

NATIONAL EXCHANGE CARRIER ASSOCIATION
COMMON LINE DEMAND TRENDS

VOLUME 3
EXHIBIT 1
Workpaper 1 OF 1

COMPANY: AVG SCHEDULE & COST

	<u>PYCOS 2016</u>	<u>2017/2018</u> <u>Test Period</u>	<u>GROWTH</u> <u>RATE</u>
COMMON LINE POOL MEMBERS			
TOTAL CPT*	2,291,278	2,183,105	-3.2%
Monthly Residence Line CPT	1,733,622	1,649,898	-3.2%
Monthly Single Line Business CPT	106,584	103,169	-2.1%
Monthly Multi Line Business CPT	451,072	430,038	-3.1%
BRI ISDN Arrangements	448	418	-4.5%
PRI ISDN Arrangements	3,337	3,341	0.1%
DS1 Arrangements	542	529	-1.6%
SAS CHANNELS	23	23	0.0%
END USER TARIFF MEMBERS			
TARIFF MEMBER CPT*	2,261,335	2,156,317	-3.1%
Monthly Residence Line CPT	1,714,292	1,632,984	-3.2%
Monthly Single Line Business CPT	105,766	102,466	-2.1%
Monthly Multi Line Business CPT	441,277	420,867	-3.1%
BRI ISDN Arrangements	423	394	-4.6%
PRI ISDN Arrangements	3,239	3,250	0.2%
DS1 Arrangements	542	529	-1.6%
SAS CHANNELS	23	23	0.0%
NON-END USER TARIFF MEMBERS			
NON-TARIFF MEMBER CPT	29,943	26,788	-7.2%
Monthly Residence Line CPT	19,330	16,914	-8.5%
Monthly Single Line Business CPT	818	703	-9.6%
Monthly Multi Line Business CPT	9,795	9,171	-4.3%
BRI ISDN Arrangements	25	24	-2.7%
PRI ISDN Arrangements	98	91	-4.8%
DS1 Arrangements	0	0	NA
SAS CHANNELS	0	0	NA
CBOL TARIFF MEMBERS			
Consumer Broadband-only Loops	NA	118,068	NA

*Excludes 722 Unbunbled Network Element (UNE) CPT in PYCOS 2016 and 727 UNE CPT in 2017/2018 Test Period.

NATIONAL EXCHANGE CARRIER ASSOCIATION
CAF ICC DATA COLLECTION SUMMARY

VOLUME 3
EXHIBIT 2
Workpaper 1 OF 1

COMPANY: AVG SCHEDULE & COST

	<u>FY 2016*</u>	<u>2017/2018</u> <u>Test Period</u>	<u>Annualized</u> <u>Growth</u> <u>Rate</u>
TRAFFIC SENSITIVE POOL MEMBERS			
MOU Projections			
Interstate MOU	3,388,830,383	2,837,976,845	-9.6%
Intrastate MOU**	1,717,192,557	1,565,039,253	-5.2%
Recip. Comp. Originating MOU***	NA	27,351,151	NA
Recip. Comp. Terminating MOU***	NA	47,860,065	NA
Access Lines Projections***			
Residence CPT Excluding Lifeline CPT	NA	2,234,071	NA
Single-Line Business CPT	NA	149,438	NA
Multi-Line Business CPT	NA	621,321	NA

* Fiscal year 2016 is a time period from October 1, 2015 through September 30, 2016.

** For the companies which didn't provide FY 2016 data, settlement is used.

*** Demand for FY 2016 was not collected in 2017 CAF ICC data collection.

**NATIONAL EXCHANGE CARRIER ASSOCIATION
RATE DEVELOPMENT & COST ANALYSIS
SPECIAL ACCESS DEMAND TRENDS**

**VOLUME 3
EXHIBIT 3
WORKPAPER 1 OF 2**

**COST AND AVERAGE SCHEDULE
TOTAL NECA POOL - GROUP B,C,D**

LINE DESCRIPTION	2016 AVERAGE MONTHLY DEMAND	2017/2018 TEST PERIOD FORECAST	2017/2018 TEST PERIOD ANNUAL GROWTH
2W VG - CT ¹	235	175	-17.7%
2W VG - CMF ¹	6,877	5,131	-17.7%
2W VG - CMT ¹	334	249	-17.7%
2W VG - CIRCUITS ¹	181	135	-17.7%
4W VG - CT ¹	816	609	-17.7%
4W VG - CMF ¹	4,875	3,638	-17.7%
4W VG - CMT ¹	436	325	-17.7%
4W VG - CIRCUITS ¹	628	468	-17.7%

¹ INCLUDES WATS

**NATIONAL EXCHANGE CARRIER ASSOCIATION
RATE DEVELOPMENT & COST ANALYSIS
SPECIAL ACCESS DEMAND TRENDS**

**VOLUME 3
EXHIBIT 3
WORKPAPER 2 OF 2**

COST AND AVERAGE SCHEDULE
TOTAL NECA POOL - GROUP B,C,D

LINE DESCRIPTION	2016 AVERAGE MONTHLY DEMAND	2017/2018 TEST PERIOD FORECAST	2017/2018 TEST PERIOD ANNUAL GROWTH
HI CAP 1.544 - CT ¹	28,061	23,190	-11.9%
3 YEAR DISCOUNT CT	22	19	-11.9%
5 YEAR DISCOUNT CT	228	188	-11.9%
HI CAP 1.544 - CMF ¹	225,014	185,955	-11.9%
HI CAP 1.544 - CMT ¹	26,751	22,107	-11.9%
HI CAP 1.544 - CIRCUITS ¹	20,044	16,564	-11.9%
HI CAP 44.736 - CT ²	522	413	-14.5%
3 YEAR DISCOUNT CT	40	32	-14.5%
5 YEAR DISCOUNT CT	5	4	-14.5%
HI CAP 44.736 - CMF ²	10,227	8,087	-14.5%
HI CAP 44.736 - CMT ²	713	563	-14.5%
HI CAP 44.736 - CIRCUITS ²	373	295	-14.5%
SONET OC3 - CT	34	26	-17.2%
SONET OC3 - CMT	43	32	-17.9%
SONET OC3 - CMF	1,127	842	-17.6%
SONET OC3 - CIRCUITS	24	18	-17.2%
ETS Basic Port, 10 Mbps	246	222	-6.6%
ETS Channel Termination, 10 Mbps, (300+ feet)	227	205	-6.6%
ETS EVC, Interswitch, 10 Mbps	13	12	-6.6%
ETS Basic Port, 50 Mbps	265	239	-6.6%
ETS Channel Termination, 50 Mbps, (300+ feet)	184	166	-6.6%
ETS EVC, Interswitch, 50 Mbps	44	40	-6.6%
ETS Basic Port, 100 Mbps	555	501	-6.6%
ETS Channel Termination, 100 Mbps, (300+ feet)	406	366	-6.6%
ETS EVC, Interswitch, 100 Mbps	1,386	1,250	-6.6%

¹ Includes counts for DS1 3 year & 5 year discount plans.

² Includes counts for DS3 3 year & 5 year discount plans.

VOLUME 3

APPENDIX A

2017 Forecast Line Count Data Collection

(For All Common Line Pool Participants)

DIRECT QUESTIONS TO:

Roman Sysuyev

Phone: (973) 884-8441

E-mail: rsysuyev@neca.org

ACCESS CHARGE TARIFF DEMAND DATA
ITEM DESCRIPTION

Company Name	_____
Holding Company Name	_____
Study Area Code (6 digits)	_____
Contact Name	_____
Contact Telephone Number	_____

GENERAL INSTRUCTIONS AND DESCRIPTIONS OF DATA ITEMS

Main Page

***** IMPORTANT MLB FUSC RATE BANDING CONSIDERATION *****

If your company has fewer than 1,000 access lines, this data collection provides an alternative option for reporting single and multi-line counts. There are specific instructions at the bottom of this page that allow you to report your line counts on a more aggregate level.

PLEASE BE AWARE OF THE FOLLOWING: By aggregating your line count data on the website, you will automatically prevent your company from selecting the MLB FUSC Rate Banding Option in the upcoming annual filing. This result follows, since the “minimal” two categories of line data on this website will not provide enough information to enable NECA to set up an MLB FUSC band option for your company.

If you company wishes to select the MLB FUSC Rate Banding Option and has a positive Business Centrex CPT count, you should report Business Centrex CPTs where indicated and exclude that number from the total multi-line count within this data collection. If you enter 0 lines for Business Centrex CPTs, you WILL NOT have a MLB FUSC Rate Banding Option available for your company.

The purpose of this data request is to collect study area level lines and Consumer Broadband Only Loop (CBOL) counts that NECA will use to set rates and file data used by USAC to develop Connect America Fund Broadband Loop Support (CAF BLS) for the July 1, 2017 -- June 30, 2018 test period.

The request is for historical and projected lines for three successive September 30ths -- September 30, 2016, September 30, 2017, and September 30, 2018 for access line counts and projected test period monthly average broadband-only loop counts.

End User revenue and CBOL revenue projections for the test period will be forwarded to USAC, which will use the information to compute CAF BLS for the July 1, 2017 through June 30, 2018 period.

If you need assistance developing forecasted line counts for September 2017 and September 2018, you can consult the forecasts developed by NECA based on settlements data and last year's Annual Forecast Line Count Data Request inputs. NECA's forecasts can be obtained from your regional manager. Ultimately, your company is responsible for the line and loop count forecasts submitted to NECA in this Forecast Line Count Data Request.

To set rates for the 2017 Annual Access Tariff Filing, NECA requests that companies supply line and loop count information for the following:

- Residential Customer Premise Terminations (CPTs) - (Exclude Centrex, ISDN, & Lifeline Assistance CPTs)
- Lifeline CPTs
- Single Line Business CPTs - (Exclude ISDN)
- Multi-line Business Customer CPTs - (Exclude Centrex, ISDN and DS1 Channel Service Arrangements)
- Centrex residence and dormitory CPTs
- Centrex business CPTs
- Total Payphone Lines
- Payphone lines that are assessed FUSC Basic Rate Interface ISDN
- Primary Rate Interface ISDN (report arrangements, not access lines equivalent)
- DS1 Channel Line Arrangements (report arrangements, not access lines equivalent)
- Special Access Surcharge Channels
- Unbundled Network Element Loops

Companies that set their own SLC rates are asked to enter those rates into the following two fields:

- Residential and Single Line Business Rates
- Multi-line Business Rates

Companies using NECA's SLC rates are asked to indicate that NECA sets their SLC rates.

Starting this year, companies are required to enter projected average monthly Consumer Broadband-only Loop counts for the test period from July 1, 2017 to June 30, 2018.

Special Instructions for Companies Having Fewer than 5,000 Residential/Single-Line Business Lines

Companies with fewer than 5,000 access lines have an alternative option for reporting single and multi-line counts.

If your company chooses this option, please follow the following instructions:

Single-Lines

- Report the sum of Residential Single CPTs, Single Line Business CPTs, Lifeline CPTs, Residential Centrex CPTs, and BRI ISDN Arrangements.

(Note: The double counting of lines should be avoided. For example, it is assumed that Lifeline CPTs are NOT also counted in Residential Single CPTs.)

- In all cases, positive line count information must be placed in the residential CPTs Data Line #1010. However, in those cases where forecasts are not available for future time periods, it is acceptable to copy the historic period (Sept. 30, 2016) value into the two forecast period cells (for 2017 and 2018).

Multi-Lines

- Report the sum of multi-line business CPTs, business Centrex CPTs, PRI ISDN arrangements (with that item scaled by a factor of 5) and the DS1 Channel Service Arrangements (with that item also scaled by a factor of 5) into the columns of Data Line #1020.
- In those cases where forecasts are not available for future time periods, it is acceptable to copy the historic period (Sept. 30, 2016) value into the two forecast period cells (for 2017 and 2018).

Please Note: By adopting the under 5,000 lines option, you will automatically prevent your company from selecting the MLB FUSC Rate Banding Option. This result follows, since the “minimal” two categories of lines data will not provide enough information to enable NECA to set up an MLB FUSC band option for your company.

**NATIONAL EXCHANGE CARRIER ASSOCIATION
FORECAST LINE COUNT DATA COLLECTION**

CPT Counts Section

COMMON LINE END USER ELEMENTS	Actual Amounts		Forecasted Amounts	
	Data Line	Sept. 30, 2016	Sept. 30, 2017	Sept. 30, 2018
Resident Customer Premises Terminations – <u>CPTs (Exclude Centrex, ISDN & Lifeline Assistance)</u>	1010			
Lifeline Assistance Customer Premises Terminations – <u>CPTs</u>	1011			
Single-Line Business Customer Premises Terminations – <u>CPTs (Exclude ISDN and mobile telephone)</u>	1012			
Multi-Line Business Customer Premises Terminations – <u>CPTs (Exclude Centrex, total Payphone lines, ISDN and company officials)</u>	1020			
Number of <i>Centrex CPTs</i> (Residential/Dormitory)	1021			
Number of <i>Centrex CPTs</i> (Business)	1022			
Number of total Payphone Lines	1025			
Number of Payphone Lines that are assessed FUSC	1026			

NATIONAL EXCHANGE CARRIER ASSOCIATION FORECAST LINE COUNT DATA COLLECTION

BRI and PRI Arrangements Section

COMMON LINE END USER ELEMENTS	Actual Amounts		Forecasted Amounts	
	Data Line	Sept. 30, 2016	Sept. 30, 2017	Sept. 30, 2018
Description				
Number of BRI (Basic Rate Interface) – ISDN <u>Arrangements</u>	1030			
Number of PRI (Primary Rate Interface) - ISDN <u>Arrangements</u>	1040			
Number of DS1 Channel Service <u>Arrangements</u>	1045			

Special Access Channels Section

COMMON LINE END USER ELEMENTS	Actual Amounts		Forecasted Amounts	
	Data Line	Sept. 30, 2016	Sept. 30, 2017	Sept. 30, 2018
Description				
Special Access Surcharge <u>Channels</u>	1050			
Unbundled Network Elements Loop <u>UNE</u>	1055			

CBOL Counts Section

Description	Data Line	Forecasted Counts
		July 1, 2017-June 30, 2018
Forecasted Average Monthly CBOL Counts for the Test Period July 1, 2017-June 30, 2018	1100	

**NATIONAL EXCHANGE CARRIER ASSOCIATION
FORECAST LINE COUNT DATA COLLECTION**

For companies Filing their own End User Tariffs

SLC Rates Section

(Please select one)

☐ NECA sets rates

☐ My company sets rates

Description	Data Line	Current Rate	Proposed Rate for Test Period Starting July 1, 2017
Residential and Single Line Business Rates*	2010		
Multi-Line Business Rates**	2020		

Please Indicate your SLC Rates for:

(*) The current rate for Residential/ Single-Line Business EUCL is capped at \$6.50 and the proposed rate for Residential/Single-Line Business EUCL is capped at \$6.50.

(**) The rate cap for Multi-line Business is \$9.20.

Comments Section (optional)

Please use the space below for any comments that would be helpful relating to any of your data entry activities on this website for (your telephone company).

END USER COMMON LINE QUANTITIES FORECAST LINE COUNT DATA COLLECTION DEFINITIONS

<u>Data Line</u>	<u>Description</u>
<u>Definition</u>	Customer Premises Termination (CPT): CPTs are commonly referred to as “ <u>Main Station Equivalents</u> ” or “ <u>Billable Units</u> ”. A CPT is a line termination at the customer’s premises.
<u>Data Line</u>	<u>Description</u>
1010	<p><u>Residence Customer Premises Terminations (CPTs)</u></p> <p>The number of residence CPTs, as of Sept. 30th each year that are assessed the residence interstate end user common line (EUCL) charge. If your company offers multi-party service, the number of CPTs will be greater than the number of access lines. If your company does not offer multi-party service, the number of CPTs will equal the number of access lines. <u>Lifeline CPTs, Centrex and ISDN assessed EUCLs should be excluded.</u></p> <p>Here are three examples of how to count residence CPTs:</p> <p>Example 1: One single-party residence access line = one residence CPT.</p> <p>Example 2: One multi-party residence access line terminating at two customer premises locations (“bridged in field”) = two residence CPTs.</p> <p>Example 3: Two single-party residence access lines terminating at one customer premises = two residence CPTs.</p>
1011	<p><u>Lifeline Assistance Customer Premises Terminations (CPTs)</u></p> <p>The number of lifeline assistance service lines as of Sept. 30th of each year.</p>
1012	<p><u>Single-Line Business Customer Premises Terminations (CPTs)</u></p> <p>The number of single-line business CPTs, as of September 30th each year that are assessed the single line business interstate EUCL charge. Refer to the residence CPT examples above. <u>Exclude ISDN services, and mobile telephone.</u></p>

END USER COMMON LINE QUANTITIES FORECAST LINE COUNT DATA COLLECTION

<u>Data Line</u>	<u>Description</u>
1020	<p><u>Multi-Line Business Customer Premises Terminations (CPTs)</u></p> <p>The number of Multi-Line Business CPTs as of Sept. 30th each year that are assessed the multi-line business interstate EUCL charge. A CPT is a line termination at the customer's premises. If your company offers multi-party, multi-line business service, the number of CPTs will be greater than the number of multi-line business access lines. If your company does not offer multi-party multi-line business service, the number of CPTs will equal the number of multi-line business access lines. . Exclude <u>ISDN, Centrex, total Payphone lines and company official lines.</u></p> <p>Here are four examples of how to count multi-line business CPTs.</p> <p>Example 1: Two single-party multi-line business access lines = two multi-line business CPTs.</p> <p>Example 2: Ten PBX trunks = ten multi-line business CPTs.</p> <p>Example 3: Five single-party multi-line business access lines terminating at one customer premises location = five multi-line business CPTs.</p> <p>Example 4: Two key system lines = two multi-line business CPTs.</p>
1021	<p><u>Residential (incl. Dormitory) Centrex Customer Premises Terminations (CPTs)</u></p> <p>The number of Residential/Dormitory Centrex CPTs as of Sept 30th each year that are assessed the single line interstate EUCL charge. Centrex service is a local exchange service, provided by a telephone company system located in a telephone company central office, which controls the switching of:</p> <ul style="list-style-type: none"> ▪ Calls from the exchange network to the Centrex lines ▪ Calls from the Centrex lines to the exchange network ▪ Intercommunicating calls between Centrex lines.

END USER COMMON LINE QUANTITIES FORECAST LINE COUNT DATA COLLECTION

<u>Data Line</u>	<u>Description</u>
1022	<p><u>Business Centrex Customer Premises Terminations (CPTs)</u></p> <p>The number Business Centrex CPTs as of Sept 30th each year that are assessed the multi-line business interstate EUCL charge. Centrex service is a local exchange service, provided by a telephone company system located in a telephone company central office, which controls the switching of:</p> <ul style="list-style-type: none"> ▪ Calls from the exchange network to the Centrex lines ▪ Calls from the Centrex lines to the exchange network ▪ Intercommunicating calls between Centrex lines.
1025	<p><u>Total Payphone Lines</u></p> <p>The number of Payphone lines as of September 30th each year.</p> <p>Total Number of Payphone Service Provider (PSP) lines. This number includes all PSP line counts regardless of whether the lines are assessed Federal Universal Charge (FUSC) or not. PSP customers who do not contribute directly to USF are subject to the standard FUSC surcharge on MLB EUCL charges rather than the higher surcharge under optional MLB EUCL FUSC rate banding, therefore the number of PSP lines has to be separated out from the MLB count (line 1020).</p>
1026	<p><u>Payphone Lines that are assessed FUSC</u></p> <p>The number of Payphone lines as of Sept. 30th each year that are assessed Federal Universal Service Charge (FUSC) because the PSP customer does not contribute directly to USF (i.e., the PSP is de minimis under the FCC's contribution rules). This line count is part of the total Payphone line count.</p> <p>Starting year 2010, this is a separate field. Because PSP customers who contribute directly to USF are not assessed FUSC, the lines that are assessed FUSC have to be reported separately from the total Payphone lines count (line 1025).</p>

**END USER COMMON LINE QUANTITIES
FORECAST LINE COUNT DATA COLLECTION**

<u>Data Line</u>	<u>Description</u>
1030	<p><u>Basic Rate Interface (BRI) ISDN Arrangements</u></p> <p>The number of BRI ISDN arrangements as of Sept 30th each year. Each BRI ISDN arrangement is capable of deriving up to 2 voice channels and one data channel. <u>You need to enter the “number of arrangements” on this line, not the number of EUCL charges that will be billed.</u></p> <p>NECA Tariff no. 5 requires <u>one</u> Residence or <u>one</u> Single-Line Business EUCL charge to be assessed for each BRI ISDN arrangement/service.</p> <p>Example: If there are three Residence or Single-Line Business BRI ISDN arrangements/services, then enter 3 in line 1030.</p>
1040	<p><u>Primary Rate Interface (PRI) ISDN Arrangements</u></p> <p>The number of PRI ISDN arrangements as of Sept. 30th each year. Although capable of deriving up to 23 voice channels and one data channel from each PRI ISDN, each PRI ISDN arrangement is counted only once for purposes of this data collection. <u>You need to enter the “number of arrangements” on this line, not the number of EUCL charges that will be billed.</u></p> <p>NECA Tariff No. 5 requires <u>five</u> Multi-Line business EUCL charges be assessed for each PRI-ISDN arrangement.</p> <p>Example: If there are 2 PRI ISDN arrangements/services, enter 2 in line 1040.</p>
1045	<p><u>DS1 Channel Service Arrangements</u></p> <p>The number of DS1 Channel Service arrangements as of Sept. 30th each year. The DS1 channel service is an arrangement under which an end user is provided a DS1 (1.544 Mbps) local exchange service by the Telephone Company under the general and/or local exchange tariff(s), and where the end user provides terminating channelization equipment. <u>You need to enter the “number of arrangements” on this line, not the number of EUCL charges that will be billed.</u></p> <p>NECA Tariff No. 5 requires <u>five</u> Multi-Line business EUCL charges be assessed for each DS1 Channel Service arrangement.</p> <p>Example: If there are 2 DS1 Channel Service arrangements/services, enter 2 in line 1045.</p>

END USER COMMON LINE QUANTITIES FORECAST LINE COUNT DATA COLLECTION

Data Line Description

1050 Number of Special Access Surcharge Channels

The average number of working interstate private line facilities as of Sept. 30th each year connected to a PBX, Centrex CO, Centrex CO-Type or other device capable of interconnecting the private line facility to the local exchange network. The surcharge applies to the closed-end termination of a circuit.

The surcharge applies on a voice grade equivalent basis as shown in the following example:

<u>Special Access Facility</u>	<u>Voice Grade Equivalent</u>		<u>Surcharge</u>		<u>Monthly Charge</u>
Voice Grade	1	x	\$25	=	\$ 25
DS1	24	x	\$25	=	\$600

1055 Unbundled Network Elements Loop

The number of working 1.3 Loops exclusively provided as Unbundled Network Elements (UNE) to carriers for the provision of local exchange service as of Sept. 30th of each year. Please note that line-share UNEs (when, for example, your company uses the lines to provide voice service and bills them as UNE to CLEC providing DSL) SHOULD NOT be included in this field to avoid double counting.

DO NOT include the loops listed in this item in any other categories.

1100 Consumer Broadband Only Loop (CBOL)

CBOL revenue projections for the Test Period will be forwarded to USAC, which will use the information to compute CAF BLS for the July 1, 2017 through June 30, 2018 support period.

VOLUME 3

APPENDIX B

2017 CAF ICC DATA COLLECTION

Below are the changes in the Data Request for the Test Period 2017-2018 relative to the Data Request for the Test Period 2016-2017

This year, based on FCC rules, the true-up for TP2015-2016 will be calculated and the Eligible Recovery for TP 2017-2018 will be adjusted to reflect that calculation. In addition, based on FCC clarification, any double recovery adjustments must be quantified and removed from the filed Eligible Recovery amounts for Test Period 2017-2018. Identification of the reason for the double recovery and the dollar impacts for Interstate Switched Access, Interstate Special Access, Interstate Common Line, and other (for all other amounts not recovered through interstate access) are also required.

Based on these changes, the following is a list of data collection line numbers and descriptions of the data needed on each:

Interstate Screen:

Line 2 – The interstate switched access revenue requirement for the 2017-2018 test period is the base period 2011-2012 revenue requirement *95%⁶, plus pool administration expenses. (Prepopulated, no input needed).

Line 3 – The TP 2016-17 interstate terminating switched access end office rate will be prepopulated. The current terminating end office rate includes the information surcharge and the rate is \$0.005. (Prepopulated, no input needed).

Line 4 – The proposed interstate terminating switched access end office rate would be \$0.0007 per minute plus two-thirds of the difference between \$0.005 and \$0.0007. (Calculation line, no input needed).

Line 14A – Any adjustments to the 2011-2012 interstate baseline switched access revenue requirement due to double recovery must be reported as a negative value on this line. Further information on events causing double recovery and calculation of double recovery may be found in the paper “Cost Changes Requiring Action to Avoid Double Recovery”. Line 14A adjustments to the 2011-2012 interstate switched access revenue requirement due to double recovery are amounts companies have not reported in last year's Data Collection and are based on the 2015 Cost Study.

Line 14B (four lines) - Detailed, pre-coded descriptions of double recovery amounts entered on Line 14A must be provided on line 14B. The FCC may require documentation to support explanations listed on this line.

Line 14 C (three lines) – This line is for the identification of offsetting double recovery adjustment amounts by category resulting from adjustments to the baseline switched access revenue requirement input on Line 14A. Companies must indicate category(ies) as interstate special access, interstate common line or “Other”.

Line 14 – This line will be the TP 2017-2018 interstate Eligible Recovery adjusted to remove double recovery. (Calculation line, no input needed).

Line 14D – This line identifies the true-up adjustment needed for the TP2014-2015 and TP 2015-2016 due to the double recovery amount. (Calculation line, no input needed).

Line 14E – This line is the adjusted interstate switched access Eligible Recovery which will be used in conjunction with TP 2015-2016 revenue and exogenous cost true ups, to calculate the filed CAF ICC Support for TP 2017-2018. (Calculation line, no input needed).

Intrastate Screen:

Line 1 - The FY2011 (October 2010 through September 2011) Intrastate Terminating Switched Access Received Revenue including Adjustments due to Halo Uncollectibles (13A) and Correction of Errors (Line13B and 13D).

Line 2 – The intrastate switched access revenue requirement for the 2017-2018 test period is the base period 2011-2012 revenue requirement *95%⁶ (Prepopulated, no input needed).

Line 13 A – Any adjustments to the FY2011 intrastate switched access revenue requirement due to Halo Uncollectibles should be reported on this line. NECA will store data for amounts reported that require an FCC waiver, and apply only those amounts for which waivers are granted.

Line 13 B – This line is for the downward correction of reporting errors for FY2011 received revenue. No waiver is needed for this adjustment if the amount reported is negative and reduces the frozen baseline. Please provide support documentation.

Line 13 C – Report received revenue adjustments to FY2011 related to double recovery on this line. A waiver is not necessary for this reporting because the correction decreases the frozen baseline for purposes of adjusting Eligible Recovery and enables the company to avoid double recovery.

Line 13 D – This line is for the reporting of additional FY2011 received revenues due to correction of errors. No waiver is needed for this adjustment. Please provide support documentation. The revenue must have been received by March 31, 2012 per FCC rules.

Line 13 – This line is the calculated TP 2017-2018 Intrastate terminating switched access Eligible Recovery adjusted for changes to the FY2011 received revenue due to double recovery. (Calculation line, no input needed).

Line 13 E – The True-up adjustment for intrastate terminating switched access related to TP 2014-15 and TP 2015-16 double recovery. (Calculation line, no input needed).

Line 13F – This line reflects the adjusted TP 2017-2018 intrastate eligible recovery that will be used, in conjunction with TP 2015-2016 revenue and exogenous cost true ups, to calculate the filed CAF ICC Support for TP 2017-2018 . (Calculation line, no input needed).

Interstate Data Needed at the Study Area Level to Calculate Expected Revenue and Eligible Recovery

1	TY 2011-2012 Frozen Interstate Switched Access Revenue Requirement excluding Pool Administration Expenses	Prepopulated
2	Projected TY 2017-2018 Interstate Switched Access Revenue Requirement + Pool Administration Expenses	Prepopulated
3	Current TY 2016-2017 Interstate Terminating Switched Access End Office Rate = \$0.005	Prepopulated
4	Proposed July 1, 2017 Interstate Terminating Switched Access End Office Rate = $\$0.0007 + 2/3 * (0.005 - 0.0007)$	Calculated
5	TY 2016-2017 Total Interstate Switched Access Composite Rate incl Rate Impact due to Changes in Pool Participation	Prepopulated
6	Projected TY 2017-2018 Total Interstate Local Switching Minutes	Prepopulated
7	Projected TY 2017-2018 Total Interstate Switched Access Revenue at the Current Rate	Line 5*Line 6
8	Projected TY 2017-2018 Interstate Terminating Switched Access End Office (Local Switching) Minutes	Input
9	Projected TY 2017-2018 Interstate Terminating Switched Access End Office Revenue at Current Rate	Line 3*Line 8
10	Projected TY 2017-2018 Interstate Terminating Switched Access End Office Revenue at Proposed Rate	Line 4*Line 8
11	Adjustments to the Total Projected TY 2017-2018 Interstate Switched Access Revenue	Line 9-Line 10
12	Projected TY 2017-2018 Total Interstate Switched Access Revenue at the Proposed Rate	Line 7-Line 11
13	Projected TY 2017-2018 Allocated Interstate Switched Access Revenue	Calculated
14A	Adjustments to the 2011-2012 Interstate Switched Access Revenue Requirement to Avoid Double Recovery	Input
14B	(1) Changes in Accounting or Categorization of Existing Investment	Input
14B	(2) Corrections of Errors	Input
14B	(3) Changes to Study Area Boundaries as a Result of Additions or Removals of Exchanges	Input
14B	(4) Other	Input
14C	Adjustment in 2011-2012 Interstate Special Access Revenue Requirement Related to Double Recovery	Input
14C	Adjustment in 2011-2012 Interstate Common Line Revenue Requirement Related to Double Recovery	Input
14C	Adjustment in 2011-2012 Other Related to Double Recovery	Input
14	Projected TY 2017-2018 Interstate Eligible Recovery	$\text{Line 2} - \text{Line 13} + (\text{Line 14A}) * (0.95)^6$
14D	True-Up Adjustments for Interstate Switched Access in 2014-2015 and 2015-2016 for Double Recovery	$(14A * 0.95^3) / 2 + 14A * 0.95^4$
14E	Adjusted TY 2017-2018 Interstate Eligible Recovery	Line 14 + Line 14D
15	Proposed TY 2017-2018 Total Interstate Switched Access Composite Rate	Line 12/Line 6
16	FY 2016 (October 1, 2015 - September 30, 2016) Total Interstate Local Switching Minutes	Prepopulated
17	TY 2017-2018 Growth Rate relative to FY 2016	Calculation $[(\text{Line 6} / \text{Line 16})^{12/21} - 1] * 100$

Intrastate Data Needed at the Study Area Level to Calculate Expected Revenue and Eligible Recovery**(A) Calculate the Intrastate Terminating Revenue Requirement for TY 2017-2018**

1	FY2011 (October 2010 through September 2011) Received Revenue including Correction of Errors and Halo	Prepopulated
2	95% of Total TY2016-2017 Revenue Requirement (95% ⁶ * Lines 1)	Calculated

(B) Calculate the TY 2016-2017 Transitional Intrastate Access Service Revenue

Use either (a) or (b):

(a) The composite rate approach: Company should leave columns K through N of intrastate TRP blank and enter the Projected terminating intrastate local switching minutes below in Line 5, and the FY2016 terminating intrastate local switching minutes below in Line 7.

3	Current TY2016-2017 Intrastate Terminating Composite Rate	Prepopulated
4	Proposed TY2017-2018 Intrastate Terminating Composite Rate	Calculated
5	Projected TY2017-2018 Intrastate Terminating Local Switching Minutes	Input
6	Projected Total TY2017-2018 Intrastate Terminating Switched Access Service Revenue	Line 4*Line 5
7	FY 2016 (October 1, 2015 through September 30, 2016) Intrastate terminating Local Switching Minutes	Input
8	TY2017-2018 Terminating Intrastate Local Switching Minutes Growth Rate	Calculated $[(\text{Line 5}/\text{Line 7})^{12/21}-1]*100$

(b) The rate element approach: Enter the FY 2016 demand at the rate element level in Column K and Projected demand at the rate element level in Column L of the TRP. Growth rates in Column M will be calculated.

9	Projected Total TY2017-2018 Intrastate Terminating Switched Access Service Revenue	Sum of Col N
---	------------------------------------------------------------------------------------	--------------

(C) Calculate the Total TY 2017-2018 Projected Transitional Intrastate Access Service Revenue

10	TY 2017-2018 Net Settlement from the State Pool	Input
11	TY 2017-2018 State Terminating Access Support Rebalancing Fund Revenue	Input
12	Total TY2017-2018 Projected Intrastate Terminating Switched Access Service Revenue	sum (Lines 6(or 9), 10,11)

(E) Calculate the TY 2017-2018 Intrastate Eligible Recovery

13A	Adjustments to FY2011 Received Revenue due to Halo Uncollectibles	Input
13B	Correction of Errors Resulting in Downward Adjustments in FY2011 Received Revenue	Input
13C	Adjustments to FY2011 Received Revenue to Avoid Double Recovery	Input
13D	Correction of Errors Resulting in Upward Adjustments in FY2011 Received Revenue	Input
13	Total TY2017-2018 Intrastate Eligible Recovery	Line 2-Line 12+(13C)*(0.95) ⁶
13E	True-Up Adjustment for Intrastate Terminating Switched Access in 2014-2015 and 2015-2016 for Double Recovery	$((13C*0.95^3)/2)+13C*0.95^4$
13F	Adjusted TY2017-2018 Intrastate Eligible Recovery	Line13+Line13E

Intrastate (TRP) Data Needed at the Rate Element Level for Rate Verification and Forecasted Revenue Calculation

D	E	F	G	H	I	J	K	L	M	N
Columns Used for Rate Element Approach										
Intrastate and Interstate Switched Access Rate Elements for Transitional Intrastate Access Service Categories	Unit of Demand (e.g., MOU or miles)	7/1/2017 Interstate Rate	TY 2016-2017 Current Intrastate Rate	7/1/2017 Proposed Intrastate Rate	FY 2011 Intrastate Units: Terminating for Non-Dedicated and Total for Dedicated Elements	Intrastate Price-Out with 7/1/2017 Proposed Intrastate Rate and FY2011 Demand	FY 2016 Intrastate Units: Terminating for Non-Dedicated and Total for Dedicated Elements	TY 2017-2018 Forecasted Intrastate Units	Intrastate Units Growth Rates %: $[(L/K)^{(12/21)} - 1] * 100$	TY 2017-2018 Forecasted Intrastate Revenue
Input	Input	Prepopulated	Prepopulated	Input	Prepopulated	H*I	Input	Input	Calculated	H*L
** Terminating End Office Access Service**										
Terminating End Office, Premium, per access minute	Mou									
Terminating End Office, Non-Premium, per access minute	Mou									
Terminating Tandem Switched Transport Service										
Terminating Tandem Switched Transport Facility	Minute per Mile									
Terminating Tandem Switched Termination	Minute per Termination									
Terminating Tandem Switching	Minute per Tandem									
** Originating and Terminating Dedicated Transport Access Service**										
Entrance Facility, Per Termination	Circuit									
- Voice Grade Two Wire	Circuit									
- Voice Grade Four Wire	Circuit									
- High Capacity DS1	Circuit									
- High Capacity DS3	Circuit									
- Synchronous Optical Channel OC3	Circuit									
- Synchronous Optical Channel OC12	Circuit									
- ESALT 2 Mbps	Circuit									
- ESALT 10 Mbps	Circuit									
- ESALT 50 Mbps	Circuit									
Direct Trunked Transport Facility, Per Mile	Circuit Miles									
- Voice Grade	Circuit Miles									
- High Capacity DS1	Circuit Miles									
- High Capacity DS3	Circuit Miles									
- Synchronous Optical Channel OC3	Circuit Miles									
- Synchronous Optical Channel OC12	Circuit Miles									
- ESALT 2 Mbps DTF-E1	Circuit Miles									
- ESALT 2 Mbps DTF-E2	Circuit Miles									
- ESALT 2 Mbps DTF-E3	Circuit Miles									
- ESALT 2 Mbps DTF-E4	Circuit Miles									
- ESALT 10 Mbps DTF-E1	Circuit Miles									
- ESALT 10 Mbps DTF-E2	Circuit Miles									
- ESALT 10 Mbps DTF-E3	Circuit Miles									
- ESALT 10 Mbps DTF-E4	Circuit Miles									
- ESALT 50 Mbps DTF-E1	Circuit Miles									
- ESALT 50 Mbps DTF-E2	Circuit Miles									
- ESALT 50 Mbps DTF-E3	Circuit Miles									
- ESALT 50 Mbps DTF-E4	Circuit Miles									
Direct Trunked Transport Termination, Per Termination	Circuit terms									
- Voice Grade	Circuit terms									
- High Capacity DS1	Circuit terms									
- High Capacity DS3	Circuit terms									
- Synchronous Optical Channel OC3	Circuit terms									
- Synchronous Optical Channel OC12	Circuit terms									
- ESALT 2 Mbps	Circuit terms									
- ESALT 10 Mbps	Circuit terms									

- ESALT 50 Mbps	Circuit terms										
Multiplexing, Per Arrangement	Circuits										
- DS3 to DS1	Circuits										
- DS1 to Voice	Circuits										
Customer Node, Per Node	Node										
- OC3 155.52 Mbps	Node										
- OC12 622.08 Mbps	Node										
Customer Premises Port, Per Port	Port										
- OC3 155.52 Mbps	Port										
- STS-1 51.84 Mbps	Port										
- DS3 44.736 Mbps	Port										
- DS1 1.544 Mbps	Port										
Add/Drop Multiplexing Central Office Port, Per Port	Port										
- OC3 155.52 Mbps	Port										
- DS3 44.736 Mbps	Port										
- DS1 1.544 Mbps	Port										
Network Blocking, Per Blocked Call, Applied to FG D only	Call										
Common Channel Signaling Network Connection											
Signaling Mileage Facility, Per Mile	Minute per Mile										
Signaling Mileage Termination, Per Termination	Termination										
Signaling Entrance Facility, Per Facility	Termination										
STP Port, Per Port	Port										
ESALT Real Time CoS/QoS, Per ESALT DTF-E1 Facility	Facility										
- ESALT 2 Mbps	Facility										
- ESALT 10 Mbps	Facility										
- ESALT 50 Mbps	Facility										
ESALT Entrance Facility Protection, Per ESALT Entrance Facility	Circuit										
- ESALT 2 Mbps	Circuit										
- ESALT 10 Mbps	Circuit										
- ESALT 50 Mbps	Circuit										
Nonrecurring Charges											
Local Transport - Installation, per Entrance Facility											
- Voice Grade Two Wire	Facility										
- Voice Grade Four Wire	Facility										
- High Capacity DS1	Facility										
- High Capacity DS3	Facility										
- Synchronous Optical Channel OC3	Facility										
- Synchronous Optical Channel OC12	Facility										
- ESALT 2 Mbps	Facility										
- ESALT 10 Mbps	Facility										
- ESALT 50 Mbps	Facility										
Interim NXX Translation Per Order, per Lata or Market Area	Order										
FGC and FGD Conversion of Multifrequency Address Signaling to SS7 Signaling or SS7 Signaling to Multifrequency Address Signaling, per 24 trunks converted or fraction thereof on a per order basis	Order										
Trunk Activation, per 24 trunks activated or fraction thereof on a per order basis	Order										
ESALT Direct Trunked Termination, per ESALT Direct Trunked Termination installed	Order										
Flexible Automatic Number Identification (Flex ANI), per End Office, per	End Office	NONE									
ESALT Entrance Facility Protection, per ESALT Entrance Facility	Facility										

Reciprocal Compensation Data Needed to Calculate Forecasted Revenue and Eligible Recovery

CMRS Traffic

1	2	3	4	5	6	7	8	9
FY2011 (October 2010 through September 2011) Net CMRS Reciprocal Compensation Received Revenue including Correction of Errors (Line 19A and 19B)	TY 2017-2018 Terminating CMRS Reciprocal Compensation Minutes	TY 2017-2018 Terminating CMRS Reciprocal Compensation Composite Rate	TY 2017-2018 Originating CMRS Reciprocal Compensation Minutes	TY 2017-2018 Originating CMRS Reciprocal Compensation Composite Rate	TY 2017-2018 Terminating CMRS Reciprocal Compensation Revenue	TY 2017-2018 Originating CMRS Reciprocal Compensation Expense	TY 2017-2018 Net CMRS Forecasted Reciprocal Compensation Revenue	TY 2017-2018 Net CMRS Reciprocal Compensation Revenue Requirement
Prepopulated	Input	Input	Input	Input	Line 2 * Line 3	Line 4 * Line 5	Line 6- Line 7	Line 1*0.95 ⁶

Non-CMRS Traffic

10	11	12	13	14	15	16	17	18
FY2011 (October 2010 through September 2011) Net Non-CMRS Reciprocal Compensation Received Revenue including Correction of Errors (Line 20A and 20B)	TY 2017-2018 Terminating Non-CMRS Reciprocal Compensation Minutes	TY 2017-2018 Terminating Non-CMRS Reciprocal Compensation Composite Rate	TY 2017-2018 Originating Non-CMRS Reciprocal Compensation Minutes	TY 2017-2018 Originating Non-CMRS Reciprocal Compensation Composite Rate	TY 2017-2018 Terminating Non-CMRS Reciprocal Compensation Revenue	TY 2017-2018 Originating Non-CMRS Reciprocal Compensation Expense	TY 2017-2018 Net Non-CMRS Forecasted Reciprocal Compensation Revenue	TY 2017-2018 Net Non-CMRS Reciprocal Compensation Revenue Requirement
Prepopulated	Input	Prepopulated	Input	Prepopulated	Line 11 * Line 12	Line 13 * Line 14	Line 15 - Line 16	Line 10*0.95 ⁶

Net Reciprocal Compensation Eligible Recovery

19	19A	19B		20	20A	20B		21
CMRS Eligible Recovery	Downward Adjustments to FY2011 Net CMRS Reciprocal Compensation Received Revenue	Upward Adjustments to FY2011 Net CMRS Reciprocal Compensation Received Revenue		Non-CMRS Eligible Recovery	Downward Adjustments to FY2011 Net Non-CMRS Reciprocal Compensation Received Revenue	Upward Adjustments to FY2011 Net Non-CMRS Reciprocal Compensation Received Revenue		Total Adjusted Recip Comp Eligible Recovery
Line 9 - Line 8	Input	Input		Line 18-Line 17	Input	Input		Line 19+Line 20

CAF ICC Data Collection Instructions

Interstate Data Collection

Line	Data Elements	Instructions
1	TY 2011-2012 Frozen Interstate Switched Access Revenue Requirement excluding Pool Administration Expenses	NECA will populate interstate switched access revenue requirement for base period 2011-2012 excluding pool administration expenses.
2	TY 2017-2018 Interstate Switched Access Revenue Requirement + Pool Administration Expenses	NECA will populate interstate switched access revenue requirement for TS pool members for test period July 2017-June 2018 based on 95% ⁶ * the frozen interstate switched access revenue requirement for July 2011-June 2012 plus pool administration expenses.
3	TY 2016-2017 Interstate Terminating Switched Access End Office Rate	NECA will prepopulate the current terminating end office rate. The current terminating end office rate includes the information surcharge and the rate is \$0.005.
4	Proposed July 1, 2017 Interstate Terminating Switched Access End Office Rate	The proposed interstate Terminating End Office Access Rate for test period 2017-2018 is \$0.0007 per minute plus two-thirds of the difference between \$0.005 and \$0.0007, per the FCC Order §51.909.
5	TY 2016-2017 Current Total Interstate Switched Access Composite Rate	NECA will prepopulate the total interstate switched access composite rate which is the total of 5 months (August 2016-December 2016) revenue divided by total local switching minutes from NECA settlement system. The current total composite rate includes rate impact due to changes in TS pool effective 7/1/2017.
6	TY 2017-2018 Total Forecasted Interstate Local Switching Minutes	NECA will populate the forecasted interstate local switching minutes for test period July 2017-June 2018 for TS pool members. Please review your interstate MOU forecast, taking into account recent market conditions. For this filing, there is no FCC imposed restriction that limits the demand loss to 15%. However, companies should be prepared to support and explain large forecasted demand losses in the study. Companies can override the forecast with their own forecasted minutes.
7	Projected TY 2017-2018 Total Interstate Switched Access Revenue at the Current Rate	NECA will calculate the total projected interstate switched access revenue at the current rate. Line 5* Line 6
8	Projected TY 2017-2018 Interstate Terminating Switched Access End Office Minutes	Please provide the interstate terminating switched access end office (local switching) minute forecasts for test period 2017-2018.
9	Projected TY 2017-2018 Interstate Terminating Switched Access End Office Revenue at Current Rate	NECA will calculate the projected interstate terminating switched access end office revenue at the current rate. Line 3* Line 8
10	Projected TY 2017-2018 Interstate Terminating Switched Access End Office Revenue at Proposed Rate	NECA will calculate the projected interstate terminating switched access end office revenue at the proposed rate. Line 4* Line 8

11	Adjustments to the Total Projected Interstate Switched Access Revenue	The difference in interstate terminating switched access end office revenue between current and proposed rates. Line 9-Line 10.
12	Projected TY 2017-2018 Total Interstate Switched Access Revenue at the Proposed Rate	Projected total interstate switched access revenue for test period 2017-2018, taking into account the new terminating end office rate. Line 7-Line 11.
13	TY 2017-2018 Forecasted Allocated Interstate Switched Access Revenue	NECA will allocate the interstate switched access revenue in Line 12 based on each company's share of the TY2011-2012 frozen revenue requirement, per FCC's August 31, 2012 Order.
14A	Adjustments to the 2011-2012 Interstate Switched Access Revenue Requirement	Please enter the adjustments to the 2011-2012 interstate switched access revenue requirement to avoid double recovery as a result of re-categorizing certain equipment or other reasons as described in the paper on "Cost Changes Requiring Action to Avoid Double Recovery". These are reductions and should be entered as negative numbers. Line 14A adjustments to the 2011-2012 interstate switched access revenue requirement due to double recovery are amounts companies have not reported in last year's Data Collection and are based on the 2015 Cost Study.
14B	Adjustments to the 2011-2012 Interstate Switched Access Revenue Requirement	Companies must identify the reasons for double recovery by selecting the check box. Please provide the explanations in the comment box if the reason is "other". Please be prepared to provide supporting documentation and detailed calculations in case the FCC requires it.
14C	Adjustments to the 2011-2012 Interstate Switched Access Revenue Requirement	Please enter the changes in interstate special access, interstate common line, or "Other" calculated per the Double Recovery paper. Companies are not allowed to change the frozen revenue requirement if waiver petitions are still pending.
14	Projected TY 2017-2018 Interstate Eligible Recovery	$\text{Line 2} - \text{Line 13} + (\text{Line 14A}) * (0.95)^6$
14D	True-Up Adjustment for Interstate Switched Access in 2014-2015 and 2015-2016 for Double Recovery	Prepopulated the amount of $((14A * 0.95^3) / 2 + 14A * 0.95^4)$ for the DR adjustment based on 2015 Cost Study. There is an additional adjustment for TP 2015-16 for companies who have entered in the 2016 Annual filing, which is $14A \text{ in } 2016 \text{ filing} * 0.95^4$.
14E	Adjusted TY 2017-2018 Interstate Eligible Recovery	$\text{Line 14} + \text{Line 14D}$
15	Proposed TY 2017-2018 Total Interstate Switched Access Composite Rate	$\text{Line 12} / \text{Line 6}$ (Projected total interstate switched access revenue divided by projected total local switching minutes). This rate will be compared with the effective non-CMRS reciprocal compensation rate.
16	FY 2016 (October 1, 2015 - September 30, 2016) Total Interstate Local Switching Minutes	NECA will prepopulate the FY 2016 interstate local switching minutes based on the data in the Settlement System.
17	TY 2017-2018 Growth Rate relative to FY 2016	The growth rate is calculated using the formula: $[(\text{Line 6} / \text{Line 16})^{(12/21)} - 1] * 100$

Data Collection

Intrastate Tariff Review Plan (TRP)

Please note the following:

(A)	A Rate-of-Return Carrier shall establish separate originating and terminating interstate and intrastate rate elements for all components within interstate End Office Access Service. For fixed charges, the Rate-of-Return Carrier shall divide the amount based on relative originating and terminating end office switching minutes. If sufficient originating and terminating end office switching minute data is not available, the carrier shall divide such charges equally between originating and terminating elements. A Rate-of-Return Carrier that has intrastate rates lower than its functionally equivalent interstate rates is not allowed to make any intrastate tariff filing or intrastate tariff revisions raising such rates. (FCC 91.509 (d)(4))
(B)	If you choose to use the composite rate approach of forecasting demand (Option A), please leave Columns K and L blank, enter the forecasted Terminating local switching minutes on the intrastate screen of the data request (Line 5). If you choose to use the approach of forecasting demand at the rate element level (Option B), please complete columns K and L. The forecasted demand for TY2017-2018 in Column L will be used to derive the TY2017-2018 intrastate terminating switched access forecasted revenue (Column N).

Line	Data Elements	Instructions
1	FY2011 (October 2010 through September 2011) Total Received Revenue includes Intrastate Terminating Switched Access Revenue, Net Settlement from the State Pool and State Terminating Access Support Rebalancing Fund. FY2011 Total Received Revenue also includes correction of errors that companies enter in Line 13A, 13B and 13D	NECA will prepopulate the fiscal year (October 1, 2010 through September 30, 2011) total actual received revenue which is used as revenue requirement for the base period. For companies in a state pool, Line 1 includes the amount of "contribution to" or "receipts from" the state pool associated with terminating switched access traffic for the fiscal year 2011. Line 1 also includes intrastate terminating access revenue companies receive from a state fund that is designed to offset rates and revenues associated with intrastate access billed to interexchange carriers for fiscal year 2011. In addition Line 1 is adjusted for correction of errors in FY2011 received revenue that companies enter in Line 13A, 13B and 13D.
2	TY2017-2018 Intrastate Terminating Revenue Requirement	The TY2017-2018 intrastate terminating revenue requirement is $95\%^6$ * the total received revenue for the base period of 2011-2012 (Line 1).
3	Current TY2016-2017 Intrastate Terminating Composite Rate	NECA will pre-populate the current intrastate terminating composite rate based on the 2016-2017 data collection. The current composite rate is the sum of July 2016 intrastate terminating rates multiply by the FY2011 demand at the rate element level and divided by the FY2011 local switching minutes.

4	Proposed TY2017-2018 Intrastate Terminating Composite Rate	The proposed intrastate terminating composite rate for the test period 2017-2018 is the sum of the July 2017 intrastate terminating rates multiply by the FY2011 demand at the rate element level, divided by the FY2011 local switching minutes (sum of column J on the intrastate TRP divided by the terminating end office minutes in column I). The composite rate should include the rate change in End Office rate following the FCC Order; the end office rate for test period 2017-2018 is \$0.0007 per minute plus two-thirds of the difference between \$0.005 and \$0.0007.
5	Projected TY 2017-2018 Intrastate Terminating Local Switching Minutes	If you use the composite rate approach to project the expected revenue, enter projected intrastate terminating local switching minutes for the test period July 2017-June 2018. Please adjust the minutes downward to account for uncollected minutes. You can leave this line blank, if you chose to enter forecasted demand at the rate element level on the TRP (column L). For this filing, there is no FCC imposed restriction that limits the demand loss to 15%. However, companies should be prepared to support and explain large forecasted demand losses in the study.
6	Projected TY 2017-2018 Intrastate Access Service Revenue (Using the composite rate approach)	Line 4 * Line 5 if you use the composite rate approach.
7	FY 2016 Terminating Intrastate Local Switching Minutes	Please enter the terminating intrastate local switching minutes from October 1, 2015 through September 30, 2016 in Line 7 or column K on the intrastate TRP if using the rate element approach. Please ensure the intrastate terminating VoIP minutes are included if there are any, so the growth rate is calculated correctly.
8	TY2017-2018 Terminating Intrastate Local Switching Minutes Growth Rate	The growth rate for TY2017-2018 is calculated using the formula: $[(\text{Line 5}/\text{Line 7})^{(12/21)-1}] * 100$
9	Projected TY 2017-2018 Intrastate Access Service Revenue (Using the rate element approach)	If you entered the forecasted demand at the rate element level (column L), this is the sum of column N on the TRP.
10	TY 2017-2018 Net Settlement from the State Pool	For companies in a state pool, please enter the projected amount of "contribution to" or "receipts from" the state pool associated with terminating switched access traffic for test period 2017-2018. Contribution to the pool should be entered as a negative number.
11	TY 2017-2018 State Terminating Access Support Rebalancing Fund Revenue to be Received	Please include intrastate terminating access revenues companies will receive from a state fund, that is designed to offset rates and revenues associated with intrastate access billed to interexchange carriers for TY 2017-2018.
12	Total TY2017-2018 Projected Intrastate Terminating Switched Access Service Revenue	Sum of Lines 6 (or 9), 10 and 11.

13A	Adjustments to FY2011 Received Revenue due to Halo Uncollectibles	Companies are requested to input the adjustments to the FY2011 intrastate terminating received revenue. The adjustments include those waivers filed with the FCC but not yet granted. The waivers include Halo revenues previously classified as uncollectibles. The adjustments must equal the amounts in the waivers. NECA will collect and store the adjustments, but will only apply them in the event the waiver is granted. The adjustments are used to increase Intrastate FY2011 received revenue (Line 1) when the FCC grants the waiver. Please do not enter the adjustment if NECA has already filed it with the FCC.
13B	Correction of Errors Resulting in Downward Adjustments in FY2011 Received Revenue	Companies do not need to file waivers if they need to decrease their intrastate baseline received revenue to correct errors made earlier. The adjustments are used to decrease FY2011 total Intrastate received revenue (Line 1). Please upload supporting documentation in pdf format onto the website, NECA will send the adjustments to the FCC for its review before being incorporated in the annual tariff filing.
13C	Adjustments to FY2011 Received Revenue to Avoid Double Recovery	Companies do not need to file waivers if they need to decrease their intrastate baseline received revenue to avoid double-recovery. Reductions should be entered as negative numbers. Please be prepared to provide the supporting documentation and detailed calculations in case the FCC requests it. The adjustments to FY2011 received revenue due to double recovery are used to adjust Intrastate Eligible Recovery (Line 13).
13D	Correction of Errors Resulting in Upward Adjustments in FY2011 Received Revenue	Companies do not need to file waivers if they need to increase their intrastate baseline received revenue to correct errors made earlier. The adjustments are used to increase FY2011 total Intrastate received revenue (Line 1). Please upload supporting documentation in pdf format onto the website, NECA will send the adjustments to the FCC for its review before being incorporated in the annual tariff filing. The revenue must have been received by March 31, 2012 per FCC rules.
13	Total TY 2017-2018 Intrastate Eligible Recovery	$\text{Line 2} - \text{Line 12} + (13C) * (0.95)^6$
13E	True-Up Adjustment for Intrastate Terminating Switched Access in 2014-2015 and 2015-2016 for Double Recovery	$((13C * 0.95^3) / 2 + 13C * 0.95^4)$
13F	Adjusted TY2017-2018 Intrastate Eligible Recovery	$\text{Line 13} + \text{Line 13E}$

Exchange Level Data Collection

The Exchange Level Data Request has not changed. The exchange/zone names and local charges will be prepopulated based on the previous data collection. Please update the local charges if the rates as of January 1, 2017 are HIGHER than the prepopulated rates as of January 1, 2012. Please enter the projected residential access lines and Lifelines at the exchange level for the test period 2017-2018. NECA will pre-populate the projected Single Line Business and Multi-Line Business Lines at the study area level for the test period 2017-2018. Company can override with its own forecasts.

Reciprocal Compensation Data Collection

CMRS

1	FY2011 (October 2010 through September 2011) Net CMRS Reciprocal Compensation Received Revenue including correction of errors entered in Line 19A and 19B.	NECA will prepopulate the October 1, 2010 through September 30, 2011 Net CMRS Reciprocal Compensation Received Revenue from the previous study. However the FY2011 Net CMRS RC received revenue includes the adjustments to reflect correction of errors (Line 19A and 19B).
2	TY 2017-2018 Terminating CMRS Reciprocal Compensation Minutes	Enter projected terminating non Bill and Keep CMRS reciprocal compensation minutes for test period July 2017-June 2018. If the contracts do not have a "Change in Law" provision, please enter the expiration date in the comment section and take into consideration the expiration date in the forecast.
3	TY 2017-2018 Terminating CMRS Reciprocal Compensation Composite Rate	Enter the non-Bill and Keep Terminating CMRS rate based on the contracts provided that do not have a "Change in Law" provision.
4	TY 2017-2018 Originating CMRS Reciprocal Compensation Minutes	Enter projected originating non Bill and Keep CMRS reciprocal compensation minutes for test period July 2017-June 2018. If the agreements do not have a "Change in Law" provision, please enter the expiration date in the comment section and take into consideration the expiration date in the forecast.
5	TY 2017-2018 Originating CMRS Reciprocal Compensation Composite Rate	Enter the non-Bill and Keep Originating CMRS rate based on the contracts provided that do not have a "Change in Law" provision.
6	TY 2017-2018 Terminating CMRS Reciprocal Compensation Revenue	Line 2 * Line 3
7	TY 2017-2018 Originating CMRS Reciprocal Compensation Expense	Line 4 * Line 5
8	TY 2017-2018 Net Expected CMRS Reciprocal Compensation Revenue	Line 6 - Line 7
9	TY 2017-2018 Net CMRS Reciprocal Compensation Revenue Requirement	NECA will prepopulate the TY 2017-2018 Net CMRS Reciprocal Compensation Revenue Requirement. The test period 2017-2018 revenue requirement is 95% ⁶ * the frozen net CMRS revenue (reciprocal compensation revenue minus expense) for the period of 2011-2012.

NonCMRS

10	FY2011 (October 2010 through September 2011) Net Non-CMRS Reciprocal Compensation Received Revenue including correction of errors entered in Line 20A and 20B.	NECA will prepopulate the October 1, 2010 through September 30, 2011 Net NonCMRS Reciprocal Compensation Received Revenue from the previous study. The FY2011 net non-CMRS RC received revenue includes adjustments to reflect correction of errors in Line 20A and 20B .
----	----------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

11	TY 2017-2018 Terminating Non-CMRS Reciprocal Compensation Minutes	Enter projected terminating non-CMRS reciprocal compensation minutes for test period July 2017-June 2018. Please adjust the minutes downward to account for uncollected minutes.
12	TY 2017-2018 Terminating Non-CMRS Reciprocal Compensation Composite Rate	NECA will prepopulate the terminating non-CMRS reciprocal compensation rate which is the minimum of the interstate composite rate and the effective terminating non-CMRS reciprocal compensation rate. (The proposed interstate composite rate is shown on Line 15 of the interstate switched access screen.) The effective terminating non-CMRS reciprocal compensation rate is based on the 2016-2017 CAFICC data collection. Companies can override with its own rate.
13	TY 2017-2018 Originating Non-CMRS Reciprocal Compensation Minutes	Enter projected originating non-CMRS reciprocal compensation minutes for test period July 2017 - June 2018.
14	TY 2017-2018 Originating Non-CMRS Reciprocal Compensation Composite Rate	NECA will prepopulate the originating non-CMRS reciprocal compensation rate which is the minimum of the interstate composite rate and the effective originating non-CMRS reciprocal compensation rate. (The proposed interstate composite rate is shown on Line 15 of interstate switched access screen.) The effective originating non-CMRS reciprocal compensation rate is based on the 2016-2017 CAFICC data collection. Companies can override with its own rate.
15	TY 2017-2018 Terminating Non-CMRS Reciprocal Compensation Revenue	Line 11 * Line 12
16	TY 2017-2018 Originating Non-CMRS Reciprocal Compensation Revenue	Line 13 * Line 14
17	TY 2017-2018 Net Expected Non-CMRS Reciprocal Compensation Revenue	Line 15 - Line 16
18	TY 2017-2018 Net Non-CMRS Reciprocal Compensation Revenue Requirement	NECA will prepopulate the TY 2017-2018 Net Non-CMRS Reciprocal Compensation Revenue Requirement. The test period 2017-2018 revenue requirement is 95% ⁶ *the frozen net Non-CMRS revenue (reciprocal compensation revenue minus expense) for the period of 2011-2012.
Reciprocal Compensation Eligible Recovery		
19	CMRS Eligible Recovery	Line 9-Line 8
19A-19B	Adjustments to FY2011 Net CMRS Reciprocal Compensation Received Revenue	Please enter the correction of errors adjustments to FY2011 Net CMRS Reciprocal Compensation Received Revenue. Companies do not need to file waivers if they need to modify their FY2011 revenue to correct errors made earlier (Line 19A-19B). Reductions should be entered as negative numbers. Companies must upload the supporting documentation to the website in pdf format. NECA will send the adjustments to the FCC for its review before being incorporated in the annual tariff filing.
20	Non-CMRS Eligible Recovery	Line 18-Line 17

20A - 20B	Adjustments to FY2011 Net Non-CMRS Reciprocal Compensation Received Revenue	Please enter the correction of errors adjustments to FY2011 Net Non-CMRS Reciprocal Compensation Received Revenue. Companies do not need to file waivers if they need to modify their FY2011 revenue to correct errors made earlier (Line 20A-20B). Reductions should be entered as negative numbers. Companies must upload the supporting documentation to the website in pdf format. NECA will send the adjustments to the FCC for its review before being incorporated in the annual tariff filing.
21	Total Reciprocal Compensation Eligible Recovery	Line 19+Line 20

Exogenous Costs

Please enter the interstate portion of the exogenous costs (TRS, Regulatory, and NANPA increments) for the test year 2017-2018. These amounts represent the portion of fee increases (relative to fiscal year 2011) that would normally be recovered through increases in interstate switched access rates that are now capped pursuant to the USF/ICC Transformation Order. These items will be blocked for data entry for Average Schedule companies because there is no settlement formula to recover these amounts.

Access Lines Data Needed to Calculate ARC Revenue
at the Study Area Level

Study Area Code	TY 2017-2018 Single Line Business Lines	TY 2017-2018 Multi- Line Business Lines
	Prepopulated	Prepopulated

Local Charges Needed to Calculate Residential ARC Rates at the Exchange and Zone (Plan) Level

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Study Area Code	Exchange Name/Zone Name	Residential Access Lines	Lifeline Lines	Residential Lines excluding Lifelines (Line3 - Line4)	Current Residential Flat Rate	Additional Basic Local Rate Charges if applicable	Mandatory Expanded Calling	Fed Subscriber Line Charge	State Subscriber Line Charge	State USF Surcharge	County E-911 Surcharge	State E-911 (e.g. fire & police)	TRS & other hearing impaired Surcharges	Total Residential Charges (sum Lines 6 thru14)	Amount above/(below) \$30.00 Rate Ceiling
Study Area 1															
Study Area 1															
Study Area 1															
Study Area 1															
Study Area 1	etc.														
Study Area 2															
Study Area 2															
Study Area 2	etc.														
Study Area 3															
Study Area 3															
Study Area 3															
Study Area 3															
Study Area 3	etc.														

etc.

Exchange Area/Rate Zone Data Needed for Residential Benchmarks

Following the FCC guideline, the gap above/below rate ceiling of \$30.00 will determine the Residential ARC amount. For companies with Eligible Recovery, the FCC allowed an annual residential and single-line business ARC rate increase of \$0.50 and an annual multiline business ARC rate increase of \$1.00, with a limit of \$12.20 applied to Multi-Line Business Lines ARC plus SLC.

Please update the local tariff information if the rates on January 1, 2017 are higher than the prepopulated rates as of January 1, 2012. Companies do not have to update the local rate elements if local charges are lower than or remain the same as January 1, 2012. Please enter forecasted Residential lines and Lifelines for test period 2017-2018.

Instructions		
Line	Data Elements	Descriptions
1	Study Area Code	The study area code you have entered
2	Exchange Name/Zone Name	For each exchange and zone combination, please enter the exchange name, followed by "/", and then the zone name, as they appear in your local exchange tariff.
3	Residential Lines	Please enter forecasted average annual residential lines including Lifelines for the test period July 2017-June 2018. Residential lines include all lines assessed the residential end user common line charge. Please make an adjustment to residential lines to account for only half of the ARC applying to vacation lines. For instance, if there are 40 lines that have the vacation rate for three months a year (3/12 of the year), reduce the line count by 5 ($40 * 1/2 * 3/12$).
4	Lifelines	Annual average Lifelines for the test period July 2017-June 2018.
5	Residential Lines excluding Lifelines	Line 3- Line 4
6	Residential Flat Rate	1FR or R1 Per Tariff or Price List. If Flat Rate service not available, enter Average Local Measured Service billed amount per customer.
7	Additional Local Rate Charges if applicable	Additional Basic Local Rate charges such as Touch Tone & Zone/Mileage Charges applicable to Residential Local Service only if they are mandatory. Please calculate and enter the charges per line.
8	Mandatory Expanded Calling	Rate per Tariff or Price List.
9	Federal Subscriber Line Charge	Per Tariff
10	State Subscriber Line Charge	Per Tariff or Price List.
11	State USF Surcharge	Per Tariff or Price List.
12	County E-911 Surcharge	Per County Contract; (if multiple counties in an exchange, use highest rate)
13	State E-911 (e.g. Fire & Police)	Per State Contract or other state entity
14	TRS & Other Hearing Impaired Surcharges	Per Tariff or Price List
15	Total Residential Charges	Sum Lines 6 through 14.
16	Amount above/(below) \$30.00 Rate Ceiling	\$30 - Line 15

Overview of CAF ICC True-Ups

1. Pre-populated the forecasted 2015-16 interstate switched access revenue, intrastate terminating switched access revenue, net recip compensation revenue, and ARC revenues. The forecasted revenues are from the 2015-16 Annual Access Tariff Filing.
2. Pre-populated the reported realized interstate switched access received revenue, intrastate terminating switched access and net recip comp received revenue, and ARC revenues. The realized revenues are from the settlement system. The cutoff date for realized revenues is 12/31/2016.
3. The FCC Order §51.917 (d)(1)(v) defines the true-up revenues as equal to (projected demand minus actual realized demand for that service) times the default transition rate for the service specified. The FCC permitted NECA to use the total switched access revenue as a surrogate.
4. The reported interstate switched access allocated revenue will be calculated based on 2015-2016 TS Pool composition to be consistent with the forecasts in the Annual Access Tariff Filing.
5. Company needs to enter the intrastate terminating received revenue for TP 2015-16. The net reciprocal compensation received revenue will be subtracted from the total of these two which is reported in the settlement system. The intrastate terminating received revenue includes intrastate terminating switched access revenue, net settlement from the State Pool, and State Terminating Access Support Rebalancing Fund revenue.
6. The FCC Order §51.917 (e) A RoR may elect to forgo charging some or all of the Access Recovery Charge. If an ARC shortfall is reported (actual revenue is lower than the forecasted revenue), it can be the result of lower than expected lines demand or because the company chose to set ARC rates below authorized levels. If the shortfall is the result of the ARC discount, the company must impute the revenue that would have resulted from charging the authorized ARC and add that difference to the realized revenue reported to the settlement system. If ARC shortfall is due to demand shortfall, then ARC rate will be increased where possible, and the balance will be made up in CAF ICC Support through the adjustment in Eligible Recovery. If the reported ARC revenues are higher than the forecasted ARC revenues, the true-up adjustments will be included in the 2017-2018 eligible recovery calculation.
7. Three separate exogenous costs (TRS increment, Regulatory fees, and NANPA increment) are forecasted in the annual filing, but the total is reported in the settlement system. **COST companies** need to report these costs as these amounts represent the portion of fee increases that would be recovered through increases in interstate switched access rates that are now capped pursuant to the *USF/ICC Transformation Order*. The difference between forecasted and reported exogenous costs will be included in the 2017-18 eligible recovery calculation.
8. The net impact on total 2017-18 eligible recovery is the sum of interstate revenue true-ups, intrastate terminating revenue true-ups, net reciprocal compensation revenue true-ups, ARC revenue true-ups and exogenous costs true-ups. The positive 2015-16 revenue true-ups is a subtraction to the 2017-18 Eligible Recovery, and the negative 2015-16 revenue true-ups is an addition to the 2017-18 Eligible Recovery. The negative 2015-16 exogenous costs true-ups is a subtraction to the 2017-18 Eligible Recovery and the positive 2015-16 exogenous costs true-ups is an addition to the 2017-18 Eligible Recovery.
9. Projected Eligible Recovery and CAF ICC support are from the 2015-16 Annual Access Tariff Filing. The Eligible Recovery and CAF ICC support using reported revenues are calculated using revenues in the settlement System and the forecasted revenue requirement in the Annual Access Tariff Filing.

The reported revenues are blocked for any updates after the April lock.

Test Period 2015-2016 True-Up

		Forecasted Data	Reported Data	Difference (Reported - Forecasted)
1	TY 2015-2016 Interstate Allocated Switched Access Revenue	Prepopulated	Prepopulated	Calculated
2	TY2015-2016 Intrastate Terminating & Net Reciprocal Compensation Revenue	Prepopulated	Prepopulated	Calculated
3	TY 2015-2016 Intrastate Terminating Switched Access Revenue	Prepopulated	Input	Calculated
4	TY 2015-2016 Net Reciprocal Compensation Revenue	Prepopulated	Calculated	Calculated
5	TY 2015-2016 Residential ARC Revenue	Prepopulated	Prepopulated	Calculated
6	TY 2015-2016 SLB ARC Revenue	Prepopulated	Prepopulated	Calculated
7	TY 2015-2016 MLB ARC Revenue	Prepopulated	Prepopulated	Calculated
8	TY 2015-2016 TRS Increment	Prepopulated		
9	TY 2015-2016 Regulatory Fees Increment	Prepopulated		
10	TY 2015-2016 NANPA Increment	Prepopulated		
11	TY 2015-2016 Total Exogenous Costs	Calculated	Prepopulated	Calculated
12	Net Impact on Total Eligible Recovery			Calculated
13	TY 2015-2016 Eligible Recovery	Prepopulated	Prepopulated	Calculated
14	TY 2015-2016 CAF ICC Support	Prepopulated	Prepopulated	Calculated

1. The net impact on total 2017-18 eligible recovery is the sum of interstate switched access revenue true-ups, intrastate terminating switched access revenue true-ups, net reciprocal compensation revenue true-ups, ARC revenue true-ups and exogenous costs true-ups. The positive 2015-16 revenue true-ups is a subtraction to the 2017-18 Eligible Recovery, and the negative 2015-16 revenue true-ups is an addition to the 2017-18 Eligible Recovery. The negative 2015-16 exogenous costs true-ups is a subtraction to the 2017-18 Eligible Recovery and the positive 2015-16 exogenous costs true-ups is an addition to the 2017-18 Eligible Recovery.
2. The net impact on total eligible recovery is used to adjust the test period 2017-2018 eligible recovery before ARC and CAF ICC support are calculated.

Test Period 2017-2018 Pre True-Up View

1	Total Eligible Recovery	Prepopulated
2	Total Eligible Recovery (excluding pool administration expense)	Prepopulated
3	Residential ARC Revenue at FCC Prescribed Rate	Prepopulated
4	SLB ARC Revenue at FCC Prescribed Rate	Prepopulated
5	MLB ARC Revenue at FCC Prescribed Rate	Prepopulated
6	Total ARC Revenue	Prepopulated
7	CAF ICC Support	Prepopulated

Test Period 2015-2016 True-Up

8	Net Impact on Total Eligible Recovery	Line 12 on the True-Up screen
---	---------------------------------------	-------------------------------

Test Period 2017-2018 Filing (Post True-Up) View

9	Total Eligible Recovery	Line 1+Line 8
10	Total Eligible Recovery (excluding pool administration expense)	Line 2+Line 8
11	Residential ARC Revenue at FCC Prescribed Rate	Calculated
12	SLB ARC Revenue at FCC Prescribed Rate	Calculated
13	MLB ARC Revenue at FCC Prescribed Rate	Calculated
14	Total ARC Revenue	Line 11+Line 12+Line 13
15	CAF ICC Support	Line 9-Line 14

The FCC Reform Order released on March 30th requires Rate-of-Return carriers to impute ARC revenues for Broadband Only lines, starting in January 2017, in order to avoid unintentional increases in CAF ICC support. *Connect America Fund et. al.*, WC Docket Nos. 10-90 et. al., Report and Order, Order and Order on Reconsideration and Further Notice of Proposed Rulemaking, 31 FCC Rcd 3087 (2016) (*RoR Reform Order*).

The FCC procedure order has that imputed ARC revenues underlying the true-up period will be based on each type of line per study area. *Access Charge Tariff Filings Introducing Broadband-only Loop Service*, WC Docket No. 16-317, Order DA16-1145 (rel. Oct 6, 2016)

The ARCs used for ARC revenue imputation on broadband-only lines are the proposed ARCs for test period 2017-18.

Companies are requested to provide the projected broadband-only lines for residence at the exchange level, and projected broadband-only lines of SLB and MLB at the study area level.

If companies are not able to differentiate broadband-only lines between SLB and MLB, please enter the total projected business broadband-only line. NECA will calculate the weighted average of SLB and MLB ARCs and apply to the projected broadband-only lines for ARC revenue imputation.

Revised CAF ICC Support amounts are reduced by the total imputed ARC revenue on Broadband-only lines.

Adjusted CAF ICC Support Reduced by Imputed ARC Revenue for Broadband-only Lines

Test Period 2017-2018 Imputed ARC Revenue for Broadband-only Lines

Option (A): Companies input the projected residential, SLB and MLB broadband-only lines.

Exchange Name/Zone Name	Projected Residential Broadband-only Lines	Residential ARC	Imputed Residential ARC Revenue	Projected SLB Broadband-only Lines	SLB ARC	Imputed SLB ARC Revenue	Projected MLB Broadband-only Lines	MLB ARC	Imputed MLB ARC Revenue	Total Imputed ARC Revenue
	(A)	(B)	(C)=(A)*(B)*12	(D)	(E)	(F)=(D)*(E)*12	(G)	(H)	(I)=(G)*(H)*12	(C)+(F)+(I)
pre-populated	Input	pre-populated	calculated							
pre-populated	Input	pre-populated	calculated							
pre-populated	Input	pre-populated	calculated							
Study Area Summary				Input	pre-populated	calculated	Input	pre-populated	calculated	calculated

Option (B) if companies can not separate SLB and MLB broadband-only lines, input the total SLB and MLB broadband-only lines.

Exchange Name/Zone Name	Projected Residential Broadband-only Lines	Residential ARC	Imputed Residential ARC Revenue	Projected SLB+MLB Broadband-only Lines	Monthly Weighted Average of SLB and MLB ARC	Imputed SLB+MLB ARC Revenue	Total Imputed ARC Revenue
	(A)	(B)	(C)=(A)*(B)*12	(J)	(K)	(L)=(J)*(K)*12	(C)+(L)
pre-populated	Input	pre-populated	calculated				
pre-populated	Input	pre-populated	calculated				
pre-populated	Input	pre-populated	calculated				
Study Area Summary				input	calculated	calculated	calculated

Monthly Weighted Average of SLB and MLB ARC=(SLB ARC Revenue + MLB ARC Revenue)/(SLB Lines + MLB Lines)/12 based on Voice-Data or Voice lines

	Line Description	Source
10	Test Period 2017-2018 CAF ICC Support	Prepopulated (Line 150 (Post True-Up) on the Eligible Recovery and CAFICC screen)
20	Total Test Period 2017-2018 Imputed ARC Revenue	Columns on the table above
30	Adjusted Test Period 2017-2018 CAF ICC Support	Line 10 - Line 20

VOLUME 3

APPENDIX C

2017 ADVANCED SERVICES DEMAND DATA REQUEST



INSTRUCTIONS FOR THE

2017 ADVANCED SERVICES DEMAND DATA REQUEST

Monday, 13 March 2017 – Friday, 7 April 2017

Study Contacts

Kiwan Lee
NECA Special Access Rate Development & Quantitative Analysis
klee@neca.org
(973) 884-8373

Technical problems to use or to access the web site:
Amar Puranik
NECA System Design
apuranik@neca.org
(973) 884-8098

Table of Contents*

Introduction	3
Logging into the Website	4
Study Area – Exchange Carrier List	4
Special Access Revenues	6
Demand for Access Elements	7
NECA Tariff 5 Services	7
General Instructions – Services Sections	8
DSL	10
DSL Access Service Connection Points	12
Ethernet Transport Service	13
IP Gateway Access	18
High Capacity (DS1/DS3)	18
SONET	19
Access Order Charge (AOC) Revenue	19
Comments	19
APPENDIX	20
Digital Subscriber Line	20
Ethernet Transport Service	21
IP Gateway Access	27
Network Configuration Diagrams	29

* Bookmarks are available in Adobe to jump to the different sections of the document.

Introduction

The 2017 Advanced Services Demand Data Request collects information that is integral to developing NECA's special access rates for the 2017 Annual Filing.

This document provides detailed instructions to help you login to the website, navigate it, and enter data for your study area(s). In this study there are separate sections devoted to itemized special access revenue data and demand data for the NECA Tariff 5 Services.



What's new this year?

For this year, we further streamlined the study by eliminating two sections, ATM and Frame Relay, to help reduce reporting time.

We added new DSL speed options to the DSL section: ADSL Voice-Data and Data-Only Speeds (1/10 Mbps, 3/25 Mbps, 100/200 Mbps, 100/500 Mbps and 100/1000 Mbps), and SDSL Voice-Data and Data-Only Speeds (50 Mbps, 200 Mbps, 500 Mbps and 1000 Mbps).



In the ETS section, you will provide the total number of 10M increments for ETS Bandwidth Add-On (BAO).

Logging into the Website

1. Go to www.neca.org and click on **Log In**. The NECA Login screen will be displayed where you can submit your NECA member User ID and Password. Please use your NECA member User ID and Password.
2. Click on **NECA Data Collections** under **Member Services** on the top menu of the page.
3. Click on **Advanced Services Demand Data Request** on the **NECA Data Collections** page.
4. The **WELCOME** screen of the Advanced Services Demand Data Request will appear. When you click on the **Proceed** button in the bottom right hand corner, you will be requested to enter the contact information. Then, you will be redirected to the **Study Area - Exchange Carrier List**. Please follow the instructions posted on the website for this section as well as the other sections of the study.

Study Area – Exchange Carrier List

The **Study Area - Exchange Carrier List** contains the study areas that are associated with your User ID in NECA's records. (Many users will see one study area code listed.) You will use this page to select the study area(s) for which you are entering data. Besides Study Area Code and Study Area Name columns, you will see additional columns to indicate the data submission status: one column for each of the services.

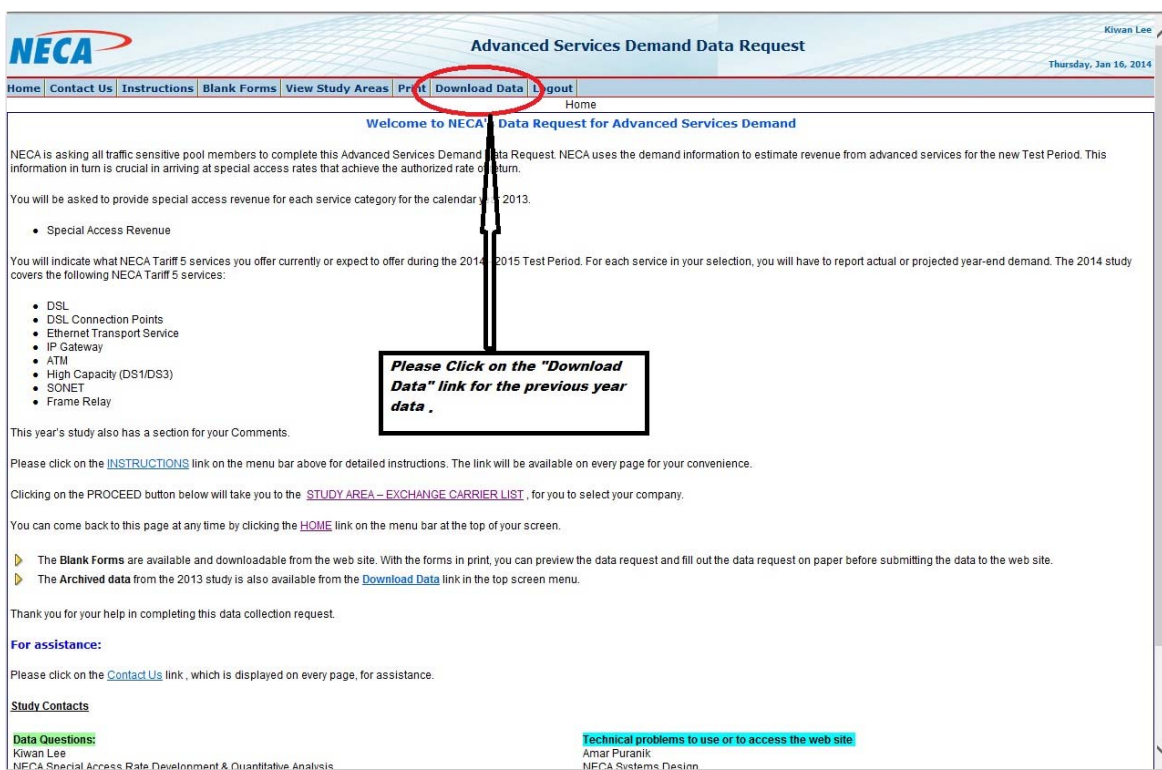
Initially you will see a status of "No Data Entered (denoted by ) if you indicate on the **NECA Tariff 5 Services** page that you offer a particular service. It changes to "Completed" (denoted by ) after you answer the questions about the service.



The **Blank Forms** are available and downloadable from the web site. With the forms in print, you can preview the data request and fill out the data request on paper before entering the data on the web site.



The **Archived Data** from the 2016 Advanced Services Demand Data Request are available and downloadable from the **Download Data** link in the top screen menu *if you participated in this study last year*. Please login to the Advanced Services Demand Data Request website. From the menu at the top of the welcome page of the ASDR website, please click on the link “**Download Data**” of the top screen menu and move to the download page. Then, select a study area code (SAC) and click on the link “**Download Last Year Data**” at the bottom of the page. It will download the archived data in MS Excel format. The following screenshots demonstrate the steps:



The screenshot shows the NECA Advanced Services Demand Data Request web form. The header includes the NECA logo and navigation links: Home, Contact Us, Instructions, Blank Forms, View Study Areas, NECA Tariff 5 Services, Print, Download Data, and Logout. The main content area is titled "Download Advanced Services Data" and features a dropdown menu with the value "123456" and "ABC TEL". Below the dropdown are two buttons: "Download Last Year Data" and "Download This Year Data". The footer includes the copyright notice "© 2014, NECA" and links for "Terms Of User" and "Privacy Policy".

Special Access Revenues

Please provide special access revenue for each service category for the calendar year 2016 based on the Settlement data. It is useful information that will help NECA develop special access rates for the 2017 Annual Filing. The following itemized special access revenues are requested:

- DSL Voice-Data and Data-Only Revenue (2016 Annual Total)*
- ETS Revenue (2016 Annual Total)
- ATM Revenue (2016 Annual Total)
- High Capacity Revenue (2016 Annual Total)
- SONET Revenue (2016 Annual Total)
- Frame Relay Revenue (2016 Annual Total)
- Narrow Band (Legacy Service) Revenue (2016 Annual Total)
- Others (2016 Annual Total)
- Total Special Access Revenue including DSL (2016 Annual Total)*



Note: * Please make sure that total special access revenue at the bottom equals the sum of all itemized revenues. NECA has already pre-populated revenue numbers

for DSL, ETS, and total special access services based on the recent Settlement. If you have more accurate numbers, please enter them.

Demand for Access Elements

NECA Tariff 5 Services

Please use the check boxes on this screen to indicate the NECA Tariff 5 services that you offered during the calendar years 2015 and 2016.

For each service in your selection, you will have to report actual year-end demand for calendar years 2015 and 2016. The 2017 study covers the following NECA Tariff 5 services:

- DSL
- DSL Connection Points
- Ethernet Transport Service
- IP Gateway
- High Capacity (DS1/DS3)
- SONET
- Access Order Charge (AOC) Revenue

In addition, there are sections for Comments. You will always have access to these Instructions from a link on the menu bar at the top of each page.

After you click on the **Submit** button, you will be redirected to a page for itemized special access revenue for 2016 first and then a page that has questions about the first service you checked. In addition, each line you checked on the Tariff 5 Services page becomes a link. When you click on a link, you will be redirected to a series of questions about the demand for the service.

There is also a check box for **Comments**. Please check this box. You can use the **Comments** section to clarify information you enter in other sections or make suggestions for future studies.

General Instructions – Services Sections

Each section devoted to a service has a series of questions about customer demand in terms of various rate elements. The questions ask about the demand that was in place as of December 31, 2015 and December 31, 2016.

After you answer the set of questions, you will see a **Prev** button and a **Submit & Next** button at the bottom of the screen. To return to the previous screen without submitting any data, click on the **Prev** button. Please note that if you do this, any data you entered in the section will be lost. To submit your answers to the questions, click on the **Submit & Next** button. Your data for the section will be entered and you will be redirected to the screen for the next service that you chose in the NECA Tariff 5 Services list.

If you offer a service but don't have demand for the service, e.g., Frame Relay, please go to the section and submit zeros. Because all the fields are pre-populated with zeros, you simply have to go to the section and click on **Submit & Next**. You will receive a **Warning Message** that you are submitting zeros. Click on **OK** to proceed.

In several areas of the survey, edit checks have been included that will issue a **Warning Message** if you enter a value that appears very high or too low. The system will highlight the suspect fields in red. At this point you can proceed with the data submission by clicking on **OK** in the Warning Message, or review the suspect fields by clicking on **Cancel**. If you receive such a Warning Message, please verify the data points that triggered the message before you submit them.

In a few areas of the survey, an edit check will issue an **Error Message** if data appear erroneous. The problem data are highlighted in red. If you get an Error Message, you will not be able to submit the data until you correct the error.

After you enter data for a service, the status for the service will change from "Pending" to "Completed" on the **NECA Tariff 5 Services** screen and the **Study Area - Exchange Carrier List** screen. You can always go back to a section to revise data you have entered.

You can also delete data that you have entered for a section. To do this, go to the **NECA Tariff 5 Services** screen, and uncheck the section that contains the data you want to delete. You will see a **Warning Message** that you are about to delete data for the section. To proceed with the deletion, click on **OK**, otherwise click on **Cancel**. You must complete the deletion by clicking on the **Next** button at the bottom of the page. When you do this, all the data fields in the section will be replaced with zeros.

After you have entered data successfully for all of the relevant sections, you will be redirected to the **NECA Tariff 5 Services** screen to review the completion status. You may **Logout** from the study or choose to enter data for another Study Area by clicking on the **Finish** button on the menu at the bottom of the screen or **View SARs** on the menu at the top of the **NECA Tariff 5 Services** screen.

Finally, the menu at the *top* of screen will appear in each section as shown below. The menu contains a variety of functions that you can click on:



Home: Takes you back to the Welcome screen.

Contact Us: Launches a form you can use to send an email to NECA about any problems you are experiencing with the study.

Instructions: Launches a copy of this document.

Blank Forms: Launches a downloadable copy of the data request.

View SARs: Takes you back to the **Study Area - Exchange Carrier List** screen.

NECA Services: Takes you back to **NECA Tariff 5 Services** screen.

Print: Prints a copy of the screen.

Download Data: Download the previous & current data submissions into Excel sheets .

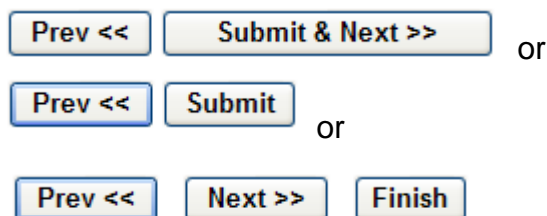
Logout: Logs you out from the study.

Also, a navigation bar under the *top* menu of the screen will appear in each section. An example is shown below. This navigation bar indicates where your current section is located within the website. You can click on a destination on the bar and move to a different section of the website.

[Home](#) > [Study Area List](#) > [Main](#) > [NECA Tariff5 Services](#) > High Capacity (DS1/DS3)



The menu at the *bottom* of screen will appear in each section as shown below:



Prev <<: Takes you back to the previous section.

Next >>: Takes you to the next section.

Submit & Next: Submits the current section data and move to the next section.

Submit: Submits the data and then takes you back to the **NECA Tariff 5 Services** screen.

Finish: Takes you to **Study Area - Exchange Carrier List** after completing all selected services. This button will appear at the bottom of the **NECA Tariff 5 Services** screen only when you complete all services in your selection.

DSL

To simplify data entry, the DSL section only asks for high-level information in the following categories:

- ADSL line counts
- SDSL line counts

The Appendix at the end of this document has more information on DSL service.

DSL Line Counts

Please enter the number of ADSL lines that were in service under NECA Tariff No. 5 as of Dec. 31, 2015 and Dec. 31, 2016. ADSL speed options are listed: ADSL 1Mbps/6Mbps, ADSL 1/10 Mbps, ADSL 3Mbps/15Mbps, ADSL 3/25 Mbps, ADSL 25Mbps/50Mbps, ADSL 50Mbps/100Mb, ADSL 100/200 Mbps, ADSL 100/500 Mbps and ADSL 100/1000 Mbp. Please provide separate counts for Voice-Data and Data-Only lines, classified according to whether they were on the Non-discounted rates, Monthly Plan (discounted rates), 1-year Term Plan (discounted rates), and 3-Year Term Plan (discounted rates).

Please enter the SDSL line counts that were in service under NECA Tariff No. 5 as of Dec. 31, 2015 and Dec. 31, 2016. For SDSL 256 Kbps, SDSL 768 Kbps, SDSL 10 Mbps, SDSL 50 Mbps, SDSL 100 Mbps, SDSL 200 Mbps, SDSL 500 Mbps, and SDSL 1000 Mbps, please provide separate counts for Voice-Data and Data-Only lines, classified according to whether they were Non-discounted rates, Monthly Plan (discounted rates), 1-year Term Plan (discounted rates), and 3-Year Term Plan (discounted rates).

For all other SDSL speed options (SDSL 144 kbps, SDSL 2 Mbps, SDSL 4 Mbps), please enter total count for each year in the “All Other SDSL Lines” category.

The website will automatically show total number of DSL lines by summing up your inputs for ADSL and SDSL services in the previous tables. The website will compare it with the DSL line count recently reported to the EC1050 or AS1000. When it finds a reasonably big difference, it will raise a warning for your confirmation.



NECA uses an “Accordion” web page style in the DSL section. Only one table is open for your input. When you click on a table title for an A/SDSL speed option, the web browser will expand the table for your input while collapsing all other tables and showing only the table titles.

Here is an example. Suppose you want to enter demand counts for a speed option **ADSL 1 Mbps/6 Mbps**. You will click on the table title **ADSL 1 Mbps/6 Mbps**. Then, the web browser will expand the table and show the input cells (see the demo screenshot below):

NECA Advanced Services Demand Data Request Wednesday, Feb 04, 2015

Home | Contact Us | Instructions | Blank Forms | View Study Areas | NECA Tariff 5 Services | Print | Download Data | Logout

Home > Study Area List > Special Access Revenue > NECA Tariff 5 Services > DSL

DSL

Study Area Code: **123456** Study Area Name: **ABC**

Please enter the number of Digital Subscriber (DSL) Lines in service under NECA's Tariff 5 for the categories and time periods listed below. To submit the DSL line counts, please click on the title of the speeds applicable to your company.

DSL Line Counts

Total DSL Lines under NECA's Tariff 5 (Note: Total DSL, ADSL, SDSL Lines below are automatically computed.)

	Actuals for Dec. 31 2013	Actuals for Dec. 31 2014
Total DSL Lines	2801	30
Total ADSL Lines	2751	0
Total SDSL Lines	50	30

ADSL 1 Mbps/6 Mbps

ADSL Rate Plan	Actuals for Dec. 31 2013		Actuals for Dec. 31 2014	
	Voice-Data Line Count	Data-only Line Count	Voice-Data Line Count	Data-only Line Count
a. Non-discounted rates	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
b. Monthly Plan (discounted rates)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
c. 1-Year Term (discounted rates)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
d. 3-Year Term (discounted rates)	<input type="text" value="1815"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Subtotal	1815	0	0	0

ADSL 3 Mbps/15 Mbps

ADSL 25 Mbps/50 Mbps

ADSL 50 Mbps/100 Mbps

SDSL 756 kbps

SDSL 768 Kbps

SDSL 10 Mbps/10 Mbps

After you complete the table for **ADSL 1 Mbps/6 Mbps**, you want to fill out demand counts for the speed **ADSL 3 Mbps/15 Mbps**. Please click on the table title **ADSL 3 Mbps/15 Mbps**. The web browser will expand the table for your input, collapse all other tables, and show only the table titles (please see the demo screen shot below).

This new feature will save you a great deal of time when you want to navigate many tables without scrolling up and down in a window.

NECA Advanced Services Demand Data Request Wednesday, Feb 04, 2015

Home | Contact Us | Instructions | Blank Forms | View Study Areas | NECA Tariff 5 Services | Print | Download Data | Logout

Home > Study Area List > Special Access Revenue > NECA Tariff 5 Services > DSL

DSL

Study Area Code: **123456** Study Area Name: **ABC**

Please enter the number of Digital Subscriber (DSL) Lines in service under NECA's Tariff 5 for the categories and time periods listed below. To submit the DSL line counts, please click on the title of the speeds applicable to your company.

DSL Line Counts

Total DSL Lines under NECA's Tariff 5 [Note: Total DSL, ADSL, SDSL Lines below are automatically computed.]

	Actuals for Dec. 31 2013	Actuals for Dec. 31 2014
Total DSL Lines	2801	30
Total ADSL Lines	2751	0
Total SDSL Lines	50	30

ADSL 1 Mbps/6 Mbps

ADSL 3 Mbps/15 Mbps

ADSL 3 Mbps/15 Mbps

ADSL Rate Plan	Actuals for Dec. 31 2013		Actuals for Dec. 31 2014	
	Voice-Data Line Count	Data-only Line Count	Voice-Data Line Count	Data-only Line Count
a. Non-discounted rates	0	0	0	0
b. Monthly Plan (discounted rates)	0	0	0	0
c. 1-Year Term (discounted rates)	0	0	0	0
d. 3-Year Term (discounted rates)	815	0	0	0
Subtotal	815	0	0	0

ADSL 25 Mbps/50 Mbps

ADSL 50 Mbps/100 Mbps

SDSL 256 kbps

SDSL 768 Kbps

SDSL 10 Mbps/10 Mbps

DSL Access Service Connection Points



DSL Connection Points section is applicable to traffic sensitive pool members regardless of whether they use NECA's DSL tariff rates.

The DSL Access Service Connection Point aggregates data traffic from one or more Serving Wire Centers, where it is then transferred to the network of an ISP, corporate LAN provider, or other telecom service provider. The DSL Access Service Connection Point is an optional feature the provider orders under Special Access, ATM Cell Relay Access Service, Ethernet Transport Service, and/or Frame Relay Access Service.

All of the DSL Access Service Connection Point information is being collected in one section. The Access Service Connection Point option has recurring and nonrecurring charges under High Capacity, SONET, and Metallic Service, whereas it has a nonrecurring charge under ATM and Ethernet Transport Service.

Please indicate the number and type(s) of ports from NECA's Tariff 5 with DSL Access Service Connection Point Option in your network as of Dec. 31, 2015 and Dec. 31, 2016.



Later sections of the survey also ask for port counts. Any ports that you enter in this section that serve as connection points should also be included in port counts in later sections of the survey.

Ethernet Transport Service

An ETS Channel Termination provides the transport facility between the customer designated premises and an ETS Basic Port at the Telephone Company's ETS serving wire center (SWC). NECA's rates vary by capacity and by the distance between the customer designated premises and the ETS SWC.



NECA uses an "Accordion" web page style to the ETS section. Only one table is open for your input. When you click on a table title, the web browser will expand the table for your input while collapsing all other tables and showing only the table titles.

Counts of Ethernet Transport Service Channel Terminations

Please enter total number of ETS Channel Terminations you provide under NECA's Tariff 5 for the periods listed. Please itemize the Channel Terminations by capacity and by whether the customer designated premises is within 300 feet of the ETS SWC.

Shares of ETS CTs by Term Plans

As of Dec. 31, 2015 and Dec. 31, 2016, please break down total monthly Channel Terminations into counts by term plan: counts that are not committed to a term plan, counts committed to a 3 year term discount plan, and counts committed to a 5 year term discount plan.

Counts of Ethernet Transport Service Basic Ports and Port Protections

ETS Basic Ports provide the interface to the Telephone Company's ETS network. The ETS Basic Port counts should include the basic ports supporting ETS Channel Termination, optional DSL Access Service Connection function, and other logical transmission paths.

Please enter total number of Basic Ports as of Dec. 31, 2015 and Dec. 31, 2016, you provided under NECA's Tariff 5. Please itemize the port counts by their capacity and by the distance from the Serving Wire Center.

For the ETS Basic Port Protection counts, please provide the total number of the ETS Basic Ports for which the customer orders the ETS Port Protection feature. These ports are known as Primary ETS Basic Ports.

Note: (1) Your count should include Ethernet ports that are part of Ethernet Transport Service.

(2) Please use the ATM section instead of this section to report Ethernet ports that are part of ATM service.

(3) Please include in your port counts any ETS ports that are equipped with the optional DSL Access Service Connection function that you may have entered in the DSL Connection Point section.



The number of total ETS Basic ports includes the sum of ETS basic ports for ETS CTs and for optional DSL Access Service Connection function, at minimum. We expect that the number of ETS ports by date is greater than or equal to the sum of ETS CTs and ETS DSL Connection Points. You may have to go back to the DSL Connection Points section and the previous ETS CT section to adjust your inputs.

Counts of Ethernet Transport Service Interconnection Ports

ETS Interconnection Ports provide the interface to the Telephone Company's ETS network and are used in conjunction with Special Access service.

They permit the ETS customer to: 1) connect a customer designated premises served by an ETS or non-ETS SWC to the Telephone Company's ETS network, or 2) interconnect the Telephone Company's ETS network to an Ethernet network in the serving territory of a non-adjacent telephone company.

Please enter total number of Interconnection Ports as of Dec. 31, 2015 and Dec. 31, 2016, you provided under NECA's Tariff. Please itemize the port counts by their capacity.

Note: (1) If you have demand for ETS Interconnection Ports, please report the associated demand of DS3, OC3, or OC12 Special Access service in the appropriate section of this study.

(2) Please include in your port counts any ETS ports that are equipped with the optional DSL Access Service Connection function that you may have entered in the DSL Connection Point section.

Counts of ETS Ethernet Virtual Connections

An ETS Ethernet Virtual Connection (EVC) is a logical association established across a shared transmission path that allows the customer to transmit packets between any two ETS ports located on the Telephone Company's ETS network. The intraswitch ETS EVC rate applies when the EVC is between two ETS ports in the same serving wire center. The interswitch ETS EVC rate applies when the EVC is between ETS ports that are in different serving wire centers within the Telephone Company's serving territory.

Please enter total number of Intraswitch and Interswitch Ethernet Virtual Connections as of Dec. 31, 2015 and Dec. 31, 2016, you provided under NECA's Tariff. Please itemize the EVCs by type (intra/inter-switch) and capacity.

Counts of ETS Extended Ethernet Virtual Connections

An ETS Extended Ethernet Virtual Connection (E-EVC) is a logical association established across a shared transmission path that allows the customer to transmit packets between an ETS port located in the Telephone Company's ETS network and the Ethernet network of another telephone company located in an adjacent serving territory.

Please enter total number of ETS Extended Ethernet Virtual Connections as of Dec. 31, 2015 and Dec. 31, 2016, you provided under NECA's Tariff 5.

Counts of ETS Interconnected Ethernet Virtual Connections up to 50 miles

An ETS Interconnected Ethernet Virtual Connection (ETS I-EVC) is a transport option for jointly provided ETS service between non-adjacent telephone company operating territories, where the airline distance between the ETS Serving Wire Centers (SWCs) serving the customer designated premises (CDPs) is 50 miles or less.

Please enter the total number of ETS I-EVCs provided under NECA's Tariff 5 for the time periods listed, itemized by capacity.

Counts of ETS Interconnected Ethernet Virtual Connections at 51-75 miles

Please enter the total number of ETS I-EVCs provided under NECA's Tariff 5 for the time periods listed, itemized by capacity. Please enter only ETS I-EVC counts of non-adjacent telephone company operating territories, where the airline distance between the ETS Serving Wire Centers (SWCs) serving the customer designated premises (CDPs) is in the range of 51-75 miles.

Counts of ETS Ethernet Class of Service – Near Real Time (NRT)

ETS CoS NRTs are available in 1 Mbps increments on the customer's ETS Intraswitch or Interswitch Ethernet Virtual Connections (ETS EVCs) between two ETS Basic Ports located within the operating territory of the telephone company. Please see the Appendix for more information.

Please enter the total number of megabits ordered by all ETS customers for Ethernet Class of Service (CoS) Near Real Time provided under NECA's Tariff 5 for the time periods listed below. Please itemize the total number of megabits by switch type (intra/inter-switch) and EVC capacity.

For example, an ETS customer with a 250 Mbps ETS Intraswitch EVC between two 250 Mbps ETS Basic Ports orders a total of 100 Mbps of Near Real Time CoS. Then you will enter "100".

Please provide the data for two periods, as of Dec. 31, 2015 and Dec. 31, 2016.

Counts of ETS Ethernet Class of Service –Real Time (RT)

ETS CoS RTs are available in 1 Mbps increments on the customer's ETS Intraswitch or Interswitch Ethernet Virtual Connections (ETS EVCs) between two ETS Basic Ports located within the operating territory of the telephone company. Please see the Appendix for more information.

Please enter the total number of megabits ordered by all ETS customers for Ethernet Class of Service (CoS) Real Time provided under NECA's Tariff 5 for the time periods listed below. Please itemize the total number of megabits by switch type (intra/inter-switch) and EVC capacity.

For example, an ETS customer with a 250 Mbps ETS Intraswitch EVC between two 250 Mbps ETS Basic Ports orders a total of 100 Mbps of Real Time CoS. Then you will enter "100".

Please provide the data for two periods, as of Dec. 31, 2015 and Dec. 31, 2016.

Counts of ETS Low Bit Rate Ethernet Virtual Circuit Channels

An ETS LBR-VCC option provides a 64 kbps two-way virtual communications path (upstream and downstream). It is designed to meet the needs of providers of home monitoring services such as security and metering applications, including Advanced Metering Infrastructure for smart grid functions. The ETS LBR-VCC provides a 64 kbps virtual circuit path (secure VLAN) between the ETS customer's CDP and the premises of its end user customer, provided the end user customer's premises is equipped with a

tariffed A/SDSL Access Service provided by the telephone company. It is available in increments of 64 kbps.

Please enter the total number of 64 kbps increments for all the LBR-VCCs as of Dec. 31, 2015 and Dec. 31, 2016.

Counts of ETS Multimedia Virtual Circuit Channels

An ETS Multimedia Virtual Circuit Channel (MM-VCC) is used for high speed multimedia transmission between the customer designated premises and the premises of the end user ADSL customer. It is available in increments of 10 Mbps.

The monthly recurring charge for ETS MM-VCCs is waived when local exchange telephone service, ADSL Access Service, and ETS MM-VCCs are provided from the same serving wire center where the ETS DSL Access Service Connection Function is deployed.

Please enter total number of ETS MM-VCCs as of Dec. 31, 2015 and Dec. 31, 2016 you provided under NECA's Tariff 5.

Example: *A 20 Mbps ETS MM-VCC would have two 10 Mbps increments. If there are 25 ETS MM-VCCs, and each one is 20 Mbps, then the number of 10 Mbps increments is $25 \times 2 = 50$.*

Please enter the number of ETS MM-VCCs (and their associated bandwidth) for which the monthly recurring charge was waived as of Dec. 31, 2015 and Dec. 31, 2016.

Note: Because ETS MM-VCCs are used in conjunction with an ETS port that has been equipped with the optional DSL Access Service Connection Function, the port count you entered in the DSL Connection Point section should include the ETS port that is so equipped.

Finally, please enter total number of incidences for ETS MM-VCC Non-recurring Charge that your company billed under NECA's Access Tariff for past two years.

Counts of ETS Bandwidth Add-On (ETS BAO)

The ETS Bandwidth Add-On (ETS BAO) feature offers an ETS customer increased flexibility when additional bandwidth capacity on eligible ETS service elements is needed. It is only available for the following eligible ETS service elements and speed option combinations: ETS Basic Port, ETS CT, ETS EVC, ETS E-EVC, and/or ETS I-EVC at 50 Mbps, 100 Mbps, 250 Mbps, 500 Mbps and/or 750 Mbps.

Example: *an ETS customer with an existing 100 Mbps ETS Basic Port needs 150 Mbps of bandwidth capacity. Although it would be paying for bandwidth it did not need, the ETS customer could replace the existing 100 Mbps ETS Basic Port with the next highest speed available under the tariff (i.e., 250 Mbps). Alternatively, the ETS customer could order one ETS BAO feature comprised of five 10 Mbps increments of additional bandwidth added to the underlying 100 Mbps ETS Basic Port to achieve the 150 Mbps of bandwidth capacity that the customer actually needs. For such a case, the number of 10 Mbps increments for ETS Basic Port is $10 \times 5 = 50$.*

Please provide the data for two periods, as of Dec. 31, 2015 and Dec. 31, 2016.

IP Gateway Access

IPG will provide customers with the ability to deliver interexchange voice traffic originated on or transported across their IP networks for termination to the telephone company's local exchange service subscribers, and to accept interexchange voice traffic originated on or transported across the telephone company's network, using FGD Switched Access Service and IP packet transport technology. IPG transport options enable transmission at data speeds of 1.544 Mbps or 44.736 Mbps. IPG service is available at designated telephone company serving wire centers where the telephone company has deployed an IP gateway switch and provides FGD Switched Access Service.

For Dec. 31, 2015 and Dec. 31, 2016, please enter actual total number of IPG Ports, IPG Transport Terminations (IPG TT), IPG Transport Mileage Terminations (IPG TMT), and IPG Transport Mileage Facility mileages (IPG TMF).

High Capacity (DS1/DS3)

The High Capacity section asks about demand for Channel Terminations (CT), Channel Mileage Terminations (CMT), and Channel Mileage Facility (CMF) mileage for interstate DS1 and DS3 circuits you provided under NECA Tariff No. 5. The elements may be undiscounted or discounted under either a three-year or five-year term plan.

Note: Please include in your counts any DS1 or DS3 services equipped with the optional DSL Access Service Connection function that you may have entered in the DSL Connection Point section.

For Dec. 31, 2015 and Dec. 31, 2016, please enter actual CT, CMT, and CMF mileage.

SONET

The SONET section is similar to the High Capacity section. It asks about demand for Channel Terminations, Channel Mileage Terminations, and Channel Mileage Facility mileage for interstate OC3 and OC12 circuits you provided under NECA Tariff No. 5. The elements may be undiscounted or discounted under either a three-year or five-year term plan.

Note: Please include in your counts any OC3 service equipped with the optional DSL Access Service Connection function that you may have entered in the DSL Connection Point section.

For Dec. 31, 2015 and Dec. 31, 2016, please enter actual CT, CMT, and CMF mileage.

Access Order Charge (AOC) Revenue

Unlike the other sections of the survey devoted to services, the Access Order Charge (AOC) section asks for annual revenue rather than demand quantities. Please enter your annual Access Order Charge (AOC) Non-Recurring Revenue billed under NECA Tariff No. 5 as of Dec. 31, 2015 and Dec. 31, 2016.

Comments

Please use this section to clarify information you enter in other sections or to make suggestions for future studies. Please be as specific as possible. Please provide your name, phone number, and e-mail ID in case we have to contact you.

APPENDIX

Digital Subscriber Line

A Brief Description of DSL Services and Rates

(For more information see Section 11 of the NECA Access Charge Handbook)

Digital Subscriber Line (DSL): Access Services that provide transmission services over local exchange service facilities that can be used for simultaneous voice and data communications. Service is provided, where available, between customer designated premises and designated Telephone Company Serving Wire Centers. The services may be either Asymmetric Digital Subscriber Line (ADSL), where the downstream speed is faster than the upstream speed, or Symmetric Digital Subscriber Line (SDSL), where the downstream and upstream speeds are the same.

ADSL and SDSL Access Service are available in two service options, i.e., Voice-Data option and Data-Only option. The Voice-Data option supports transmission of high-speed data while simultaneously making or receiving voice calls using the associated local exchange service line provided under the Telephone Company's general and/or local exchange service tariff. The Data-Only option supports high speed data transmissions using dedicated local exchange facilities. Since the Data-Only option does not provide the ability to transmit voice calls, there is no requirement for the purchase of local exchange service.

DSL Access Service Connection Point: The data traffic is routed to an interconnection point designated by the Telephone Company, i.e., the DSL Access Service Connection Point for transfer to a single Telephone Service Provider (TSP). In order for the DSL Access Service customer to reach its TSP, the DSL Access Service must then be interconnected at the Connection Point with Special Access, Frame Relay access, Asynchronous Transfer Mode (ATM) access services, or Ethernet Transport Service (ETS) ordered by the TSP. The DSL Access Service Connection Point serves as a point of aggregation for traffic from one or more Serving Wire Centers (SWCs) to and from a TSP's network.

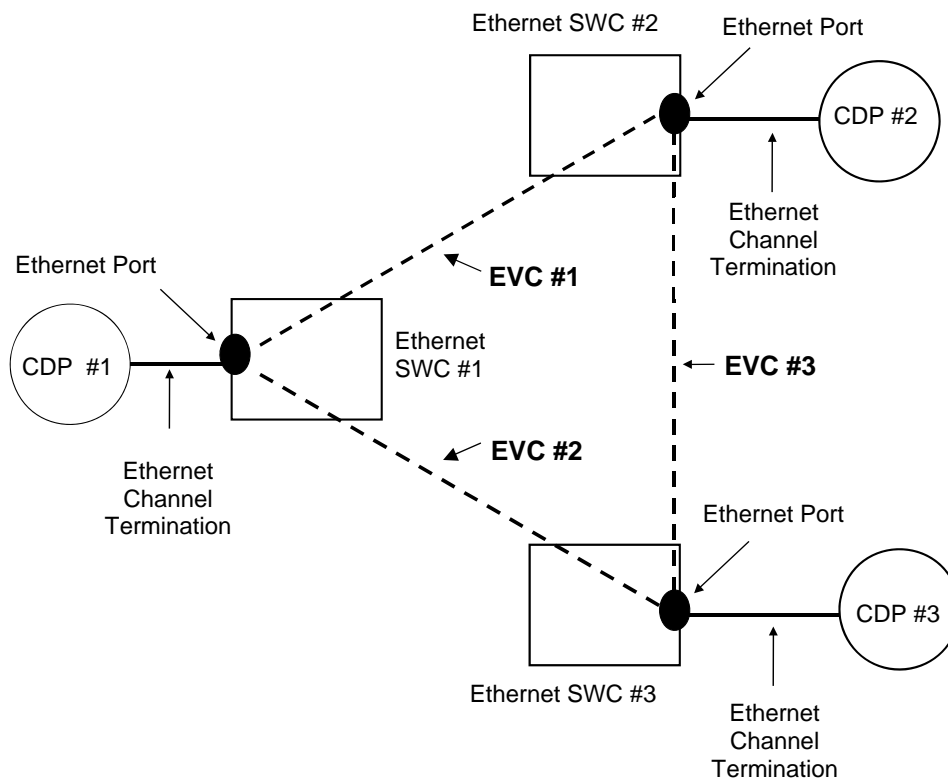
DSL Discount and Term Plans: Effective April 1, 2008, NECA grandfathered the availability of the DSL Wholesale Rate Plan (DSL WRP) and optional Volume Pricing Commitment Plan (VPCP) and replaced them with the DSL Wholesale Pricing Plan (DSL WPP) and optional Volume Pricing Plan (VPP). The DSL WPP provides for reduced rates for DSL services under a Monthly Plan and a Term Plan. The Monthly Plan does not require any volume or term commitments. The Term Plan has two options (A and B) and requires the customer commit to a one year or three-year term. The pricing options consist of reduced monthly rates per line and monthly charges assessed per study area irrespective of the number of DSL SWCs or ordered lines. Relative to Option A, Option B has a higher charge per study area but lower monthly rates per line.

Ethernet Transport Service

A Brief Description of Ethernet Transport Service Rate Elements

(For more information see Section 8 of the NECA Access Charge Handbook)

Ethernet Transport Service is a new Tariff F.C.C. No. 5 Public Packet Data Network Service offering. Where available, ETS is provided at speeds ranging from 5 Mbps to 1 Gbps. ETS is available only at locations that are identified as Ethernet-equipped serving wire centers (SWCs) in NECA Tariff F.C.C. No. 4. The basic rate structure includes the following rate elements.



ETS Channel Terminations: ETS Channel Terminations (CTs) provide the transport facility between a CDP and an ETS Port at the telephone company's Ethernet-equipped SWC. ETS CTs are available at bandwidth speeds of 2 Mbps, 5 Mbps, 10 Mbps, 20 Mbps, 50 Mbps, 100 Mbps, 250 Mbps, 500 Mbps, 750 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. The customer decides the type of ETS CT(s) needed based on CPE and bandwidth requirements. Bandwidth speeds of 50 Mbps and above require use of a fiber loop facility. ETS CTs are offered at two rates, one for an ETS CT serving a CDP located up to 300 feet from the ETS SWC, and a higher rate for an ETS CT serving a CDP located more than 300 feet from the ETS equipped SWC. Each ETS CT

is terminated in a dedicated ETS Basic Port that must be of bandwidth equal to or greater than the ETS CT. ETS Basic Ports cannot be shared by multiple ETS CTs.

ETS Ports: ETS Ports provide the interface at the telephone company ETS SWC for data traffic to and from the CDP, as well as for connecting the telephone company's ETS network with the Ethernet network of another telephone company. ETS Ports receive Ethernet packets from the customer's CPE, validate addressing parameters contained in the packet headers and transmit the packets into the Ethernet network. ETS Ports can also forward the verified packets to the pre-designated CDP. ETS Ports provide a network termination for data traffic from the customer premises equipment and the network-to-network interface at the telephone company's Ethernet equipped SWC. ETS Ports are offered as ETS Basic Ports or ETS Interconnection Ports.

ETS Basic Ports: ETS Basic Ports provide an interface to the telephone company's Ethernet network and do not include the required transport facility between the CDP and the telephone company's Ethernet-equipped SWC. ETS Basic Ports are available with bandwidth speeds of 2 Mbps, 5 Mbps, 10 Mbps, 20 Mbps, 50 Mbps, 100 Mbps, 250 Mbps, 500 Mbps, 750 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. Each ETS Basic Port must be associated with a minimum of one ETS Ethernet Virtual Connection, one ETS Extended Ethernet Virtual Connection, or one optional DSL Access Service Connection Point (ASCP) function. ETS Basic Ports can be shared by multiple ETS Ethernet Virtual Connections or ETS Extended Ethernet Virtual Connections. The bandwidth speed of an ETS Basic Port must be equal to or greater than the bandwidth speed of its associated ETS CT. The bandwidth speed of an optional DSL ASCP function must be equal to the bandwidth speed of the associated ETS Basic Port.

ETS Port Protection Feature: Where suitable facilities exist, an ETS customer interested in automatic restoration of service should a failure occur may order the ETS Port Protection feature. Customers who want redundancy at critical traffic aggregation points in the Telephone Company's network may have a particular interest in this feature, which provides stand-by capability with dedicated capacity to restore service should a failure occur in an ETS Basic Port and/or associated ETS CT. The ETS Port Protection feature helps minimize the duration of time ETS service is unavailable. It does not prevent an outage from occurring, nor does it guarantee transmission of an ETS customer's traffic (i.e., ETS is offered to customers at a best effort level only). The ETS Basic Port on which the customer orders the ETS Port Protection feature is known as the Primary ETS Basic Port. The Telephone Company will program its ETS switch to automatically redirect the ETS customer's traffic to the stand-by ETS Basic Port and associated stand-by ETS CT, as well as to any EVC(s) (i.e., Intraswitch, Interswitch, Extended and/or Interconnected), assigned CoS levels, and if applicable, the DSL Access Service Connection function, ETS MM-VCCs and ETS LBR-VCCs associated with the Primary ETS Basic Port, should a failure occur in the Primary ETS Basic Port and/or associated ETS CT.

ETS Interconnection Ports: Used in conjunction with Special Access DS3, OC3 and OC12 services, ETS Interconnection Ports allow for connection of a customer designated premises served by an ETS or non-ETS SWC to the telephone company's

ETS network. ETS Interconnection Ports provide the interface to the telephone company's ETS network and do not include the required transport facility between the CDP and the telephone company's ETS SWC. The ETS Interconnection Port may also be used to provide for the interconnection of the telephone company's ETS network to an Ethernet network located in the operating territory of a non-adjacent telephone company. ETS Interconnection Ports are available at bandwidth speeds of 44.736 Mbps, 155.52 Mbps and 622.08 Mbps for customers that want to send Ethernet packets using Special Access High Capacity DS3 and/or Special Access Synchronous Optical Channel Service (SOCS) OC3 or OC12 Channel Termination or Channel Mileage facilities. The ETS Interconnection Port must be associated with a Special Access transport facility, which is provided separate from the ETS Interconnection Port. Each ETS Interconnection Port must also be associated with a minimum of one ETS Ethernet Virtual Connection, one ETS Extended Ethernet Virtual Connection, or one optional DSL ASCP function. ETS Interconnection Ports can be shared by multiple ETS Ethernet Virtual Connections or ETS Extended Ethernet Virtual Connections. The bandwidth speed of an ETS Interconnection Port must be equal to the bandwidth speed of the associated Special Access Channel Termination. The bandwidth speed of an optional DSL ASCP function must be equal to the bandwidth speed of the associated ETS Interconnection Port.

ETS Ethernet Virtual Connections (EVC): ETS EVCs are logical associations established across a shared transmission path that allows the ETS customer to transmit packets between any two ETS Ports located on the telephone company's Ethernet network. ETS EVCs are available in fixed bandwidth amounts of 2 Mbps, 5 Mbps, 10 Mbps, 20 Mbps, 50 Mbps, 100 Mbps, 250 Mbps, 500 Mbps, 750 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps. An ETS Intraswitch EVC rate applies for each ETS EVC established between two ETS Ports within the same SWC. An ETS Interswitch EVC rate applies to each ETS EVC established between ETS Ports located in different SWCs.

ETS Extended Ethernet Virtual Connections (E-EVCs): ETS E-EVCs are logical associations established across a shared transmission path that allow the ETS customer to transmit packets to and receive packets from an ETS Port located in the telephone company's ETS network to another telephone company's Ethernet network located in an adjacent serving territory. ETS E-EVCs can be established between two ETS Basic Ports, two ETS Interconnection Ports, or between an ETS Basic Port and an ETS Interconnection Port. ETS E-EVCs are available in fixed bandwidth amounts of 2 Mbps, 5 Mbps, 10 Mbps, 20 Mbps, 50 Mbps, 100 Mbps, 250 Mbps, 500 Mbps, 750 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps.

ETS Interconnected Ethernet Virtual Connection (ETS I-EVC): An ETS I-EVC is a logical association established across a shared Ethernet transmission path allowing the ETS customer to transmit packets to and from an ETS Port in a telephone company's ETS network to another telephone company's Ethernet network located in a non-adjacent operating territory. ETS I-EVC transport option is jointly provided ETS service between non-adjacent telephone company operating territories, where the airline

distance between the ETS Serving Wire Centers (SWCs) serving the customer designated premises (CDPs) is 75 miles or less.

Optional Features and Functions – ETS DSL Access Service Connection Point

Function: The optional DSL Access Service Connection Point (ASCP) function allows an ETS customer (such as an Internet Service Provider) to connect to the telephone company's Ethernet network to transmit and receive ADSL, SDSL and/or non-tariffed, common carrier wireline broadband Internet (WBI) transmission traffic from its end user customers. Where available, the ETS customer may order either an ETS Basic Port or an ETS Interconnection Port equipped with DSL ASCP function. The speed of the DSL ASCP function must be the same speed as the associated ETS Port. The DSL ASCP may be located within the operating territory of the telephone company, or in the operating territory of an adjacent telephone company when used in conjunction with ETS. A nonrecurring charge will apply to equip an ETS Port with the DSL ASCP function.

Optional Features and Functions –ETS MM-VCC: The ETS MM-VCC is a predefined logical circuit established by the Telephone Company between the ETS customer's CDP and the end user premises of one of its customers. There are two types of ETS MM-VCCs: One-Way and Two-Way. A One-Way ETS MM-VCC enables the ETS customer to send high speed multimedia transmissions to its end user customer's premises. It is for use with ADSL Access Service in conjunction with an ETS Port that has been equipped with the DSL Access Service Connection function. The One-Way ETS MM-VCC is only available when the ETS customer's CDP, the ETS customer's end user customer's premises and the Telephone Company's DSL Access Service Connection Point SWC are all located within the serving territory of the Telephone Company. A One-Way ETS MM-VCC is not available with SDSL Access Service. A Two-Way ETS MM-VCC enables the ETS customer to send to and receive from its end user customer's premises high speed multimedia transmissions. It is for use in conjunction with an ETS Port that has been equipped with the DSL Access Service Connection function. The Two-Way ETS MM-VCC is only available for use with an ADSL or SDSL Access Service having both upstream and downstream capabilities of 10 Mbps or greater and when the ETS customer's CDP, the ETS customer's end user customer's premises and the Telephone Company's DSL Access Service Connection Point SWC are all located within the serving territory of the Telephone Company. The total transmission capacity for any ADSL or SDSL Access Service line using the Two-Way ETS MM-VCC option may not exceed 1 Gbps.

Optional Features and Functions –ETS Low Bit Rate-VCC: An ETS LBR-VCC option provides a 64 kbps two-way virtual communications path (upstream and downstream). It is designed to meet the needs of providers of home monitoring services such as security and metering applications, including Advanced Metering Infrastructure for smart grid functions. The ETS LBR-VCC provides a 64 kbps virtual circuit path (secure VLAN) between the ETS customer's CDP and the premises of its end user customer, provided the end user customer's premises is equipped with a tariffed A/SDSL Access Service

provided by the telephone company. Where suitable facilities exist, ETS LBR-VCCs are only available when the ETS customer's CDP, the ETS customer's end user premises and the telephone company's DSL Access Service Connection Point serving wire center (CP SWC) are all located within the serving territory of the telephone company. ETS LBR VCCs do not change the speed available to or from the A/SDSL Access Service end user customer, nor do they increase the bandwidth capacity of the ETS or Special Access elements used by the ETS customer to connect its CDP to the DSL Access Service CP SWC. Transmission speeds are not guaranteed across ETS LBR-VCCs. A monthly and nonrecurring charge applies for each ETS LBR-VCC ordered by the ETS customer. An ETS customer may order multiple 64 kbps increments to an end user customer's premises. The monthly charge for the ETS LBR-VCC is based on the total number of 64 kbps increments specified for that end user customer. The nonrecurring charge applies per ETS LBR-VCC established regardless of the number of 64 kbps increments ordered per end user premises. The ETS LBR-VCC is an eligible element for inclusion in an existing ETS Term Discount Plan, including the Fixed Rate Option where offered, when associated with a committed ETS Port. Local Transport/Special Access Rate Banding does not apply to the ETS LBR-VCC.

ETS Design Change Charge: A nonrecurring ETS Design Change Charge will apply when the customer elects to change the bandwidth capacity on or remove an existing ETS EVC, ETS E-EVC or ETS MM-VCC. The Access Order Charge will not apply when the ETS Design Change Charge applies.

ETS Quality of Service: ETS is provided with a basic Quality of Service (QoS), designed for applications where the flow of information is bursty and delay is tolerable using "best effort" engineering. The telephone company will attempt to deliver all Ethernet packets received on an ETS EVC or ETS E-EVC; however, network congestion could result in some loss of Ethernet packets.

ETS Class of Service (CoS): ETS CoS is an optional feature, which provides the ETS customer with the ability to order from the telephone company two different traffic routing prioritization levels for ETS network capacity. The two proposed CoS levels for ETS are Near Real Time and Real Time, and correspond to the specific user priority value fields described in technical specification IEEE 802.1D-2004, Sections 7, 9, 17 and Annex G. When the customer does not order one of the available CoS levels, its ETS traffic will be transmitted through the telephone company's network as best effort. CoS levels are available in 1 Mbps increments on the customer's ETS Intraswitch or Interswitch Ethernet Virtual Connections (ETS EVCs) between two ETS Basic Ports located within the operating territory of the telephone company. ETS CoS levels are not available for use on any other ETS rate elements. The available CoS levels are Near Real Time (NRT) and Real Time (RT).

ETS CoS Near Real Time (NRT): Supports applications for which the data flow requires low delay variance and can tolerate some latency in ETS frame transmissions. Examples of applications requiring a Near Real Time CoS level may include priority business applications, multimedia transmissions and streaming video services.

ETS CoS Real Time (RT): Supports applications that require minimal delay and low latency to facilitate a steady data flow of user information. Examples of applications requiring a Real Time CoS level may include voice, high quality video, and circuit emulation for higher speed special access services.

Volume Discount Plan for ETS Committed Ports: A new optional ETS Volume Discount Plan (VDP). The VDP discount will apply to the discounted monthly charges for the total number of committed ETS Ports included in the customer's ETS Term Discount Plan in service on the bill date as described below. When applicable, the VDP discount will be applied after the ETS Term Discount Plan discount is applied. The customer must notify the telephone company in writing indicating it wants to participate in the VDP. In order to receive the VDP discount each month, the customer must have a total of five or more committed ETS Basic and Interconnection Ports in service within the telephone company's operating territory. In any month where the total number of committed ETS Ports in service falls below five, the VDP discount will not apply. The VDP discount will not apply to ETS Ports ordered on a month-to-month basis (i.e., non-committed ETS Ports), to the monthly charges for other ETS rate elements, to any ETS related nonrecurring charges, or to any special access services connected to an ETS Interconnection Port.

ETS Bandwidth Add-On Feature: The ETS Bandwidth Add-On (ETS BAO) feature offers an ETS customer increased flexibility when additional bandwidth capacity on eligible ETS service elements is needed. It is only available for the following eligible ETS service elements and speed option combinations: ETS Basic Port, ETS CT, ETS EVC, ETS E-EVC, and/or ETS I-EVC at 50 Mbps, 100 Mbps, 250 Mbps, 500 Mbps and/or 750 Mbps. While an ETS customer has the option to order the ETS BAO feature, a Telephone Company that offers ETS service is required to offer the ETS BAO feature. In lieu of upgrading to the next higher level bandwidth capacity when only a small amount is necessary, the ETS customer can tailor, in 10 Mbps increments, the amount of additional bandwidth capacity it needs for eligible ETS service elements. For example, an ETS customer with an existing 100 Mbps ETS Basic Port needs 150 Mbps of bandwidth capacity. Although it would be paying for bandwidth it did not need, the ETS customer could replace the existing 100 Mbps ETS Basic Port with the next highest speed available under the tariff (i.e., 250 Mbps). Alternatively, the ETS customer could order one ETS BAO feature comprised of five 10 Mbps increments of additional bandwidth added to the underlying 100 Mbps ETS Basic Port to achieve the 150 Mbps of bandwidth capacity that the customer actually needs. One ETS BAO feature is ordered on each eligible ETS service element that requires additional bandwidth capacity. The ETS BAO feature may be added at the same time the underlying ETS service element is initially installed or subsequently added to an existing ETS service element. When ordering the ETS BAO feature, the customer must specify in the remarks section of the access service order: 1) each eligible ETS service element and speed option combination to be supplemented and 2) the total number of 10 Mbps increments of bandwidth capacity to be included in each ETS BAO feature. For example, an ETS customer requires an additional 20 Mbps of bandwidth capacity on its two existing 100 Mbps ETS Interswitch EVCs. The ETS customer would identify on the access order the ETS Basic Ports between which the two 100 Mbps ETS Interswitch

EVCs exist and order an ETS BAO feature comprised of two 10 Mbps increments of additional bandwidth for each 100 Mbps ETS Interswitch EVC. So in this example, two ETS BAO features would be ordered to achieve the desired bandwidth capacity on the identified ETS service elements. Note: As is the case with all ETS service elements, features and functions, the sum of the bandwidth capacity of any type of ETS service element cannot exceed the bandwidth capacity of the associated ETS Port.

IP Gateway Access

IPG will provide customers with the ability to deliver interexchange voice traffic originated on or transported across their IP networks for termination to the telephone company's local exchange service subscribers, and to accept interexchange voice traffic originated on or transported across the telephone company's network, using FGD Switched Access Service and IP packet transport technology. IPG transport options enable transmission at data speeds of 1.544 Mbps or 44.736 Mbps. IPG service is available at designated telephone company serving wire centers where the telephone company has deployed an IP gateway switch and provides FGD Switched Access Service.

IPG Transport Termination (IPG TT): A monthly recurring charge and a nonrecurring charge apply for each termination at the customer designated premises at which IPG Transport is provided. The IPG TT rate recovers the costs to connect the IPG customer's premises to the telephone company's SWC. This charge will apply even when the customer designated premises and the IPG SWC are located in the same telephone company building.

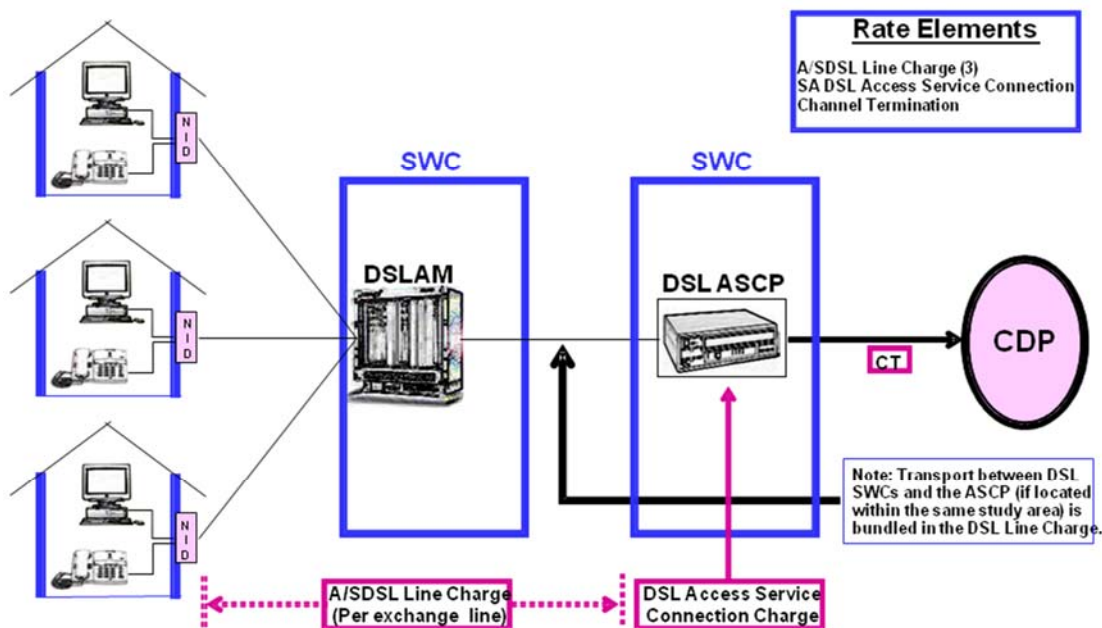
IPG Transport Mileage Facility (IPG TMF): IPG Transport Mileage Facility will be required when the SWC serving the customer designated premises is not equipped with an IPG gateway switch. A monthly recurring charge per airline mile applies to each IPG TMF ordered by the customer. The number of airline miles between the telephone company's SWC serving the customer designated premises and the telephone company's IPG SWC will be calculated using the vertical and horizontal coordinates method specified in the tariff. The IPG TMF rate recovers per-mile costs for the transmission path extending between the telephone company's SWC serving the customer designated premises and the telephone company's IPG SWC.

IPG Transport Mileage Termination (IPG TMT): When IPG Transport Mileage Facility is required as described above, a monthly recurring charge will apply per termination for each IPG TMF ordered by the customer at the telephone company's SWC serving the customer designated premises. The IPG TMT rate recovers the costs for end office equipment associated with terminating the IPG TMF at the SWC serving the customer designated premises (i.e., basic central office circuit equipment).

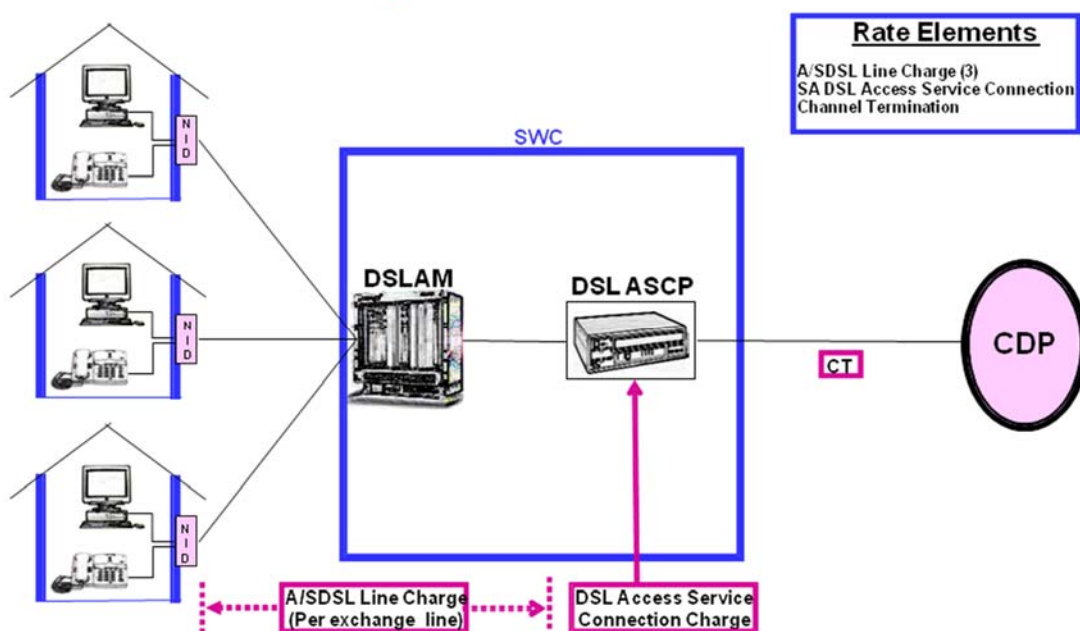
IPG Ports: A monthly recurring charge applies to each IPG Port ordered by the customer. IPG Port charges recover the costs to provide the network interface at the telephone company IPG SWC that allows the IPG customer to terminate interexchange voice traffic to the telephone company's local exchange service subscribers. IPG Ports are available at data speeds of 1.544 Mbps and 44.736 Mbps and are arranged for terminating traffic only.

Network Configuration Diagrams*

Special Access



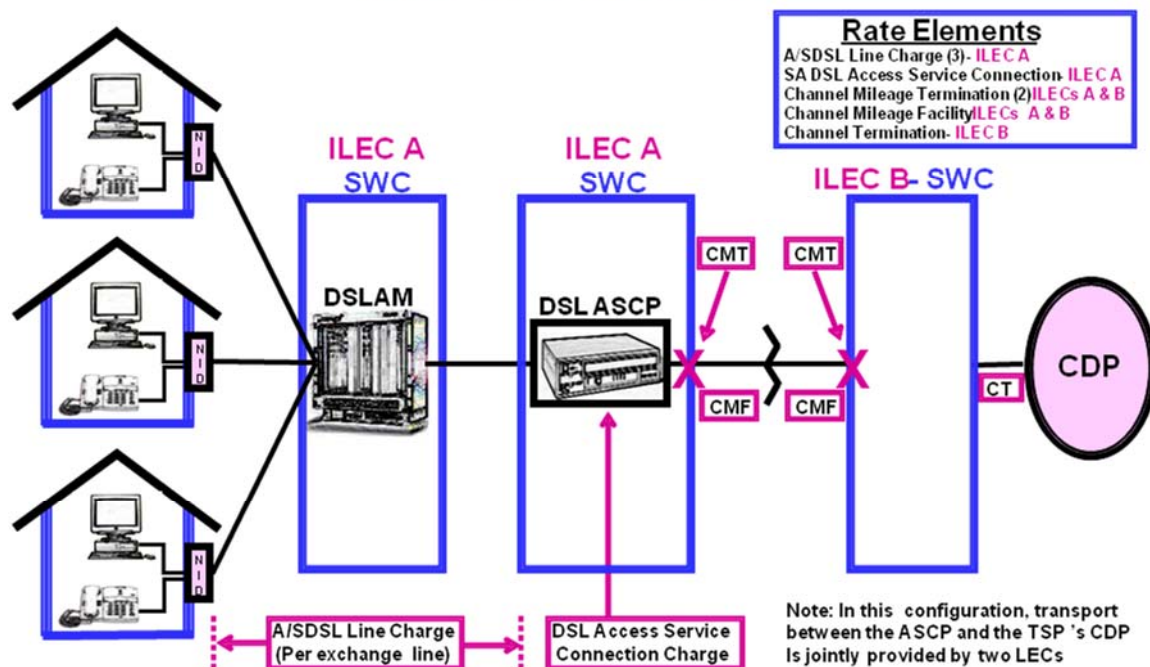
Special Access



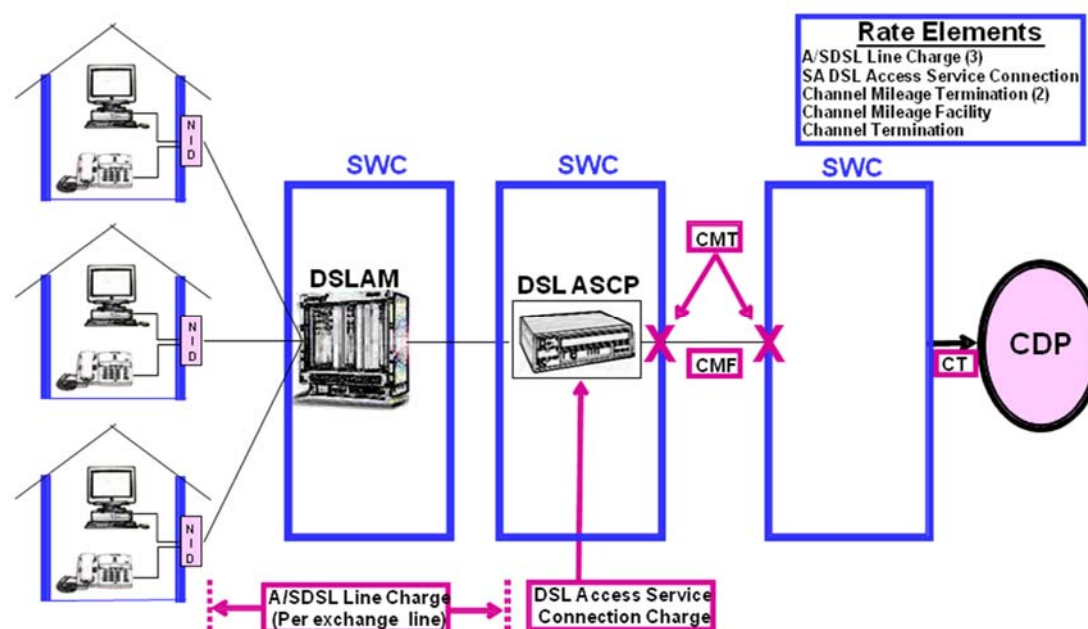
* From the DSL Tariff Compliance Guide.

Network Configuration Diagrams (continued)

Special Access

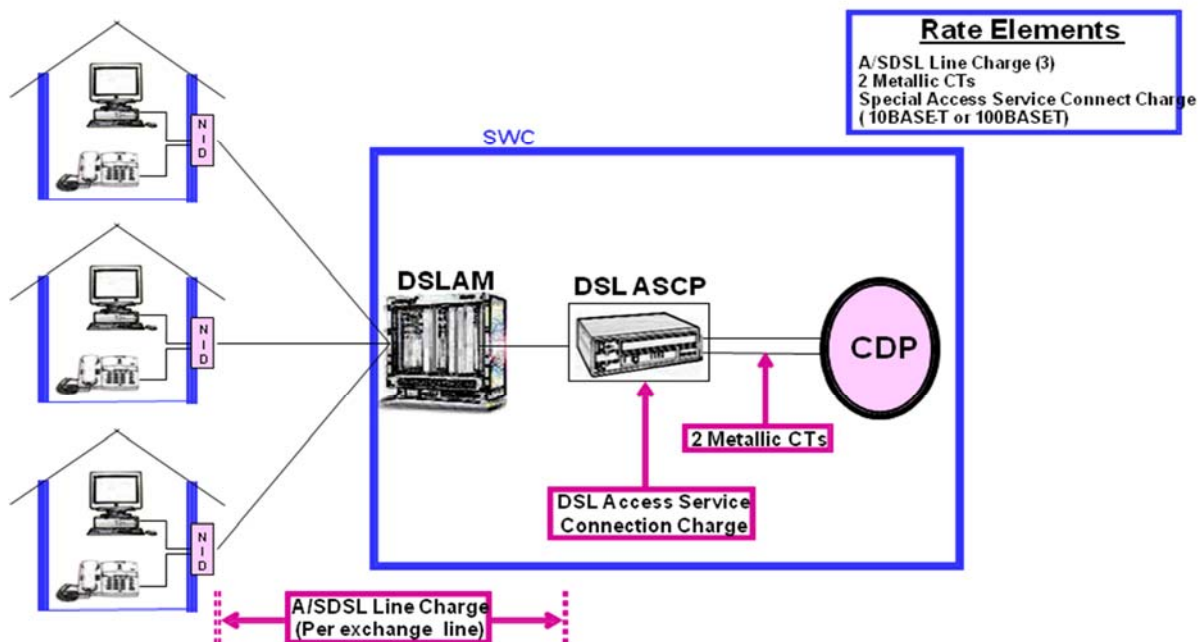


Special Access

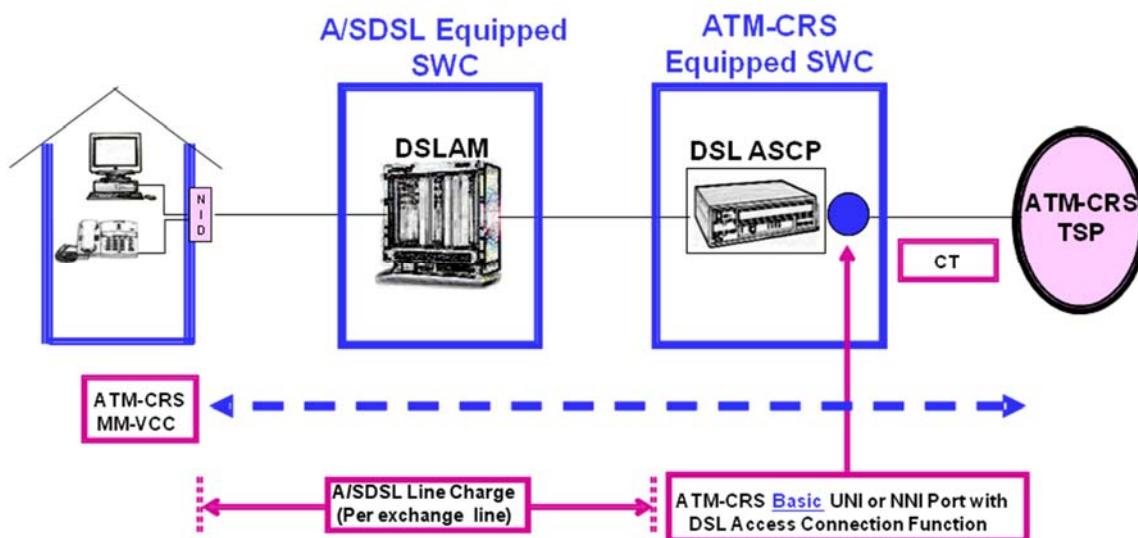


Network Configuration Diagrams (continued)

Ethernet (Copper)

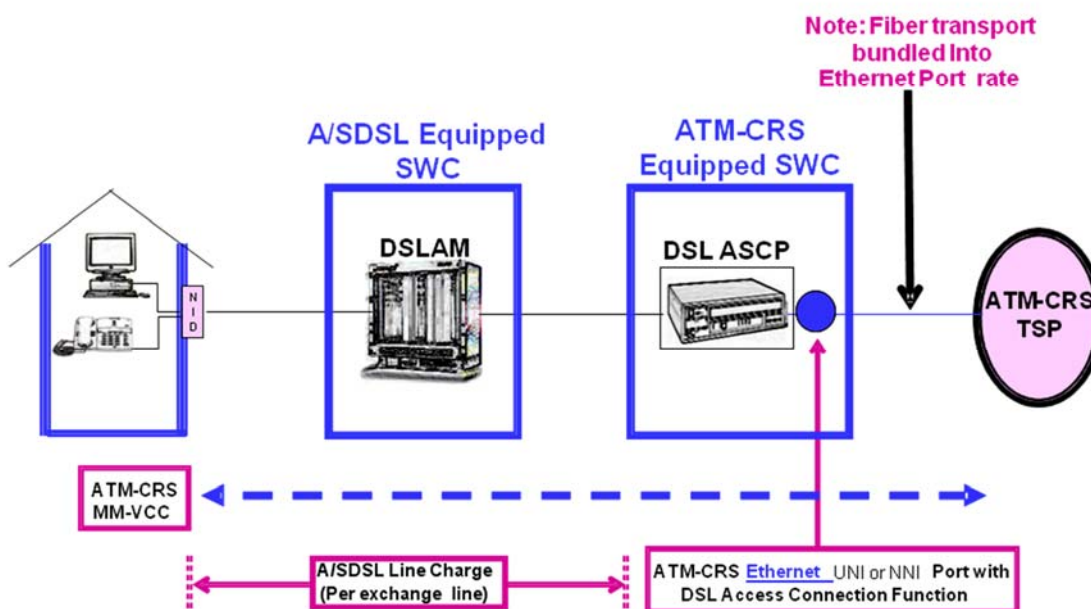


ATM-CRS Basic Port

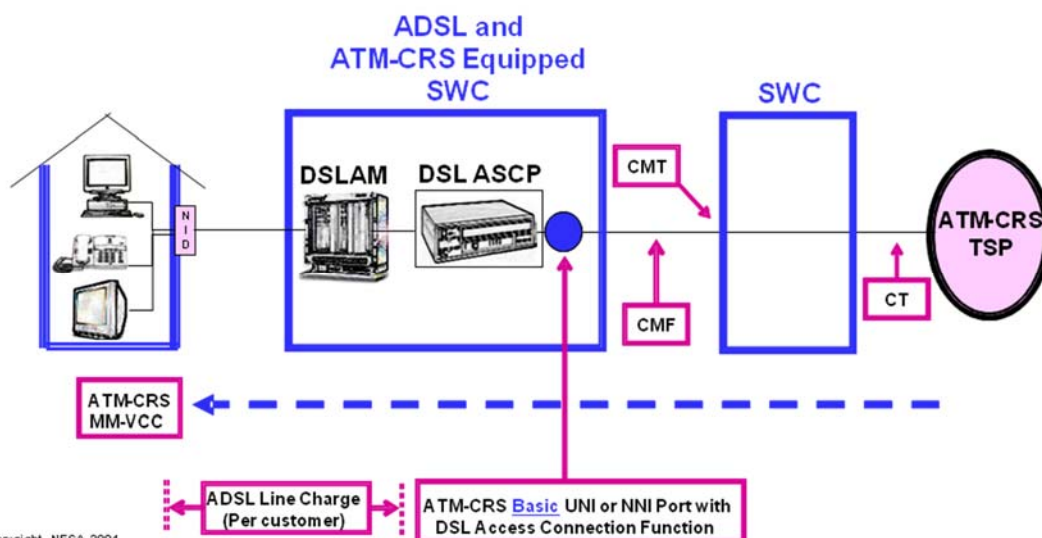


Network Configuration Diagrams (continued)

ATM-CRS Ethernet Port



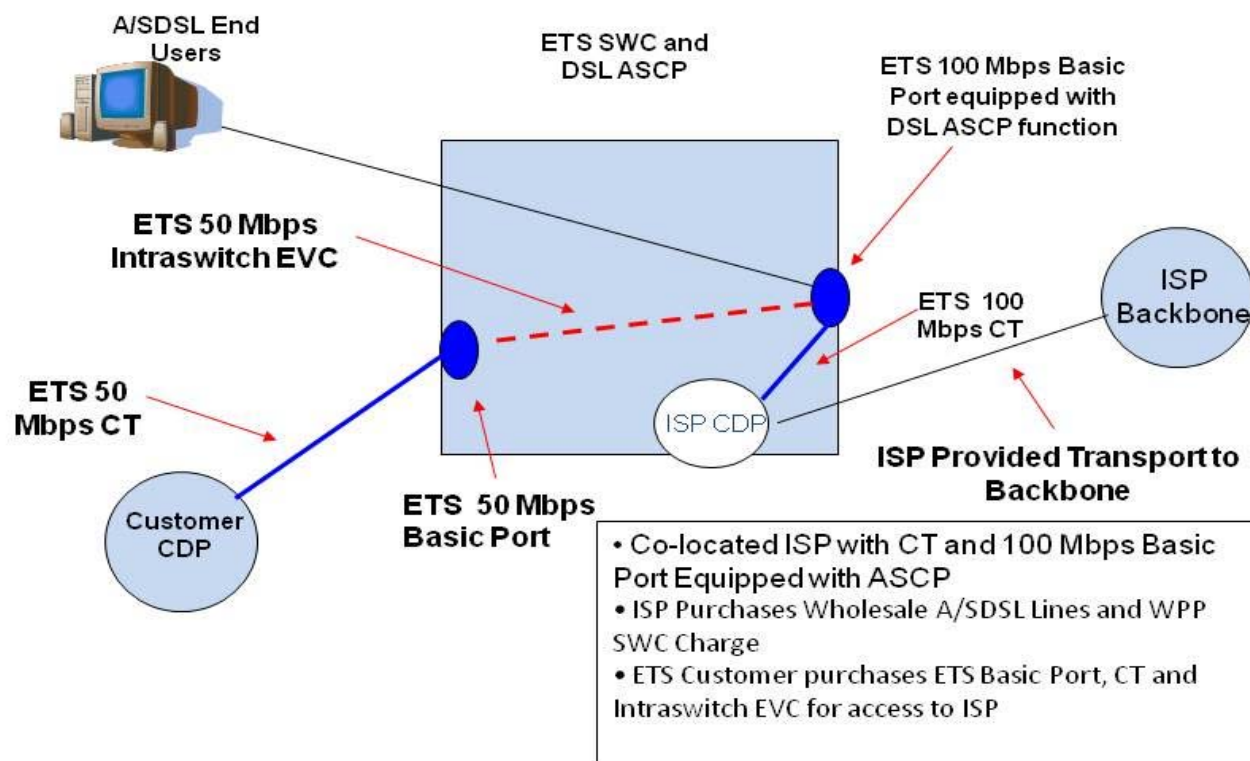
ATM-CRS Basic Port



Copyright NECA 2004

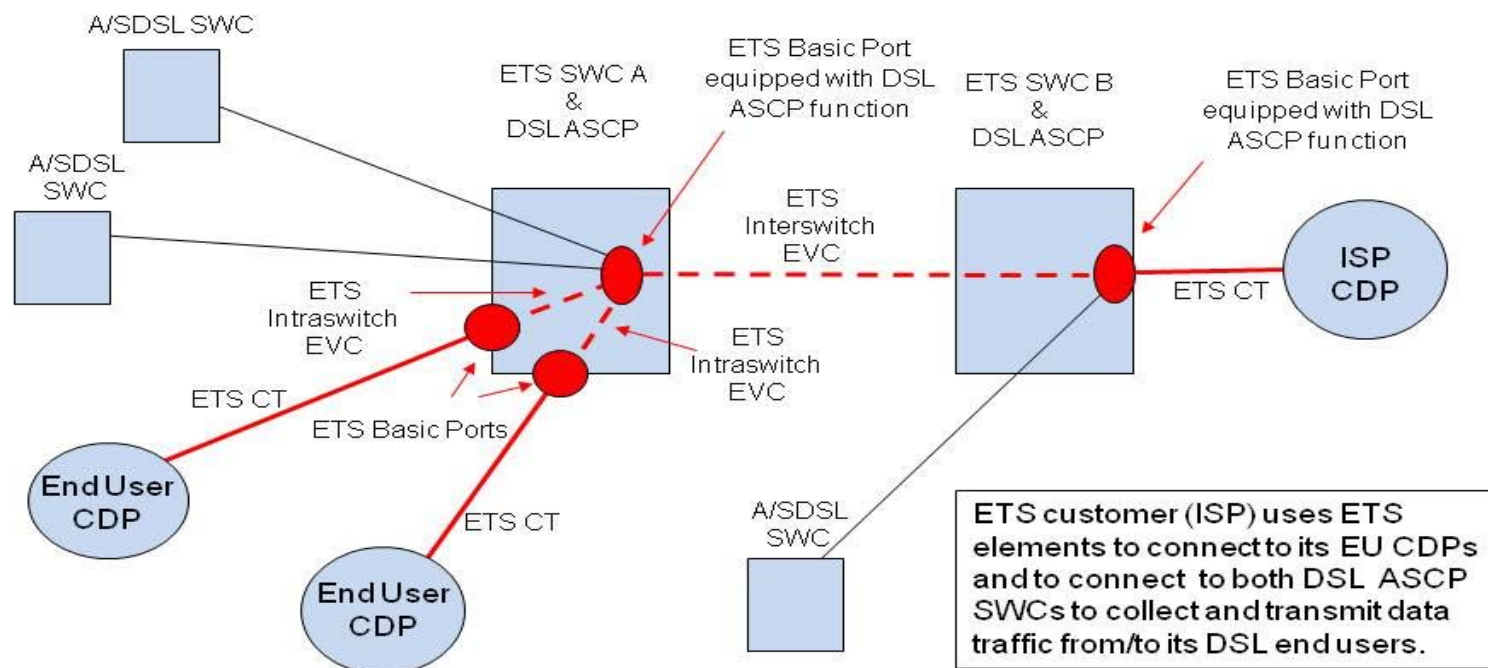
Network Configuration Diagrams (continued)

ETS – Co-located ISP with ETS ASCP & DSL



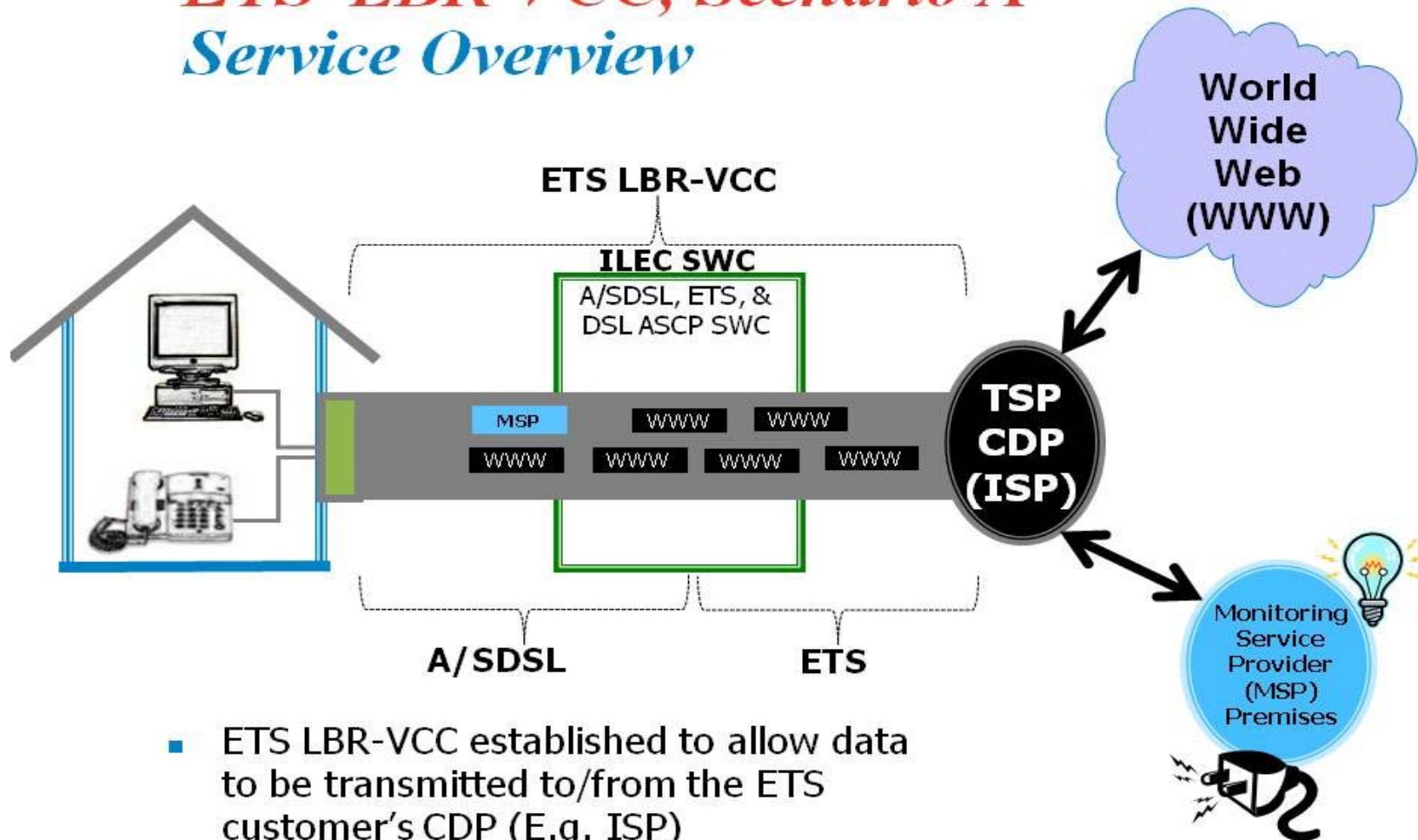
Network Configuration Diagrams (continued)

ETS – Multiple ETS and DSL Connections



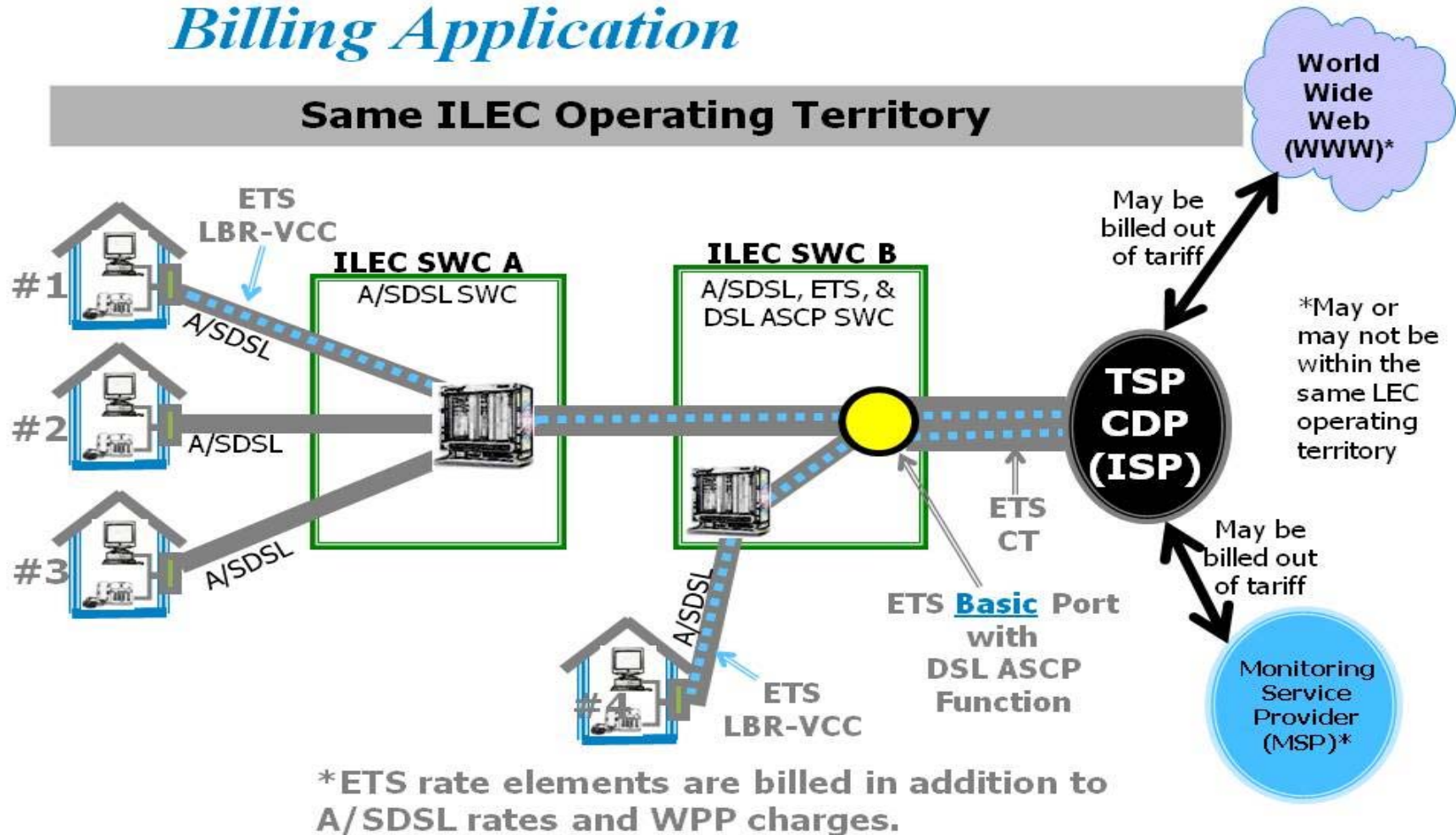
Network Configuration Diagrams (continued)

ETS LBR-VCC, Scenario A Service Overview



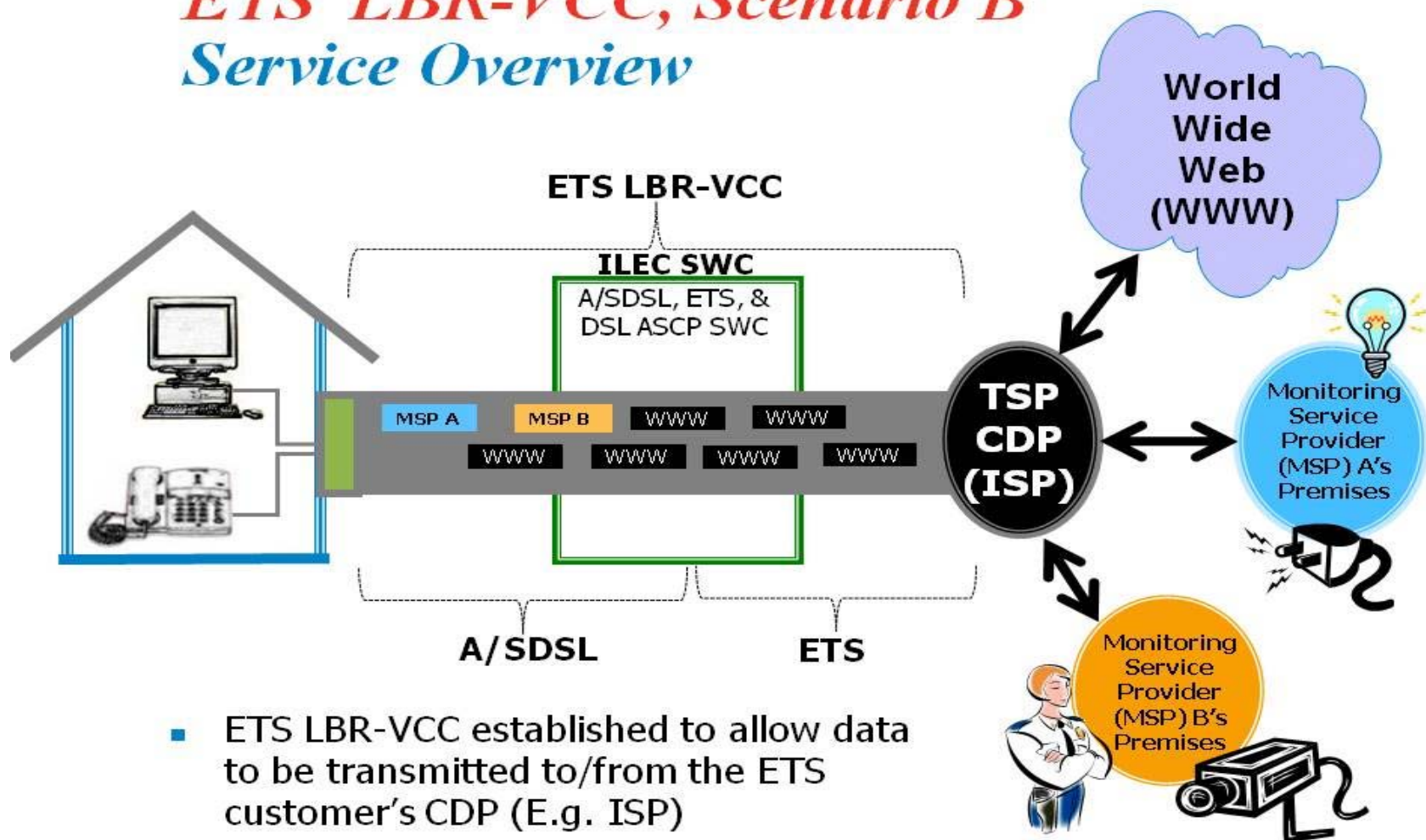
Network Configuration Diagrams (continued)

ETS LBR-VCC, Scenario A Billing Application



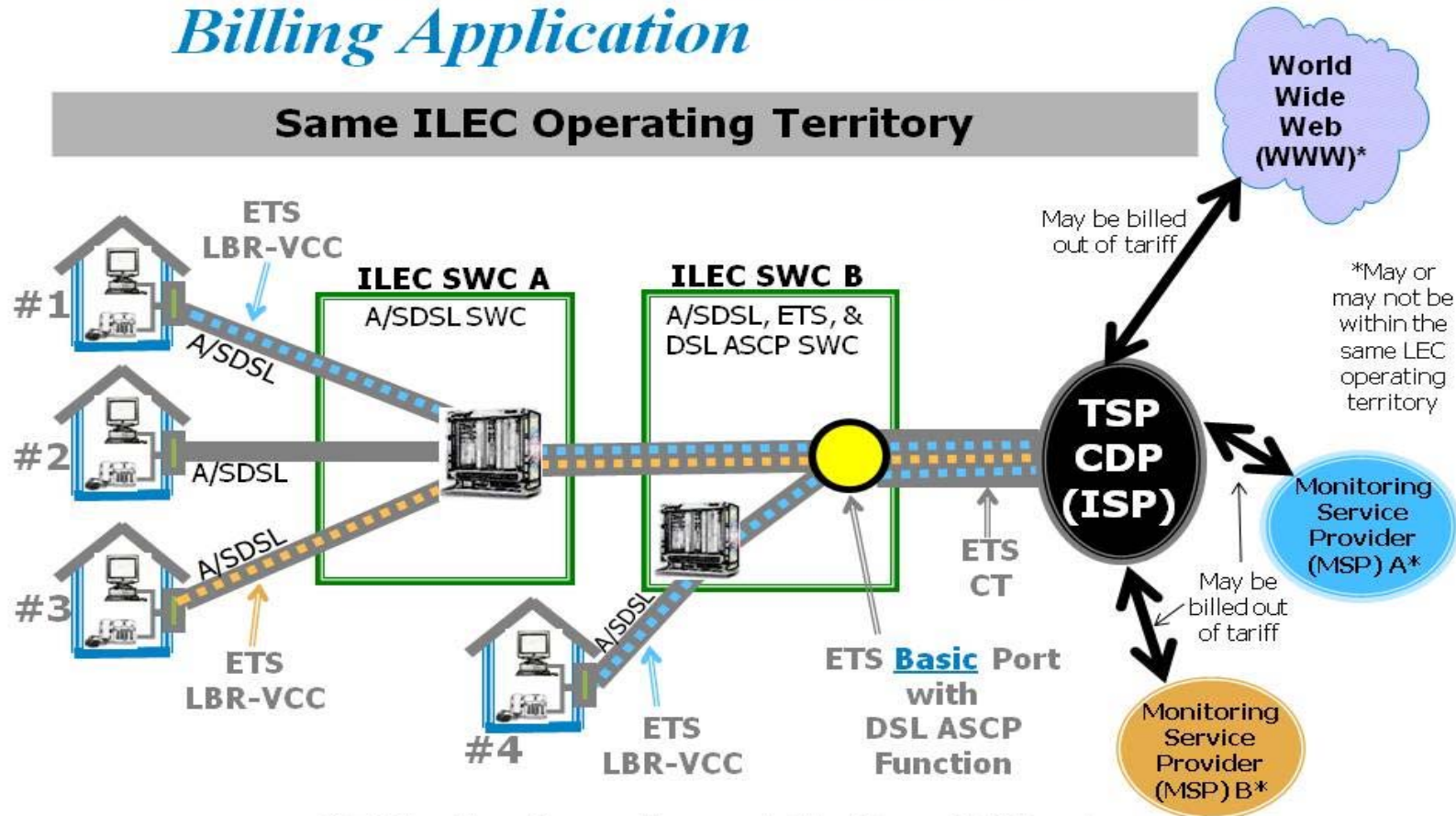
Network Configuration Diagrams (continued)

ETS LBR-VCC, Scenario B Service Overview



Network Configuration Diagrams (continued)

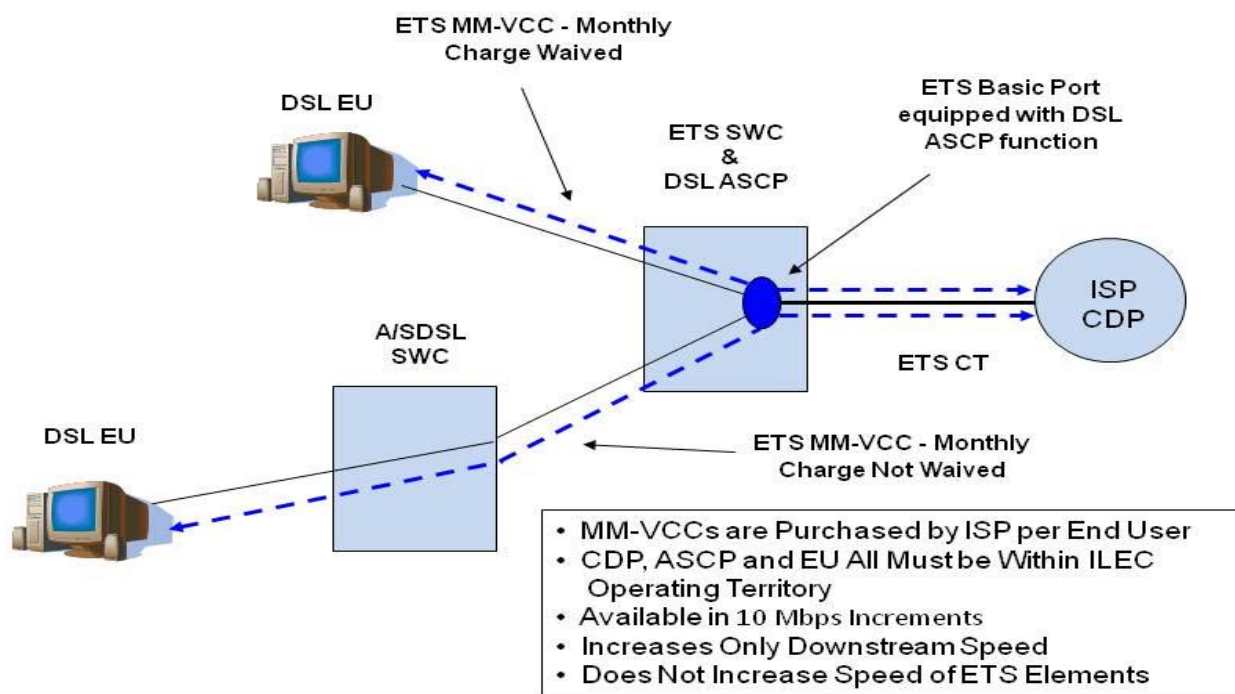
ETS LBR-VCC, Scenario B Billing Application



*ETS rate elements are billed in addition to A/SDSL rates and WPP charges.

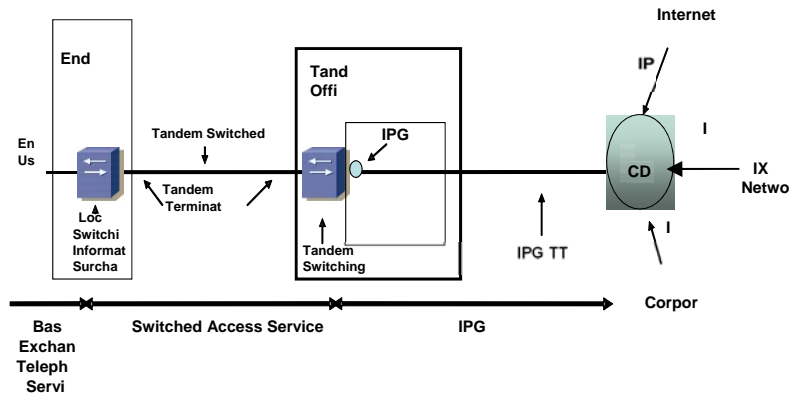
Network Configuration Diagrams (Continued)

Ethernet Transport Service – MM-VCCs

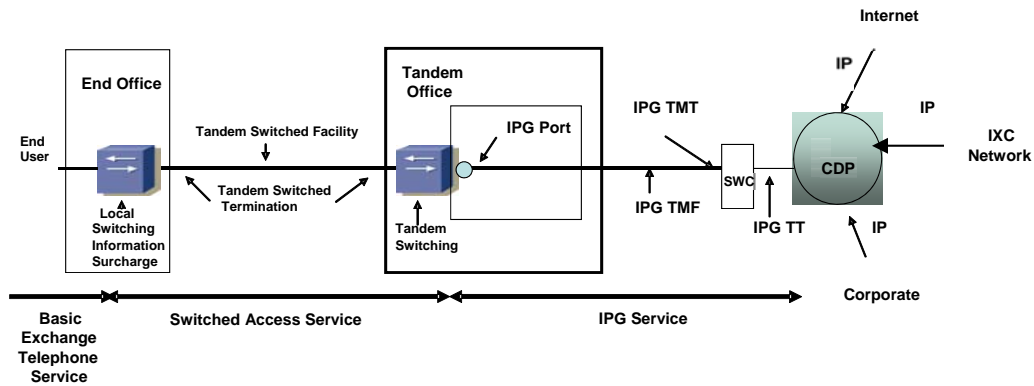


Network Configuration Diagrams (Continued)

IP Gateway Access IP Gateway Located at Tandem

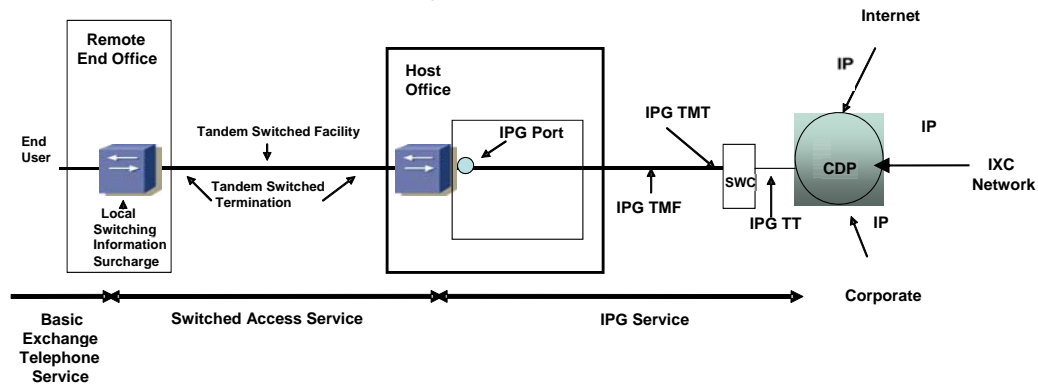


IP Gateway Access Service (IPG) IP Gateway Located at Tandem Office



Network Configuration Diagrams (Continued)

IP Gateway Access Service (IPG) IP Gateway Located at Host Office



IP Gateway Access Service (IPG) IP Gateway at End Office

