acres | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| FTMYFLXBDSO - East Fort Myers | NFMYFLXADSO - North Fort Myers | 40.35 | 324.87 | 7,161.90 | 19,521.41 | 68,798.02 |
| FTMYFLXBDSO - East Fort Myers | PNISFLXADSO - Pine Island | 40.35 | 324.87 | 7,161.90 | 19,521.41 | 68,798.02 |
| FTMYFLXBDS 0 - East Fort Myers | SNISFLXADSO - Sanibel-Captiva Islands | 40.35 | 324.87 | 7,161,90 | 19,521.41 | 68.798.02 |
| FTWBFLXADSO - Fort Walton Beach | FRPTFLXARS0 - Freeport | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| FTWBFLXADSO - Fort Walton Beach | NSN - Holley-Navarre* | 13.96 | 25.14 | 220.85 | 586.22 | 1.843.86 |
| FTWBFLXADSO - Fort Walton Beach | NSN - Niceville* | 25.15 | 272.34 | 5,208.58 | 14,159.58 | 49,371.95 |
| FTWBFLXADSO - Fort Walton Beach | SGBHFLXARS0 - Seagrove Beach | 36.44 | 238.56 | 4,746.15 | 12,912.48 | 45,164.77 |
| FTWBFLXADSO - Fort Walton Beach | SHLMFLXADSO-Shalimar | 33.67 | 177.39 | 3,999,44 | 10,905.58 | 38,493.06 |
| FTWBFLXADSO - Fort Walton Beach | SNRSFLXARSO - Santa Rosa Beach | 36.44 | 238.56 | 4,746.15 | 12,912.48 | 45,164.77 |
| FTWBFLXADSO - Fort Walton Beach | VLPRFLXADS0 - Valparaiso | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| GDRGFL XADS - Grand Ridge | GNWDFLXARSO - Greenwood | 39.95 | 132.91 | 1,788.69 | 4,821.54 | NA |
| GDRGFL KADS 0 - Grand Ridge $^{\text {a }}$ | MALNFLXARSO - Malone | 39.95 | 132.91 | 1,788.69 | 4,821.54 | NA |
| GDRGFL_XADS 0 - Grand Ridge | MRNNFLXADSO - Marianna | 35.97 | 68.94 | 963.89 | 2,601.03 | NA |
| GDRGFLXADS0 - Grand Ridge | NSN - Graceville* | 21.69 | 94.08 | 1,184.74 | 3,187.24 | NA |
| GDRGFL XADSO - Grand Ridge | SNDSFLXARSO - Sneads | 35.97 | 68.94 | 963.89 | 2.601 .03 | NA |
| GLDLFLXARSO - Glendale | NSN - Paxton* | 25.25 | 274.43 | 5,267.14 | NA | NA |
| GLDLLFLXARSO-Glendale | PNLNFLXARSO - Ponce Leon | 31.10 | 120.79 | 1,449.51 | NA | NA |
| GLDLFLXARS0 - Glendale | SGBHFLXARSO - Seagrove Beach | 36.41 | 237.87 | 4,726.63 | 12,859.07 | 44.973.79 |
| GLDLFLXARS 0 - Glendale | SNRSFLXARSO - Santa Rosa Beach | 3641 | 237.87 | 4,726.63 | 12,859 07 | 44,973.79 |
| GLDLFLXARS - Glendale | VLPRFLXADSO - Valparaiso | 36.41 | 237.87 | 4,726.63 | 12,859.07 | 44,973.79 |
| GLGCFLXADS0 - Golden Gate | MOISFLXADSO - Marco Istand | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| GLGCFLXADSO - Golden Gate | NNPLFLXADS1 - North Naples | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| GLGCFLXADS0 - Golden Gate | NPLSFLXCDSO - Naples | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |


| Origlinating | Terminating | $\begin{gathered} \text { Dedicated } \\ \text { DSO } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DSt } \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS3 } \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Dedicated } \\ & \text { OC3 } \end{aligned}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS12 } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GLGCFLXADSO - Golden Gate | NPLSFLXCDS0 - Naples Moorings | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| GLGCFLXADS0 - Golden Gate | NPLSFLXCDS0 - Naples Southeast | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| GLRDFLXADSO- Goldenrod | KSSMFLXBDS 1 - Reedy Creek | 38.72 | 289.02 | 5,192.73 | 14,098.26 | 48,900.23 |
| GLRDFLXADS0-Goldenrod | LKBRFLXADS1 - Lake Brantley | 32.51 | 151.82 | 2,318.20 | 6,270.17 | 21,412.15 |
| GLRDFLXADSO-Goldenrod | MNTIFLXADSO - Montverde | 46.93 | 470.14 | 8,330.83 | NA | NA |
| GLRDFLXADSO - Goldenrod | MTLDFLXADS1-Maitland | 32.51 | 151.82 | 2,318.20 | 6,270.17 | 21,412.15 |
| GLRDFLXADS0 - Goldenrod | NSN - Celebration* | 24.46 | 256.99 | 4,779.11 | 12,984.66 | NA |
| GLRDFLXADSO-Goldenrod | NSN - East Orange* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16,727.53 |
| GLRDFLXADSO-Goldenrod | NSN - Geneva* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16.727.53 |
| GLRDFLXADSO-Goldenrod | NSN - Lake Buena Vista* | 23.69 | 240.08 | 4,305.72 | 11,689.58 | 40,539.32 |
| GLRDFLXADSO - Goldenrod | NSN - Oriando* | 18.08 | 116.31 | 1,806.98 | 4,889.54 - | 16,727.53 |
| GLRDFLXADSO - Goldenrod | NSN - Ovieda* | 18.08 | 116.31 | 1,806.98 | 4,889.54 | 16,727.53 |
| GLRDFLXADSO-Goldenrod | NSN - Sanford* | 20.41 | 167.72 | 2,280.40 | NA | NA |
| GLRDFLXADSO - Goldenrod | WNDRFLXARS0-Windermere | 35.54 | 218.69 | 4,189.80 | 11.390 .42 | 39,721.96 |
| GLRDFLXADSO-Goldenrod | WNGRFLXADS0 - Winter Garden | 35.24 | 212.15 | 4,006.79 | 10,889.74 | 37,931.56 |
| GLRDFLXADSO-Goldenrod | WNPKFLXADS1 - Winter Park | 28.86 | 71.20 | 1,027.33 | 2,774.60 | 9,416.99 |
| GNVLFLXARS0 - Greenville | LEE FLXARSO - Lee | 53.65 | 353.10 | 6,986.24 | NA | NA |
| GNVLFLXARSO - Greenville | MDSNFLXADSO-Madison | 50.15 | 296.89 | 6,378.62 | 17,378.51 | NA |
| GNVLFLXARS0 - Greenville | MNTIFLXADSO - Monticello | 5015 | 296.89 | 6,378.62 | 17.378 .51 | NA |
| GNVLFLXARS0 - Greenville | TLHSFLXADS 0 - Calhoun | 5015 | 296.89 | 6,378 62 | 17,378.51 | NA |
| GNWDFLXARSO - Greenwood | MALNFLXARSO - Malone | 35.66 | 63.97 | 824.80 | 2,220.51 | NA |
| GNWDFLXARSO - Greenwood | MRNNFL XADS0 - Marianna | 35.66 | 63.97 | 82480 | 2,220.51 | NA |
| GNWDFLXARSO - Greenwood | NSN - Graceville* | 21.38 | 89.11 | 1,045.65 | 2,806.73 | NA |
| GNWDFLXARSO - Greenwood | SNDSFLXARS0 - Sneads | 39.95 | 132.91 | 1.788 .69 | 4,821.54 | NA |
| GVLDFLXARS0 - Groveland | BSHNFLXADSO - Bushnell | 36.16 | 232.39 | 5,539.17 | 15,117.94 | 53,556.27 |
| GVLDFLXARS0 - Groveland | HOWYFLXARSO - Howey-in-the-Hills | 39.09 | 297.24 | 6,388.38 | NA | NA |
| GVLDFLXARS0 - Groveland | LDLKFLXARSO - Lady Lake | 46.95 | 470.70 | 10,278,01 | 28,010.39 | 98,649.42 |
| GVLDFLXARSO - Groveland | LSBGFLXADS 1 - Leesburg | 36.16 | 232.39 | 5,539.17 | 15,117.94 | 53,556.27 |
| GVLDFLXARS0-Groveland | MTDRFLXARSO - Mt. Dora | 41.63 | 353.20 | 7,954.95 | 21,691.00 | 76,556.41 |
| GVLDFLXARS0-Groveland | MTVRFLXARS0 - Monteverde | 44.36 | 413.51 | 8,677.27 | NA | NA |
| GVLDFLXARS0 - Groveland | NSN - Orlando* | 35.25 | 495.32 | 10,484.21 | 28,556.55 | 100,350.05 |
| GVLDFLXARS0 - Groveland | TVRSFLXADSO - Tavares | 41.63 | 353.20 | 7,954.95 | 21,691.00 | 76,556.41 |
| GVLDFLXARSO-Groveland | UMTLFLXARSO - Umatilla | 44.91 | 425.71 | 9,018.89 | 24,565.74 | NA |
| GVLDFLXARSO - Groveland | WNDRFLXARSO-Windermere | 48.52 | 505.39 | 11,249.19 | 30,667.31 | 108,150.47 |
| GVLDFLXARSO - Groveland | WNGRFLXADSO - Winter Garden | 41.84 | 357.91 | 8,086.72 | 22,051.49 | 77,845.50 |
| HMSPFLXARSO - Homosassa Springs | BVHLFLXADS0 - Beverly Hills | 29.90 | 94.13 | 1,669.09 | 4,530.30 | 15,695.32 |
| HMSPFLXARSO - Homosassa Springs | INVRFLXADSO - Inverness | 29.90 | 94.13 | 1,669.09 | 4,530.30 | 15,695.32 |
| HOWYFLXARSO - Howey-In-The-Hills | LOLKFLXARSO-Lady Lake | 50.54 | 303.14 | 5,588.04 | NA | NA |
| HOWYFLXARSO - Howey-In-The-Hills | LSBGFLXADS1 - Leesburg | 35.72 | 64.84 | 849.20 | NA | NA |
| HOWYFLXARSO - Howey-nn-The-Hills | MTDRFLXARS0 - Mt. Dora | 43.23 | 185.65 | 3,264.98 | NA | NA |
| HOWYFLXARSO - Howey-In-The-Hills | MTVRFLXARSO - Monteverde | 46.98 | 245.96 | 3,987.30 | NA | NA |
| HOWYFLXARSO - Howey-In-The-Hills | TVRSFLXADSO - Tavares | 43.23 | 185.65 | 3,264.98 | NA | NA |
| HOWYFLXARSO - Howey-ln-The-Hills | UMTLFLXARSO-Umatilla | 47.74 | 258.16 | 4,328.92 | NA | NA |
| HOWYFLXARSO - Howey-In-The-Hills | WLWDFLXARSO - Wildwood | 42.73 | 177.63 | 3,040,49 | NA | NA |
| IMKLFLXARSO - Immokalee | LBLLFLXADSO-LaBelle | 47.91 | 491.90 | 11,837.23 | 32,312.02 | 114,536.73 |
| IMKLFLXARSO - immokatee | NPLSFLXCDS 0 - Naples | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| INVRFLXADS0-Inverness | NSN - Brooksville* | 24.58 | 259.63 | 5,818.59 | NA | NA |
| INVRFLXADSO - inverness | NSN - Dunnellon* | 18.30 | 121.10 | 1,941.19 | 5,256.71 | 18,040.49 |
| INVRFLXADSO - Inverness | NSN - Yankeetown* | 18.30 | 121.10 | 1,941.19 | 5,256.71 | 18,040.49 |

INTEROFFICE TRANSPORT


| Originating | Terminating | $\begin{gathered} \hline \text { Dedicated } \\ \text { DSo } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS1 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS3 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { OC3 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS12 } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LHACFLXADSO - Lehigh Acres | CPCRFLXBDS 1 - North Cape Coral | 38.44 | 282.76 | 5,983.31 | 16.297.05 | 57,267.86 |
| LHACFLXADSO - Lehigh Acres | NFMYFLXADS0 - North Ft. Myers | 4035 | 324.87 | 7,161,90 | 19.521.41 | 68,798.02 |
| LKBRFLXADS 1 - Lake Brantley | KSSMFLXBDS 1 - Reedy Creek | 39.15 | 298.44 | 5,456.27 | 14.819.23 | 51,478.40 |
| LKBRFLXADS 1 - Lake Brantley | MNTIFLXADSO - Montverde | 47.35 | 479.55 | 8,594.36 | NA | NA |
| LKBRFLXADS 1 - Lake Brantley | MTLDFLXADS1-Maitland | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11.995.16 |
| LKBRFLXADS 1 - Lake Brantley | NSN - Celebration* | 24.88 | 266.41 | 5,042.65 | 13,705.64 | NA |
| LKBRFLXADS1-Lake Brantley | NSN - East Orange* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| LKBRFLXADS1-Lake Brantley | NSN-Geneva* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| LKBRFLXADS 1 - Lake Brantley | NSN - Lake Buena Vista* | 24.12 | 249.50 | 4,569.26 | 12,410.55 | 43,117.50 |
| LKBRFLXADS 1 - Lake Brantley | NSN - Orlando* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| LKBRFLXADS1 - Lake Brantley | NSN - Ovieda* | 18.51 | 125.72 | 2,070.51 | 5.610 .52 | 19.305.70 |
| LKBRFLXADS1-Lake Brantley | NSN - Sanford* | 20.84 | 177.14 | 2,543.93 | NA | NA |
| LKBRFLXADS 1 - Lake Brantley | WNDRFLXARSO - Windermere | 35.96 | 228.10 | 4,453.34 | 12,111.39 | 42,300.13 |
| LKBRFLXADS1 ~ Lake Brantley | WNGRFLXADS0 - Winter Garden | 35.67 | 221.57 | 4,270,33 | 11,610.72 | 40.509.73 |
| LKBRFLXADS1 - Lake Brantley | WNPKFLXADS1 - Winter Park | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11.995.16 |
| LKHLFLXARSO - Lake Helen | NSN - Deltona Lakes* | 35.12 | 55.25 | 580.79 | NA | NA |
| LKHLFLXARSO - Lake Helen | ORCYFLXADSO - Orange City | 35.12 | 55.25 | 580.79 | NA | NA |
| LKPCFLXARSO - Lake Placid | SBNGFLXADS1-Sebring | 35.52 | 61.61 | 758.92 | 2,040.27 | NA |
| LKPCFLXARSO - Lake Placid | SLHLFLXARS0 - Spring Lake | 53.23 | 346.49 | 7,767.06 | 21,176.98 | NA |
| LSBGFLXADS1-Leesburg | MTDRFLXARS0 - Mt. Dora | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| LSBGFLXADS1-Leesburg | MTVRFLXARS0 - Monteverde | 33.84 | 181.12 | 3,138.10 | NA | NA |
| LSBGFLXADS1 - Leesburg | TVRSFLXADS0-Tavares | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23,000.14 |
| LSBGFLXADS1 - Leesburg | UMTLFLXARSO - Umatilla | 34.39 | 193.32 | 3,479.72 | 9,447.79 | NA |
| LSBGFLXADS1 - Leesburg | WLWDFLXARSO - Wildwood | 30.74 | 112.79 | 2,191.29 | 5,958.90 | 20,803.92 |
| LWTYFLXARS0-Lawtey | NSN - Raiford* | 21.50 | 91.03 | 1,099.33 | NA | NA |
| LWTYFLXARS0-Lawtey | STRKFLXADS0-Starke | 35.76 | 65.54 | 868.72 | NA | NA |
| MALNFLXARS0-Malone | MRNNFLXADSO-Marianna | 35.66 | 63.97 | 824.80 | 2,220.51 | NA |
| MALNFLXARS0 - Malone | NSN - Graceville* | 21.38 | 89.11 | 1,045.65 | 2,806.73 | NA |
| MALNFLXARS0 - Malone | SNDSFLXARSO - Sneads | 39.95 | 132.91 | 1,788.69 | 4.821 .54 | NA |
| MDSNFLXADSO - Madison | MNTIFLXADSO - Monticello | 35.68 | 221.85 | 5.243 .91 | 14,310.18 | 50,667.76 |
| MDSNFLXADSO-Madison | TLHSFLXADSO - Calhoun | 35.68 | 221.85 | 5,243.91 | 14.310.18 | 50.667 .76 |
| MNTIFLXADSO - Monticello | TLHSFLXADSO - Calhoun | 35.68 | 221.85 | 5,243.91 | 14.310 .18 | 50.667 .76 |
| MOISFLXADSO - Marco island | NNPLFLXADS1 - North Naples | 35.01 | 207.03 | 4.82909 | 13,175.32 | 46,609.53 |
| MOISFLXADSO - Marco Island | NPLSFLXCDS0 - Naples | 35.01 | 207.03 | 4,829 09 | 13.175 .32 | 46.609 .53 |
| MOISFLXADSO - Marco island | NPLSFLXCDS0 - Naples Moorings | 35.01 | 207.03 | 4.829 .09 | 13.175.32 | 46,609.53 |
| MOISFLXADSO - Marco Island | NPLSFLXCDS0 - Naples Southeast | 35.01 | 207.03 | 4,829.09 | 13.175.32 | 46,609.53 |
| MRNNFLXADSO - Marianna | NSN - Altha * | 17.99 | 34.56 | 484.39 | NA | NA |
| MRNNFLXADSO-Marianna | NSN - Graceville* | 17.41 | 25.14 | 220.85 | 586.22 | NA |
| MRNNFLXADS0 - Marianna | SNDSFLXARSO - Sneads | 35.97 | 68.94 | 963.89 | 2,601.03 | NA |
| MTDRFLXARSO - Mt. Dora | MTVRFLXARSO - Monteverde | 33.84 | 181.12 | 3,138.10 | NA | NA |
| MTDRFLXARSO-Mt. Dora | TVRSFLXADS0 - Tavares | 31.10 | 120.81 | 2,415.78 | 6,573.06 | 23.000.14 |
| MTDRFLXARSO - Mt. Dora | UMTLFLXARS0 - Umatilla | 34.39 | 193.32 | 3,479.72 | 9,447.79 | NA |
| MTDRFLXARSO - Mt. Dora | WNPKFLXADS1-Winter Park | 37.49 | 261.75 | 5,395.23 | 14,688.21 | 51,514.71 |
| MTLDFLXADS1 - Maitland | KSSMFLXBDS1-Reedy Creek | 39.15 | 298.44 | 5,456.27 | 14,819.23 | 51,478.40 |
| MTLDFLXADS1 - Maitland | MNTIFLXADSO - Montverde | 47.35 | 479.55 | 8,594.36 | NA | NA |
| MTLDFLXADS1 - Maitland | NSN - Celebration* | 24.88 | 266.41 | 5,042.65 | 13,705.64 | NA |
| MTLDFLXADS1 - Maitland | NSN - East Orange* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| MTLDFLXADS1 - Maitland | NSN - Geneva* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| MTLDFLXADS1 - Maitiand | NSN - Lake Buena Vista* | 24.12 | 249.50 | 4,569.26 | 12,410.55 | 43,117.50 |


| Originating | Terminating: | $\begin{gathered} \text { Dedicated } \\ \text { DSO } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DST } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS3 } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { Oc3 } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS12 } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MTLDFLXADS1-Maitland | NSN - Orlando* | 18.51 | 125.72 | 2,070.51 | 5,610.52 | 19,305.70 |
| MTLDFLXADS1 - Maitland | NSN - Ovieda* | 18.51 | 125.72 | 2,070.51 | 5.610 .52 | 19,305.70 |
| MTLDFLXADS 1 - Maitland | NSN - Sanford* | 20.84 | 177.14 | 2,543.93 | NA | NA |
| MTLDFLXADS 1 - Maitland | WNDRFLXARSO - Windermere | 35.96 | 228.10 | 4,453.34 | 12.111.39 | 42,300.13 |
| MTLDFLXADS 1 - Maitland | WNGRFLXADS0 - Winter Garden | 35.67 | 221.57 | 4,270.33 | 11.610 .72 | 40,509.73 |
| MTLDFLXADS 1 - Maitland | WNPKFLXADS 1 - Winter Park | 29.28 | 80.62 | 1,290.87 | 3,495.57 | 11,995.16 |
| MTVRFLXARSO - Monteverde | KSSMFLXBDS 1 - Reedy Creek | 48.02 | 262.69 | 4,455.81 | NA | NA |
| MTVRFLXARSO - Monteverde | NSN - Celebration* | 21.98 | 98.61 | 1,311.63 | NA | NA |
| MTVRFLXARSO - Monteverde | NSN - East Orange* | 31.16 | 246.36 | 4,481.41 | NA | NA |
| MTVRFLXARSO - Monteverde | NSN - Lake Buena Vista* | 30.10 | 229.18 | 4,000.70 | NA | NA |
| MTVRFLXARSO - Monteverde | NSN - Oriando* | 31.16 | 246.36 | 4,481.41 | NA | NA |
| MTVRFLXARS0 - Monteverde | TVRSFLXADSO - Tavares | 42.95 | 181.12 | 3,138.10 | NA | NA |
| MTVRFL XARSO - Monteverde | UMTLFLXARSO - Umatilla | 47.46 | 253.63 | 4,202.03 | NA | NA |
| MTVRFLXARS0 - Monteverde | WNDRFLXARSO - Windermere | 44.61 | 207.79 | 3,884.78 | NA | NA |
| MTVRFLXARSO - Monteverde | WNGRFLXADSO - Winter Garden | 35.44 | 60.31 | 722.32 | NA | NA |
| MTVRFLXARS0 - Monteverde | WNPKFLXADS1 - Winter Park | 44.20 | 201.25 | 3,701.77 | NA | NA |
| NFMYFLXADS0 - North Fort Myers | CPCRFLXBDS1 - North Cape Coral | 29.06 | 75.74 | 1,154.22 | 3,121.73 | 10,658.33 |
| NFMYFLXADS0 - North Fort Myers | PNGRFLXADS1 - Punta Gorda | 38.54 | $284.8{ }^{\text { }}$ | 7,008.14 | 19,136.71 | 67,927.20 |
| NFMYFLXADSO - North Fort Myers | PNISFLXADS0 - Pine Island | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| NFMYFLXADSO - North Fort Myers | SNISFLXADS0 - Sanibel-Captiva Islands | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| NNPLFLXADS1 - North Naples | MOISFLXADS0 - Marco Island | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| NPLSFLXCDSO - Naples | NNPLFLXADS1 - North Naples | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| NPLSFLXCDS0 - Naples | NPLSFLXCDS0 - Naples Southeast | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| NPLSFLXCDS0 - Naples Moorings | NNPLFLXADS1 - North Naples | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| NPLSFLXCDS0 - Naples Moorings | NPLSFLXCDSO-Naples Southeast | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| NPLSFLXCDS0 - Naples Southeast | NNPLFLXADS1 - North Naples | 35.01 | 207.03 | 4,829.09 | 13,175.32 | 46,609.53 |
| NPLSFLXCDS0 - Niceville | SHLMFLXADS 0 - Shalimar | 35.20 | 211.16 | 4,461.86 | 12,152.69 | 42,700.24 |
| OCALFLXADSO- Ocala | NSN - Citra* | 24.97 | 268.26 | 6,060.16 | NA | NA |
| OCALFLXADSO- Ocala | NSN - Dunnellon* | 24.56 | 259.37 | 5,811.26 | 15,844.35 | 55,901.44 |
| OCALFLXADSO - Ocala | NSN - Mcintosh* | 18.07 | 35.86 | 520.99 | NA | NA |
| OCALFLXADS0-Ocala | NSN - Orange Springs* | 18.07 | 35.86 | 520.99 | NA | NA |
| OCALFLXADSO - Ocala | OCALFLXBCSO - Shady Road | 36.16 | 232.39 | 5,539.17 | 15.117.94 | 53,556.27 |
| OCALFLXADSO- Ocala | OKLWFLXADS0 - Ocklawaha | 29.48 | 84.98 | 1,412.88 | 3,829.35 | 13,188.76 |
| OCALFLXADSO- Ocala | SSPRFL_XARSO-Satt Springs | 30.15 | 99.71 | 1,825.26 | 4,957.55 | 17,223.13 |
| OCALFLXADSO- Ocala | SVSPFLXARSO-Silver Springs | 3015 | 99.71 | 1,825.26 | 4,957.55 | 17,223.13 |
| OCALFLXADS0- Ocala | SVSSFLXARSO - Silver Springs Shores | 29.48 | 84.98 | 1,412.88 | 3,829.35 | 13,188.76 |
| OCALFLXADS0-Ocala | WLSTFLXARSO-Williston | 3930 | 301.88 | 6.51282 | 17.745.67 | NA |
| OCALFL XADSO - Ocata | WLWDFLXARS - Wildwood | 41.27 | 345.18 | 7.730 .46 | 21.076 .84 | 74,360.19 |
| OCALFLXCRSO - Highlands | LDLKFLXARSO - Lady Lake (821) | 5147 | 570.41 | 12,103.27 | 32.967.94 | 115,872.55 |
| OCALFLXCRSO - Highlands | NSN - Citra* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| OCALFLXCRSO - Highlands | NSN - Dunnellon* | 29.08 | 359.08 | 7,636.53 | 20,801.89 | 73,124.57 |
| OCALFLXCRSO - Hightands | NSN - McIntosh* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| OCALFLXCRSO - Highlands | NSN - Orange Springs* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| OCALFLXCRSO - Highlands | OCALFLXADSO - Ocala | 30.15 | 99.71 | 1,825.26 | 4,957.55 | 17,223.13 |
| OCALFLXCRSO - Highlands | OCALFLXBDS 0 - Shady Road | 40.67 | 332.11 | 7,364.44 | 20,075.49 | 70,779.40 |
| OCALFLXCRSO - Highlands | OKLWFLXADS0 - Ocklawaha | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30,411.89 |
| OCALFLXCRSO - Highlands | SSPRFLXARSO-Salt Springs | 30.15 | 99.71 | 1,825.26 | 4,957.55 | 17,223.13 |
| OCALFLXCRS0 - Highlands | SVSSFLXARS0 - Silver Springs Shores | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30,411.89 |
| OCNFFLXARSO - Forest | LDLKFLXARS0 - Lady Lake (821) | 55.10 | 650.68 | 13,384.38 | 36,436.80 | 127,772.23 |


| Originating | Terminating | $\begin{gathered} \text { Dedicated } \\ \text { DSO } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS1 } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS3 } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { OC3 } \end{gathered}$ | $\begin{aligned} & \text { Dedicated } \\ & \text { DS12 } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OCNFFLXARS0 - Forest | NSN - Citra* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| OCNFFLXARSO - Forest | NSN - Dunnellon* | 29.08 | 359.08 | 7,636.53 | 20,801.89 | 73,124.57 |
| OCNFFLXARSO - Forest | NSN - McIntosh* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| OCNFFLXARS0 - Forest | NSN - Orange Springs* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| OCNFFLXARSO - Forest | OCALFLXADSO- Ocala | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30,411.89 |
| OCNFFLXARSO - Forest | OCALFLXCRSO - Highlands | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30,411.89 |
| OCNFFLXARSO - Forest | OKLWFLXADSO - Ocklawaha | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30,411.89 |
| OCNFFLXARSO - Forest | SSPRFL XARSO - Salt Springs | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30,411.89 |
| OCNFFLXARSO - Forest | SVSSFLXARSO - Silver Springs Shores | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30.411 .89 |
| OKCBFLXADS1-Okeechobee | SBNGFLXADS1-Sebring | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| OKLWFLXADSO-Ocklawaha | ESTSFLXARSO - Eustis | 45.69 | 442.89 | 9,499.60 | 25,880.85 | 91,034.26 |
| OKLWFLXADSO - Ocklawaha | LSBGFLXADS1 - Leesburg | 34.59 | 197.77 | $3,604.16$ | 9,788.25 | 33,992.68 |
| OKLWFLXADSO-Ocklawaha | NSN - Citra* | 18.29 | 120.84 | 1,93387 | NA | NA |
| OKLWFLXADSO - Ocklawaha | NSN - Dunnelion* | 28.41 | 344.34 | 7,224 14 | 19,673.70 | 69,090.20 |
| OKLWFLXADSO - Ocklawaha | NSN - Mcintosh* | 18.29 | 120.84 | 1,933.87 | NA | NA |
| OKLWFLXADSO - Ocklawaha | NSN - Orange Springs* | 18.29 | 120.84 | 1,933.87 | NA | NA |
| OKLWFLXADSO - Ocklawaha | SSPRFLXARSO-Salt Springs | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30.411 .89 |
| OKLWFLXADSO - Ocklawaha | SVSSFLXARSO - Silver Springs Shores | 29.48 | 84.98 | 1,412.88 | 3,829.35 | 13,188.76 |
| OKLWFLXADSO - Ocklawaha | UMTLFLXARSO - Umatilla | 48.76 | 510.69 | 10,431.77 | 28,395.09 | NA |
| ORCYFLXADSO - Orange City | NSN - DeBary* | 17.70 | 29.94 | 355.06 | 953.38 | NA |
| ORCYFLXADSO - Orange City | NSN - Deland* | 17.50 | 26.71 | 264.77 | NA | NA |
| ORCYFLXADSO - Orange City | NSN - DeLeon Springs* | 17.50 | 26.71 | 264.77 | NA | NA |
| ORCYFLXADSO - Orange City | NSN - Deltona Lakes* | 35.12 | 55.25 | 580.79 | NA | NA |
| ORCYFL XADSO-Orange City | NSN - Sanford* | 17.70 | 29.94 | 355.06 | 953.38 | NA |
| ORCYFLXADSO - Orange City | WNPKFLXADS1 - Winter Park | 40.84 | 147.20 | 2,188.88 | NA | NA |
| PANCFLXARS0 - Panacea | NSN - Alligator Point* | 21.34 | 188.21 | 2,853.83 | 7,717.55 | NA |
| PANCFLXARS0-Panacea | SPCPFLXADSO - Sopchoppy | 33.02 | 163.07 | 2,632.98 | 7,131.33 | 24,491.64 |
| PANCFLXARSO - Panacea | STMKFLXARSO - St. Marks | 31.22 | 123.40 | 1,522.72 | 4,093.89 | 13,629.89 |
| PANCFLXARSO-Panacea | TLHSFLXADSO-Calhoun | 33.02 | 163.07 | 2,632.98 | 7,131.33 | 24,491.64 |
| PNISFLXADSO - Pine Isiand | SNISFLXADSO - Sanibel-Captiva Islands | 30.97 | 117.84 | 2,332.81 | 6,346.09 | 22,188.50 |
| PNISFLXADS0-Ponce de Leon | RYHLFLXARS0 - Reynolds Hill | 50.92 | 309.31 | 4,795.02 | NA | NA |
| PNISFLXADSO - Ponce de Leon | SGBHFLXARS0 - Seagrove Beach | 46.47 | 237.69 | 4,721.75 | NA | NA |
| PNISFLXADSO - Ponce de Leon | SNRSFLXARSO - Santa Rosa Beach | 46.47 | 237.69 | 4,721.75 | NA | NA |
| PNISFLXADSO - Ponce de Leon | VLPRFLXADSO - Valparaiso | 46.47 | 237.69 | 4,721.75 | NA | NA |
| PNISFLXADSO - Ponce de Leon | WSTVFLXARSO - Westville | 47.40 | 252.76 | 4,177.63 | NA | NA |
| PTCTFLXADSO - Port Charlotte | NSN - North Port* | 17.87 | 32.55 | 428.26 | 1,153.65 | NA |
| PTCTFLXADS - Port Chartotte | PNGRFLXADS1 - Punta Gorda | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| RYHLFLXARSO - Reynolds Hill | NSN - Graceville* | 26.41 | 169.99 | 2,343.84 | NA | NA |
| RYHLFLXARSO - Reynotds Hill | WSTVFLXARSO - Westville | 40.69 | 144.85 | 2,122.99 | NA | NA |
| SBNGFLXADS1-Sebring | SLHLFLXARSO - Spring Lake | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| SBNGFLXADS1-Sebring | WCHLFLXADSO - Wauchula | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67,927.20 |
| SHLMFLXADSO-Shalimar | VLPRFLXADSO - Valparaiso | 36.44 | 238.56 | 4,746.15 | 12,912.48 | 45,164.77 |
| SNANFLXARSO - San Antonio | NSN - Brooksville* | 17.29 | 98.79 | 1.316.51 | NA | NA |
| SNANFLXARSO - San Antonio | NSN - Tampa Central* | 17.29 | 98.79 | 1,316.51 | NA | NA |
| SNANFLXARSO - San Antonio | NSN - Tampa North* | 17.29 | 98.79 | 1,316.51 | NA | NA |
| SNANFLXARSO - San Antonio | NSN - Zephyrnills* | 17.29 | 98.79 | 1,316.51 | NA | NA |
| SNANFLXARSO - San Antonio | TLCHFLXARSO - Trilacoochee | 28.87 | 71.55 | 1,037.09 | 2,801.30 | 9,512.48 |
| SNDSFLXARSO-Sneads | NSN - Chattahoochee* | 21.69 | 94.08 | 1,184.74 | 3,187.24 | NA |
| SNDSFLXARSO-Sneads | NSN - Graceville* | 21.69 | 94.08 | 1,184.74 | 3,187.24 | NA |


| Originating | Terminating : | $\begin{gathered} \text { Dedicated } \\ \text { DSO } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS1 } \end{gathered}$ | $\begin{gathered} \text { Dodicated } \\ \text { DS3 } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { OC3 } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS12 } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SNRSFLXARS0 - Santa Rosa Beach | SGBHFLXARSO - Seagrove Beach | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| SNRSFLXARS0 - Santa Rosa Beach | VLPRFLXADSO - Valparaiso | 33.67 | 177.39 | 3,999.44 | 10,905.58 | 38,493.06 |
| SPCPFLXADS0 - Sopchoppy | NSN - Alligator Point* | 18.48 | 125.03 | 2,050.99 | 5,557.11 | NA |
| SPCPFLXADS 0 - Sopchoppy | NSN - Carrabelle* | 18.48 | 125.03 | 2,050.99 | 5,557.11 | NA |
| SPCPFLXADS0 - Sopchoppy | STMKFLXARSO-St. Marks | 32.88 | 160.11 | 2,550.02 | 6,904.36 | 23,679.99 |
| SPCPFLXADS0 - Sopchoppy | TLHSFLXADSO-Calhoun | 30.16 | 99.89 | 1,830.14 | 4,970.90 | 17,270.87 |
| SSPRFLXARS0 - Salt Springs | NSN - Citra* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| SSPRFLXARS0 - Salt Springs | NSN - Dunnelion* | 29.08 | 359.08 | 7,636.53 | 20,801.89 | 73,124.57 |
| SSPRFLXARS0 - Salt Springs | NSN - McIntosh* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| SSPRFLXARS0 - Salt Springs | NSN - Orange Springs* | 18.96 | 135.57 | 2,346.25 | NA | NA |
| SSPRFLXARS0 - Salt Springs | SVSSFLXARS0 - Silver Springs Shores | 34.00 | 184.69 | 3,238.14 | 8,786.90 | 30,411.89 |
| STCDFLXARSO-St Cloud | KSSMFLXBDS1 - West Kissimmee | 32.02 | 140.95 | 2,979 45 | 8,115.15 | 28,514.57 |
| STCDFLXARSO-St Cloud | NSN - Celebration* | 21.23 | 185.79 | 3,751.78 | 10,210.07 | NA |
| STCDFLXARSO-St. Cloud | NSN - Oriando* | 21.24 | 186.05 | 3,759.10 | 10,230.09 | 35,825.11 |
| STCDFLXARSO-St Clour | WNPKFLXADS1-Winter Park | 3202 | 140.95 | 2,979 45 | 8.115.15 | 28,514.57 |
| STMKFLXARSO - St. Marks | NSN - Alligator Point* | 2121 | 185.25 | 2,770.87 | 7,490.57 | NA |
| STMKFLXARSO - St. Marks | TLHSFLXDDSO-Blairstone | 32.88 | 160.11 | 2,550.02 | 6,904.36 | 23,679.99 |
| STRKFLXADSO-Starke | LWTYFLXARSO - Lawtey | 35.76 | 65.54 | 868.72 | NA | NA |
| STRKFLXADSO-Starke | NSN - Brooker* | 17.43 | 25.49 | 230.61 | NA | NA |
| STRKFLXADSO-Starke | NSN - Keystone Heights* | 1743 | 25.49 | 230.61 | 612.92 | NA |
| STRKFLXADSO-Starke | NSN - Lake Butler* | 17.43 | 25.49 | 230.61 | NA | NA |
| STRKFLXADSO-Starke | NSN - Raiford* | 17.43 | 25.49 | 230.61 | NA | NA |
| STRKFL XADSO - Starke | NSN - Waldo* | 17.43 | 25.49 | 230.61 | NA | NA |
| SVSSFLXARSO - Silver Springs Shores | NSN - Citra* | 18.29 | 120.84 | 1,933.87 | NA | NA |
| SVSSFLXARSO - Silver Springs Shores | NSN - Dunnellon* | 28.41 | 344.34 | 7,224.14 | 19,673.70 | 69,090.20 |
| SVSSFLXARSO - Silver Springs Shores | NSN - McIntosh* | 18.29 | 120.84 | 1,933.87 | NA | NA |
| SVSSFLXARSO - Silver Springs Shores | NSN - Orange Springs* | 18.29 | 120.84 | 1,933.87 | NA | NA |
| SVSSFLXARSO - Silver Springs Shores | WLWDFLXARS0 - Wiidwood | 34.59 | 197.77 | 3,604.16 | 9,788.25 | 33,992.68 |
| TLCHFLXARSO - Trilocoochee | BSHNFLXADS0 - Bushnell | 39.40 | 303.95 | 6,576.27 | 17,919.24 | 63,068.75 |
| TLCHFLXARSO - Trilocoochee | NSN - Brooksville* | 17.29 | 98.79 | 1,316.51 | NA | NA |
| TLCHFLXARSO - Trilocoochee | NSN - Zephyrhills* | 17.29 | 98.79 | 1,316.51 | NA | NA |
| TLHSFLXADSO-Calhoun | NSN - Alligator Point* | 17.41 | 25.14 | 220.85 | 586.22 | NA |
| TLHSFLXADS 0 - Calhoun | NSN - Bristol* | 17.41 | 25.14 | 220.85 | 586.22 | NA |
| TLHSFLXADS0-Calhoun | NSN - Carrabelle* | 17.41 | 25.14 | 220.85 | 586.22 | NA |
| TLHSFLXADS0-Calhoun | NSN - Chattahoochee* | 17.41 | 25.14 | 220.85 | 586.22 | NA |
| TLHSFLXADSO-Calhoun | NSN - Greensboro* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXADS0-Calhoun | NSN - Greta* | 19.57 | 149.09 | 2,724.47 | 7,399.60 | NA |
| TLHSFLXADS0-Calhoun | NSN - Havana* | 18.49 | 42.49 | 706.44 | 1,914.68 | NA |
| TLHSFLXADSO-Calhoun | NSN - Hosford* | 17.41 | 25.14 | 220.85 | 586.22 | NA |
| TLHSFLXADSO-Calhoun | NSN - Perry* | 25.13 | 271.83 | 6,160.21 | 16.798.97 | NA |
| TLHSFLXADS0-Calhoun | NSN - Quincy* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXADSO-Calhoun | TLHSFLXBDSO - Willis | 28.79 | 69.72 | 985.85 | 2,661.11 | 9.011 .17 |
| TLHSFLXADS0-Calhoun | TLHSFLXCDSO-Mabry | 28.79 | 69.72 | 985.85 | 2,661.11 | 9,011.17 |
| TLHSFLXADS0-Calhoun | TLHSFLXEDSO - FSU | 28.79 | 69.72 | 985.85 | 2,661.11 | 9.011 .17 |
| TLHSFLXADS 0 - Calhoun | TLHSFLXHDSO - Perkins | 28.79 | 69.72 | 985.85 | 2.661.11 | 9,011.17 |
| TLHSFLXADS0-Calhoun | TVRSFLXADSO - Thomasville | 28.13 | 55.08 | 575.91 | 1,539.59 | 5,000.68 |
| TLHSFLXBDS 0 - Willis | NSN - Alligator Point* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXBDS 0 - Willis | NSN - Bristoi* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXBDSS0-Willis | NSN - Carrabetle* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA | November 7, 200


| Originating | Terminating | $\begin{gathered} \text { Dedicated } \\ \text { DS0 } \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \text { DS } 1 \end{gathered}$ | Dedicated DS3 | $\begin{gathered} \text { Dedicated } \\ \text { OC3 } \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS12 } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TLHSFLXBDS0 - Willis | NSN - Chatahoochee* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXBDS0 - Willis | NSN - Greensboro* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXBDSO - Willis | NSN - Greta* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXBDS 0 - Willis | NSN - Havana* | 18.49 | 42.49 | 706.44 | 1,914.68 | NA |
| TLHSFLXBDS0 - Willis | NSN - Hosford* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXBDS 0 - Willis | NSN - Quincy* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXCDS0 - Mabry | NSN - Alligator Point* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXCDS0 - Mabry | NSN - Bristol* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLLHSFLXCDS0 - Mabry | NSN - Carrabelle* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXCDS0 - Mabry | NSN - Chattahoochee* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXCDSO-Mabry | NSN - Greensboro* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXCDSO - Mabry | NSN - Greta* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXCDSO - Mabry | NSN - Havana* | 18.49 | 42.49 | 706.44 | 1.914.68 | NA |
| TLHSFLXCOS0 - Mabry | NSN - Hosford* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXCDS 0 - Mabry | NSN - Quincy* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXCDSO - Mabry | TLHSFLXBDSO - Willis | 28.79 | 69.72 | 985.85 | 2.661.11 | 9,011.17 |
| TLHSFLXCDS 0 - Mabry | TLHSFLXHDSO - Perkins | 28.79 | 69.72 | 985.85 | 2,661.11 | 9,011.17 |
| TLHSFLXCDSO-Mabry | TVRSFLXADSO - Thomasville | 31.29 | 124.80 | 1,561.76 | 4.200 .70 | 14.011.84 |
| TLHSFLXDDSO-Blairstone | NSN - Alligator Point* | $18.4{ }^{\circ}$ | 125.03 | 2,050 99 | 5.557.11 | NA |
| TLHSFLXDOS0-Blairstone | NSN - Bristol* | 18.48 | 125.03 | 2,050.99 | 5,557.11 | NA |
| TLHSFLXDDSO-Blairstone | NSN - Carrabelle* | 18.48 | 125.03 | 2,050.99 | 5,557.11 | NA |
| TLHSFLXDDSO-Blairstone | NSN - Chattahoochee* | 18.48 | 125.03 | 2,050.99 | 5,557.11 | NA |
| TL.HSFLXDDS0-Blairstone | NSN - Greensboro* | 19.57 | 149.09 | 2,724.47 | 7,399.60 | NA |
| TLHSFLXDDS0-Blairstone | NSN - Greta* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXDDSO-Blairstone | NSN - Havana* | 19.26 | 142.37 | 2,536.58 | 6,885.57 | NA |
| TLHSFLXDDS0 - Blairstone | NSN - Hosford* | 18.48 | 125.03 | 2,050.99 | 5,557.11 | NA |
| TLHSFLXDDSO-Blairstone | NSN - Quincy* | 19.57 | 149.09 | 2,724.47 | 7,399.60 | NA |
| TLHSFLXDDS0 - Blairstone | TLHSFLXADS0-Calhoun | 29.14 | 77.48 | 1,203.03 | 3,255.25 | 11,135.77 |
| TLHSFLXDDS0 - Blairstone | TLHSFLXBDS 0 - Willis | 29.14 | 77.48 | 1,203.03 | 3,255.25 | 11,135.77 |
| TLHSFLXDDSO - Blairstone | TLHSFLXCDSO-Mabry | 32.30 | 147.20 | 2,188.88 | 5,916.36 | 20.146.94 |
| TLHSFLXDDSO - Blairstone | TLHSFLXEDS0-FSU | 32.30 | 147.20 | 2,188.88 | 5,916.36 | 20,146.94 |
| TLHSFLXDDS0 - Blairstone | TLHSFLXHDSO - Perkins | 32.30 | 147.20 | 2,188.88 | 5,916.36 | 20,146.94 |
| TLHSFLXDDSO - Blairstone | TVRSFLXADS0 - Thomasville | 31.64 | 132.56 | 1,778.93 | 4,794.84 | 16,136.45 |
| TLHSFLXEDSO-FSU | NSN - Alligator Point* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXEDSO-FSU | NSN - Bristol* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXEDSO-FSU | NSN - Carrabelle* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXEDSO-FSU | NSN - Chattahoochee* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXEDSO-FSU | NSN - Greensboro* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXEDSO-FSU | NSN - Greta* | 17.54 | 104.28 | 1,470.24 | 3,968.30 | NA |
| TLHSFLXEDS0-FSU | NSN - Havana* | 18.49 | 42.49 | 706.44 | 1,914.68 | NA |
| TLHSFLXEDS0-FSU | NSN - Hosford* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXEDSO-FSU | NSN - Quincy* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXEDSO - FSU | TLHSFLXBDSO - Willis | 28.79 | 69.72 | 985.85 | 2,661.11 | 9,011.17 |
| TLHSFLXEDS0-FSU | TLHSFLXCDSO - Mabry | 28.79 | 69.72 | 985.85 | 2,661.11 | 9,011.17 |
| TLHSFLXEDS 0 - FSU | TLHSFLXHOSO - Perkins | 28.79 | 69.72 | 985.85 | 2,661.11 | 9.011 .17 |
| TLHSFLXEDS0-FSU | TVRSFLXADS0 - Thomasville | 31.29 | 124.80 | 1,561.76 | 4,200.70 | 14,011.84 |
| TLHSFLXFDSO - Thomasville | NSN - Alligator Point* | 16.45 | 80.22 | 796.76 | 2,125.81 | NA |
| TLHSFLXFDSO - Thomasville | NSN - Bristol* | 16.45 | 80.22 | 796.76 | 2,125.81 | NA |
| TLHSFLXFDSO - Thomasville | NSN - Carrabelle* | 16.45 | 80.22 | 796.76 | 2,125.81 | NA |


| Originating | Terminating | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS0 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS1 } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS3 } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dedicated } \\ \mathrm{OC} 3 \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { Dedicated } \\ \text { DS12 } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TLHSFLXFDSO - Thomasville | NSN - Chattahoochee* | 16.45 | 80.22 | 796.76 | 2,125.81 | NA |
| TLHSFLXFDS0 - Thomasville | NSN - Greensboro* | 17.54 | 104.28 | 1,470.24 | 3,968.30 | NA |
| TLHSFLXFDSO - Thomasville | NSN - Greta* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXFDSO - Thomasville | NSN - Havana* | 17.24 | 97.57 | 1,282.35 | 3,454.27 | NA |
| TLHSFLXFDSO - Thomasville | NSN - Hosford* | 16.45 | 80.22 | 796.76 | 2,125.81 | NA |
| TLHSFLXFDSO - Thomasville | NSN - Quincy* | 17.54 | 104.28 | 1,470.24 | 3,968.30 | NA |
| TLHSFLXFDSO - Thomasville | TLHSFLXBDSO - Willis | 31.29 | 124.80 | 1,561.76 | 4,200.70 | 14,011.84 |
| TLHSFLXHDSO - Perkins | NSN - Alligator Point* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXHDSO - Perkins | NSN - Bristot* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXHDSO - Perkins | NSN - Carrabeile* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXHDSO - Perkins | NSN - Chattahoochee* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXHDSO - Perkins | NSN - Greensboro* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXHDSO - Perkins | NSN - Greta* | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXHDSO - Perkins | NSN - Havana* | 18.49 | 42.49 | 706.44 | 1,914.68 | NA |
| TLHSFLXHDSO - Perkins | NSN - Hosford* | 17.11 | 94.86 | 1,206.70 | 3,247.33 | NA |
| TLHSFLXHDS0 - Perkins | NSN - Quincy ${ }^{*}$ | 18.90 | 49.20 | 894.33 | 2,428.71 | NA |
| TLHSFLXHDS0-Perkins | TLHSFLXBDSO - Willis | 28.79 | 69.72 | 985.85 | 2,661.11 | 9,011.17 |
| TLHSFLXHDS0-Perkins | TVRSFLXADS 0 - Thomasville | 31.29 | 124.80 | 1,561.76 | 4,200.70 | 14,011.84 |
| TVRSFLXADSO-Tavares | UMTLFLXARS0 - Umatilla | 34.39 | 193.32 | 3,479.72 | 9.447 .79 | NA |
| WCHLFLXADS - Wauchula | ZLSPFLXARS0 - Zolfo Springs | 38.54 | 284.88 | 7,008.14 | 19,136.71 | 67.927.20 |
| WLSTFLXARS - Williston | NSN - Bronson* | 22.08 | 100.36 | 1,360.43 | NA | NA |
| WNDRFLXARSO - Windermere | NSN - Celebration* | 21.23 | 185.79 | 3,751.78 | 10,210.07 | NA |
| WNDRFLXARSO - Windermere | NSN - East Orange* | 21.54 | 192.59 | 3,942.11 | 10,730.77 | 37.615.51 |
| WNDRFLXARSO - Windermere | NSN - Lake Buena Vista* | 21.23 | 185.79 | 3,751.78 | 10,210.07 | NA |
| WNDRFLXARSO - Windermere | NSN - Orlando* | 21.54 | 192.59 | 3,942.11 | 10,730.77 | 37.615 .51 |
| WNDRFLXARSO - Windermere | WNGRFLXADSO - Winter Garden | 32.31 | 147.48 | 3,162.47 | 8,615.82 | 30.304.97 |
| WNDRFLXARSO - Windermere | WNPKFLXADS1 - Winter Park | 32.31 | 147.48 | 3,162.47 | 8.615.82 | 30.304 .97 |
| WNGRFLXADS0 - Winter Garden | NSN - Celebration* | 21.23 | 185.79 | 3,751.78 | 10,210.07 | NA |
| WNGRFLXADS0 - Winter Garden | NSN - East Orange* | 21.24 | 186.05 | 3,759.10 | 10,230.09 | 35,825.11 |
| WNGRFLXADS0 - Winter Garden | NSN - Lake Buena Vista* | 20.46 | 168.88 | 3,278.39 | 8,914.98 | 31,122.33 |
| WNGRFLXADS0 - Winter Garden | NSN - Orlando* | 21.24 | 186.05 | 3,759.10 | 10,230.09 | 35,825.11 |
| WNGRFLXADS0 - Winter Garden | WNPKFLXADS1 - Winter Park | 32.02 | 140.95 | 2,979.45 | 8,115.15 | 28.514.57 |
| WNPKFLXADS1-Winter Park | NSN - Celebration* | 21.23 | 185.79 | 3,751.78 | 10,210.07 | NA |
| WNPKFLXADS1 - Winter Park | NSN - DeBary* | 21.25 | 186.29 | 2,800.15 | 7,570.68 | NA |
| WNPKFLXADS 1 - Winter Park | NSN - East Orange* | 14.86 | 45.10 | 779.64 | 2,114.95 | 7.310 .54 |
| WNPKFLXADS1-Winter Park | NSN - Geneva* | 14.86 | 45.10 | 779.64 | 2,114.95 | 7.310.54 |
| WNPKFLXADS 1 - Winter Park | NSN - Lake Buena Vista* | 20.46 | 168.88 | 3,278.39 | 8,914.98 | 31,122.33 |
| WNPKFLXADS1 - Winter Park | NSN - Orlando* | 14.86 | 45.10 | 779.64 | 2,114.95 | 7,310.54 |
| WNPKFLXADS1 - Winter Park | NSN - Oviedo* | 14.86 | 45.10 | 779.64 | 2,114.95 | 7,310.54 |
| WNPKFLXADS 1 - Winter Park | NSN - Sanford* | 17.70 | 29.94 | 355.06 | 953.38 | NA |
| WSTVFLXARSO - Westville | NSN - Graceville* | 17.95 | 113.43 | 1,726.45 | 4,669. 25 | NA |
| WSTVFLXARSO - Westville | NSN - Vernon* | 17.95 | 113.43 | 1,726.45 | 4,669.25 | NA |

# BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION DIRECT TESTIMONY 

## OF

BRIAN K. STAIHR

Please state your name, title, and business address.

My name is Brian K. Staihr. I am employed by Sprint/United Management Company as Senior Regulatory Economist in the Department of Policy and Regulatory Affairs. My business address is 6360 Sprint Parkway, Overland Park, Kansas 66251.

Please briefly describe your educational background and work experience.

I hold a B.A. in Economics from the University of Missouri-Kansas City, and an M.A. and Ph.D. in Economics from Washington University in St. Louis. My field of specialization is Industrial Organization, including Regulation.

I have been a part of Sprint's Regulatory Policy Group since 1996. In my current position I am involved with the development of state and federal regulatory and legislative policy for all divisions of Sprint. I am also involved with the coordination of policy across business units. My particular responsibilities
include 1) ensuring that Sprint's policies are based on sound economic reasoning, 2) undertaking or directing economic/quantitative analysis to provide support for Sprint's policies, and 3) conducting original research. The specific policy issues that I address include universal service, pricing, costing (including cost of capital), access reform, reciprocal compensation and interconnection, local competition, and more.

In my position I have appeared before the Florida Public Service Commission, the New Jersey Board of Public Utilities, the Pennsylvania Public Utility Commission, the North Carolina Public Utilities Commission, the Public Service Commission of South Carolina, the Public Service Commission of Nevada, the Texas Public Utilities Commission, the Missouri Public Service Commission, the Kansas Corporation Commission, and the llinois Public Service Commission. I have also worked extensively with the Federal Communication Commission's staff and presented original research to the FCC.
[In January 2000 I left Sprint temporarily to serve as Senior Economist for the Federal Reserve Bank of Kansas City. There I was an active participant in the Federal Open Market Committee process, the process by which the Federal Reserve sets certain interest rates. In addition, I conducted original research on telecommunication issues and the effects of deregulation. I returned to Sprint in December 2000.]

Currently, I also serve as Adjunct Professor of Economics at Avila College in Kansas City, Missouri. There I teach both graduate and undergraduate level courses.

Prior to my work in Sprint's Regulatory Policy Group I served as ManagerConsumer Demand Forecasting in Sprint's Local Division Marketing department. There I was responsible for forecasting the demand for services in the local market, and producing economic and quantitative analysis for business cases, opportunity analyses, etc.

## What is the purpose of your testimony?

In my testimony I put forth the position of Sprint-Florida, Inc. ("Sprint") regarding the correct cost of capital to be used in calculating forward-looking economic costs for Sprint. My testimony supports the appropriateness of Sprint witness Dickerson's use of $12.26 \%$ as the weighted average cost of capital in determining the annual charge factor, which is used in the forward-looking cost studies for unbundled network elements in this proceeding.

## What is Sprint's position concerning the cost of capital that should be used

 for this proceeding?Sprint's position is consistent with Section 252 (d) (1) of the Telecommunications Act of 1996 (Act) which explicitly states that rates for interconnection and access to unbundled network elements "may include a reasonable profit." It is also consistent with the FCC's interconnection order (First Report and Order in CC Docket Nos. 96-98 and 96-195, released August 8, 1996) which states that the concept of reasonable or "normal" profit is embodied in forward-looking costs, because the forward-looking direct cost of a network element includes "the forward-looking costs of capital (debt and equity) needed to support investments required to produce a given element" (paragraph 691). Furthermore, the order states that the forward-looking cost of capital "is equal to a normal profit" (paragraph 700). Sprint's position is that the Commission should accept the use of the forward-looking, weighted, market value cost of capital of $12.26 \%$, based on the market value capital structure shown below, used by witness Dickerson in Florida's forward-looking cost studies.

## How does Sprint define a forward-looking cost of capital?

A forward-looking cost of capital, as opposed to an embedded or historical cost of capital, incorporates market-based values, as opposed to book values, in both its cost estimates and its capital structure. In the same way that a forwardlooking cost study avoids the use of embedded or accounting costs for determining outside plant investment or overhead expenses, a forward-looking cost of capital avoids the use of embedded (book) values for costs of debt, costs
of equity, and capital structure. For example, the forward-looking cost of debt is the rate at which new debt could be issued in today's debt market, under existing market conditions. In contrast, the embedded cost of debt is the rate at which existing debt was issued in the past, and it reflects historical market conditions. The embedded cost of debt has no place in a forward-looking cost of capital calculation, or a forward looking cost study. Of course, this does not suggest that actual information should not be used in the process of calculating the forwardlooking cost of capital. Rather, existing information should be used in the correct context to obtain the best estimate of a forward looking cost of capital that reflects investors' expectations today.

## Is that definition consistent with other cost of capital testimony that has been presented recently to the FPSC?

Yes. Mr. Gregory Jacobson, on behalf of (what was then) GTE Florida Inc. testified on May 1, 2000 that, "to provide correct incentives for entry into local markets" the FPSC must use a forward-looking definition of the cost of capital which "differs from the "traditional"-and now outmoded—regulatory view" of using embedded costs, book values and historical risk. ${ }^{1}$ Also at that time Dr. Randall Billingsley, on behalf of BellSouth Telecommunications, Inc. testified that for a forward-looking cost of capital, "Market values should be used exclusively

[^0] because they are dynamically determined in the marketplace by investors, while book values are the result of historical accounting practices." ${ }^{2}$

## Have any state commissions agreed with Sprint's definition of forwardlooking, in terms of a cost of capital that rejects book values and utilizes market values?

Yes. As far back as 1996 the Massachusetts Department of Telecommunications and Energy (at that time known as the Department of Public Utilities, D.P.U.) ruled that "it would be inconsistent to use forward-looking competitive assumptions in the investment and expense components of a TELRIC study, but historical accounting-based capital structures in the cost of capital component." ${ }^{3}$

More recently, on August 8, 2000 the Nevada Public Service Commission issued a Modified Final Order in Docket No. 98-6004 addressing the cost of unbundled network elements. In that Order, the Commission stated that it was in the public interest to consider economic, forward-looking factors in evaluating and setting the cost of capital for Nevada Bell. The Order states, "As such, the Commission rejects near-term dividend growth analyses, embedded book value capital structures, and embedded costs of debt...as vestiges of traditional ratemaking; and accepts earnings growth analyses,

[^1]market-value capital structures, and the market value of debt as the proper forward-looking components of the cost of capital for setting UNE prices. ${ }^{4}$

## RISK

## Please explain briefly Sprint's position regarding the relationship between cost of capital and risk.

The weighted, average cost of capital is the sum of the components of investorsupplied capital, weighted by each component's relative proportion. The components include debt and equity. Investors supply this capital with the expectation of receiving a return on their investment, and the magnitude of that expected return is based on the risk of the investment relative to the risks of other potential investments. In general, investors are risk averse and all else held equal, the greater the risk, the greater the expected return that investors will require. A firm that seeks investor capital must meet the return requirements that investors possess after having examined alternative investments of comparable risk.

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Exactly what risk is reflected in Sprint's proposed cost of capital in this
proceeding?
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[^2] In a statistical sense, risk is the likelihood that an actual return will differ from an expected return. Assets that are often referred to as "risk-free" are so named because the likelihood that an investor's actual return will differ from his or her expected return approaches zero. For other assets, the likelihood that a return will differ from an expected return is non-zero, and that likelihood may be affected by both financial risk and business risk. Put simply, financial risk involves relative amounts of debt as well as a firm's capacity to service that debt. Business risk involves variability of a firm's inflow of revenue and the operating return on a firm's assets. The forward-looking cost of capital to be used in the calculation of unbundled network element costs must reflect the risks associated with investing in a local provider doing business in a competitive market, which in turn reflect the risks that the company faces while operating in that market. Sprint's recommended weighted average cost of capital of 12.26 accurately reflects this level of risk.

## CAPITAL STRUCTURE

## What capital structure does Sprint recommend for use in calculating the cost of capital in this proceeding?

Sprint recommends a market-based capital structure of $84.02 \%$ equity and 15.98\% debt.

## What is the process by which this capital structure is determined?

The process begins with Sprint's book value capital structure, as shown in Exhibit BKS-1. This is obtained using historical accounting values taken from Sprint's own records. First, the book value of debt is converted to a market value using prices of debt instruments as of July 2001 taken from Bloomberg Financial Services. Next, market-to-book ratios for common equity are calculated for a group of select firms that have been determined to be comparable in risk to Sprint. (The process of identifying these firms is discussed below.) These ratios are shown in Exhibit BKS-4. Using these ratios the book value of common equity is converted to a market value. Finally, using both the market value of equity and the market value of debt, an appropriate market value capital structure ratio is produced. This is shown in Exhibit BKS-3. As a check on reasonableness, Sprint's estimated market value of $\$ 4.55$ billion translates to a per line value of approximately $\$ 2,152$. That amount falls squarely in the range of $\$ 1,200$ to \$5,300 per access line paid in recent LEC/LEC acquisitions.

Is this capital structure relatively consistent with other forward-looking, market value-based capital structures recently presented to the FPSC?

Yes. According to Mr. Gregory Jacobson's testimony from May 1, 2000 the average telecommunications company at that time had a market-value capital
structure comprised of $81.1 \%$ equity and $18.9 \%$ debt. ${ }^{5}$ Similarly, Dr. Randall Billingsley also testified on May 1, 2000 that a market-value capital structure of $90.17 \%$ equity and $9.83 \%$ debt was appropriate for Bell South. ${ }^{6}$ Sprint's proposed capital structure falls squarely between the two. Mr. John Hirshleifer, testifying on behalf of AT\&T Communications of the Southern States, Inc. and MCIWorldCom, Inc., on June 8, 2000 utilized a market-value capital structure of $84 \%$ equity and $16 \%$ debt in his calculations, which is extremely close to Sprint's proposed capital structure. ${ }^{7}$

## COST OF DEBT

## What is Sprint's position regarding the appropriate forward-looking cost of debt to be used in calculating the forward-looking cost of capital for this proceeding?

Sprint's forward-looking cost of debt as of July 2001 is $7.81 \%$, as shown in Exhibit BKS-2. The figure represents the rate at which Sprint could issue debt in July 2001. The cost has three separate components. First, a forward-looking risk free rate of return of $6.00 \%$, which is the return on twenty-year U.S. Treasury bonds implied by futures prices. This figure is described in more detail below in the Risk Premium portion of my testimony. Second, the credit spread for twenty-

[^3]year " $A$ " rated telephone bonds over twenty year U.S. Treasury bonds, which is estimated at 173 basis points based on prevailing market data from Bloomberg Financial Markets. Third, an estimated issuance cost increment for twenty-year debt which is eight (8) basis points.

## MARKET TRADED GROUP OF COMPARABLE FIRMS

## What is Sprint's position regarding the proper estimation of a forwardlooking cost of equity for Sprint?

Investors' required return on common equity forms the basis for estimating the cost of equity, and investors' required return is generally estimated with standard, market-based, forward-looking financial models. Sprint utilizes the discounted cash flow model (DCF) and risk premium model, both of which are market-based, forward-looking models, to estimate investors' required return on common equity. An appropriate issuance cost increment is added to this required return to produce the forward-looking cost of equity.

## Are the DCF and risk premium models applied directly to Sprint?

[^4] No. Using market-based models requires the use of stock market prices, and Sprint does not have stock that is traded on a stock market as a separate entity. Therefore, there is no way to directly observe the value that investors would place on it, and so market-based models cannot be applied directly to Sprint. Instead, a group of market-traded companies is identified that, on average, are comparable in risk to Sprint and the DCF and Risk Premium models are applied to that group.

## How is this group of comparable-risk, market-traded companies identified?

It is a basic tenet of finance theory that investors' required returns, and the cost of common equity that reflects those returns, are a function of risk. No single, precise formula exists to directly measure risk, but various risk measures can be used to estimate general (and comparable) risk levels. Sprint utilizes four specific risk measures to obtain its group of comparable risk firms: the common equity ratio, the cash-flow-to-capital ratio, the pre-tax fixed charge coverage ratio, and the revenues-to-net plant ratio. These risk measurements capture both financial risk and business risk. They are used as inputs to cluster analysis, which identifies a group of twenty market-based firms that, on average, have risk comparable to the risk measures of Sprint.

Please briefly describe how the four measures reflect relative risk levels.

The common equity ratio reflects financial risk by measuring the amount of a firm's financial leverage. The ratio is simply the percentage of total capital supplied by common stockholders, as opposed to preferred stockholders and debt holders. All else held equal, the higher the common equity ratio, the lower the risk to the investor.

The cash-flow-to-capital ratio reflects both business risk and financial risk. It provides information regarding the adequacy of cash flow to the providers of capital. This ratio demonstrates the quality of reported earnings levels. All else held equal, the higher the cash-flow-to-capital ratio, the lower the risk to the investor.

The pre-tax fixed charge coverage ratio reflects both business risk and financial risk by indicating the adequacy of earnings levels. The ratio indicates the number of times (in terms of a multiple) that fixed charges, including interest and preferred dividends, are earned. All else held equal, the higher the pre-tax fixed charge coverage ratio, the lower the risk to the investor.

Finally, the revenues-to-net plant ratio reflects business risk by measuring the ability to generate revenues from fixed assets. The ratio indicates net plant turnover and the degree to which resources are employed to generate revenues. All else held equal, the higher the revenues-to-net plant ratio, the lower the risk to the investor.

Please describe the cluster analysis that uses these measures.

Cluster analysis is a statistical technique used to classify objects, people, or, in this case, firms into categories based on similarity of characteristics. In this instance, cluster analysis is used to narrow a large universe of firms down to a specific, relatively small group of firms that comes closest to exhibiting the targeted characteristic (risk) of single firm, Sprint.

Sprint starts its cluster analysis with all firms available from Standard and Poor's Research Insight. Firms are eliminated if they are not market-traded, if they are not U.S. based, if they do not pay dividends, or if there is insufficient data available to calculate risk measures or required return on common equity. For this proceeding, six hundred and twenty-one were identified as meeting the criteria. The risk measures were obtained for these firms, and then standardized. The cluster analysis calculates the cumulative distance between each firm's standardized risk measures and Sprint's standardized risk measures, and identifies the firms having the shortest distance. The final group is made up of the twenty companies whose risk measures cluster around, or are literally closest to, the risk measures for Sprint.

## How do Sprint's risk measures compare to those of the select group of firms?

The comparable group of twenty companies, and the risk measures for each, are shown in Exhibit BKS-5, as are the risk measures for Sprint. The common equity ratios are determined as of March 31, 2001. The other three risk measures are average risk measures for 1999 and 2000. A two-year time period is used because Sprint feels that it is necessary to examine cash flow, earnings, and revenue-based risk measures over a period of time long enough to avoid possible aberrations but short enough to be relatively current.

Because the required returns on common equity for the group will be averaged, the proper comparison is between Sprint's risk measures and the group's average, rather than between Sprint and any single firm in the group. Sprint's equity ratio is $58.7 \%$, compared to the group average of $59 \%$. Sprint's cash-flow-to-capital ratio is $41.8 \%$, compared to the group average of $38.1 \%$. Sprint's pretax fixed charge coverage ratio is 8.39 times, compared to the group average of 7.28 times. And Sprint's revenues-to-net plant ratio is $77.5 \%$, compared to the group average of $171.3 \%$. When making these comparisons, it is important to understand that the goal of the cluster analysis is to obtain a group of firm's whose combined, cumulative data (in this case, risk) comes closest to the data of the target firm, Sprint.

Why does Sprint not limit the universe of market-traded firms for the cluster analysis to only those firms operating in the telecommunications industry?

Because of changes occurring within the industry-mergers, acquisitions, diversification and bundling-the number of market-traded firms that primarily provide LEC-type services is falling, and the number of telecom firms that are purely representative of the ILEC business is dwindling. As such, it is no longer appropriate to assume that companies involved in providing telecommunications services are generally facing the same types of business risk as those faced by Sprint.

## Then why not use, as a comparable group of firms, publicly traded companies where a majority of revenues comes from LEC-type services?

While that approach might be superficially appealing, it is based on a fallacious and foundationless notion that firms that operate in the same industry, or "do the same thing", automatically exhibit the same risk characteristics. Plainly speaking, there is no reason to assume that just because two firms provide the same type of service they therefore face the same business risk and represent the same investment risk to investors. If that were true, we would not observe situations where one firm succeeds in an industry while a similar, competing firm fails. Sprint's approach to identifying comparable-risk firms uses analysis applied to data that is measurable, objective, and verifiable to determine comparable risk. There are no assumptions involved. But choosing comparable firms from the same industry simply because they do operate in the same industry is an approach that is based solely on assumption.

## DISCOUNTED CASH FLOW (DCF) ANALYSIS

## Please describe the DCF approach used by Sprint in determining the required return on common equity.

The DCF model is a straightforward method of calculating an investor's required return on common equity. It reflects this required return because investors' consensus risk analysis, which forms the basis for the required return, is embodied in the market price of any stock. The DCF model is market-based, and it is forward-looking. It implies that an asset's value is the expected cash flow generated by the asset, discounted by the investor's required return. In other words, the market value of common stock equals the present value of the expected stream of future dividends. Exhibit BKS-7 shows the general form of the DCF model and, in Equation (5), the quarterly required return on common equity for companies that pay dividends quarterly. The corresponding annual return is shown in Equation (8). This version of the DCF model is sometimes referred to as a quarterly DCF model. Sprint's use of quarterly DCF model does not indicate or imply that dividends are expected to increase quarterly. Rather, it reflects the reality that quarterly dividends are expected to increase annually at a rate equal to the average compounded quarterly growth rate.

## How does Sprint determine the current dividend yield for the companies in the comparable-risk group?

The current market value of a stock, as determined by investors based on all available information, is reflected in the stock's current price. But a change in the market price does not necessarily imply a change in the required return on common equity. Rather, a price change may simply reflect an adjustment of investors' beliefs regarding a growth rate or expected dividends. When the DCF model is used to estimate the required return on common equity it is important to determine the current dividend yield and the expected growth rate simultaneously. If an outdated, averaged, historical stock price is combined with current growth expectations, or an updated price is combined with past growth expectations, the model's results can be biased. The same holds for using past growth expectations along with historical average stock prices. For each firm in the comparable group Sprint uses the most recent quarterly dividend and the average closing stock market price from June 25, 2001 through July 9, 2001. A two-week time period is current enough to avoid the biases associated with historical, outdated stock prices and corresponds to the time period of growth rate determination. The quarterly dividend yields are presented in Exhibit BKS-6.

## How does Sprint determine the expected growth rate for the companies in

 the comparable-risk group?DCF models require a growth rate that reflects the long run dividend growth rate expected by investors. Although current market prices reflect market-consensus expectations regarding value, there is no specific method to directly measure market consensus on expected long run growth rates. So it becomes necessary to estimate expected long run dividend growth rates, and there are a number of approaches to doing this. For its DCF model Sprint uses the Institutional Brokers Estimate System (I/B/E/S) consensus analysts growth rate estimates. I/B/E/S is an investment research service of I/B/E/S, Inc., and is an often cited, objective source of analysts forecast data. $1 / B / E / S$ produces the consensus earnings growth expectations of financial analysts from research departments of investment brokerage firms, in summary form, every month. I/B/E/S growth rates are forward-looking, expectation-based estimates of earnings growth.

The five-year average $1 / B / E / S$ earnings per share growth rates for the companies in the comparable risk group are shown in Exhibit BKS-6. These growth rates are the most recently available at the time this analysis was conducted. For the group of comparable firms there is an average of seven (7) analysts' estimates per company used to develop the consensus growth rate.


#### Abstract

What is the relationship between dividend growth and earnings growth, as estimated by l/B/E/S?


The expected growth in dividends is a function of the expected growth in earnings. In the short run, it is certainly possible that dividends may grow at a rate that is greater or less than earnings growth. One can observe this potential short run divergence in companies that maintain a relatively stable dividend policy despite greatly fluctuating earnings. But in the long run, dividends and earnings must grow at the same rate. Any firm that increased dividends at a higher rate than earnings would, in the long run, eventually pay out more than it earns. So long run dividend growth cannot be maintained without underlying long term earnings growth, and since the DCF model is reflective of long term expectations, it is the long run relationship between dividends and earnings that matters most.

## What is the average required return on common equity for the comparablerisk group based on Sprint's DCF analysis?

The average required return on common equity, as shown in Exhibit BKS-6, for the comparable group based on Sprint's DCF analysis, is $13.71 \%$.

## RISK PREMIUM ANALYSIS

## Please describe the risk premium analysis that Sprint uses to determine the required return on common equity.

The risk premium approach is based on the well-known relationship between risk and return of market-traded securities that I initially referenced on page 6 of this testimony. Sprint uses a form of the risk premium approach known as the Capital Asset Pricing Model (CAPM). The CAPM is based on the theory that the required return for a given security is equal to the return on a risk-free asset plus a risk premium. It is consistent with the belief that investors tend to be risk averse and that, all else held equal, if an investor faces the choice of two assets providing the same expected return, the investor will choose that asset that offers the least risk. And if an investor chooses a riskier asset over a less-risky asset, it is generally because the expected return on the risky asset is higher.

A standard specification of the CAPM is:

$$
R_{j}=R_{f}+B_{j}{ }^{*}\left(R_{m}-R_{f}\right)
$$

Where...

$$
\begin{aligned}
& \qquad \begin{array}{l}
R_{j}=\text { the required return on stock } j \\
R_{f}=\text { the risk free return } \\
R_{m}=\text { the required return on the market portfolio, and } \\
B_{j}=\text { the measure of risk for stock } j .
\end{array} \\
& \text { In order to use this model to obtain a required return on any stock, it is necessary } \\
& \text { to determine the risk-free return, the market risk premium (which is the difference }
\end{aligned}
$$ between the required return on the market portfolio and the risk free return, $\mathrm{R}_{\mathrm{m}}$ $R_{f}$, and the appropriate company-specific risk measure, or beta, $B_{j}$. The risk-free return is generally observable, but the market risk premium and the companyspecific risk measure, or beta, must be estimated.

## What does Sprint use as the risk-free return?

Sprint uses the $6.00 \%$ average interest rate implied by the prices of U.S. Treasury bond futures contracts for delivery during the period September 2001 through June 2002 as traded on the Chicago Board of Trade from June 25 through July 9, 2001. These are shown in Exhibit BKS-8. Generally, these rates implied by the prices on the futures contracts represent forward-looking assessments made by the market of the risk-free return in the near-term future. As such, they are more in keeping with the forward-looking nature of Sprint's cost estimation than the use of current rates would be.

## Why does Sprint use Treasury bonds when measuring the risk-free rate of return as opposed to U.S. Treasury bills?

It is simply a question of choosing a security that has a duration, or maturity period at issuance, that is most similar to common equity. U.S. Treasury bills have a maturity period at issuance that ranges from 3 months to 1 year, while U.S. Treasury bonds are used for longer-term financing. U.S. Treasury bonds have maturity periods at issuance over fifteen years, often twenty or thirty years. Because common equity has a long-term time horizon, or the equivalent of an infinite maturity period, it makes sense to use bonds rather than bills since they are closer to matching the duration of common equity. In addition, the market risk premium used by Sprint utilizes long-term government bonds in its calculation, not shorter-term instruments.

## What does Sprint use as the market risk premium?

Sprint bases its market risk premium on data from the Roger G. Ibbotson series of risk premium studies, specifically the 2001 Stocks, Bonds, Bills and Inflation Classic Edition Yearbook. ${ }^{8}$ Sprint uses a risk premium of $7.27 \%$ which is the risk premium of common stock returns over U.S. Treasury bond returns based on market results for 1926 through 2000, which is the entire period for which data is available.

## Why does Sprint utilize the entire period?

It is a fact that different market risk premiums can be calculated by subjectively altering the time period over which the data is taken. For example, if Sprint used only the years 1995-1999 as the basis for its calculation the market risk premium would approach $20 \%$. Conversely, if Sprint used only the years 1970-1980, the

[^5] market risk premium would be less than $5 \%$. Using data from 1940 to the present produces a market risk premium of 7.84 , which is relatively close to Sprint's proposed number. To eliminate the subjectivity that is associated with selecting one time period over another, and to capture the widest possible set of economic circumstances that can affect a market risk premium, Sprint believes it is most appropriate to utilize all data available. The $7.27 \%$ market risk premium and the $6.00 \%$ risk free return produce a current required return on a market portfolio of $13.27 \%$.

As a test of reasonableness for the $13.27 \%$, Sprint's conducts a DCF analysis on all 621 firms included in the original cluster analysis. Using the quarterly DCF model shown in Exhibit BKS-7, recent quarterly dividends and stock prices, and the $I / B / E / S$ growth rates discussed above, the 621 dividend-paying firms produce an average required return of 15.08 . This indicates that Sprint's required return on a market portfolio of $13.27 \%$, obtained through the risk premium approach, is both appropriate and conservative.

## What measure of risk is used to determine the risk premium for the comparable group of firms?

Sprint uses a beta as an objective measure of risk since betas are well established as objective measures of risk in a portfolio context. A beta equal to one (1) indicates that the risk associated with that asset is equal to the market average risk level. And a beta greater than (lower than) one indicates a risk level greater than (lower than) the market average risk level. Sprint uses Value Line betas that are published in The Value Line Investment Survey Summary and Index dated July 13, 2001. The Value Line betas are computed using sixty months of weekly returns, using the New York Stock Exchange Composite Index as the market index. These betas for each company in the comparable risk group are shown in Exhibit BKS-9. The average comparable group beta is 0.86 , and this is the beta value used in Sprint's risk premium analysis.

## What is the average required return on common equity for the group of comparable risk firms based on Sprint's risk premium analysis?

As shown in Exhibit BKS-8, the required return on common equity for the group of comparable risk firms is $12.21 \%$, based on risk premium analysis.

## REQUIRED RETURN ON COMMON EQUITY \& COST OF EQUITY

## What is the required return on common equity for Sprint based on the two distinct market-based analyses?

Sprint's comparable risk group DCF analysis produces a required return on common equity of $13.71 \%$. Sprint's comparable risk group risk premium analysis produces a required return on common equity of $12.21 \%$.

## Does this range represent the cost of common equity for Sprint?

Not exactly, because neither value includes an increment for issuance costs. To determine the cost of common equity, it is necessary to add an increment for issuance costs to the required return.

## Why is an increment for issuance costs needed?

When a company raises equity capital it incurs costs of issuance-underwriting fees, legal costs, accounting costs, printing costs, and more. Sprint does not issue common stock directly to the public, but Sprint's parent company, Sprint Communications L.P., does issue common stock publicly. Because Sprint Communications L.P. raises equity capital for the benefit of its subsidiary entities, investors understand that issuance costs must be recovered and that the parent company's subsidiary entities, such as Sprint, will undertake and invest in projects that provide a return intended to cover these issuance costs. Exhibit BKS-10 shows the Sprint Communications L.P. common equity issues from 1967 through the present, and shows that the average issuance cost as a percent of net proceeds is $4.9 \%$.

How does Sprint quantify the rate of return increment for these issuance costs?

The issuance cost increment can be quantified using a standard approach within the DCF model: the stock price component in the model should be reduced by 4.9\%. Holding all other variables constant, this will produce an adjusted DCF result that is slightly higher than the original. The difference between these two DCF results represents the appropriate issuance cost increment. For Sprint Communications L.P. and its subsidiary entities, including Sprint, the proper issuance cost increment is currently fourteen (14) basis points. This increment is based on the $4.9 \%$ issuance cost ratio, the current Sprint FON group quarterly dividend of $\$ 0.125$, the Sprint FON group stock price as of June 2001 of $\$ 21.29$, and the $\mathrm{I} / \mathrm{B} / \mathrm{E} / \mathrm{S}$ growth rate of $9.6 \%$.

## After incorporating the fourteen basis point issuance cost increment, what is Sprint's estimate for the cost of common equity for Sprint?

Sprint's estimate for the range of cost of common equity is $12.35 \%$ to $13.85 \%$. It is Sprint's position that the midpoint of this range, $13.10 \%$, represents the most appropriate forward-looking market based cost of common equity to be used in determining the forward-looking cost of capital in this proceeding.

## RECOMMENDED COST OF CAPITAL

In summary, what is Sprint's recommendation concerning the cost of capital to be used in this proceeding for Sprint?

In keeping with the forward-looking nature of the costing methodology required for unbundled elements, Sprint strongly recommends reliance on the weighted market value cost of capital. The weighted-average cost of capital for Sprint is $12.26 \%$ based on the market value capital structure shown in Exhibit BKS-11 of 84.02\% equity and $15.98 \%$ debt; the forward-looking market value cost of common equity of $13.10 \%$; and the forward-looking market value cost of debt of 7.81\%.

Does this conclude your testimony?

Yes it does.

# SPRINT - FLORIDA, INCORPORATED BOOK VALUE CAPITAL STRUCTURE AS OF JUNE 30, 2001 

| Component | Amount | Book Value <br> Ratio |
| :--- | ---: | ---: |
| Debt | \$719,765,171 | $39.84 \%$ |
| Common Equity | $\$ 1,086,793,957$ | $60.16 \%$ |
| Total | $\$ 1,806,559,128$ | $100.00 \%$ |

# SPRINT - FLORIDA, INCORPORATED <br> COST OF DEBT <br> AS OF JUNE 25 THROUGH JULY 9, 2001 

## COMPONENT

## COSTRATE

Risk-Free Return ..... 6.00\%
Credit Spread ..... 1.73\%
Issuance Cost Increment ..... 0.08\%
TOTAL$7.81 \%$Sources: Bloomberg Financial Markets

SPRINT - FLORIDA, INCORPORATED MARKET VALUE CAPITAL STRUCTURE AS OF JUNE 25 THROUGH JULY 9, 2001

| Component | Amount | Market Value <br> Ratio |
| :--- | :--- | ---: |
|  |  | $15.98 \%$ |
| Debt | $\$ 727,142,871$ | $15.98 \%$ |
| Common Equity | $\$ 3,823,544,515$ | $84.02 \%$ |
| Total |  | $\$ 4,550,687,386$ |

COMPARABLE GROUP
MARKET-TO-BOOK RATIOS AS OF JUNE 25 THROUGH JULY 9, 2001

| Company | Market Price | Number of Shares as of $3 / 31 / 01$ (in Millions) | Market Value of Equity (in Millions) | Book Value of Equity as of $3 / 31 / 01$ (in Millions) | Market to Book Ratio ( $x$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ALCOA INC | \$39.56 | 863.17 | \$34,151.2 | \$11,019.0 | 3.1 |
| ALLTEL CORP | \$60.09 | 313.23 | \$18,820.5 | \$5,361.2 | 3.5 |
| APPLEBEES INTL INC | \$29.89 | 36.65 | \$1,095.4 | \$271.0 | 4.0 |
| AVERY DENNISON CORP | \$51.01 | 110.24 | \$5,623.4 | \$856.6 | 6.6 |
| BELLSOUTH CORP | \$39.81 | 1,873.00 | \$74,562.3 | \$17,393.0 | 4.3 |
| BRIGGS \& STRATTON | \$41.07 | 21.60 | \$887.0 | \$388.9 | 2.3 |
| DELTA AIR LINES INC | \$43.33 | 123.04 | \$5,331.0 | \$5,361.0 | 1.0 |
| DEVON ENERGY CORPORATION | \$51.35 | 129.41 | \$6,644.9 | \$3,664.5 | 1.8 |
| EOG RESOURCES INC | \$36.14 | 116.24 | \$4,200.6 | \$1,532.3 | 2.7 |
| HERSHEY FOODS CORP | \$61.43 | 136.73 | \$8,399.1 | \$1,230.8 | 6.8 |
| KERR-MCGEE CORP | \$65.48 | 94.77 | \$6,206.0 | \$2,767.8 | 2.2 |
| KIMBERLY-CLARK CORP | \$56.59 | 532.90 | \$30,157.9 | \$6,382.6 | 4.7 |
| MITCHELL ENERGY \& DEV | \$47.83 | 49.85 | \$2,384.0 | \$738.0 | 3.2 |
| NEW YORK TIMES CO -CL A | \$41.97 | 160.51 | \$6,737.5 | \$1,230.2 | 5.5 |
| NOBLE AFFILIATES INC | \$35.61 | 56.58 | \$2,014.9 | \$970.4 | 2.1 |
| PROCTER \& GAMBLE CO | \$64.23 | 1,303.80 | \$83,736.6 | \$12,710.0 | 6.6 |
| SBC COMMUNICATIONS INC | \$40.02 | 3,367.97 | \$134,779.3 | \$30,316.0 | 4.4 |
| TALISMAN ENERGY INC | \$38.09 | 135.44 | \$5,159.2 | \$2,525.4 | 2.0 |
| USX-MARATHON GROUP | \$29.17 | 308.59 | \$9,002.2 | \$5,310.0 | 1.7 |
| VINTAGE PETROLEUM INC | \$18.59 | 62.96 | \$1,170.3 | \$695.2 | 1.7 |
| Average |  |  |  |  | 3.5 |

Source: Compustat Research Insight.

| Company | Common <br> Equity <br> Ratio (1) | Cash Flow to Capital Ratio (2) | Pre-Tax Fixed Charge Coverage Ratio (x) (2) | Revenues to <br> Net Plant Ratio (2) |
| :---: | :---: | :---: | :---: | :---: |
| Sprint - Florida | 58.7\% | 41.8\% | 8.39 | 77.5\% |
| Comparable Group |  |  |  |  |
| ALCOA INC | 61.4\% | 29.7\% | 7.84 | 193.7\% |
| ALLTEL CORP | 57.0\% | 31.1\% | 5.60 | 117.2\% |
| APPLEBEES INTL INC | 71.8\% | 36.5\% | 10.08 | 213.1\% |
| AVERY DENNISON CORP | 47.9\% | 40.8\% | 8.87 | 364.7\% |
| BELLSOUTH CORP | 47.4\% | 37.2\% | 6.10 | 105.5\% |
| BRIGGS \& STRATTON | 55.4\% | 46.8\% | 10.12 | 387.4\% |
| DELTA AIR LINES INC | 44.8\% | 36.7\% | 6.44 | 134.4\% |
| DEVON ENERGY CORPORATION | 66.2\% | 33.0\% | 5.59 | 51.8\% |
| EOG RESOURCES INC | 63.6\% | 36.6\% | 4.60 | 46.5\% |
| HERSHEY FOODS CORP | 57.0\% | 33.4\% | 7.35 | 262.1\% |
| KERR-MCGEE CORP | 55.5\% | 44.5\% | 5.28 | 85.8\% |
| KIMBERLY-CLARK CORP | 61.7\% | 39.5\% | 10.50 | 212.8\% |
| MITCHELL ENERGY \& DEV | 72.4\% | 47.0\% | 8.57 | 116.3\% |
| NEW YORK TIMES CO -CL A | 55.5\% | 37.7\% | 10.43 | 266.9\% |
| NOBLE AFFILIATES INC | 68.1\% | 36.1\% | 5.22 | 83.8\% |
| PROCTER \& GAMBLE CO | 48.8\% | 40.8\% | 8.48 | 305.5\% |
| SBC COMMUNICATIONS INC | 52.3\% | 46.0\% | 7.01 | 119.6\% |
| TALISMAN ENERGY INC | 61.6\% | 36.9\% | 6.08 | 43.8\% |
| USX-MARATHON GROUP | 68.2\% | 39.0\% | 6.95 | 250.9\% |
| VINTAGE PETROLEUM INC | 63.2\% | 31.8\% | 4.57 | 63.4\% |
| Average | 59.0\% | 38.1\% | 7.28 | 171.3\% |

(1) The common equity ratios are as of March 31, 2001.
(2) The other risk measures are two-year averages for 1999 and 2000.

Source: Compustat Research Insight.

## COMPARABLE GROUP

DISCOUNTED CASH FLOW ANALYSIS AS OF JUNE 25 THROUGH JULY 7, 2001

| Company | Current Quarterly Dividend |  | Current Stock Price | Current Quarterly Dividend Yield | I/B/E/S <br> Annual Growth Rate | Number of Estimates | Quarterly Growth Rate | DCF Required Return on Common Equity |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALCOA INC | \$ | 0.150 | \$39.56 | 0.38\% | 15.80\% | 10 | 3.74\% | 17.59\% |
| ALLTEL CORP | \$ | 0.330 | \$60.09 | 0.55\% | 13.46\% | 10 | 3.21\% | 15.98\% |
| APPLEBEES INTL INC | \$ | 0.018 | \$29.89 | 0.06\% | 14.80\% | 10 | 3.51\% | 15.08\% |
| AVERY DENNISON CORP | \$ | 0.300 | \$51.01 | 0.59\% | 12.30\% | 10 | 2.94\% | 14.95\% |
| BELLSOUTH CORP | \$ | 0.190 | \$39.81 | 0.48\% | 12.22\% | 9 | 2.92\% | 14.36\% |
| BRIGGS \& STRATTON | \$ | 0.310 | \$41.07 | 0.75\% | 6.50\% | 2 | 1.59\% | 9.77\% |
| DELTA AIR LINES INC | \$ | 0.025 | \$43.33 | 0.06\% | 9.00\% | 5 | 2.18\% | 9.26\% |
| DEVON ENERGY CORPORATION | \$ | 0.050 | \$51.35 | 0.10\% | 11.00\% | 7 | 2.64\% | 11.42\% |
| EOG RESOURCES INC | \$ | 0.035 | \$36.14 | 0.10\% | 14.80\% | 7 | 3.51\% | 15.24\% |
| HERSHEY FOODS CORP | \$ | 0.280 | \$61.43 | 0.46\% | 9.44\% | 9 | 2.28\% | 11.45\% |
| KERR-MCGEE CORP | \$ | 0.450 | \$65.48 | 0.69\% | 8.20\% | 5 | 1.99\% | 11.21\% |
| KIMBERLY-CLARK CORP | \$ | 0.280 | \$56.59 | 0.49\% | 11.50\% | 6 | 2.76\% | 13.73\% |
| MITCHELL ENERGY \& DEV | \$ | 0.132 | \$47.83 | 0.28\% | 15.67\% | 3 | 3.71\% | 16.97\% |
| NEW YORK TIMES CO -CL A | \$ | 0.125 | \$41.97 | 0.30\% | 11.78\% | 10 | 2.82\% | 13.10\% |
| NOBLE AFFILIATES INC | \$ | 0.040 | \$35.61 | 0.11\% | 13.33\% | 3 | 3.18\% | 13.85\% |
| PROCTER \& GAMBLE CO | \$ | 0.350 | \$64.23 | 0.54\% | 10.30\% | 11 | 2.48\% | 12.72\% |
| SBC COMMUNICATIONS INC | \$ | 0.256 | \$40.02 | 0.64\% | 13.26\% | 8 | 3.16\% | 16.18\% |
| TALISMAN ENERGY INC | \$ | 0.099 | \$38.09 | 0.26\% | 12.16\% | 5 | 2.91\% | 13.33\% |
| USX-MARATHON GROUP | \$ | 0.230 | \$29.17 | 0.79\% | 9.75\% | 11 | 2.35\% | 13.24\% |
| VINTAGE PETROLEUM INC | \$ | 0.030 | \$18.59 | 0.16\% | 14.00\% | 6 | 3.33\% | 14.74\% |
| Average |  |  |  |  |  | 7 |  | 13.71\% |

## THE DISCOUNTED CASH FLOW MODEL GENERAL FORM AND QUARTERLY MODEL

In its general form, the discounted cash flow (DCF) model is stated as follows:
(1) $P_{o}=\frac{D_{1}}{\left(1+k_{e}\right)}+\frac{D_{2}}{\left(1+k_{e}\right)^{2}}+\ldots+\frac{D_{i}}{\left(1+k_{e}\right)^{t}}+\ldots+\frac{D_{n}}{\left(1+k_{e}\right)^{n}}$
where $P_{0}=$ the current market price
where $D_{t}=$ the expected dividend at the end of period $t$
where $\mathrm{n}=$ infinity, and
where $\mathrm{k}_{\mathrm{e}}=$ the required return on common equity.
If it is anticipated that dividends will grow at the rate of $g$ each period, then Equation (1) reduces to...
(2) $P_{o}=\frac{D_{1}}{\left(k_{e}-g\right)}$
where $\mathrm{g}=$ the expected growth rate.
Solving Equation (2) for $\mathrm{k}_{\mathrm{e}}$ results in:
(3) $k_{e}=\frac{D_{1}}{P_{o}}+g$

And...
(4) $k_{e}=\frac{D_{o}(1+g)}{P_{o}}+g$
where $D_{0}=$ the most recent dividend.

It is important to note that Equations (1) through (4) are generic with regard to time period. Equation (4) should be implemented for the time period that best reflects actual dividend payments. For companies that pay dividends quarterly, a quarterly dividend DCF model is required.

To emphasize that dividends are paid quarterly, Equation (4) can be re-stated using time period subscripts:
(5) $k_{e q}=\frac{D_{o q}\left(1+g_{q}\right)}{P_{o}}+g_{q}$
where $\mathrm{k}_{\text {eq }}=$ the quarterly required return on common equity
where $\mathrm{D}_{\mathrm{oq}}=$ the most recent quarterly dividend
where $g_{q}=$ the expected quarterly growth rate

Quarterly and annual variables are related as follows:
(6) $k_{e q}=\left(1+k_{e a}\right)^{0.25}-1$
(7) $g_{q}=\left(1+g_{a}\right)^{0.25}-1$
where $\mathrm{k}_{\mathrm{ea}}=$ the annual required return on common equity
where $g_{a}=$ the expected annual growth rate

Solving for $\mathrm{k}_{\mathrm{ea}}$ results in:
(8) $k_{e a}=\left(1+k_{e q}\right)^{4}-1$

RISK PREMIUM ANALYSIS
AS OF JUNE 25 THROUGH JULY 9, 2001

| Company | Risk-free <br> Return | Beta | Market Risk <br> Premium | CAPM Required <br> Return on <br> Common Equity |
| :--- | :---: | :---: | :---: | :---: |
| SPRINT - FLORIDA, INCORPORATED | $-6.00 \%$ | 0.86 | $7.27 \%$ | $12.21 \%$ |

Sources: The Value Line Investment Survey Summary and Index and Ibbotson Associates.

INTEREST RATES IMPLIED BY PRICES ON U.S. TREASURY BOND FUTURES CONTRACTS AS OF JUNE 25 THROUGH JULY 9, 2001

Delivery Month
Interest Rate
September-01 $5.91 \%$
December-01 5.97\%
March-02 6.03\%
June-02 6.08\%

Average
6.00\%

Source: Bloomberg Financial Markets.

| Ticker | Company | Beta |
| :--- | :--- | :--- |
| SBC | SBC COMMUNICATIONS INC | 0.80 |
| KMB | KIMBERLY-CLARK CORP | 0.75 |
| KMG | KERR-MCGEE CORP | 0.75 |
| TLM | TALISMAN ENERGY INC | 0.80 |
| NYT | NEW YORK TIMES CO -CL A | 1.00 |
| MRO | USX-MARATHON GROUP | 0.75 |
| BLS | BELLSOUTH CORP | 0.80 |
| EOG | EOG RESOURCES INC | 0.80 |
| PG | PROCTER \& GAMBLE CO | 0.75 |
| MND | MITCHELL ENERGY \& DEV | 0.85 |
| NBL | NOBLE AFFILIATES INC | 0.70 |
| AA | ALCOA INC | 1.00 |
| HSY | HERSHEY FOODS CORP | 0.55 |
| DAL | DELTA AIR LINES INC | 1.10 |
| APPB | APPLEBEES INTL INC | 1.00 |
| VPI | VINTAGE PETROLEUM INC | 1.25 |
| DVN | DEVON ENERGY CORPORATION | 0.80 |
| AVY | AVERY DENNISON CORP | 0.90 |
| BGG | BRIGGS \& STRATTON | 0.95 |
| AT | ALLTEL CORP | 0.80 |

Average

Sources: The Value Line Investment Survey Summary and Index, July 13, 2001.

| $\begin{gathered} \text { Date } \\ \text { of Issue } \end{gathered}$ | Number of Shares (Millions) | Offering Price Per Share | $\begin{gathered} \text { Issuance } \\ \text { Costs } \\ \text { Per Share } \\ \hline \end{gathered}$ | Net <br> Proceeds Per Share | Issuance <br> Costs as a Percent of Net Proceeds |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2/4/99 | 24.403 | \$28.750 | \$1.203 | \$27.670 | 4.3\% |
| 6/21/85 | 5.000 | \$23.625 | \$0.732 | \$22.893 | 3.2\% |
| 9/12/75 | 2.500 | \$13.000 | \$0.593 | \$12.407 | 4.8\% |
| 10/31/74 | 2.300 | \$12.625 | \$0.807 | \$11.818 | 6.8\% |
| 12/8/71 | 1.500 | \$18.000 | \$0.789 | \$17.211 | 4.6\% |
| 10/670 | 1.500 | \$17.500 | \$1.091 | \$16.409 | 6.6\% |
| 12/2/69 | 1.000 | \$22.000 | \$1.076 | \$20.924 | 5.1\% |
| 6/6/67 | 1.200 | \$30.000 | \$1.116 | \$28.884 | 3.9\% |
|  |  | AVERAGE |  |  | 4.9\% |

Note: The data has not been adjusted for the 1989 two-for-one stock split.
The data excludes issuances through the Employee Stock Purchase Plan, the Employee Stock Ownership Plan, the Automatic Dividend Reinvestment Plan, and incentive stock option plans, as well as stock issued for acquisitions.

Source: Sprint Corporation (formerly United Telecommunications, Inc.) Prospectuses.

SPRINT - FLORIDA, INCORPORATED WEIGHTED MARKET VALUE COST OF CAPITAL market value capital structure and cost rates

AS OF JUNE 25 THROUGH JULY 9, 2001

|  | Component | Amount | Market Value Ratio | Cost Rate | Weighted Cost Rate |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Debt |  | \$727,142,871 | 15.98\% | 7.81\% | 1.25\% |
| Common Equity |  | \$3,823,544,515 | 84.02\% | 13.10\% | 11.01\% |
| Total |  | \$4,550,687,386 | 100.00\% |  | 12.26\% |


[^0]:    ${ }^{1}$ Direct testimony of Mr. Gregory Jacobson, pp. 5-6, Docket No. 990649-TP.

[^1]:    ${ }^{2}$ Direct testimony of Dr. Randall Billingsley, pp. 30-31, Docket No. 990649-TP.
    ${ }^{3}$ Massachusetts D.P.U. Phase 4 Order, Docket 96-73/74, 96-75, 96-80/81, 96-83, 96-94-Phase 4, released December 4, 1996, p. 51.

[^2]:    ${ }^{4}$ Modified Final Order, Docket No. 98-6004, Public Utilities Commission of Nevada, August 8, 2000 , p. 9 .

[^3]:    ${ }^{5}$ Direct testimony of Mr. Gregory Jacobson, p. 27, Docket No. 990649-TP.
    ${ }^{6}$ Direct testimony of Dr. Randall Billingsley, p. 30, Docket No. 990649-TP

[^4]:    ${ }^{7}$ It should be noted that although Mr. Hirshleifer utilized this market-value capital structure, he recommended use of a combination of market value and book value capital structures. Direct testimony of Mr. John Hirshleifer, p. 36, Docket No. 990649-TP.

[^5]:    ${ }^{8} 2001$ Stocks, Bonds, Bills and Inflation Classic Edition Yearbook; Chicago, Illinois: Ibbotson Associates, Inc., 2001.

