

# **DESCRIPTION & JUSTIFICATION INTERSTATE ACCESS TARIFF REVISIONS**

Transmittal No. 110  
Effective February 26, 2016

## **Introduction**

The Chillicothe Telephone Company (Chillicothe) submits the accompanying access tariff revisions to its Interstate Access Tariff No. 1. The purpose of this filing is to adjust the special access channel termination demand for declining DS1 circuits and rebalance the rates for all of the special access channel termination services.

The following is a description of each charge and the associated justification (including statements of cost and rate development which are in accordance with Section 61.38 of the Commission's Rules), which support the information contained in this filing. Exhibit I is the Revenue Price Out using effective demand and rates, as well as prospective demand and rates.

## **Description & Justification**

### ***Channel Termination Recurring Rates***

Chillicothe is experiencing a larger number of DS1 disconnects than projected in the July 1, 2015 annual access tariff filing. Interexchange carriers are disconnecting high capacity circuits and moving the traffic to towers via their own fiber facilities or other telecommunications companies' facilities. Chillicothe over-forecasted the high capacity DS1 channel termination demand for the annual tariff filing and is seeking to adjust its special access rates.

Chillicothe proposes decreasing its high capacity DS1 channel termination demand from 430 to 333. Chillicothe's DS1 demand is currently at 391 and 58 additional disconnects are pending. See Exhibit IV for the history of actual to forecast demand for the 2015-2016 tariff period. Chillicothe will use its unit investment study to rebalance its special access channel termination rates.

A unit investment study identifies the average equipment needed to provide each special access service type including voice grade, digital data, high capacity DS1 and high capacity DS3. Each piece of equipment cost is multiplied by a factor if one circuit does not use 100% of the

equipment. This results in a “typical unloaded investment” value for each piece of equipment. The unloaded investment is totaled for each service type. The unloaded investment by service type is multiplied by the service demand to calculate a weighted investment. Each service type’s weighted investment is divided by the total special access weighted investment to calculate a factor which is multiplied by the annual special access revenue requirement.

Essentially, the base equipment cost and demand for each service type is used to allocate the interstate special access revenue requirement to the individual special accesses services. The special access service type revenue requirement is divided by the service demand to calculate monthly rates. This type of analysis is performed separately for the channel termination, channel mileage termination, and channel mileage facility revenue requirements. This tariff filing requires only the channel termination analysis.

Chillicothe amended its unit investment study template to adjusted DS1 demand from 430 to 333. Exhibit II details the revised unit investment study and identifies the proposed rates by service type. Exhibit III is the original unit investment study used for the 2015-2016 tariff filing. In addition, multiplexing charges are associated with some of the disconnecting DS1s. Chillicothe proposes decreasing multiplexing monthly demand from 29 to 19.

Exhibit I is the Revenue Price Out using effective demand and rates, as well as prospective demand and rates. The shift in rates is typically revenue neutral and the special access channel terminating revenue requirement would remain at \$1,643,238 as filed in the annual 2015-2016 tariff filing. However, Chillicothe is proposing to decrease the recurring revenue by \$69,842 for the multiplexing associated with the disconnected DS1 circuits. The proposed special access channel termination revenue requirement increases from \$1,643,238 to \$1,713,080.

### ***Rate Rebalancing***

The unit investment study in the original filing and the proposed filing holds the unloaded investment cost, by service type, constant. Because the unloaded investment cost is the basis for the rate calculation process, and the costs remain the same in the original 2015-2016 annual filing (Transmittal No. 109) and the subject tariff filing (Transmittal No. 110), the relationship between the spreading of the revenue requirement and the calculation of rates by service type remains the same. Although demand and rates may change for each service, the relationship between each service’s revenue requirements will be the same. Therefore, each service’s demand may change in this proposed filing and new rates will be calculated, but the change in rate, by service type, will be the same for all rates due to the underlying unloaded investment cost being the primary driver in the weighting of the revenue requirement by service.

When the DS1 demand is decreased from 430 to 333, all rates increase equally by 27%. This will occur every time because the demand components are weighted by the same unloaded investment costs. If the unloaded investment costs were to change, then the percent change between rates by services (from current to prospective filings) would no longer be uniform for the service(s) changed.

When the recurring revenue associated with multiplexing charges is decreased, the unit investment study for channel termination rates and revenue is not revenue neutral. The annual channel termination revenue requirement is increased by the annual amount of decreased multiplexing revenue.

**EXHIBIT I**  
**REVENUE PRICE OUT**

Access Element	2015-2016		2015-2016		Prospective Monthly	Effective Rate	Prospective Rate	Effective Revenue	Prospective Revenue	Total
	Effective Demand	Original Monthly	Prospective Demand	Prospective Monthly						
	[A]=Input	[B]=[A]/12	[C]=Input	[D]=[C]/12	[E]=Tariff Sheets	[F]=Exhibit III	[G]=[A]*[E]	[H]=[C]*[F]	[I]=[H]-[G]	
CT-2W	72	6	72	6	93.78	118.80	\$ 6,752	\$ 8,554	\$ 1,801	
CT-4W	12	1	12	1	108.23	\$ 137.10	\$ 1,299	\$ 1,645	\$ 346	
CT-DDS (56K)	204	17	204	17	125.16	\$ 158.55	\$ 25,533	\$ 32,345	\$ 6,811	
CT-HC (T1)	5,154	430	3,996	333	251.22	\$ 318.23	\$ 1,294,767	\$ 1,271,651	\$ (23,116)	
CT-HF (DS3)	132	11	132	11	2,385.50	\$ 3,021.86	\$ 314,886	\$ 398,886	\$ 84,000	
							<b>\$ 1,643,238</b>	<b>\$ 1,713,080</b>	<b>\$ 69,842</b>	

## EXHIBIT II

### UNIT INVESTMENT STUDY – WITH PROSPECTIVE DEMAND

Type of Service		Typical Unloaded Investment	2015-2016 Monthly Demand	BIP and Miles	Monthly Demand Miles	Weighted Rate Relations	Weighting Distribution	Original Test Tear RRQ	Rate Per Year	Rate Per Month	Proof
[A]		[B]=Records	[C]=Input	[D]	[E]	[F]=[B]*[C]	[G]=[F]/Total [F]	[H]=[G]* Total [H]	[I]=[H]/[C]	[J]=[I]/12	[K]=[J]*[C]*12
<b>Channel Termination Rate</b>											
Voice Grade 2 Wire	<i>Total</i>	\$647.22	6	na	na	\$3,883	0.50%	\$8,554	\$1,425.59	\$118.80	8,554
Voice Grade 4 Wire	<i>Total</i>	\$746.94	1	na	na	\$747	0.10%	\$1,645	\$1,645.22	\$137.10	1,645
Digital Data	<i>Total</i>	\$863.81	17	na	na	\$14,685	1.89%	\$32,345	\$1,902.63	\$158.55	32,345
HI CAP DS1	<i>Total</i>	\$1,733.74	333	na	na	\$577,337	74.23%	\$1,271,651	\$3,818.77	\$318.23	1,271,651
HI CAP DS3	<i>Total</i>	\$16,463.32	11	na	na	\$181,096	23.28%	\$398,886	\$36,262.36	\$3,021.86	398,886
Total						<u>\$777,748</u>		<u>\$1,713,080</u>			<u>1,713,080</u>
Checksum								<u>\$1,713,080</u>			

Source and Calculations

- [A] Tariffed Services
- [B] The amount of investment item used by on service circuit type. Investment costs are per vendor quotes or CPRs.
- [C] Estimated demand is forecast circuits based on historical data.
- [D] Not applicable for channel termination billing.
- [E] Not applicable for channel termination billing.
- [F] Demand multiplied times the investment cost for one circuit.
- [G] Distribution of the total in this column.
- [H] The total revenue requirement for the respective Part 69 access element is allocated to individual service types by applying the individual weighting factors in column G.
- [I] Annual revenue requirement divided by demand.
- [J] Annual amount divided by 12.

### EXHIBIT III

#### UNIT INVESTMENT STUDY – WITH EFFECTIVE DEMAND

Type of Service		Typical Unloaded Investment	2015-2016 Monthly Demand	BIP and Miles	Monthly Demand Miles	Weighted Rate Relations	Weighting Distribution	Original Test Tear RRQ	Rate Per Year	Rate Per Month	Proof
[A]		[B]=Records	[C]=Input	[D]	[E]	[F]=[B]*[C]	[G]=[F]/Total [F]	[H]=[G]* Total [H]	[I]=[H]/[C]	[J]=[I]/12	[K]=[J]*[C]*12
<b>Channel Termination Rate</b>											
Voice Grade 2 Wire	<i>Total</i>	\$647.22	6	na	na	\$3,883	0.41%	\$6,752	\$1,125.38	\$93.78	6,752
Voice Grade 4 Wire	<i>Total</i>	\$746.94	1	na	na	\$747	0.08%	\$1,299	\$1,298.76	\$108.23	1,299
Digital Data	<i>Total</i>	\$863.81	17	na	na	\$14,685	1.55%	\$25,533	\$1,501.97	\$125.16	25,533
HI CAP DS1	<i>Total</i>	\$1,733.74	430	na	na	\$745,510	78.81%	\$1,294,767	\$3,011.09	\$250.92	1,294,767
HI CAP DS3	<i>Total</i>	\$16,463.32	11	na	na	\$181,096	19.14%	\$314,886	\$28,626.02	\$2,385.50	314,886
Total						<u>\$945,921</u>		<u>\$1,643,238</u>			<u>1,643,238</u>
Checksum								<u>\$1,643,238</u>			

Source and Calculations

[A] Tariffed Services

[B] The amount of investment item used by on service circuit type. Investment costs are per vendor quotes or CPRs.

[C] Estimated demand is forecast circuits based on historical data.

[D] Not applicable for channel termination billing.

[E] Not applicable for channel termination billing.

[F] Demand multiplied times the investment cost for one circuit.

[G] Distribution of the total in this column.

[H] The total revenue requirement for the respective Part 69 access element is allocated to individual service types by applying the individual weighting factors in column G.

[I] Annual revenue requirement divided by demand.

[J] Annual amount divided by 12.

**EXHIBIT IV**

**HISTORICAL CHANGE IN DEMAND**

**HIGH CAPACITY DS1 – CHANNEL TERMINATION CIRCUITS AND MULTIPLEXING**

	<u>DS1 Channel Termination</u>			<u>DS1 Multiplexing</u>		
	<b>Original Filed Demand</b>	<b>Historical and Expected Demand</b>	<b>Change in Demand</b>	<b>Original Filed Demand</b>	<b>Historical and Expected Demand</b>	<b>Change in Demand</b>
Jan-16	430	391	(39)	29	19	(10)
Feb-16	430	333	(97)	29	19	(10)
Mar-16	430	333	(97)	29	19	(10)
Apr-16	430	333	(97)	29	19	(10)
May-16	430	333	(97)	29	19	(10)
Jun-16	430	333	(97)	29	19	(10)