

APPENDIX C

OECA Docket 04-05

Report on Phantom Traffic

September 26, 2005

I. Identification of Issue

A significant volume of telecommunications traffic is being delivered to rural incumbent local exchange companies (rural companies) for termination without sufficient information to permit billing by the rural companies. This traffic originates from interexchange carriers (IXCs), competitive local exchange carriers (CLECs), wireless providers and others (collectively, "the originating providers"). The rural companies are not being paid for terminating this traffic. As a corollary, the originating providers are receiving free use of the rural companies' networks. In addition, it appears that significant amounts of toll or long-distance traffic is being delivered to the rural companies over extended area service (EAS) trunks without records necessary for assessing access charges. This traffic – traffic delivered without associated information identifying the originating carrier, or interexchange carrier in the case of toll traffic – is referred to as "Phantom Traffic."

The presence of Phantom Traffic creates several problems. The first of these problems is that to the extent that the Phantom Traffic would otherwise qualify as traffic subject to tariffed access charges, there is an understatement of access traffic. This understatement of access traffic can have two consequences. The first is that the rural company has a shortfall in covering the costs of providing access services. The second consequence is that access rates are higher than they would otherwise be since the traffic is not being included in the calculation of the appropriate level of access rates. This, in turn, has consequences for determining intercarrier compensation reform. If the "size of the pie" is not properly measured, it may lead to adoption of a particular intercarrier compensation reform mechanism that would not be appropriate if the total volume of access traffic was properly accounted for. This means that to the extent that revenue recovery through access charges is transferred to charges to end use customers under a particular intercarrier compensation reform mechanism, there is the potential for too large of an increase in end user charges.

Second, the presence of Phantom Traffic also has potential problems for universal service fund mechanisms. To the extent the traffic appears as local traffic (delivered over an EAS trunk group), it may not be counted in interstate revenues for a particular carrier and thus there is less of a contribution to the federal universal service fund, resulting in a higher percentage surcharge being assessed to other customers. In addition, to the extent that intercarrier compensation reform mechanisms propose the transfer of recovery of revenues from access charges to universal service fund mechanisms, there is a higher proportion of revenue shifted to those universal service fund mechanisms due to the presence of Phantom Traffic, if such Phantom Traffic is properly access traffic. This, also, can affect the majority of customers by requiring them to contribute a higher percentage to a federal universal service fund than might otherwise be the case if all traffic was properly measured and billed appropriately.

The third problem posed by the presence of Phantom Traffic is the effect on the network. Increasing use of the public switched telephone network (PSTN) by carriers

that do not pay for the use of the PSTN creates an increasing strain on the network. Absent adequate compensation from all telecommunications users, the carriers owning the networks, such as the rural companies, may not be able to afford network augmentation, network improvements or network upgrades. If there are political limits on the amount of support that can be provided by universal service funds, the free use of the PSTN by carriers that originate Phantom Traffic creates a transfer of those costs from the carriers using Phantom Traffic to end use customers to pay for network augmentation, network improvements and network upgrades. However, there are practical and competitive limitations on the extent to which charges to end use customers can be increased. As a result, it is not clear how continued investment in the PSTN can be sustained in the face of a growing volume of Phantom Traffic.

National estimates have put the size of the Phantom Traffic problem at twenty percent or more of the traffic terminating to a rural carrier.¹ In Oregon, one company that has established the capability to capture terminating traffic has reported that upwards of fifty percent of the traffic terminating to it on Feature Group C (FGC) trunks² potentially qualify as Phantom Traffic. The same company reported that on Feature Group D (FGD) trunks that the interexchange carriers (IXCs) order directly to the company (not tandem routed), the Phantom Traffic rate is well below one percent. Two Washington companies with similar measuring capability have reported that well in excess of thirty percent, and recently approaching forty percent for one company and in excess of fifty percent for the other company, of the traffic terminating to these companies on FGC trunks do not have associated billing records and, thus, may qualify as Phantom Traffic.³

The traffic is being delivered to toll/access tandems owned and operated by Qwest or potentially other tandem operators by the originating providers. The vast majority of rural companies subtend Qwest tandems. That traffic is then delivered to the rural companies over trunk groups established for toll calls. In some cases, toll traffic is not delivered to the toll tandem and instead is delivered to the rural companies over EAS trunks.

The traffic traversing the toll/access tandems is generally referred to by the tandem provider as transiting traffic, since it originates on the network of one provider, transits through the network of an intermediary provider (the tandem provider), and terminates on the network of a third provider.⁴

¹ National Exchange Carrier Association, Inc., "Phantom Traffic" Uncover, Discover and Recover, Presented March 3, 2005. Balhoff & Rowe, LLC, Phantom Traffic: Problem and Solutions, (May, 2005).

² In common usage, the trunk groups between rural companies and Qwest to and from the toll/access tandem for the carriage of toll traffic are referred to as Feature Group C trunks and that nomenclature will be adopted for the report. Technically, the trunk groups were established as Feature Group trunks for the provision of Feature Group services (Feature Group A, Feature Group B, and Feature Group C) ordered out of the rural company's access tariff. There is disagreement whether to characterize the feature groups in terms of signaling protocols (i.e., FGC is "traditional signaling") or services. This technical debate was not resolved within the docket. More importantly, the technical debate appears to have little meaning for the resolution of Phantom Traffic issues.

³ See Tables 1 and 2, attached. In particular, note the growth in the traffic that may qualify as Phantom Traffic over the past four years.

⁴ This assumes that the originating and terminating parties subtend the same tandem.

The originating providers may pay the intermediary provider transiting charges for transporting the traffic from their networks, switching the traffic at the tandem, and transporting the traffic to the networks of the rural companies. These charges are pursuant to access tariffs and interconnection agreements.

Historical compensation schemes evolved to an access charge structure under which rural companies assess Qwest originating and terminating access for delivery of the intraLATA toll traffic.⁵ The toll trunks were not used for the routing of EAS traffic. The converse was also true; historically, EAS trunks were not used for the routing of toll/access traffic. Today, it appears that EAS traffic is routed over toll trunk groups and toll traffic is sometimes routed over EAS trunk groups. In most cases, such traffic lacks signaling information sufficient to permit identification of the originating provider or the facilities of the rural companies are not technically capable of identifying the originating provider for this traffic. Again in most cases, the rural companies are not able to block traffic from particular providers without blocking all incoming traffic on these shared trunks.

In the past, the amount of unidentified transiting traffic delivered to rural companies from an intermediary provider was not significant. This has changed, driven in major part by growth in usage in the wireless and CLEC markets. Termination of originating Voice over Internet Protocol (VoIP) traffic destined for access lines served by rural companies may also be a growing contributor to the problem. It also appears that access bypass is, in part, a motivating factor. Significant costs for rural companies are attributable to the volume of such traffic now being delivered to the rural companies.

II. Background: Evolution of Interconnection

Historically, the telephone network has had central offices⁶ connected to tandem switches, which were, in turn, connected to other long distance switching offices. Prior to the Bell System divestiture in 1984, the tandem switches to which rural company central offices connected were generally owned by AT&T Long Lines (AT&T) or Pacific Northwest Bell Telephone Company (PNB).

With the Bell System divestiture, the AT&T and PNB tandem offices became US WEST properties, and US WEST (now Qwest) became the intraLATA toll provider for all of the rural companies' service areas in Washington and Oregon. This meant that intraLATA long distance calls placed by rural company customers were jointly provided by the rural company where the call originated and Qwest. IntraLATA toll traffic continued to use the existing trunks constructed under the old AT&T and PNB regime.

⁵ With the implementation of equal access, IXCs other than Qwest also pay access charges on intraLATA traffic.

⁶ Central offices that serve end user subscribers are referred to as "end offices." Every end office is not directly connected to every other end office. Traffic between end offices is aggregated for both originating and terminating purposes through tandems that serve several subtending central offices. An explanation of the various types of traffic and the methods used to route such traffic appears in Appendix A. A glossary of some of the technical terms is included as Appendix B.

As a general rule, the rural companies provided trunking to and from a meet point with Qwest and Qwest provided the remainder of the intraLATA toll network.⁷ Those trunks were, and are, FGC.

After the Bell System divestiture, interLATA toll traffic originating or terminating in areas served by the rural company was also routed through Qwest tandems, but such traffic was routed to the customer's chosen interLATA toll provider. After divestiture and the deployment of Equal Access, all major interexchange carriers, and most minor ones, purchased FGD trunking to the Qwest tandems, and in some cases directly to the end offices of the rural company,⁸ for the handling of interLATA toll traffic, since FGD allowed carriers to use equal access dialing for originating calls. With equal access dialing originating calls, the presubscribed interexchange carrier identification code ("CIC") is signaled in FGD format from the end office to the tandem switch. IntraLATA toll traffic, however, continued to be routed over the existing FGC trunks which predated divestiture.

Prior to the Bell System divestiture, and for a substantial period thereafter, EAS calls were carried over separate trunks and not co-mingled with toll traffic. More recently, some EAS traffic, especially EAS traffic originating from CLECs, has come to be carried over the FGC trunks that historically were reserved exclusively for toll traffic.⁹ Today, the traffic routed by Qwest on the FGC trunks terminating at rural company central offices includes calls from CLECs and wireless providers who have interconnected at the Qwest access/toll tandem, instead of at the rural company end offices. The rural companies have trouble billing for this traffic because all types of traffic on the FGC trunks are co-mingled and the rural companies, as a technical matter, cannot identify, based on terminating call records the rural company creates, whether calls they terminate should be billed to an IXC, a CMRS provider or a CLEC. On FGD trunks, the terminating billing record is a combination of Signaling System 7 (SS7), which is out-of-band signaling, or recording data on call duration, and the carrier to be billed is identified through the control of the interconnection trunk: if the trunk has been ordered by carrier X, or is otherwise assigned to carrier X, then the traffic is billed to carrier X. However, since transiting traffic is carried on shared trunks (FGC), the rural companies cannot identify the carrier based on the trunk. For traffic which transits the tandem, only the tandem provider can identify the carrier to be billed.

If the information is present in the signaling stream, it is technically possible to identify the company serving the originating customer based on SS7 or the in-band signaling information. For example, SS7 call signaling contains a number of data fields. The Calling Party Number (CPN) field identifies the number of the person placing the call. The Charged Number (CN) field indicates the number that is being billed for the

⁷ Each company had a distinct meet point with Qwest unless the rural company subtended another, non-Qwest tandem. This was, and is, a relatively rare occurrence.

⁸ A few rural companies have maintained their own tandem from time-to-time, in which case the traffic would route to the rural company's tandem.

⁹ This description of traffic flows is not meant to suggest that the routing of EAS traffic over toll trunks or toll traffic over EAS trunks is an acceptable routing mechanism. Rather, this phenomena is a contributing factor to the creation of Phantom Traffic.

call. If the calling number has not been ported, the NPA-NXX of the CPN can be used to identify the company serving the calling party. Although there are industry billing guidelines that establish billing record formats for the recording of traffic carried by an IXC, the signaling stream will not necessarily identify the carrier for the call if the call is carried by an IXC since the CIC of the carrier responsible for terminating charges is not signaled in the terminating direction. In addition, if the calling number has been ported,¹⁰ then the SS7 local call signaling may also contain the local routing number or LRN as well as the ported number, and the company providing local service to the calling party can be identified via the LRN.

In theory, the use of the CIC is available for identifying the carrier responsible for terminating charges. However, population of the IXC responsible for call termination charges in the CIC field in SS7 transmissions is optional at this time. Further, wireless carriers are not required to obtain or use CICs. In any event, since it is not needed for routing for termination purposes, CIC is not signaled in the terminating direction today. SS7 has many additional fields, such as jurisdictional indicators and some of these might be used for identifying the originating carrier (defined as the IXC the calling party uses for the call), but that requires further technical investigation.

The problem is that calls using SS7 can be completed even if the data in some of these fields used to identify the originating carrier is missing or incorrect. The same is true for the in-band signaling (MF)--the calls complete even if the information is missing. For example, calls from wireless providers generally leave the carrier parameters blank. In other cases, the originating or transiting carriers may change information in certain fields, for a variety of reasons.

An additional problem may be that some trunks interconnecting transiting carriers and originating providers may not use SS7 signaling for the entire call route. The same may be true of trunks connecting the transiting providers and the terminating rural companies. If these interconnecting trunks are not SS7 compatible, then the out-of-band SS7 message, which contains the information which could be used to identify the originating provider, will not be passed over that portion of the call route where the trunks are not SS7.

The shared interconnection trunks (FGC) connecting an access tandem and the rural company end office carry a variety of traffic terminating to the rural company, including:

- IntraLATA traffic from the tandem operator.
- IntraLATA traffic originating from another ILEC providers serving as Primary Toll Carriers.
- Wireless traffic.

¹⁰ Local number portability allows a customer to move or “port” service from one provider to another without the need to change telephone number.

- Terminating traffic (both toll and EAS) bound to the terminating rural company from CLECs which interconnect with the tandem operator at the access/toll tandem.
- Terminating traffic (both interLATA and intraLATA) from IXCs that do not have direct FGD trunks to the terminating rural company end office or to a terminating tandem operated by the rural company.
- Overflow terminating traffic from IXCs that have direct FGD trunks to the rural company, where the FGD toll trunks connecting the IXC to the rural company become full (if such overflow routing has been provisioned by the IXC and the terminating tandem operator).

It should also be noted that in order to accommodate the entry of Verizon Northwest as a Primary Toll Carrier (PTC) into the intraLATA toll market, the industry created the Data Distribution Center (DDC) to allow the exchange of traffic information for intraLATA toll calling for calls that originate from the service areas of incumbent LECs and where no IXC, other than a PTC, is involved in the carriage of the call. This allowed Qwest, Verizon and, later, Sprint-United to become the PTCs for customers within their service areas. The rural companies do not charge for the delivery of their originating message record information to the DDC.

III. Positions of the Parties:

A. Wireless Providers and Originating CLECs¹¹

These providers are currently sending traffic to the transiting providers' tandems, and are being charged only the relatively low transiting charges. The calls are being terminated by rural companies, but, in many cases, the originating providers are not being charged anything for that service. Wireless providers enjoy a large "local" calling area mandated by decisions of the FCC. This local calling area for purposes of call termination is the Major Trading Area, which usually encompasses a large geographic area. For example, the Seattle Major Trading Area consists of the following counties: Chelan, Clallam, Douglas, Grant, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Lewis, Mason, Okanogan, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Whatcom and Yakima. The Portland Major Trading Area is comprised of the following Oregon and Washington counties: Benton, Clackamas, Clark, Clatsop, Columbia, Coos, Cowlitz, Crook, Curry, Deschutes, Douglas, Grant, Harney, Hood River, Jackson, Jefferson, Josephine, Klamath, Klickitat, Lake, Lane, Lincoln, Linn, Marion, Multnomah, Polk, Sherman, Skamania, Tillamook, Wahkiakum, Wasco, Washington, Wheeler and Yamhill. Wireless providers generally oppose any move to reduce this local calling area. The status quo is not harming these originating providers, while any change is likely to increase their costs.

The rural companies, when deprived of compensation for terminating this traffic, are harmed by the status quo. The rural companies have undertaken an initiative over the

¹¹ No wireless carrier participated in the Docket. Only one CLEC participated. The positions stated in this section are inferred from positions taken in public dockets.

past two years to negotiate traffic exchange agreements with various wireless companies. As of this date, agreements are in place with Verizon Wireless, Sprint PCS, T-Mobile and Cingular.¹² Other wireless carriers have either ignored the requests to negotiate traffic exchange agreements or have been very slow to respond to such requests.¹³

B. Rural Companies

The rural companies have proposed several remedies for this problem. Not all of these remedies are mutually exclusive. As one idea, they proposed requiring separate trunks for all traffic. Rural companies have also proposed charging the provider delivering the terminating traffic for the traffic. Third, they have, in the past, proposed having Qwest convert the interconnection trunks to FGD. Fourth, the rural companies have discussed joint or model agreements with the originating wireless carriers. The rural companies continue to discuss other possible remedies with Qwest.

If all traffic were carried over separate trunk groups, with each trunk group dedicated solely to one type of traffic from one provider, the rural companies would have no trouble identifying the originating carrier, nor obtaining enough information to bill those providers. This would allow direct billing. It would also allow the rural companies to block traffic from any provider that did not pay for terminating the traffic, since the rural company could block that trunk group. However, the rural companies have recognized this is a very expensive solution and have not seriously pursued this option to date.

The rural companies have also proposed billing the provider delivering the traffic. The rural companies argue that access charges should apply to all traffic being sent over the shared access trunks. The rural companies state that the shared trunks were originally established to carry toll calls, so any usage over those trunks should be billed access unless the delivering carrier can accurately identify the non-toll traffic from other terminating traffic for billing purposes. Further, in most instances the FGC (shared) trunks are established, ordered and operated by Qwest. Arguably, under tariff language, Qwest is the responsible party for all traffic delivered by it over those trunks. The delivering carrier could, presumably, pass the terminating charges on to the originating provider.

The rural companies have suggested that Qwest (and presumably the other tandem operators) convert its trunks from FGC to FGD. Under this approach, Qwest would order FGD services out of the rural companies' access tariffs. However, this appears to be an expensive alternative.

¹² Cingular has agreements in the state of Washington but not in the state of Oregon.

¹³ Under the FCC's recent decision in the T-Mobile docket, T-Mobile Petition for Declaratory Ruling Regarding Incumbent LEC Wireless Termination Tariffs, CC Docket No. 01-92, FCC 05-42 (Released February 24, 2005), rural LECs now have the ability to request negotiations for traffic exchange with wireless carriers, including the ability to seek state arbitration. There is some debate as to whether the order is consistent with statutory language. The order has been appealed.

The rural companies have also been attempting to negotiate traffic exchange agreements with the wireless providers sending traffic over the shared trunks. The rural companies are proposing a model agreement, which could be applied to most rural companies and most wireless carriers. The rural companies prefer the model agreement option to arbitrating agreements between the many rural companies and many dozen originating providers. Several agreements have been signed, but the rural companies are reporting that negotiations on the model agreement are at an impasse with other carriers. To date, negotiations have not been attempted with CLECs. The rural companies also looked at tariffs as an interim measure until agreements are negotiated.¹⁴

C. Qwest

Qwest's position is that it should not be required to pay terminating access on transiting traffic because:

1. Qwest does not have the retail relationship with the end user on either end of the call and therefore has no retail revenue from which to compensate the terminating carrier under a calling party pays compensation environment.
2. Per the FCC, terminating access rates are not the appropriate charges for intraMTA wireless traffic.

Qwest also objects to being billed terminating charges (access or reciprocal compensation) with the intention that Qwest assume the administrative burden of billing and collecting those company specific charges from the carriers who delivered the traffic to Qwest.

Qwest's position is that it should not be required to convert its tandems to enable FGD trunking with ILECs as doing so would not accomplish the intended objective of providing the terminating carrier more information for billing purposes.

Qwest also offers a product called the Single Point of Presence (SPOP) under which a wireless carrier or CLEC can deliver all traffic to a single point in the LATA. SPOP allows a CLEC or wireless service provider (WSP) to have one physical point of presence per LATA. In addition, it also allows a CLEC to deliver exchange service (EAS/Local), exchange access (intraLATA Toll (Non-IXC)) and jointly provided switched access (interLATA and intraLATA IXC) traffic or a WSP to deliver intraMTA and interMTA on combined or separate trunk groups to Qwest access tandem switches where no local tandem exists. As a result of 271 workshops occurring in each state in Qwest's fourteen state region, each state has different rules around interconnecting to local tandems. The following is the language that was agreed to in the 271 workshops by Qwest and CLECs, which was subsequently approved by the respective Commissions in Oregon and Washington:

¹⁴ The tariff option may not be a feasible option for wireless traffic as a result of the Federal Communications Commission's recent decision on the T-Mobile petition (*see*, footnote 12). The T-Mobile decision declared wireless termination tariffs to be impermissible on a forward-going basis from the date of the decision.

OREGON:

CLEC may interconnect at either the Qwest local tandem or the Qwest access tandem for the delivery of local exchange traffic. When CLEC is interconnected at the access tandem and where there would be a DS1's worth of local traffic between CLEC's switch and those Qwest end offices subtending a Qwest local tandem, CLEC will order a trunk group to the Qwest local tandem. As an alternative, CLEC shall terminate traffic on Qwest end office switches. When Qwest lacks available capacity at the access tandem, Qwest will arrange local tandem or end office interconnection at the same cost to CLEC as interconnection via the Qwest access tandem.

Qwest will allow interconnection for the exchange of local traffic at Qwest's access tandem without requiring interconnection at the local tandem, at least in those circumstances when traffic volumes do not justify direct connection to the local tandem; and regardless of whether capacity at the access tandem is exhausted or forecasted to exhaust unless Qwest agrees to provide interconnection facilities to the local tandems or end offices served by the access tandem, at the same cost to CLEC as interconnection at the access tandem.

WASHINGTON:

CLECs shall terminate exchange service (EAS/Local) traffic on tandems or end office switches, at CLEC's option. When Qwest lacks available capacity at the access tandem, Qwest will arrange local tandem or end office interconnection at the same cost to CLEC as interconnection via the Qwest access tandem.

Qwest will allow interconnection for the exchange of local traffic at Qwest's access tandem without requiring interconnection at the local tandem, at least in those circumstances when traffic volumes do not justify direct connection to the local tandem; and regardless of whether capacity at the access tandem is exhausted or forecasted to exhaust unless Qwest agrees to provide interconnection facilities to the local tandems or end offices at the same cost to CLEC as the interconnection at the access tandem.

Qwest states that it can produce a record intended to aid the rural companies in billing for transiting traffic for a fee of \$0.0025 per message. Qwest has been asked if it can modify its product to charge only for billable records. This would require separation of calls that are EAS in nature which are routed over FGC trunks. Qwest's position is that it is not required to revise its billing record delivery process to separate records by originating provider or to bill only for useable records. Qwest's position is that it would be impractical for Qwest as the transiting provider to tailor its system for creation of the transit records to reflect each terminating carrier's individual agreements with the originating carriers so that only records to be used for billing would be produced.

It is Qwest's position that the transiting provider should not be billed for call termination for a toll/access call. Qwest believes that interconnection negotiations should

be undertaken between wireless providers and rural companies and also between CLECs and rural companies for the termination of traffic to the rural companies.

It is Qwest's position that the options available to terminating carriers include the following: 1) make arrangements with the originating carriers to have the originating carriers provide the call detail information and jurisdiction indicators to the terminating carriers, or 2) contract with an entity that can record the information provided on the SS7 signaling stream, or from switch-based recording, for the transit calls to obtain the call detail records to be used for billing, or 3) obtain call detail transit records from the transiting provider, or 4) request direct connections with the originating providers.

In addition, Qwest, as a transit provider, does not feel it is obligated to assume the administrative costs and risk of non-payments by originating carriers while having to pay terminating companies.

Further, Qwest believes that separation of traffic onto separate trunk groups by originating carrier creates major translation problems for Qwest, will not provide a clean routing process and is inefficient.

D. Verizon

Verizon notes that this is not exclusively a rural company problem. Larger firms, such as Verizon, are affected by such billing issues – as terminating service and as transit service providers. Verizon also notes that estimates of Phantom Traffic in the range of 20 percent or more likely include local and EAS calls.

Verizon also notes that SS7 signaling is intended primarily for routing, not billing, and therefore does not contain all the information necessary for billing the carriers responsible for traffic that transit Verizon tandem switches.

EMI records, on the other hand, are intended for billing. At the current time, where Verizon records transit traffic, Verizon will deliver the EMI records to the terminating LEC without a charge. These EMI records contain information identifying the carrier to be billed. Per OBF industry standards, IXCs are identified by a CIC code, while all other carriers are identified by their OCN. Verizon reserves the right to assess a charge for these records at some point in time in the future.

Verizon's position is that the terminating party should bill the originating party in the case of traffic subject to reciprocal compensation, and the toll service provider in the case of traffic subject to access charges. Verizon's position is that the terminating party should not bill the transiting provider. Transit providers such as Verizon are not required – and should not be required – to act as a billing intermediary between originating and terminating carriers. It is also Verizon's position that it is not under an obligation to provide tandem switching for third party carriers and that if new burdens and financial risks were placed on it as to transiting traffic, it would be entitled to either act to secure sufficient compensation or to discontinue its transiting traffic functions.

As to the suggestion that Qwest and other tandem operators convert trunks from FGC to FGD signaling, Verizon notes that nothing would be gained by such a move. FGD signaling, as described in Appendix B, provides for equal access dialing on the originating side of a toll call, and is used to signal the selected toll provider's CIC to the tandem switch -- the CIC is the only information available to the tandem that tells it to which toll provider to route the call. On the terminating side of a toll call there is no equal access signaling and there is no practical difference between FGC and FGD signaling. Verizon stresses that the CIC information used to identify the toll service provider to bill for terminating access charges is not part of the terminating signaling. As such, any transition from FGC to FGD will not deliver the expected billing information to the rural LEC end office.

IV. Activity in Other Venues:

A. Other States

A few states, such as Missouri, have opened rulemakings on these issues. Montana and South Dakota have passed legislation dealing with transit traffic issues. Wisconsin has a docket on this issue, Docket No. 5-TI-1068, Investigation on the Commission's Own Motion Into the Treatment of Transiting Traffic.

Minnesota has a docket in which the rural companies brought a complaint against Qwest, Docket No. P-421/C-04-200, In the Matter of a Complaint by the Minnesota Telecom Alliance Against Qwest Communications, Inc. Regarding Traffic Terminating from Qwest Communications, Inc. Tandem Switches. An interim settlement has been reached under which Qwest agreed to deliver the records for certain transiting traffic to the rural companies. The records related to CLEC originated traffic are provided without charge.

In Michigan, SBC has agreed to be responsible for payment of access charges for messages delivered to rural companies that do not include billing information. Michigan Exchange Carriers Association v. Ameritech, Cause No. U-11298.

In Oregon, one rural company has brought a complaint against Qwest alleging improper delivery of traffic without records. That is Docket UCB 18, In the Matter of Beaver Creek Cooperative Telephone Company vs. Qwest Corporation. The Administrative Law Judge in that docket has issued an interim ruling that Qwest is not financially responsible for the delivery of third party traffic to the Complainant.¹⁵ That ruling is subject to appeal at the close of the hearings on Qwest originated traffic.

¹⁵ The ALJ's August 4, 2005 ruling in the OPUC's UCB 18 Docket concludes: "(n)either the Commission or either of the parties hold the view that Phantom Traffic is a phantom problem. ILECs are providing terminating access for interexchange traffic passing through CLEC and CMRS switches for which those ILECs are not being compensated. Someone should pay, but for the reasons set forth in my ruling, that someone is not Qwest." Ruling at pages 4-5.

There are forums that address some of these issues. One forum in particular--the Ordering and Billing Forum or OBF--has addressed many issues of data requirements and formats. The OBF has some recommendations under consideration that may be useful. However, part of the problem has been that the OBF guidelines are not complete enough, while another part of the problem has been that carriers have been inconsistent or incomplete in their implementation of OBF guidelines. Therefore, although the OBF guidelines may have a part in solving these problems, the parties should not expect the OBF to resolve the problem on its own.

B. FCC Activity

The FCC has issued its Further Notice of Proposed Rulemaking (FNPRM) on intercarrier compensation.¹⁶ The FCC has called for comments on a number of intercarrier compensation proposals. These include proposals submitted by the Intercarrier Compensation Forum (ICF), the Expanded Portland Group (EPG), the Alliance for Rational Intercarrier Compensation (ARIC), Western Wireless, Cost-Based Intercarrier Coalition (CBIC) and the National Association of Regulatory Utility Commissions (NARUC), among others. These proposals include a variety of alternatives, such as the transition to bill and keep, the transition from per minute charges to per port charges and moving intrastate access charges to interstate levels. It is unlikely that the FCC will take action on the NPRM prior to the end of the year. In addition, most of the plans that are under review call for relatively long term transition periods for the rural companies.

Implementing a bill-and-keep scheme would result in significant lost revenue for rural companies. Interstate access charges for rural companies are significantly higher than RBOC access charges, and rural companies, generally, have less revenue from specialized services, such as high-capacity transport and specialized business services. An increase in the monthly end user common line is unlikely to cover the loss of revenues from interstate intercarrier compensation for rural providers. If the FCC pre-empts intrastate access charges as well, the rate increase to local customers will be much higher. Attached as Tables 3 and 4 is an analysis of the local rate increases resulting solely from intrastate access rates being reduced to some of the levels suggested by the intercarrier compensation proposals. The amounts are significant.

In the opening round of comments in the FNPRM, a large number of the comments stressed the need to address Phantom Traffic issues. For example, both CenturyTel, Inc. and TDS Telecommunications Corporation (TDS) stressed the need to enforce "truth-in-labeling" on all inter-network and intercarrier traffic. Any traffic that is not properly labeled should be blocked.¹⁷

¹⁶ In the Matter of Developing a Unified Intercarrier Compensation Regime, CC Docket No. 01-92, Further Notice of Proposed Rulemaking, FCC 05-33 (Released March 3, 2005).

¹⁷ Comments of Century, Inc. at p. 5-7; Comments of TDS Telecommunications Corporation ("TDS Comments") beginning at p. 9.

Specifically, TDS states: “The growing problem of phantom traffic distorts the intercarrier compensation system by placing undue burdens and costs on other carriers and consumers (especially rural consumers); undermines the cost-causer principle at the heart of the current intercarrier compensation system; and contributes to regulatory arbitrage.”¹⁸ TDS urged that the first step in any intercarrier compensation reform be the elimination of Phantom Traffic. TDS made the following recommendations:

At a minimum, the Commission should (1) adopt “truth-in-billing” guidelines that make it explicitly unlawful to alter, exclude, or strip carrier and call identifying information; (2) implement processes for challenging suspect traffic and penalizing responsible carriers; (3) permit inaccurately labeled traffic to be billed at the highest applicable rate to the carrier delivering the traffic; and (4) authorize the blocking of inaccurately labeled traffic, subject to specific guidelines and timelines for notifying and warning consumers and investigating and resolving disputes.¹⁹

The National Telecommunications Cooperative Association (NTCA) filed comments on the issue of Phantom Traffic supporting that after a date certain, all unlabeled traffic would be billed to the carrier delivering the traffic as access.²⁰ Additionally, NTCA supports adoption as mandatory standards the recommendations of the Network Interconnection Interoperability Forum (NIIF) for procedures for getting accurate geographic information for call origination into SS7 initial address messages. This would implement existing Jurisdictional Information Parameter (JIP) information. Currently, the JIP is an optional parameter. NTCA recommends adopting the NIIF rules for populating the JIP as mandatory standards. Those rules as described by NTCA are as follows:

1. JIP should be populated in the Initial Address Messages (IAMs) of all wireline and wireless originating calls where technically feasible.
2. JIP should be populated with an NPA-NXX that is assigned in the Local Exchange Routing Guide (LERG) to the originating switch or Mobile Switching Center (MSC).
3. Where technically feasible if the originating switch or MSC serves multiple states/LATAs, then the switch should support multiple JIPs such that the JIP used for a given call can be populated with an NPA-NXX that is specific to both the switch as well as the state and LATA of the caller. If the JIP cannot be populated at the state and LATA level, the JIP should be populated with an NPA-NXX specific to the originating switch or MSC where it is technically feasible.

¹⁸ TDS Comments at p. 10.

¹⁹ TDS Comments at p. 11-12.

²⁰ Comments of the National Telecommunications Cooperative Association at p. 51.

4. Where the originating switch cannot signal JIP it is desirable the subsequent switch in the call path populate the JIP using a data fill default associated with the incoming route. The value of the data fill item is an NPA-NXX associated with the originating switch or MSC and reflects its location.
5. When call forwarding occurs, the forwarded call from directory number (DN) field will be populated, the JIP will be changed to a JIP associated with the forwarded from DN and the new called DN will be inserted in the IAM.
6. As per T1.TRQ2, the JIP should be reset when a new billable call leg is created.

The National Association of Regulatory Utility Commissioners (NARUC) filed an intercarrier compensation proposal known as Version 7. In that proposal, NARUC addresses Phantom Traffic as follows:

No LEC shall be required to terminate calls if the call records do not permit billing for terminating access, so long as it participates in an industry process designed to identify calls that have been blocked for this reason and provide real-time resolution. If the carrier seeking to terminate traffic to the LEC disputes the LEC's determination, it should have the option of referring the dispute to the appropriate State commission for resolution. Upon receiving notice that the dispute has been referred to a State commission, the LEC should carry the disputed traffic until the State commission has acted.

Reply comments in the FNPRM were filed July 20, 2005. It is still not expected that FCC action will occur prior to the end of this calendar year.

V. Analysis of Alternatives:

A. Status Quo

The rural companies are experiencing an ever-increasing amount of transiting traffic being terminated to them. See Tables 1 and 2. It is difficult to quantify the portion of the traffic that is Phantom Traffic. It is even more difficult to assign a dollar value to the Phantom Traffic. However, the magnitude of the Phantom Traffic is significant, and growing. The rural companies have expressed increasing concern over this problem. The status quo--having the rural companies absorb the cost of terminating this traffic--does not seem reasonable or sustainable.

For the reasons identified earlier, the status quo places upward pressure on retail customer rates. In addition, the status quo calls into question the ways in which continued investment can be made in network augmentation, network improvements and network upgrades in rural portions of the PSTN.

B. Wait for FCC

As discussed above, a final resolution from the FCC may not be presented in the near term. The only resolution which would obviate the need for state-level action on the transiting traffic issue is if the FCC abolishes intercarrier compensation and attempts to preempt the state commissions, applying a bill and keep policy to intrastate interconnection as well. It is questionable that such a plan could withstand court challenges, and even if the FCC were to pursue such a course, the FCC could be expected to phase in that plan over a number of years.

C. Dedicated Trunking

Requiring separate trunks for all traffic would resolve many of the billing and blocking problems the rural companies now face. The cost of requiring such trunking, however, could be high.

There are over two dozen rural companies serving in rural areas of the state, and those rural companies serve many end offices. Taken together, there are even more CLECs and wireless providers serving in the state. Requiring separate trunks from each provider to each office would require many hundreds of additional trunks to be installed. This would require investment for facilities upgrades, and, perhaps, switch enhancements.

The CLECs and wireless providers would also bear additional costs--the charges for the facilities and terminations of all those trunks. For some providers operating only in the Portland area, for example, the trunks terminating in various rural areas of Oregon would see little or no usage--certainly not the level of usage that would make installing a dedicated business trunk a reasonable business decision if other transport were available.

This solution would be further compounded by legal problems. Under FCC rules, it is arguable that the wireless carriers are allowed to interconnect at tandems, and receive transport over the ILEC network to all subtending end offices. If the Commission attempted to require wireless providers to use dedicated transport to all end offices, it could face a legal challenge. If it did not, then shared transport trunks would continue to create the same problems that exist today.

Requiring dedicated trunking to all end offices also runs into problems if the Commission continues to allow overflow traffic to ride shared trunks. Overflow traffic would have the same identification problems of other types of shared trunks. Not allowing overflow trunking would require the providers to size the dedicated trunks for peak loads, rather than typical loads. This would result in an increase in the number of trunks required, and in the resulting expense.

D. Billing Transiting Carriers Terminating Charges

The rural companies have proposed applying terminating access charges to all traffic delivered to them over FGC trunks. The rural companies would bill the delivering carrier for all traffic arriving over the shared interconnection trunks in this case. The problems the rural companies now have in billing transiting usage result from problems in identifying the provider to be billed, and these problems would end if all charges were billed to the provider delivering the traffic to the rural companies. The rural companies argue that the existing access tariffs allow them to bill the provider delivering the traffic to them.

The delivering providers could, in theory, pass these charges on to the originating providers. In practice, this would depend on whether the interconnection agreements between the transiting and originating providers allowed the passing on of such charges.

E. Interconnection Agreements (ICAs)

Under the 1996 Telecommunications Act, one method of arriving at interconnection and compensation for "local" traffic is the ICA. However, not all of the traffic involved in this issue is considered to be "local" in nature. In an ICA, providers may negotiate agreements covering rates, terms and conditions, and those rates, terms and conditions may be different than tariffed rates. Providers may reach voluntary agreements, or may request mediation or arbitration under the §§ 251 and 252 of the Act.

The rural companies have been attempting to negotiate a model wireless agreement, which the majority of wireless originating providers could enter into. Such a model agreement could obviate the need for a large number of arbitrations.²¹ Since arbitrating a significant number of the agreements necessary between the dozen or so rural companies and dozens of originating providers would tax the resources of the rural companies and originating providers, this is a desirable goal.

Many of the rural companies are currently unable to block the traffic from individual originating carriers that is delivered on the FGC trunks. This leaves the rural companies no ability to disconnect providers for non-payment. Rural companies have proposed the use of ratios to determine terminating traffic. The ratio is based on traffic originating from the rural companies which then uses the agreed T/O ratio.²² The originating minute data is verifiable. Three wireless carriers – Verizon Wireless, Sprint PCS and T-Mobile – agreed to use of the T/O ratios for billing terminating traffic. AT&T Wireless (now Cingular) began by using its records and sending those records,

²¹ It is not clear that arbitration may be available for these negotiations. Rural companies are exempt from Section 251(c) obligations, which include arbitration leading to Section 252 Commission-determined arbitration. The FCC's T-Mobile decision recently indicated that the rural companies could compel arbitration with a wireless provider. That decision may be subject to legal challenge.

²² "T/O ratio" refers to the calculation of terminating minutes ("T") based on originating minutes ("O"). With a T/O factor of 2/1, there is agreement to use two terminating minutes for every one originating minute. The T/O ratio can also be expressed as a percentage of total traffic between two carriers, such as "70/30."

without charge, to the rural companies to be used for billing terminating traffic. The accuracy of Cingular's records was called in question. Cingular has recently agreed to be billed using a T/O ratio. Without the use of ratios, most of the rural companies would have to rely on the originating provider's own statements of volume, or purchase the Qwest records, to determine the amount of terminating traffic they receive. The rural companies do not have the ability to verify this third party data.

F. Qwest Records

Currently, Qwest is willing to sell transiting records to the rural companies for \$0.0025 per category 11-01-01 call detail message. This charge would apply to all messages, whether billable or not. At the present time, Qwest asserts that it is unable to identify and provide only billable messages. At the present time, Qwest takes the position that:

(a) The CMRS or CLEC carriers who utilize indirect connections and deliver their traffic to Qwest's tandems have the responsibility to properly route their traffic to the appropriate tandem for completion;

(b) Qwest, as a transit provider, has an obligation to allow for indirect interconnection between CMRS and CLECs to LECs, therefore Qwest will transit all traffic delivered to it at its access or local tandems; and

(c) Qwest's switching system does not attempt to identify the jurisdiction of the inbound traffic at the time the call is set up to determine whether the traffic should be routed over other groups such as local or EAS trunks instead of traditionally signaled terminating toll trunks.

This position has resulted in a high volume of local traffic from CLECs being routed to rural companies in EAS regions over FGC trunks rather than EAS trunks. Qwest would bill the rural companies for the provision of records for these EAS messages under its current offering.

Qwest also offers a Single Point of Presence (SPOP)²³ product to CLECs and wireless companies. This product is meant to require that the CLEC or wireless carrier route traffic to an EAS tandem, if one exists for an end office, and to the access tandem for all other end offices within a LATA. It is not clear that Qwest is enforcing the requirement to use local tandems where they exist since Qwest states it does not look at the originating number when delivering traffic through the access tandem. However, Qwest represents that it records every message delivered to it at the access tandem and that all records would be included in the record charges on a per-message basis. This makes the offer from Qwest to provide the messages for a fee appear to be uneconomic for the rural companies.

G. Blocking Traffic from Non-Paying Originating Providers

Even if the rural companies can identify the originating carrier for terminating traffic, the rural companies may continue to have trouble billing that traffic.

²³ See the description of the SPOP set out at pages 8-9, earlier.

Traditionally, telephone companies have enforced billing by threatening disconnection. Since transiting traffic (Phantom Traffic) is delivered over shared trunks that also deliver intraLATA toll, disconnection of those trunks by the rural company is not a viable option for many of the companies.

It may be technically possible for rural companies to block traffic based on originating carrier identification data in the SS7 call set-up message, but that remains theoretical at this point.

The transiting providers generally could block this traffic, since the traffic usually arrives from the originating providers over dedicated trunks,²⁴ and the transiting providers could block traffic from that trunk group to a particular rural company. However, Qwest has expressed reluctance to block traffic unless ordered to do so by the Commission. Assuming that the Commission does order transiting carriers to block traffic, when required, the parties and Commission will need to develop methods and criteria for that blocking. It should be noted that at least some of the intercarrier compensation proposals in the FCC's NPRM call for the tandem provider to exercise a higher level of control over the traffic that transits the tandem than Qwest does today. This would include looking at the originating data to determine whether the traffic should permissibly be routed over that tandem.

H. Passing Carrier Identification Data

If the rural companies are able to develop a method of billing based on in-band carrier identification or SS7 data, or if they use that data to verify the traffic reports supplied by the transiting providers, then this approach may offer an alternative. Presently, it is not clear what work-around processes might be possible if some data is missing. One Washington company, Mashell Telecom, has amended its access tariff to allow billing based upon terminating access records derived from information in the SS7 signal. Under this tariff language, the call is deemed to begin for access billing purposes with the transmission of the Address Complete Message and the message is deemed to have completed for access billing purposes with the transmission of the Release Complete Message. Mashell is experiencing implementation issues associated with use of this alternative billing parameter and has not yet issued any bills based upon SS7 signal information.

I. Legislation

It is possible for rural companies to pursue legislation. However, pursuing legislation is extremely time consuming, and can also be very expensive. For informational purposes, a copy of recent legislation adopted in South Dakota is attached in Appendix C.

²⁴ One exception would be traffic that travels from one tandem to another. Other exceptions may exist.

J. Combination Approaches

Several parties have recommended that a combination of approaches be used. These approaches focus on the need to correctly and completely populate message records. This “truth-in-labeling” or “truth-in-billing” approach is coupled with providing carriers the ability to block improperly populated traffic and, most importantly, billing the delivering carrier for the traffic that is delivered without billing information for the delivered message.

One approach is suggested by the mid-sized carriers such as CenturyTel and TDS. This approach has the following elements:

- Adoption of “truth-in-billing” standards that require the population of identifying fields for carrier and jurisdiction by the originating carrier and which make it explicitly unlawful to alter, exclude, or strip carrier and call identifying information
- Implement processes for challenging suspect traffic and penalizing responsible carriers
- Require transiting carrier to forward the identification information without alteration
- Permit inaccurately labeled traffic to be billed at the highest applicable rate to the carrier delivering the traffic
- Permit the blocking of inaccurately labeled traffic, subject to specific guidelines and time lines for notifying and warning consumers and investigating and resolving disputes

An alternative approach is suggested by NTCA. The NTCA approach would adopt the NIIF procedures for accurate geographic labeling, focusing on population of the JIP. These would become mandatory standards. The standards are set forth at page 14, above. Any message that is delivered without the appropriate population information in the record would be billed to the carrier delivering the traffic as access traffic.

VI. **Other Issues:**

A. 800 Calls

In addition to other types of calling patterns, over the past year the industry has been addressing a problem related to 800-type calling. This problem originates where calls are associated with a CIC of 0110, which is commonly denominated within the industry to indicate that a LEC, and not an IXC, is the 800 service provider. The LEC 800 service provider is identified by means of a POTS (plain old telephone service) line number. Under the 800 calling system, an 800 number is associated with either a valid CIC, or a CIC of 0110 and a POTS number. The information that associates the 800 number with the CIC or POTS number is entered and maintained in the SMS800 database.

The control for entry of data in the SMS800 database is that an entity must become a RESPOG (or responsible organization). Unfortunately, the controls over who may become a RESPOG and enter data are very loose. This has led to the situation where some 800 providers are associating with what appear to be less than honorable RESBOGAs. The 800 service provider sells an 800 number to a business at a "good" price. The RESPOG then associates that 800 number with a 0110 CIC and a POTS number of a LEC, who many times is not aware of the entry into SMS800 of the 800 number, 0110 CIC, and one of their POTS numbers. All billing records that are developed for that 800 number are associated with the LEC who has the POTS number, not the actual 800 service provider themselves. Therefore, the 800 service provider avoids having to pay access charges for the service.

This problem is being addressed at a national level on a forward-going basis. A solution appears to be ready to be put in place that would require verification of a business relationship between the RESPOG entering the data into SMS800 and the LEC with the POTS line number. There is still a question about traffic that is processed up to that date and, perhaps, some ongoing traffic that is processed prior to that date with existing RESPOGAs.

The Washington Exchange Carrier Association, the Oregon Exchange Carrier Association, Qwest, Electric Lightwave, Verizon and Sprint-United are working together to try to address the legacy issues by identifying high volumes of traffic to particular 800 numbers that are associated with 0110 CICs, but where Qwest is not the 800 service provider. The identified companies will track that data to attempt to identify any unethical RESPOGAs that may be involved in the use of the 800 database for such traffic.

Many calling card services are related to 800 calling. AT&T claimed that its calling card services were information services, not telecommunications services. Under this theory, AT&T did not pay access charges or make contributions to the universal service fund for those services. The FCC recently held that AT&T was wrong.²⁵ The FCC concluded that AT&T's calling card services were in fact telecommunications services. AT&T subsequently filed a Motion for Stay Pending Appeal. In that Motion, AT&T argued that there were many other calling card service providers that route their calls in such a way as to avoid the payment of access charges. This is a significant ongoing problem.

VII. Conclusion and Recommendation:

The Docket recommendation is that the Commission open a proceeding to consider the following:

1. Adoption of "truth-in-billing" standards that require the population of identifying fields for carrier and jurisdiction by the originating carrier and

²⁵ In the Matter of AT&T Corp. Petition for Declaratory Ruling Regarding Enhanced Prepaid Calling Card Services, WC Docket No. 03-133, Order and Notice of Proposed Rulemaking (Released February 23, 2005), FCC 05-41.

which make it explicitly unlawful to alter, exclude, omit, or strip carrier and call identifying information.

2. Adoption of processes for challenging suspect interexchange traffic and penalizing responsible carriers.
3. Adoption of a default standard of billing the carrier delivering inaccurately labeled traffic for that traffic.
4. Adoption of a set of standards establishing the minimum requirements for delivery and exchange of traffic records.
5. Adoption of specific guidelines and timelines for investigating and resolving intercarrier traffic labeling disputes.
6. Adoption of a range of remedies to address violations of “truth-in-billing” standards.

It should be noted that the foregoing recommendation did not proceed from the docket as a unanimous recommendation.²⁶ Some docket participants felt that moving these issues to state commission proceedings is not appropriate at this time. A suggestion was made that it may be more appropriate to defer action until the Phantom Traffic issues have been addressed at the FCC. It is correct that many carriers have been urging the FCC to undertake a review of Phantom Traffic issues. However, there is no indication to date that the FCC will start such a proceeding or consider Phantom Traffic issues within the existing dockets, most notably the Intercarrier Compensation docket.

Nor is it clear that the FCC would have jurisdiction over intrastate access issues. Many parties filing comments before the FCC in the Intercarrier Compensation docket have argued that the FCC does not have authority over intrastate access issues. This is the position taken by many state commissions, including the Oregon commission.

Concerns were also expressed whether a state commission has authority to address these issues for traffic carried by wireless carriers or traffic carried by VoIP providers. The countervailing view was that even if one hundred percent of the traffic cannot be addressed, it is important to make progress on these issues and, thus, moving the discussion of the issues to the Commission appears to be appropriate.

The issues are very complex. The issues are very technical. And, the issues are evolving, including the necessity to consider whether various new methods of routing calls, such as VoIP, may come into play. However, the issues are important and they are timely issues. The fact that the industry itself has not been able to come up with an

²⁶ Qwest proposed an alternative recommendation which is attached as Appendix D. Qwest took no position on whether it is appropriate to bring these issues to the Commission at this time, but offered the alternative recommendation for consideration.

agreed solution to Phantom Traffic issues only underscores that it is appropriate to bring these issues to the Commission for consideration.

TABLE 1

**COMPANY A
FGC TERMINATING TRAFFIC**

A	B		C		D		E	
	SWITCH MEASURED		QWEST REPORTED		DIFFERENCE		DIFFERENCE %	
YEAR	MINUTES	MSSG	MINUTES	MSSG	MINUTES	MSSG	MINUTES	MSSG
2001	5,587,726	1,682,758	4,080,112	1,077,742	1,507,614	605,016	26.9800%	35.9500%
2002	5,877,825	1,759,500	3,956,574	1,021,705	1,921,251	737,795	32.6900%	41.9300%
2003	6,604,722	2,085,805	3,795,144	1,039,990	2,809,578	1,045,815	42.5400%	50.1400%
2004	7,760,104	2,391,229	4,059,805	1,106,798	3,700,299	1,284,431	47.6800%	53.7100%
2005*	3,052,349	877,217	1,481,564	376,674	1,570,785	500,543	51.4600%	57.0600%

*Through April, 2005

TABLE 2**COMPANY B
FGC TERMINATING TRAFFIC**

A	B		C		D		E	
	SWITCH MEASURED		QWEST REPORTED		DIFFERENCE		DIFFERENCE %	
YEAR	MINUTES	MSSG	MINUTES	MSSG	MINUTES	MSSG	MINUTES	MSSG
2001	5,718,675	1,657,584	4,713,652	1,289,940	1,005,023	367,644	17.57%	22.18%
2002	5,593,718	1,606,657	4,279,885	1,194,976	1,313,833	411,681	23.49%	25.62%
2003	7,012,272	1,852,954	4,725,073	1,300,679	2,287,199	552,275	32.62%	29.81%
2004	9,088,319	2,451,576	5,428,731	1,485,853	3,659,588	965,723	40.27%	39.39%
2005*	2,950,018	826,458	1,749,758	488,548	1,200,260	337,910	40.69%	40.89%

*Through March, 2005

Table 3

Washington

Company	Scenario 1 - Originating \$0.0 - Terminating \$0.01	Scenario 2 - Originating \$0.01 - Terminating \$0.01	Scenario 3 - Originating \$0.01 - Terminating \$0.02
1	\$60.05	\$59.01	\$56.97
2	40.37	38.80	37.32
3	35.21	32.07	30.41
4	30.37	28.25	27.42
5	27.63	27.01	26.62
6	26.38	24.34	23.33
7	26.15	25.14	24.30
8	25.98	25.16	24.25
9	23.90	23.44	22.48
10	23.19	22.52	21.80
11	21.01	14.73	9.20
12	20.19	19.18	18.50
13	16.12	15.50	15.03
14	14.07	13.22	12.58
15	13.18	12.50	11.52
16	13.15	12.41	11.52
17	11.46	10.89	10.21
18	11.14	10.44	9.98
19	8.97	8.32	7.72
20	8.18	7.70	6.39

Table 4

Oregon

Company	Scenario 1 - Originating \$0.0 - Terminating \$0.01	Scenario 2 - Originating \$0.01 - Terminating \$0.01	Scenario 3 - Originating \$0.01 - Terminating \$0.02
1	\$15.58	\$13.75	\$12.34
2	12.98	11.41	10.31
3	12.51	11.12	9.86
4	12.32	10.80	9.80
5	11.57	10.64	8.90
6	10.75	9.54	8.48
7	10.73	9.59	8.43
8	8.33	7.46	6.53
9	8.02	7.21	6.27
10	7.75	6.90	6.10
11	7.62	6.98	6.14
12	7.16	6.19	5.76
13	6.34	5.50	5.09
14	6.26	5.52	4.96
15	6.21	5.56	4.87
16	5.76	5.10	4.56
17	5.60	4.99	4.41
18	5.04	4.40	4.02
19	4.89	4.37	3.83
20	4.87	4.33	3.83
21	4.73	4.30	3.67
22	3.92	3.41	3.13
23	3.64	3.18	2.91
24	3.51	3.07	2.80
25	2.68	2.33	2.14
26	2.60	2.32	2.04