

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation to Address
Intrastate Rural Call Completion Issues.

FILED
PUBLIC UTILITIES COMMISSION
MAY 15, 2014
SAN FRANCISCO, CALIFORNIA
INVESTIGATION 14-05-012

**ORDER INSTITUTING INVESTIGATION TO ADDRESS
INTRASTATE RURAL CALL COMPLETION ISSUES**

Table of Contents

Title	Page
ORDER INSTITUTING INVESTIGATION ADDRESSING INTRASTATE RURAL CALL COMPLETION ISSUES	1
1. Introduction.....	2
2. Commission Jurisdiction	2
3. Call Completion Problems in California.....	4
3.1. The Survey of Selected Carriers in California.....	5
3.2. Customer Complaints.....	6
3.3. Commission Support for the FCC’s Efforts to Combat Call Completion Failures.....	6
3.4. Background on Universal Service.....	7
4. Federal Communications Commission Actions	12
4.1. Declaratory Ruling.....	12
4.2. The Rural Call Completion NPRM.....	13
4.3. Latest Steps to Combat Call Completion Problems	15
4.3.1. Court Ruling Partially Vacating the FCC’s Requirements on Broadband Providers	17
4.4. Consumer Complaints.....	18
5. Other State Utilities Regulatory Agencies	18
5.1. Oregon	19
5.1.1. Customer Complaints.....	20
5.2. Nebraska.....	20
6. Industry Associations	21
6.1. ATIS Call Completion/Call Termination Handbook.....	23
6.2. NECA (and other rural telecom industry associations) Joint Survey	24
7. Symptoms and Probable Causes of Call Completion Failures.....	25
7.1. Call Completion Failures	25
7.1.1. Symptoms of Call Completion Failures	25
7.1.2. Probable Causes of Call Completion Failures.....	27
7.2. Least Cost Routers and Their Associated Problems	30
7.2.1. What is Least Cost Routing? And How Does It Work?.....	31
7.2.2. Intended and Unintended Issues Associated With Least Cost Routing	32
8. Preliminary Scoping Memos	33
8.1. Issues	33

Table of Contents (cont.)

Title	Page
9. Category of Proceeding and Need for Hearing	37
10. Schedule	38
11. Invitation to Comment on Preliminary Scoping Memo and Schedule	39
12. Parties and Service List	39
12.1. Serving and Filing Documents	42
12.2. Format and Service	43
12.3. Public Advisor	43
12.4. Intervenor Compensation	43
13. <i>Ex Parte</i> Communications	44
Appendix A NECA Rural Test Call Results	
Appendix B Simplified Long Distance Connection Model	
Appendix C Simplified Route Looping Involving Originating Long Distance Carrier, LCRs, Termination Carrier	
Appendix D Selected Public Utilities Codes Relevant to Call Completion Failures	
Appendix E - List of Acronyms	

ORDER INSTITUTING INVESTIGATION ADDRESSING INTRASTATE RURAL CALL COMPLETION ISSUES

1. Introduction

With this Order Instituting Investigation (OII), the California Public Utilities Commission (Commission) begins a review of intrastate call completion issues¹ in California, particularly call completion failures in rural areas of the state.

In this OII, we seek comments to better understand causes of rural call completion failures, evaluate how intrastate call completion failures can be addressed at the state level, how carriers can be encouraged to address call completion failures, what existing rules could be revised or amended, and what new rules might be adopted. We will also explore areas where there should be a coordinated effort among the Commission, its counterparts in neighboring states, and the Federal Communications Commission (FCC), so that all Californians can send and receive phone calls without discrimination or delay. Contingent upon findings in this OII, we will then consider opening an Order Instituting Rulemaking (OIR) proceeding to propose remedies to address problems identified in this Investigation.

2. Commission Jurisdiction

Telephone corporations are public utilities under the Commission's jurisdiction. The Commission regulates their rates, operations, practices, programs, and services, plus the reliability, safety, and adequacy of facilities,

¹ In the context of this OII, call completion problems, call termination issues, and/or call completion failure can be used interchangeably and have the same meaning.

pursuant to California Public Utilities (Pub. Util.) Code §§ 451, 701, and other statutes.

Under Pub. Util. Code § 451, the Commission is responsible for ensuring safe and reliable service at just and reasonable rates:

All charges demanded or received by any public utility...shall be just and reasonable.

Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities...as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

Pub. Util. Code § 701 provides that:

The Commission may supervise and regulate every public utility in the State and may do all things, whether specifically designated in this part or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction.

In addition, it is consistent with the goal of universal telephone service that the telecommunications network must be ubiquitously available to all telephone end users. Pub. Util. Code § 558 states:

Every telephone corporation and telegraph corporation operating in this State shall receive, transmit, and deliver, without discrimination or delay, the conversations and messages of every other such corporation with whose line a physical connection has been made.

All carriers, whether wholesale, intermediate, or retail traffic haulers, must terminate traffic for one another and from an end user to another end user in every instance. In Decision (D.) 97-11-024, the Commission stated, “[n]o carrier has the right to block or misdirect calls to their intended destination because the

carrier believes that it is not being properly compensated for such calls.”² Additionally, “[t]he obligation to complete calls applies not just to Incumbent Local Exchange Carriers (ILECs) , but equally to all carriers involved in the origination, routing, and completion of calls.”³ Even though carriers may have a variety of call routing options and methodologies, the originating call carrier, the intermediate router and the terminating carrier are all responsible for ensuring call delivery to the end user, regardless of any financial or otherwise business decision made by the involved carriers.⁴

3. Call Completion Problems in California

Rural California telephone customers are experiencing call completion problems. These problems negatively affect the lives of rural telephone customers, in particular, as they may result in the loss of potential business opportunities, adversely impact customers’ lives (e.g. missed employment opportunities, appointments, notices), and possibly interfere with security and personal health and/or safety contact efforts (e.g. 911). Given the potentially adverse impact that call completion failure can have on rural Californians, we believe the Commission needs to undertake a more detailed and formal investigation of intrastate call completion failure to better understand the root causes, and to find remedies or solutions to minimize call completion failure frequency.

² Order Instituting Rulemaking on the Commission's Own Motion Into Competition for Local Exchange Service; Order Instituting Investigation on the Commission's Own Motion Into Competition for Local Exchange Service [D.97-11-024] (1997), 76 Cal.Pub. Util.C.2d 458, at 460.

³ *Ibid.*

⁴ *Id.*, at 461.

To quantify the extent of these problems, the Commission's Communications Division (CD) surveyed rural and urban carriers in California from November 2012 to February of 2013. In Section 3.1., we present our findings of this brief exploratory survey of carriers. In Section 3.2., we review how rural telephone customers encountering call completion failure can file their complaints using the Commission web site. In Section 3.3., we discuss our support for the FCC's efforts to combat call completion problems. Finally, in Section 3.4., we discuss adverse effects of the call completion problems on providing Universal Service.

3.1. The Survey of Selected Carriers in California

CD surveyed 20 rural and major urban telephone carriers during November 2012 through February 2013. CD asked the carriers to report their intrastate call completion failures. At that time, 14 carriers were rural "Rate of Return" carriers eligible to receive California High Cost Fund-A (CHCF-A) subsidies,⁵ four were major urban area carriers, and two were rural but non-Rate of Return carriers who are not eligible for CHCF-A subsidies. CD learned that:

- None of the responding urban major carriers reported call completion failure.
- None of the non-Rate of Return carriers reported call completion failure.
- Eleven of the fourteen rural CHCF-A-eligible carriers reported call completion failure.

⁵ D.13-02-005, adopted May 23, 2013, approved the merger of Frontier Communications West Coast Inc. (Frontier-West Coast) with the larger Incumbent Local Exchange Carrier Citizens Telecommunications Company of California Inc. doing business as Frontier Communications of California (Frontier-California). This reduced the number of Rate of Return carriers eligible to receive CHCF-A subsidies from 14 to 13.

- Carriers reporting call completion failures suspect that many occurrences go unreported.⁶

The CD survey confirms the failures of call completions reported by rural California customers. However, it also raises further questions. Perhaps the most intriguing question: Why rural customers in territories of non-CHCF-A eligible rural carriers do not seem to experience call completion failure, while CHCF-A eligible rural carriers do?

3.2. Customer Complaints

The Commission has a web page available for rural telephone customers to file complaints about utility services.⁷ However, the Commission has advised customers to first contact their respective carrier when encountering call completion failures. If the problem cannot be resolved by carriers, customers can then file a complaint with the Commission.⁸

3.3. Commission Support for the FCC's Efforts to Combat Call Completion Failures

The Commission supports the FCC's recent efforts to combat call completion failures through better tracking and enforcement. The Commission filed comments on May 13, 2013 addressing the FCC's *In the Matter of Rural Call Completion* Notice of Proposed Rulemaking (NPRM), WC Docket 13-39, (rel. February 7, 2013) (*Rural Call Completion NPRM*). As the Commission is responsible for reviewing intrastate telephone traffic for California, we have

⁶ The carriers did not provide specific details to explain why occurrences might go unreported.

⁷ See, http://www.cpuc.ca.gov/puc/cec/e_complaint/.

⁸ See, <https://ia.cpuc.ca.gov/cimsapp/>.

requested that the FCC give states access to intrastate data that service providers are required to file with the FCC to facilitate enforcement efforts. If actual intrastate data shows a consistent call completion issue, then the Commission can take action to control and eliminate call completion failures as it pertains to intrastate carrier traffic.

3.4. Background on Universal Service

Universal Service is a principle that all members of society should have affordable basic telephone service. This is a longstanding cornerstone of the California Legislature's and the Commission's telecommunications policy. Rural call completion problems disrupt providing universal service to the rural California telephone customers.

Historically, providing service in rural and sparsely populated areas was much more expensive than in urban areas. Pub. Util. Code § 275.6 provides for "rate-of-return regulation in furtherance of the state's universal service commitment to the continued affordability and widespread availability of safe, reliable, high-quality communications services in rural areas of the state." It requires the Commission to "maintain the California High-Cost Fund-A Program to provide universal service rate support to small independent telephone corporations in amounts sufficient to meet the revenue requirements established by the commission through "rate-of-return regulation" in lieu of market-based pricing.

Over the past one hundred years, during which telephone service became an invaluable tool of communications, it has been a national policy that all Americans have the universal right to have access to telephone service at

reasonably affordable rates regardless of where they live.⁹ The regulatory environment based on the concept of universal service has defined call delivery architecture relevant to rural call completion problems. To implement the principle of universal service in rural areas, the FCC established a subsidy mechanism through which urban telephone carriers were required to pay “termination fees” and “access charges” to rural telephone carriers when calls were placed from an urban telephone network to rural customers. This process which in its most basic form involves an originating carrier (e.g., an urban telephone company), a long distance provider, and a terminating carrier (e.g., a rural telephone company), functioned effectively for much of the last century.

Since the Telecommunications Act of 1996 promoted entry by new competitors, a variety of companies and technologies have been used to connect calls through the Public Switched Telephone network (PSTN). Many new Internet Protocol (IP)-based long distance intermediate providers¹⁰ have entered the market, offering new methods to carry long distance services from the end users of urban carriers to customers of the rural telephone companies.

To the originating carriers, long distance calls are not free of cost. These originating carriers must pay intermediate providers for interconnections, and they often contract with third-party IP-based intermediate providers known as

⁹ SEC. 1. [47 U.S.C. 151] in the Telecommunications Act 1934 as amended.

¹⁰ “[A]ny entity that carries or processes traffic that traverses or will traverse the Public Switch Telephone network (PSTN) at any point insofar as that entity neither originates nor terminates that traffic.” 47 C.F.R. § 64.1600(f).

Least Cost Routers (LCRs), who might be long distance wholesalers.¹¹ The LCRs might then subcontract with retail long distance IP providers to lower interconnection costs and sometimes circumvent the regulated intercarrier compensation (ICC) mechanism applicable to the legacy PSTN. Through their routing tables¹² and evolving software and hardware technologies, the LCRs continuously and on a real-time basis identify and offer the most economically profitable calling routes. If not properly supervised and executed, incomplete or uncompleted calls, or calls that are delayed or are delivered with poor quality, may result. Possible reasons for call failures may include “bugs”¹³ in routing system applications, use of outdated routing tables, transmission of robo-calls,¹⁴ or environmental and/or socio-political events causing concentrated call volume. It is also conceivable that some parties attempt to deliberately assign less

¹¹ A long distance wholesaler is an entity that negotiates a contract with telephone carriers to carry long distance communications traffic through routes that typically offer the lowest rates using Least Cost Routing tables.

¹² A routing table is a set of rules to define movement of packets of data over an IP network. It holds the information necessary to forward a packet along the best path to its destination. Each packet contains information about its origin and destination. When a packet is received, a network device examines the packet and matches it to the routing table entry providing the best match for its destination. The table then provides the device with instructions for sending the packet to the next hop on its route across the network. See, <http://searchnetworking.techtarget.com/definition/routing-table>.

¹³ “[A] software or hardware error that adversely affects operations or user interaction.” See, *The Telecommunications Illustrated Dictionary*, 2nd Edition, CRC Press, Boca Raton, 2002.

¹⁴ Robo-call refers to a telephone call from an automated computerized source that delivers a pre-recorded message to a large number of people, as if the call is made by a robot and hence the name. The messages may be associated with political, telemarketing phone campaigns, public services, schools, or emergency announcements. Cal. Pub. Util. Code §§ 2871 *et seq.*, prohibits any robo-call unless there is an existing relationship with the called party.

profitable rural calls lower priority compared to more profitable urban connections.

The FCC declared that:

It is an unjust and unreasonable practice in violation of section 201 of the Act for a carrier that knows or should know that it is providing degraded service to certain areas to fail to correct the problem or to fail to ensure that intermediate providers, least-cost routers, or other entities acting for or employed by the carrier are performing adequately. This is particularly the case when the problems are brought to the carrier's attention by customers, rate-of-return carriers serving rural areas, or others, and the carrier nevertheless fails to take corrective action that is within its power.¹⁵

The FCC emphasized that “[c]arriers do have tools to manage termination suppliers, and it would be unreasonable for a carrier not to make appropriate use of such tools to ensure calls that its customers make to rural areas terminate reliably.”¹⁶

The FCC’s decision highlights the responsibilities of carriers under federal law for intermediaries involved in the call path, and that carriers are to take steps to ensure that rural calls properly terminate. The FCC has jurisdiction over interstate calls. The Michigan Public Service Commission has advised and offered to assist consumers in filing complaints with the FCC about call completion failures and rural call quality concerns.¹⁷ The State of Oregon adopted a rule in December 2012 to “ensure that carriers fulfill their obligations

¹⁵ [*Developing a Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, WC Docket No. 07-135, Declaratory Ruling, 27 FCC Rcd 1351, 1355-56, para. 12 \(rel. February 6, 2012\)](#) (2012 Declaratory Ruling).

¹⁶ *Ibid.*

¹⁷ Michigan Public Service Commission, Rural Call Completion, January 2012. *See*, https://www.michigan.gov/documents/mpsc/rural_call_373366_7.pdf.

to complete calls placed to customers in rural exchanges within the state.”¹⁸ The Public Utilities Commission of Ohio (PUCO) stated “to determine the magnitude of the problem in Ohio, the PUCO asks for customers to contact the PUCO Call Center at (800) 686-PUCO (7826) to report problems experienced while placing or receiving long distance and wireless calls in Ohio.”¹⁹ The Missouri Public Service Commission opened a proceeding to investigate intrastate call completion issues, TW-2012-0112.²⁰

To determine the scope of the problem we need to identify the extent to which and how rural California²¹ experiences call completion failures or call degradation, and what actions the Commission has taken or can take to combat this issue. Additionally, we will examine actions being taken at the federal and state levels and by industry associations. The results of these inquiries will be instrumental in determining whether to move forward with an OIR.

¹⁸ Public Utility Commission of Oregon, In the Matter of Amendments to OAR 860-032-0007, To Address Call Termination Issues, AR 566, December 17, 2012. See, <http://apps.puc.state.or.us/orders/2012ords/12-478.pdf>.

¹⁹ Public Utilities Commission of Ohio, Rural Call Completion Issues. See, <http://www.puco.ohio.gov/puco/index.cfm/consumer-information/consumer-topics/rural-call-completion-issues/>.

²⁰ Missouri Public Service Commission, TW-2012-0112, Oct. 19, 2011. See, <https://www.efis.psc.mo.gov/mpsc/Docket.asp?caseno=TW-2012-0112>.

²¹ The US Census Bureau defines a rural area by negation, i.e. an area that is not an urban area. See, <https://www.census.gov/geo/reference/urban-rural.html>. The Cal. Pub. Util. Code, § 739.3 (b) in the process of defining “small independent telephone corporation”, leaves to the Commission the definition of rural areas.

4. Federal Communications Commission Actions

During the past several years, the FCC has undertaken efforts to identify, control, and reduce the frequency of call completion failures. The following section describes these efforts.

4.1. Declaratory Ruling

The FCC's Wireline Competition Bureau issued a Declaratory Ruling on February 6, 2012 (**DA 12-154**), to clarify the scope of the FCC's prohibition on blocking, choking, reducing or restricting telephone traffic.²²

This Declaratory Ruling made the following key points:

- Practices ...that lead to call termination and call quality problems may constitute unjust and unreasonable practices in violation of section 201 of Communications Act of 1934, as amended (the 'Act') and/or may violate a carrier's section 202 duty to refrain from unjust or unreasonable discrimination in practices, facilities, or services.²³
- Under § 217 of the Act, carriers are responsible for the actions of their agents or other persons acting for or employed by the carriers.²⁴
- [The FCC] can take appropriate enforcement actions under statutory authority, including cease-and-desist orders, forfeitures, and revocations.²⁵

The FCC stopped short of recommending specific enforcement mechanisms to control those service providers that do not comply with the referenced statutory obligations.

²² 2012 Declaratory Ruling, *supra*.

²³ *Id.*, at para. 4 [citations omitted].

²⁴ *Ibid.*

²⁵ *Id.*, at para. 16.

4.2. The Rural Call Completion NPRM

In the *Rural Call Completion NPRM* released on February 7, 2013, the FCC proposed ideas and sought comments on:

- [R]ules to help address problems in the completion of long-distance telephone calls to rural carriers.²⁶
- [M]easures to improve the FCC's ability to monitor the delivery of long-distance calls to rural areas and aid enforcement action in connection with providers' call-completion practices as necessary.²⁷
- [How] to minimize the burden of compliance with the FCC's proposed rules, particularly for originating providers whose call-routing practices do not appear to cause significant call-completion problems.²⁸

In the NPRM, the FCC proposes:

- [R]ules to require facilities-based originating long distance voice service providers [subject to some limitations] to collect and retain basic information on call attempts and periodically undertake a basic call completion summary analysis and report the results to the [FCC].²⁹
- If the originating long distance voice service provider is not facilities-based, the FCC proposes to apply the obligations [aforementioned in the previous bullet point] to the first facilities-based provider in the call delivery chain.³⁰
- [A]rule that would prohibit both originating and intermediate providers from causing audible ringing to be sent to the caller

²⁶ *Rural Call Completion NPRM*, *supra*, at para. 1.

²⁷ *Id.* at para. 3.

²⁸ *Ibid.*

²⁹ *Id.* at para. 17.

³⁰ *Ibid.*

before the terminating provider has signaled that the called party is being alerted.³¹

Notably, in this NPRM proceeding, the FCC does not propose, “call communications quality standards”.³² Additionally, the FCC states “[t]o the extent that these proposed rules would apply to Voice over Internet Protocol (VoIP) providers; [it] proposes to exercise [its] ancillary authority to the extent that VoIP services are information services.”³³ Finally, the FCC reiterates that call-routing malpractices may violate its rules but does not propose a specific mechanism to reduce or control call completion failures or to enforce its rules. However, it set an example of one enforcement option when it chose the ad-hoc investigation of individual providers that led to entering into two separate consent decrees with providers.³⁴

³¹ *Id.* at para. 14.

³² *Id.* at para. 15.

³³ *Id.* at paras. 19 and 20.

³⁴ Level 3 Communications, LLC, agreed to meet rigorous, verifiable call completion standards and to provide extensive records that would assist FCC enforcement of rules protecting against failed calls to rural areas. Level 3 also agreed to make a \$975,000 voluntary contribution to the U.S. Treasury, and agreed to make additional \$1 million voluntary contributions going forward if it misses specified quarterly benchmarks. *See, In the Matter of Level3 Communications, LLC*, File No.: EB-12-IH-0087, Consent Decree, DA 13-371, Order (rel. March 12, 2013).

In a second case, on February 20, 2014, the FCC and Windstream Corp. (a company licensed to operate in California) agreed to pay \$2.5 million to resolve an investigation by the FCC’s Enforcement Bureau into the company’s rural call completion practices. Windstream also agreed to implement a three-year plan to ensure compliance with FCC requirements designed to combat the serious problem of long-distance calls failing to complete in rural areas. *See, In the Matter of Windstream Corporation* File No.: EB-12-IH-000011781, Consent Decree, DA 14-152, Order (rel. February 20, 2014).

4.3. Latest Steps to Combat Call Completion Problems

On November 8, 2013, the FCC released a Report and Order and Further NPRM in the *Rural Call Completion NPRM* (Report and Order) that included new rules to address rural call completion issues and enforce restriction against blocking, chocking, reducing, or restricting calls.³⁵

The Report and Order adopts rules and requirement on reporting, recording and retention of call data, including the following:

- Providers of long-distance voice service with over 100,000 domestic retail subscribers lines aggregated over all of the providers' affiliates including LECs, Interexchange carriers (IXCs), commercial mobile radio service (CMRS) providers, and VoIP service providers that make the initial long-distance call path choice, are required to file call-detailed reports regardless of whether those providers are facilities-based.³⁶
- Data reporting requirements include interstate and intrastate traffic. Providers must report data on intrastate and interstate calls separately.³⁷
- The only call attempts that need to be retained are those to rural Incumbent LECs.³⁸
- Providers must include autodialers' traffic in their recording, retention, and reporting.³⁹

³⁵ *In the Matter of Rural Call Completion*, WC Docket No. 13-39, Report and Order and Further Notice of Proposed Rulemaking, FCC 13-135, (rel. November 8, 2013) (*Rural Call Completion Report and Order and FNPRM*).

³⁶ *Id.* at paras. 19 and 20.

³⁷ *Id.* at para. 45.

³⁸ *Id.* at para. 49.

³⁹ *Id.* at para. 54.

- Providers must retain call data for six months.⁴⁰ Providers must submit their report quarterly.⁴¹
- Providers could use a safe harbor⁴² provision to reduce their data-reporting obligation. The safe harbor will require a provider to “have no more than two intermediate providers in a given path before the call reaches the terminating provider.”⁴³
- If a provider uses the safe harbor provision, the reporting requirements remain the same as for those providers not using safe harbor for a period of one year, but the retention period is reduced to three months.⁴⁴

The Report and Order also set rules to address ring signaling and prohibited false audible ringing to the caller before the called party is alerted.⁴⁵ In this practice, after the caller completes dialing the called party’s number, the caller hears a ringing sound, indicating to the caller that the called party’s telephone is ringing, while at the receiving end, the called party does not yet hear a ringing sound. This may prompt the caller to terminate the call before a connection is made. This rule prohibiting false audible ringing applies to all originating providers, intermediate providers, including local exchange carriers, interexchange carriers, CMRS providers, interconnected VoIP, and one-way VoIP providers. These rules apply to both interstate and intrastate calls, as well as to both originating and terminating international calls while they traverse United

⁴⁰ *Id.* at paras. 61-64.

⁴¹ *Id.* at para. 65.

⁴² Safe harbor is a set of standards and provisions by which providers need to meet to avoid or reduce their reporting and retention obligations.

⁴³ *Rural Call Completion Report and Order and FNPRM, supra*, at para. 85.

⁴⁴ *Id.* at para. 89.

⁴⁵ *Id.* at para. 115.

States networks.⁴⁶ As to the reporting data, the FCC stated that it would release information to states upon request, if those states were able to maintain the confidentiality of this information.⁴⁷

4.3.1. Court Ruling Partially Vacating the FCC's Requirements on Broadband Providers

On January 14, 2014, the United States Court of Appeals for the District of Columbia Circuit (D.C. Court of Appeals) vacated portions of the FCC's Open Internet Order⁴⁸ addressing the FCC's anti-discrimination and anti-blocking rules "to compel broadband providers to treat all Internet traffic the same regardless of source – or to require, as it is popularly known, 'net neutrality.'"⁴⁹ In this same Order, the D.C. Court of Appeals decided:

Given that the Commission has chosen to classify broadband providers in a manner that exempts them from treatment as common carriers, the Communications Act expressly prohibits the Commission from nonetheless regulating them as such. Because the Commission has failed to establish that the anti-discrimination and anti-blocking rules do not impose *per se* common carrier obligations, we vacate those portions of the *Open Internet Order*.⁵⁰

The FCC is examining the effect of the *Verizon v. FCC* decision on its jurisdiction over IP-based providers of voice services, including its use of

⁴⁶ *Ibid.*

⁴⁷ *Id.* at para. 109.

⁴⁸ *In re Preserving the Open Internet; Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, 25 F.C.C.R. 17905 (rel. Dec. 23, 2010).

⁴⁹ *Verizon v. FCC, et al.* (D.C. Cir. Jan. 14, 2014, Case No. 11-1355) 740 F.3d 623.

⁵⁰ *Ibid.*

ancillary jurisdiction to require collecting and reporting information about call blocking and otherwise restricting calls to telephone customers.

4.4. Consumer Complaints

The FCC has a page on its website addressing rural call completion that includes frequently asked questions and has a link to its regulatory responses to call completion failures⁵¹ with long distance or wireless calling to rural areas. Consumers can also find a link to an online complaint form where they may address interstate call completion failures.⁵²

5. Other State Utilities Regulatory Agencies

Some states' utilities regulatory agencies have taken steps to address or are in the process of addressing call completion failures on the intrastate portion of call connections, although such steps taken have varied. Oregon and Nebraska have opened proceedings to consider specific rules and regulations to address the call failure issue at the state level. Other states such as Michigan⁵³ and Wisconsin⁵⁴ have posted a page on their respective websites acknowledging the

⁵¹ Rural Call Completion: Problems with Long Distance or Wireless Calling to Rural Areas. See, <http://www.fcc.gov/encyclopedia/problems-long-distance-or-wireless-calling-rural-areas>.

⁵² The form is not designed specifically for complaints regarding call completion failure and seems to be a general form for billing disputes at the end of which has a blank box section for non-billing complaints. See, http://transition.fcc.gov/eb/rcc/RCC_Form2000B.html.

⁵³ Consumer Tips, Alert 12-1, Consumer Support Section-Michigan Public Service Commission, January 2012. See, <http://www.michigan.gov/mpsc/0,4639,7-159-16372-268981--,00.html>.

⁵⁴ Rural Call Completion page. See, <http://psc.wi.gov/utilityinfo/tele/teleConsumer/ruralCustomers.html>.

existence of or concerns with the issue.⁵⁵ To determine the magnitude of the problem in Ohio, the PUCO asks customers to contact the PUCO Call Center to report problems experienced while placing or receiving long distance and wireless calls in Ohio. It also urges customers to inform their respective local and long distance carriers, the PUCO and the FCC of such problems.⁵⁶

5.1. Oregon

The Oregon Public Utility Commission (OPUC) issued Order 12-478⁵⁷ on December 17, 2012, which adopted rules to address and resolve call completion failures including calls not being connected, dead air, long “set up” durations, and poor voice quality within the state of Oregon. The OPUC Order:

- Prohibits intrastate carriers from call blocking, choking, reducing, or restricting traffic in any way.⁵⁸
- Obligates carriers to take reasonable steps to avoid practices that can lead to “lower quality of service to an exchange with higher terminating access rates than like service to an exchange with lower terminating access rates.”⁵⁹
- Bars carriers from “engaging in deceptive or misleading practices, including but not limited to informing a caller that a

⁵⁵ See, <http://www.puco.ohio.gov/puco/index.cfm/Search/?Keywords=rural+call+completion&display=search&newSearch=true&noCache=1>.

⁵⁶ See, <http://www.puco.ohio.gov/puco/index.cfm/consumer-information/consumer-topics/rural-call-completion-issues/>.

⁵⁷ In the Matter of Amendments to OAR 860-032-0007 to Address Call Termination Issues, AR 566, Oregon Public Utility Commission, Order No. 12-478, (Dec. 17, 2012).

⁵⁸ *Id.* Appendix A at 2.

⁵⁹ *Ibid.*

number is not reachable or is out of service when the number is in fact reachable and in service.”⁶⁰

- Carriers must ensure that the actions of any underlying carrier, agent, contractor, and subcontractor to deliver traffic on behalf of the carrier do not violate the OPUC rules and as such carriers are liable for their actions.⁶¹

These rules provide the OPUC with authority to levy fines on violators of up to \$50,000.⁶²

5.1.1. Customer Complaints

The OPUC has a web page dedicated to “Call Completion Investigation,”⁶³ with a link to a call completion fact sheet, which provides the telephone number of the Consumer Services section, and urges consumers to contact this section with their complaints.

5.2. Nebraska

On July 17, 2012, the Nebraska Public Service Commission (NPSC) opened a proceeding to amend and add rules regarding service adequacy provided by telecommunications carriers, and prohibit call blocking and choking. The NPSC proposes, in this still-open proceeding, to amend its rules regarding intrastate telecommunications services as follows:

⁶⁰ *Ibid.*

⁶¹ *Ibid.*

⁶² Commission Adopts Rules to Tackle Rural Call Completion Problems, OPUC, December 19, 2012 (2012-2014) (AR 566). *See*, <http://www.oregon.gov/puc/Pages/news/2012/2012014.aspx>. *See also*, <http://www.puc.state.or.us/Pages/news/2012/2012014.aspx>.

⁶³ Call Completion Investigation. *See*, http://www.oregon.gov/puc/Pages/telecom/call_termination_issues/call_termination_issues_workshop.aspx.

- Adequate service shall include not subjecting any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage in the provisioning of service by means of blocking, choking, reducing or restricting traffic in any way, or otherwise engaging in unjust or unreasonable conduct with regard to intrastate telecommunications service prohibited by Nebraska law or the rules and regulations of the [NPSC].⁶⁴
- No exchange carrier shall engage in any practice, including blocking, choking, reducing, or otherwise restricting telecommunications traffic to particular locations in an unjust or unreasonable manner, that has the effect of degrading service to a particular location, include for purpose of avoiding any applicable rate, charge, or fee. This shall not apply if traffic restriction is caused by a *force majeure* event that is beyond the reasonable control of the exchange carrier. Each exchange carrier shall be responsible for the acts, omissions, or failure of their officers, agents or other persons acting for or employed by the carrier, acting within the scope of their employment, including but not limited to third parties contracted by carriers to assist in the provision of service.⁶⁵

6. Industry Associations

Industry associations can play a significant role in the regulatory arena by collecting data and providing information on issues of concern; on behalf of carriers, commenting on and suggesting changes to current or proposed rules and regulations; and providing input to define industry's technical standards. These associations include:

⁶⁴ In the Matter of the Commission, on its own motion, seeking to amend Title 291, Chapter 5, Telecommunications Rules and Regulations, to add rules regarding adequacy of service and prohibiting call blocking and choking, Nebraska Public Service Commission, February 26, 2013. See, http://www.sos.state.ne.us/rules-and-regs/regtrack/details.cgi?proposal_id=0000000000001254.

⁶⁵ *Ibid.*

- Alliance for Telecommunications Industry Solutions (ATIS).⁶⁶ ATIS is an organization that develops telecommunications standards and solutions. Among its members are AT&T, Verizon, Time Warner Cable, T-Mobile USA, Century Link, and Sprint Nextel Corporation.⁶⁷
- The National Exchange Carrier Association (NECA). NECA administers complex regulatory and financial programs. It administers the FCC's access charge plan. More than 1,000 local telephone companies participate in access charge revenue pools.⁶⁸
- Western Telecommunications Alliance (WTA). WTA represents more than 250 rural telecommunications carriers providing voice, video and data services in the 24 states west of the Mississippi River. It advocates the interests of its member companies and their customers in Washington, D.C.⁶⁹
- NTCA-The Rural Broadband Association. It was formed by the recently merged National Telecommunications Cooperative Association (NTCA) and the Organization for Promotion and Advancement of Small Telecommunications Companies (OPASTCO),⁷⁰ representing over 900 independent and community-based telecommunications companies. It advocates on behalf of its members in the legislative and regulatory arenas,

⁶⁶ See, <http://www.atis.org>.

⁶⁷ ATIS Standard on Intercarrier Call Completion/Call Termination Handbook (ATIS-0300106), Approved August 2012 as attached to ATIS letter to the FCC dated September 5, 2012. The handbook is available at <http://www.atis.org/docstore/product.aspx?id=26780>.

⁶⁸ See, https://www.neca.org/Core_Business.aspx.

⁶⁹ See, <http://w-t-a.org/about/>.

⁷⁰ The NTCA merged with the OPASTCO effective March 1, 2013. The two merged entities are now known as NTCA-The Rural Broadband Association. See, <http://www.fiercetelecom.com/story/ntca-opastco-merge-one-common-organization/2013-02-07>.

and also provides training and development; issues publications, and holds industry events.⁷¹

6.1. ATIS Call Completion/Call Termination Handbook

The ATIS handbook describes new and existing industry standards and practices to assist in ensuring long distance call completion in light of call completion failure issues experienced by rural carriers. These standards are classified by the following technical areas, which includes examples of potential call completion failures points:

- Signaling- including identification of calling party, cause codes, tones and announcements, interconnection parameters and looping, inter network trunk signaling testing, and call set-up delay.
- Transmission Quality-including fax, voice, and data.
- Routing-including Numbering Plan Areas (NPA)/Central Office Code (NXX) routing, interconnection agreements, homing arrangements, routing implementation.
- Considerations in the code routing process-including potential call completion failure points, looping, and Location Routing Number (LNP) implications.
- Network congestion-including network element degradation, mass calling, fraud, force majeure and disasters, human-related issues, and traffic pumping and access stimulation.

The ATIS handbook also suggests best practices useful in addressing call completion failures, especially for management of intermediate or underlying carriers.⁷²

⁷¹ See, <http://www.ntca.org/index.php/>.

⁷² ATIS, *Op. cit.*, at 1.

6.2. NECA (and other rural telecom industry associations) Joint Survey

On November 15, 2012, NECA, NTCA, OPASTCO, and WTA released the findings of a joint call completion survey conducted to determine the volume of consumer complaints related to calls that are not successfully terminated to the rural customers. Two hundred nine (209) rural local exchange carriers in 39 states responded to the survey, which was conducted over a three-week period in October 2012. The survey found that:

- [C]all completion issues continue to occur at alarming rates, further highlighting the need for some meaningful enforcement of existing rules governing essential communications services, and the development of new solutions to combat this issue.⁷³
- Respondents in 38 out of 39 states reported complaints.⁷⁴
- Respondents reported 4,691 complaints between March and August 2012.⁷⁵
- When comparing call completion complaints for March through September 2012 against the August 2011 through February 2012 period, 41% of respondents reported an increase in call completion failure complaints, 21% found that complaints remained steady, and only 21% noticed a decrease in the number of complaints.⁷⁶

⁷³ NECA letter to FCC re: Establishing Just and Reasonable Rates to Local Exchange Carriers, WC Docket No. 07-135; Developing a Unified Intercarrier compensation Regime, CC Docket No. 01-92; Rules and Regulations Implementing the Truth in Caller ID Act of 2009, WC Docket No. 11-39, dated November 15, 2012 (NECA Letter).

⁷⁴ *Ibid.* See, NECA letter-Attached October 2012 Rural Call Completion Survey Results.

⁷⁵ *Ibid.*

⁷⁶ *Ibid.*

- While the percentage of incomplete calls decreased, there were higher percentages of poor service quality calls in 2012 vs. 2011 (See Appendix A for NPRM rural Test Call Results.)

7. Symptoms and Probable Causes of Call Completion Failures

In this section, we discuss symptoms and allegations of probable causes of call completion failures.

7.1. Call Completion Failures

A call completion failure can happen at any point, including at the calling party's equipment interconnection with interexchange carrier switches, the intermediate provider's transmission network, terminating switches and lines, and the called party's equipment (see Appendix B –Simplified Long Distance Connection Model). However, for the purpose of this Order Instituting Investigation (OII), we are primarily concerned with call completion failures that prevent successful termination of voice communications from callers, typically from an urban telephone network to a rural telephone customer.

7.1.1. Symptoms of Call Completion Failures

Generally, call completion failures can have any of the following types of symptoms:⁷⁷

- No ring tone: the calling party hears ringing tones but voice mail of the called party does not activate and the called party does not hear a ring tone.
- Busy tone: the calling party hears a busy tone but the called party line is not engaged.

⁷⁷ The list is not an exhaustive one. For instance, one can include call-drop issue: when parties experience mid-conversation dropped calls or when a fax transmission fails before it is completed.

- Long delay: the calling party experiences long delays before hearing a ring tone or before the called party answers.
- Dead air: the telephone of the called party rings but the called party hears nothing when answering the phone.
- Wrong caller ID: the called party receives inaccurate caller ID. This is known as “spoofing”.⁷⁸ Specifically, spoofing occurs when the actual calling number is masked or is a misleading number that is not familiar to the called party.
- Inaccurate information tones or messages: the calling party hears fast network busy signals or inaccurate announcements such as “number not in service.”
- Poor quality connection: the calling and/or called party experience poor communications transmission between them, which may include voice echo, excessive noise, and only one-way audible conversation. (See Appendix C for illustration).

⁷⁸ See delivery requirements and privacy restrictions as stated below in the Code of Federal Regulations, 47 C.F.R. § 64.1601:

(a) Delivery. Except as provided in paragraphs (d) and (e) of this section:

(1) Telecommunications carriers and providers of interconnected Voice over Internet Protocol (VoIP) services, in originating interstate or intrastate traffic on the public switched telephone network (PSTN) or originating interstate or intrastate traffic that is destined for the PSTN (collectively “PSTN Traffic”), are required to transmit for all PSTN Traffic the telephone number received from or assigned to or otherwise associated with the calling party to the next provider in the path from the originating provider to the terminating provider. This provision applies regardless of the voice call signaling and transmission technology used by the carrier or VoIP provider. Entities subject to this provision that use Signaling System 7 (SS7) are required to transmit the calling party number (CPN) associated with all PSTN Traffic in the SS7 ISUP (ISDN User Party) CPN field to interconnecting providers, and are required to transmit the calling party's charge number (CN) in the SS7 ISUP CN field to interconnecting providers for any PSTN Traffic where CN differs from CPN. Entities subject to this provision who use multi-frequency (MF) signaling are required to transmit CPN, or CN if it differs from CPN, associated with all PSTN Traffic in the MF signaling automatic numbering information (ANI) field.

- Machine gun effect: call fails repeatedly and re-tries in rapid succession faster than a person can redial.⁷⁹

7.1.2. Probable Causes of Call Completion Failures

Call completion failures have been documented in multiple states with different demographic and topographic characteristics.⁸⁰ The probable causes of call completion failure may be categorized as:

- Technical:
 - Software bugs
 - Hardware failures
 - Inadequate use of best practices or observing standards.
- Environmental:
 - Acts of nature like lightening striking a telephone line, flooding, and mudslides.
 - Power outage, etc. that may damage parts of the network.
 - Fraudulent nonfinancial activities and human errors.⁸¹
- Financial:
 - Some have cited the ICC mechanism for creating incentives for call completion failures, contending that if the FCC implements ICC reform, carriers in turn will have less incentive to channel their long-distance calls to lower-cost

⁷⁹ Machine gun effect refers to a call setup repeated fails/re-attempts in rapid succession, so switch call records may show multiple attempts from the same telephone number to a single telephone number in rapid succession. Recipient's phone may never ring or ring once or intermittently. Source: In Minutes of OPUC Call Termination Workshop held on June 24, 2011.

⁸⁰ NECA Letter, *supra*, in attached October 2012 Rural Call Completion Survey Results.

⁸¹ See the Inter-carrier Call completion / Call termination Handbook (ATIS -0300106) for comprehensive list possible technical and non-technical causes.

IP-based routes, resulting in fewer call completion failure occurrences.⁸²

- Robocalling, including calls for marketing blitz or socio-political events may cause temporary call-volume overload.
- Traffic Pumping also known as Access Stimulation.⁸³ Some providers attribute this practice to call completion failures.⁸⁴
- Call blocking or call choking: Where the originating carrier or its agents limit or prevent a call to reach the rural

⁸² Gillett, Sharon and Jamie Barnett, Chiefs of the Wireline Competition Bureau and Public Safety and Homeland Security Bureau “New Year Solutions for Rural Call Completion Problems,” Official FCC Blog, January 5, 2012. See, <http://www.fcc.gov/blog/new-year-solutions-rural-call-completion-problems>. We note that D.97-11-024 stated, “[n]o carrier has the right to block or misdirect calls to their intended destination because the carrier believes that it is not being properly compensated for such calls.” Pub. Util. Code § 558 which requires that “Every telephone corporation and telegraph corporation operating in this State shall receive, transmit, and deliver, without discrimination or delay, the conversations and messages of every other such corporation with whose line a physical connection has been made,” contains no exception for carriers who object to the ICC mechanism or tariffs for terminating calls.

⁸³ Access stimulation, also referred to as “traffic pumping,” occurs when a local carrier with high access charge rates enters into an arrangement with another company with high call volume operations, such as chat lines, adult entertainment calls, or “free” conference calls. The arrangement inflates or stimulates the number of calls into the local carrier’s service area, and the local carrier then shares a portion of its increased access revenues with the “free” service provider, or provides some other benefit to that company. The local company’s profits from such an arrangement are typically so great that its charges become unreasonable and unlawful under FCC regulations. See, <http://www.fcc.gov/encyclopedia/traffic-pumping>.

⁸⁴ Comments of Bandwidth.com, Inc., *In the Matter of Rural Call Completion*, WC Docket No. 13-39 (May 13, 2013).

customer so that carriers can use their network to route and complete more profitable calls.⁸⁵

- Intermediate Providers: In attempting to provide the lowest-cost calling route, LCRs or intermediate providers which include both wholesalers and retailers, may cause calls to not reach the intended party, or when it reaches the party, may cause excess delay or poor service quality negatively affecting the purpose of the call (e.g., fax fails or voice cannot be easily understood by parties to the call).
- Regulatory Arbitrage:⁸⁶ Originating carriers try to use IP-based intermediate long distance providers who are less stringently regulated, and may attempt to avoid regulatory restraints of ICC rates.
- Others: Activities such as “spoofing” that might be against the law.

⁸⁵ The FCC prohibits this practice. “If an underlying provider is blocking, choking, or otherwise restricting traffic, employing other unjust or unreasonable practices in violation of section 201, engaging in unjust or unreasonable discrimination in violation of section 202, or otherwise not complying with the Act or Commission rules, the carrier using that underlying provider to deliver traffic is liable for those actions if the underlying provider is an agent or other person acting for or employed by the carrier.” *In the Matter of Developing a Unified Intercarrier Compensation Regime Establishing Just and Reasonable Rates for Local Exchange Carriers*, CC Docket No. 01-92, WC Docket No. 07-135, FCC DA 12-154, at para. 15.

⁸⁶ A practice whereby firms capitalize on loopholes in regulatory systems in order to circumvent unfavorable regulation. Arbitrage opportunities may be accomplished by a variety of tactics, including restructuring transactions, financial engineering and geographic relocation. Regulatory arbitrage is difficult to prevent entirely, but its prevalence can be limited by closing the most obvious loopholes and thus increasing the costs associated of circumventing the regulation. *See*, <http://www.investopedia.com/terms/r/regulatory-arbitrage.asp>.

In any call completion failure occurrence, one or any combination of these causes may be present.⁸⁷

7.2. Least Cost Routers and Their Associated Problems

LCRs have been identified as the major cause of call completion failures by rural carriers,⁸⁸ trade associations such as NECA,⁸⁹ the FCC,⁹⁰ and a number of state utilities regulatory agencies such as Oregon,⁹¹ and ⁹² Nebraska,⁹³ and Michigan.⁹⁴ If implemented correctly, Least Cost Routing provides a flexible and cost efficient way to route long distance calls. However, errors, human

⁸⁷ For example, in a hypothetical situation a call completion failure may occur when a Least Cost Router uses a faulty routing table, while at the same time, a provider chokes the flow of telephone traffic and robo-calls are made to customers in the rural area, which in turn may cause the telephone network to overload.

⁸⁸ For example, *see*, Zupancic, Brandon, "Least Cost Routing Analysis," Canby Telcom, May 2011; *see also*, Law, Denny, "Rural Call Completion Issues Consumer Impacts," Golden West Telecommunications.

⁸⁹ Gnapp, Bob, "Rural Call Completion Issues Update," ver. WTA V1, NECA, 2013.

⁹⁰ *See*, <http://www.fcc.gov/encyclopedia/problems-long-distance-or-wireless-calling-rural-areas>.

⁹¹ *See*, In the Matter of Amendment to OAR 860-032-007, AR 566, Order No. 12 -478, Oregon Public Utilities Commission, December 17, 2012. *See also*, Call Completion Investigation workshop held on June 24, 2011. Available at http://www.oregon.gov/puc/pages/telecom/call_termination_issues/call_termination_issues_workshop.aspx.

⁹² Call Completion Investigation workshop held on June 24, 2011. *See*, http://www.oregon.gov/puc/pages/telecom/call_termination_issues/call_termination_issues_workshop.aspx.

⁹³ *See*, Rules and Regulation No. 187, Nebraska Public Service Commission, Aug.17, 2012.

⁹⁴ *See*, <http://www.michigan.gov/mpsc/0,4639,7-159-16372-268981--,00.html>.

intentional actions, and unintended consequences have caused an alarming number of call completion failures blamed on LCRs. In the following paragraphs, we address some of these issues.

7.2.1. What is Least Cost Routing? And How Does It Work?

Least Cost Routing, also known as Automatic Route Selection (ARS), is a programmable switching system software feature that enables the system to route a call to the appropriate carrier based on factors such as the type of call (e.g., local, local long distance, or long-haul long distance), the Class of Service⁹⁵ of the user, the time of day (e.g., prime time and non-prime time), and the day of the year (e.g., weekday, weekend day, or holiday).⁹⁶ As shown in Appendix B, a simplified model to complete a call from an urban caller to a rural end user involves three networks, 1) the originating communication provider (e.g., interexchange carrier, wireless, VoIP); 2) the intermediate long distance provider (this is where Least Cost Routing occurs); and 3) the terminating carrier (i.e., rural ILECs). If Least Cost Routing is implemented properly, everyone benefits. While it seems simple, in reality many factors contribute to the complexity of the Least Cost Routing selection. For instance, often the originating carrier negotiates a wholesale contract with a long distance least cost router. In turn, the wholesaler subcontracts with retail LCRs, and those retailers

⁹⁵ Real-time, uncompressed voice, fax, and video traffic, for example, typically are assigned the highest priority level, as they are not tolerant of latency and loss. E-mail and certain types of signaling and control messages typically are assigned the lowest priority level, as they are highly tolerant of latency and loss.

⁹⁶ In practice, ARS generally is based on a table lookup rather than a hierarchical parsing of a dialed telephone number and calculation of a least cost route.

may further subcontract their LCR retailers. Additionally, Least Cost Routing pricing requires constant updating to find the most cost-efficient route within acceptable call quality standards, which are set by service level agreements, and rules and regulations. Potentially, a call to the same rural end user can be priced differently at different times and by different routes. Further, to maintain the required call quality, the LCR's system must recognize technical specifications such as voice codecs,⁹⁷ available bandwidth, and reliability of a particular network route at a given time.⁹⁸

7.2.2. Intended and Unintended Issues Associated With Least Cost Routing

In reality, LCRs have processed calls successfully for years. At the same time, with the ease of entry into the Least Cost Routing market, call routing demand has grown, LCRs often price their rates below ICC rates, and LCRs are in continuous real time reverse auction⁹⁹ for their services.¹⁰⁰ In this environment, call completion failures seem to manifest themselves. Probable causes might be categorized into two major groups:

- Improper network management including routing loop, routing table administration, insufficient facilities or over compression to

⁹⁷ Webster's Telecom Dictionary, Wiley Publishing, Indianapolis, IN, 2007, p.104: "Codec is an abbreviation for (coder/decoder): A device that interfaces an analog device to a digital circuit or channel."

⁹⁸ Other factors such number portability can add additional layer of complication to a routing table that needs to appropriate updates.

⁹⁹ Reverse auction is a type of auction where the subject of auction goes to the lowest bidder.

¹⁰⁰ Gnapp, "Rural Call Completion Issues Update", *supra*, at 4.

allow more volume of calls, and/or poor network performance monitoring.¹⁰¹

- Intentional blocking by the originating carrier or LCRs.¹⁰²

As a result, some calls to rural customers are delayed, delivered with poor quality, or not delivered at all. In this process, rural end users can be adversely affected by not properly receiving completed calls, local businesses may suffer,¹⁰³ and rural carriers may face negative feedback from costumers who blame them for “bad” connections. This may result in lost customers, lower revenues due to decreased billings of interstate and intrastate Minutes of Use,¹⁰⁴ and loss of Access Recovery Charge revenues.¹⁰⁵

8. Preliminary Scoping Memos

This investigation will be conducted in accordance with Article 5 of the Commission’s Rules of Practice and Procedure (Rules). As required by Rule 7.1, this order includes a Preliminary Scoping Memo as set forth below.

8.1. Issues

The issues to be considered in this proceeding relate to the review of intrastate call completion failures in California, particularly in rural areas of the

¹⁰¹ *Id.* at 6.

¹⁰² *Ibid.*

¹⁰³ *See, e.g.,* Law, “Rural Call Completion Issues Consumer Impacts”, *supra*. See many examples cited therein.

¹⁰⁴ *See, e.g.,* Zupancic, “Least Cost Routing Analysis”, *supra*, at 9.

¹⁰⁵ *See, e.g.,* Comments of Monroe Telephone Company, filed in Oregon Public Utilities Commission, AR 566, (September 10, 2012).

state. The following questions should be answered by parties, and include associated explanations for each response:¹⁰⁶

1. Should all California carriers be required to track and report call completion failures?
 - a. If so, should a tracking methodology be established for carriers to report call completion failures?
2. Should the Commission track customer-reported call completion failures through its general complaint procedure or establish a new dedicated system and mechanism?
3. What California-specific areas should the Commission focus on to ensure that:
 - a. The obligations of Pub. Util. Code § 558, requiring Telephone Corporations to carry and complete calls, are fulfilled? and
 - b. That calls to and from rural Californians, including public safety calls such as to rural fire stations and to rural doctors and hospitals are completed?
4. Do California state laws or rules already exist that prohibit or minimize call completion failures?
 - a. If so, are they being enforced?
 - b. If not, should the Commission add new rules and regulations to require, among other things, additional record keeping, reporting to the Commission, and creation of new enforcement tools?
5. Should the Commission develop recommendations to the legislature to amend the Public Utilities Code in order to

¹⁰⁶ To the extent questions identified for comment in the preceding text are not explicitly set forth in this list of issues; parties are still expected to address those questions in their filed comments.

address call completion failures; or are current laws sufficient to identify the causes and sources involved in call completion failures and to address the issues these failures raise?

6. If a call to a California phone number originates in California, is the traffic jurisdictionally intrastate for the purposes of California's call completion obligations under Pub. Util. Code § 558, regardless of the technology or route used to transport the call?
7. Does a Certificate of Public Convenience and Necessity (CPCN) or a Wireless Identification Registration (WIR) held by a California retail carrier or wholesale carrier indicate that such carrier's calls to phone numbers in California are jurisdictionally intrastate for purposes of call completion analysis and compliance?
 - a. What if any, are the boundaries of the Commission's authority over intrastate call completion, and
 - i. How are the boundaries defined when only intrastate phone numbers are involved in the call, and the calling and intended receiving carriers or wholesalers for those carriers have Commission-issued authorizations to operate in California?
8. What should be the accepted metrics for confirming call completion, identifying call completion failures, and reporting them to the Commission?
9. What percentage of each carrier's monthly intrastate traffic encounters call completion failures?
 - a. How do call completion rates for traditional TDM service providers differ from IP-based carriers?
 - b. What percentage of call completion failures can be attributed to deliberate restrictions and actions such as use of least cost routers to evade ICC charges?
 - c. What role, if any, does spoofing, phantom calls, or traffic pumping play in call completion failures?

10. Pub. Util. Code § 558, which requires carriers to complete calls, does not recognize minimization of ICC charges as a reason to justify failure to complete calls. What steps might the Commission take to minimize that “excuse” as a basis for call completion failures?
11. What technologies (wireless, wireline, fixed VoIP, nomadic VoIP) are more prone to call completion failures?
12. Is communication system overload a factor in call completion? If so, what are the sources of such overload and how can they be addressed?
13. The CD survey indicates that rural carriers not eligible for CHCF-A subsidies did not report call completion failures while many CHCF-A-eligible carriers did experience call completion failures. What factors would explain this result?
14. Should the Commission hold workshops on call completion failures, and if so, what specifically should be discussed?
15. In light of the FCC’s decisions on call completion, and its requirements that carriers, including one-way and two-way VoIP providers, submit information to the FCC to monitor call completion, what Commission actions are needed to ensure that intrastate calls in California are completed?
16. What effect, if any, does the D.C. Court of Appeal’s Decision in *Verizon v. FCC, et al.* (Case No. 11-1355, decided January 14, 2014) have on the Commission’s rules requiring call completion? We note that Pub. Util. Code § 558 applies to Telephone Corporations, and is not based on FCC characterization of a service as an information service or a common carrier service.
17. What impact, if any, does Pub. Util. Code § 710 have on Commission rules prohibiting blocking, choking, reducing or restricting telephone traffic, or on the enforcement of Pub. Util. Code § 558?

9. Category of Proceeding and Need for Hearing

Rule 7.1(c) requires that an OII preliminarily determine the category of the proceeding and the need for hearing. As a preliminary matter, we determine that this proceeding is a “quasi-legislative” proceeding, as that term is defined in the Commission’s Rules of Practice and Procedure, Rule 1.3(d). It is contemplated that this proceeding shall be conducted through written comments and workshops, without the need for evidentiary hearings.

Anyone who objects to the preliminary categorization of this rulemaking as “quasi-legislative,” or to the preliminary hearing determination, must state the objections in opening comments to this rulemaking. If the person believes hearings are necessary, the comments must state: (a) the specific disputed fact for which hearing is sought; (b) justification for the hearing (e.g., why the fact is material); (c) what the party would seek to demonstrate through a hearing; and (d) anything else necessary for the purpose of making an informed ruling on the request for hearing. After considering any comments on the preliminary scoping memo, the assigned Commissioner will issue a Scoping Memo that, among other things, will make a final category determination; this determination is subject to appeal as specified in Rule 7.6(a).

10. Schedule

The preliminary schedule is set forth below. We delegate to the Assigned Commissioner Catherine J.K. Sandoval and the assigned Administrative Law Judge (ALJ) the authority to set other dates in the proceeding or modify those below as necessary.

Day 1	Order Instituting Investigation issued
Day 51	Deadline for requests to be on service list
Day 61	Initial Comments filed and served
Day 91	Reply Comments filed and served

The determination of the need for further procedural measures, including discovery, technical workshops, and/or evidentiary hearings will be made in one or more rulings issued by the Assigned Commissioner or assigned ALJ. Any party believing that an evidentiary hearing is required shall file a motion requesting such a hearing no later than ten business days after the filing of reply comments. Any such motion must identify and describe (i) the material issues of fact, (ii) the evidence the party proposes to introduce at the requested hearing, and (iii) the schedule for conducting the hearing. Any right that a party may otherwise have to an evidentiary hearing will be waived if the party does not submit a timely motion requesting an evidentiary hearing.

Following receipt of any such motions, the assigned Commissioner and ALJ shall determine the need for and extent of further procedural steps that are necessary to develop an adequate record to resolve this investigation, and shall issue rulings providing guidance to parties, as warranted.

The schedule for resolving this proceeding will conform to the statutory case management deadline for ratesetting and quasi-legislative matters set forth in Pub. Util. Code § 1701.5.

11. Invitation to Comment on Preliminary Scoping Memo and Schedule

This OII serves as a solicitation for parties to comment on the Preliminary Scoping Memo and respond to the questions posed. Comments are due as discussed in the previous section.

We direct parties to limit their comments to the schedule, the issues set forth in the preliminary scoping memo, and to objections to the preliminary determinations below. Comments directed to the issues identified may include whether to amend the issues and how to prioritize the issues to be resolved; how to procedurally address these issues; the proposed separation of certain issues into different tracks; and the proposed timeline for resolving the issues identified. After comments are received and reviewed, the Assigned Commissioner's Scoping Ruling will lay out the issues and procedural path in more detail.

12. Parties and Service List

Respondents (and therefore parties) to this investigation include all carriers that are eligible to draw support from CHCF-A or California High Cost Fund B (CHCF-B), including: Calaveras Telephone Company, California-Oregon Telephone Company, Ducor Telephone Company, Foresthill Telephone Company, Happy Valley Telephone Company, Hornitos Telephone Company, Kerman Telephone Company, Pinnacles Telephone Company, the Ponderosa Telephone Company, Sierra Telephone Company, Siskiyou Telephone Company, the Volcano Telephone Company, and Winterhaven Telephone Company, AT&T California, Verizon of California (includes three (3) companies: Contel, GTE and MCI Metro Access), Frontier Communications of California (includes Citizens and

Frontier SouthWest), Cox California Telecom (Cox Communications), and SureWest Communications. Within 15 days of the mailing of this OII, each respondent shall inform the Commission's Process office of the contact information for a single representative, although other representatives and persons affiliated with the respondents may be placed in the Information Only portion of the service list.

Due to the potentially far-reaching effects of this proceeding, we also provide for service of this Order on the following entities in order to ensure that it is distributed to a wide range of potentially interested parties, including: 1) all certificated California telephone carriers and wholesalers with either a CPCN or a WIR; and 2) individuals and entities on the service lists for Rulemaking (R.) 01-08-002,¹⁰⁷ R.11-11-007,¹⁰⁸ and R.11-12-001.¹⁰⁹ Such service does not confer party status in this proceeding upon any person or entity, and does not result in that person or entity being placed on the service list for this proceeding. If you want to participate in the rulemaking or simply to monitor it, follow the procedures set forth below. To ensure you receive all documents, send your request within 50 days after the OII is published. The Commission's Process

¹⁰⁷ This proceeding addressed the Implementation of Senate Bill 669 as it affects CHCF-A; CHCF-B; Universal Lifeline Telephone Service Trust including Universal Lifeline Telephone Service Trust Marketing Board; Payphone Service Providers Enforcement; Telecommunications Devices for the Deaf Interim Placement Committee; Public Policy Payphone Program; and California Teleconnect Fund.

¹⁰⁸ This proceeding addressed a review of the CHCF-A Fund program.

¹⁰⁹ This proceeding addressed the evaluation of Telecommunications Corporations Service Quality Performance and Considered Modification to Service Quality Rules.

Office will publish the official service list at the Commission's website (www.cpuc.ca.gov), and will update the list as necessary.

Within 50 days of the service of this OII, any person may ask to be added to the official service list. Send your request to the Process Office. You may use e-mail (Process_Office@cpuc.ca.gov) or letter (Process Office, California Public Utilities Commission, 505 Van Ness Avenue, San Francisco, CA 94102). Include the following information:

- Docket Number of this Rulemaking;
- Name (and party represented, if applicable);
- Postal Address;
- Telephone Number;
- E-mail Address; and
- Desired Status (Party, State Service, or Information Only).¹¹⁰

Once an ALJ has been assigned to this proceeding, she/he should also be served with a request for party status.

If the OII names you as respondent, you are already a party, but you or your representative must still ask to be added to the official service list.

If you want to become a party after the first 50 days, you may do so by filing and serving timely comments in the rulemaking (Rule 1.4(a)(2)), or by making an oral motion at the prehearing conference (PHC) (Rule 1.4(a)(3)), or by filing a motion (Rule 1.4(a)(4)). If you file a motion, you must also comply with

¹¹⁰ If you want to file comments or otherwise actively participate, choose "Party" status. If you do not want to actively participate but want to follow events and filings as they occur, choose "State Service" status if you are an employee of the State of California; otherwise, choose "Information Only" status.

Rule 1.4(b). These rules are in the Commission's Rules of Practice and Procedure, which you can read at the Commission's website.

Once you are on the official service list, you must ensure that the information you have provided is up-to-date. To change your postal address, telephone number, e-mail address, or the name of your representative, send the change to the Process Office by letter or e-mail, and send a copy to everyone on the official service list.

The Commission has adopted rules for the electronic service of documents related to its proceedings, available on our website at:

<http://www.cpuc.ca.gov/puc/efiling>.

12.1. Serving and Filing Documents

When you serve a document, use the official service list published at the Commission's website as of the date of service. You must comply with Rules 1.9 and 1.10 when you serve a document to be filed with the Commission's Docket Office. If you are a party to this Investigation, you must serve by e-mail any person (whether Party, State Service, or Information Only) on the official service list who has provided an e-mail address.

The Commission encourages electronic filing and e-mail service in this Rulemaking. You may find information about electronic filing at

<http://www.cpuc.ca.gov/PUC/efiling>.

E-mail service is governed by Rule 1.10. The subject line for e-mail communications should include the proceeding number, and where the filing is related to a specific track, the track number for the filing. In addition, the party sending the e-mail should briefly describe the attached communication, for example, *Brief*. If you use e-mail service, you must also provide a paper copy to the assigned Commissioner and ALJ. The electronic copy should be in Microsoft

Word or Excel formats to the extent possible. The paper copy should be double-sided. E-mail service of documents must occur no later than 5:00 p.m. on the date that service is scheduled to occur.

If you have questions about the Commission's filing and service procedures, contact the Docket Office.

12.2. Format and Service

All paper documents filed with the Commission or served in this proceeding must be printed on both sides, unless doing so is infeasible or will confuse the reader of the document. All documents must be served on the assigned ALJs and the office of the Assigned Commissioner by electronic mail in accordance with Rule 1.10 of the Commission's Rules of Practice and Procedure.

Paper copies of documents (printed on both sides of the paper) must be provided to the assigned ALJs unless an ALJ expressly requests that no paper copies be provided.

12.3. Public Advisor

Any person or entity interested in participating in this Investigation who is unfamiliar with the Commission's procedures should contact the Commission's Public Advisor in San Francisco at (415) 703-2074 or (866) 849-8390 or e-mail public.advisor@cpuc.ca.gov; or in Los Angeles at (213) 576-7055 or (866) 849-8391, or e-mail public.advisor.la@cpuc.ca.gov. The TTY number is (866) 836-7825.

12.4. Intervenor Compensation

Any party that expects to claim intervenor compensation for its participation in this rulemaking shall file its notice of intent (NOI) to claim intervenor compensation no later than 30 days after the PHC (Rule 17.1(a)(1)), or if no PHC is held, within 90 days of the issue date of this OII (Rule 17.1(a)(2)).

13. *Ex Parte* Communications

Communications with decision makers and advisors in this Investigation are subject to the rules on *ex parte* communications set forth in Article 8 of the Rules of Practice and Procedure. (See Rule 8.4(b), Rule 8.2(c), Rule 8.3 and 8.5.)

Therefore, **IT IS ORDERED** that:

1. The Commission institutes this investigation on its own motion to review California rural call completion failures.
2. The category of this investigation is preliminarily determined to be quasi-legislative.
3. Evidentiary hearings are not anticipated at this time.
4. The respondents to this investigation are:
 - a. All Carriers eligible to draw support from the California High Cost Fund - A and B, namely: Calaveras Telephone Company, California-Oregon Telephone Company, Ducor Telephone Company, Foresthill Telephone Company, Happy Valley Telephone Company, Hornitos Telephone Company, Kerman Telephone Company, Pinnacles Telephone Company, Ponderosa Telephone Company, Sierra Telephone Company, Siskiyou Telephone Company, the Volcano Telephone Company, and Winterhaven Telephone Company, AT&T California, Verizon of California (includes three (3) companies: Contel, GTE and MCI Metro Acess), Frontier Communications of California (includes Citizens and Frontier SouthWest), Cox California Telecom (Cox Communications), and SureWest Communications.
5. The Executive Director shall cause this Order Instituting Investigation to be served on all certificated telephone corporations holding a Certificate of Public Convenience and Necessity or a Wireless Identification Registration and parties on the service lists of Rulemaking (R.) R.01-08-002, R.11-11-007, and R.11-12-001.

6. Any person who wishes to become a party to this proceeding, to be placed on the official service list in this proceeding, within fifty (50) days after the issuance of this order, shall send a request to the Commission's Process Office:

Via electronic mail to: process_office@cpuc.ca.gov or

Via postal mail to:

California Public Utilities Commission
Process Office
505 Van Ness Avenue
San Francisco, California, 94102

Parties who only wish to monitor the proceedings, but not participate as an active party shall indicate that they be added to the "Information Only" section of the service list. The service list will be posted on the Commission's website: www.cpus.ca.gov. Once an ALJ has been assigned to this proceeding, she/he should also be served with a request for party status.

7. Respondents shall, and other parties may, file opening comments on the issues identified in this investigation and respond to the questions in Section 8 of this order, according to the schedule set forth in this order.

8. The issues and questions to be considered in this proceeding are defined in the Preliminary Scoping Memo herein, and include whether there is a specific need to take remedial action regarding call completion failures in light of market and technological developments.

9. All parties shall abide by the Commission's electronic service rules contained in the Commission's Rules of Practice and Procedure.

10. Any party believing that an evidentiary hearing is required shall file a motion requesting such a hearing no later than 10 business days after reply comments are due. Any such motion must identify and describe (i) the material issues of fact, (ii) the evidence the party proposes to introduce at the requested

hearing, and (iii) the schedule for conducting the hearing. Any right that a party may otherwise have to an evidentiary hearing will be waived if the party does not submit a timely motion requesting an evidentiary hearing.

11. Any person who objects to this order's determination regarding categorization of the proceeding as quasi-legislative, the need for hearings, issues to be considered, or scheduling shall state such objections in their comments. (See Rule 6.2 of the Rules of Practice and Procedure.)

12. Any party that expects to claim intervenor compensation for its participation in this rulemaking shall file its Notice of Intent to claim intervenor compensation no later than 30 days from the prehearing conference (PHC) (Rule 17.1(a)(1) or within 90 days of the issue date of this Investigation if no PHC is held (Rule 17.1(a)(2)).

13. The assigned Commissioner or Administrative Law Judge may make any revisions to the scheduling and filing determinations made herein as necessary to facilitate the efficient management of the proceeding, including reorganization of issues between the separate tracks of the proceeding.

This order is effective today.

Dated May 15, 2014, at San Francisco, California.

MICHAEL R. PEEVEY
President
MICHEL PETER FLORIO
CATHERINE J.K. SANDOVAL
CARLA J. PETERMAN
MICHAEL PICKER
Commissioners

LIST OF APPENDICES

APPENDIX A- NECA Rural Test Call Results

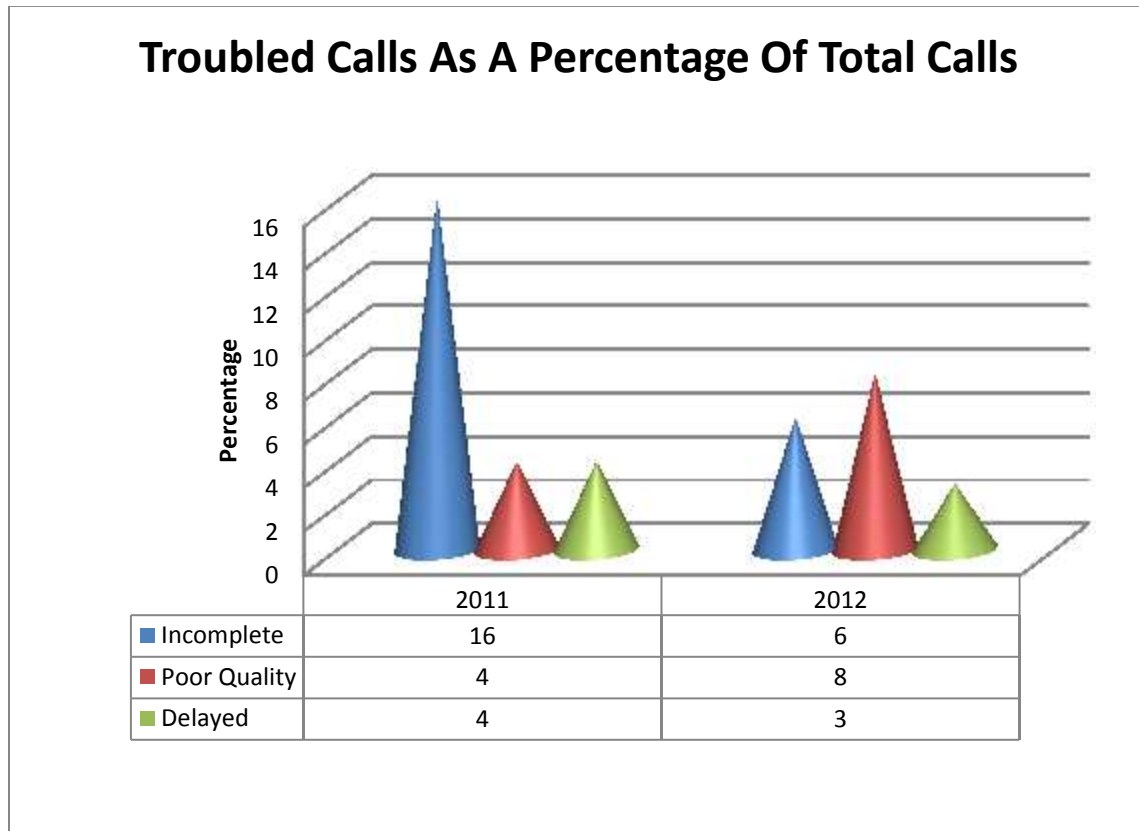
APPENDIX B- Simplified Long Distance Connection Model

**APPENDIX C- Simplified Route Looping Involving Originating Long
Distance Carrier, LCRs, Terminating Carrier**

**APPENDIX D- Selected Public Utilities Codes Relevant to Call
Completion Failures**

APPENDIX E- List of Acronyms

APPENDIX A
NECA Rural Test Call Results

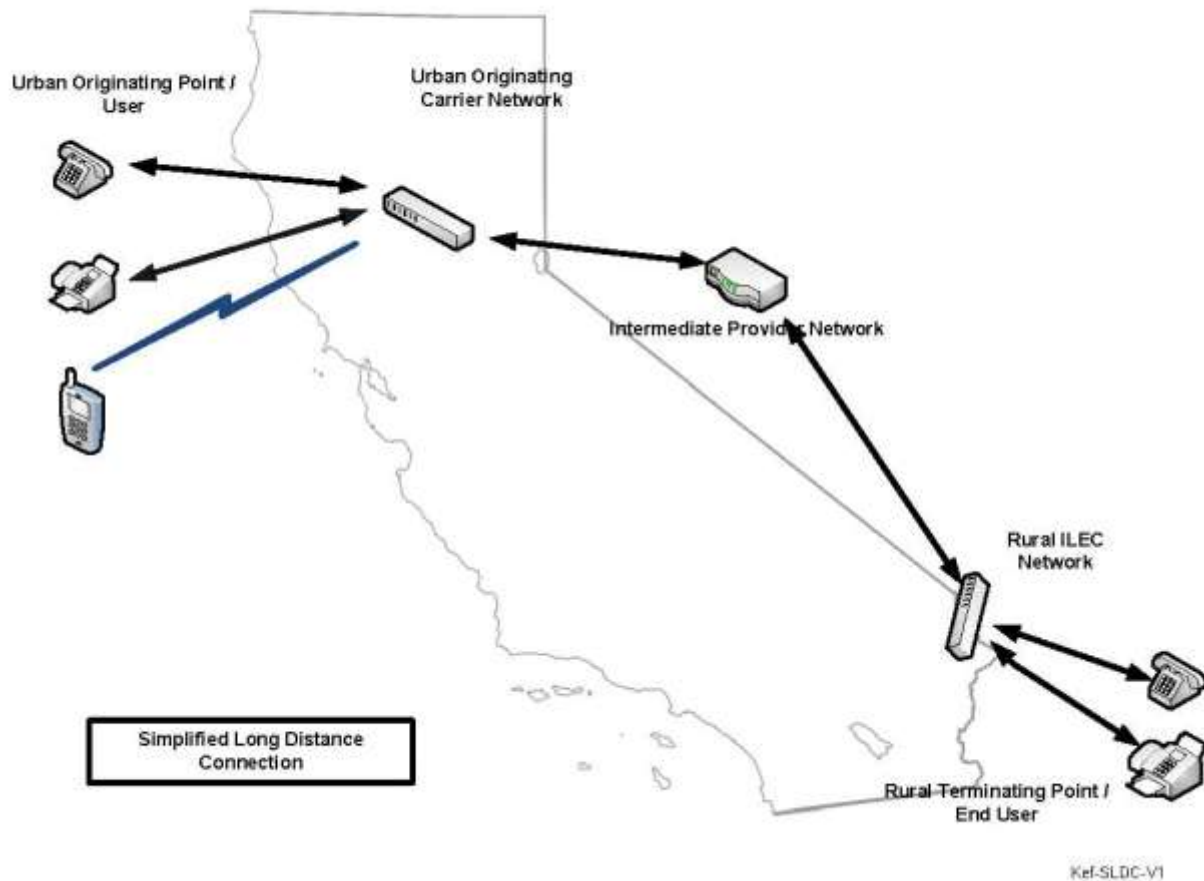


Source: Extracted from NECA, "Rural Call completion Issues-Update, Presented by Mark Navy, 2013.

(END OF APPENDIX A)

APPENDIX B

Simplified Long Distance Connection Model*

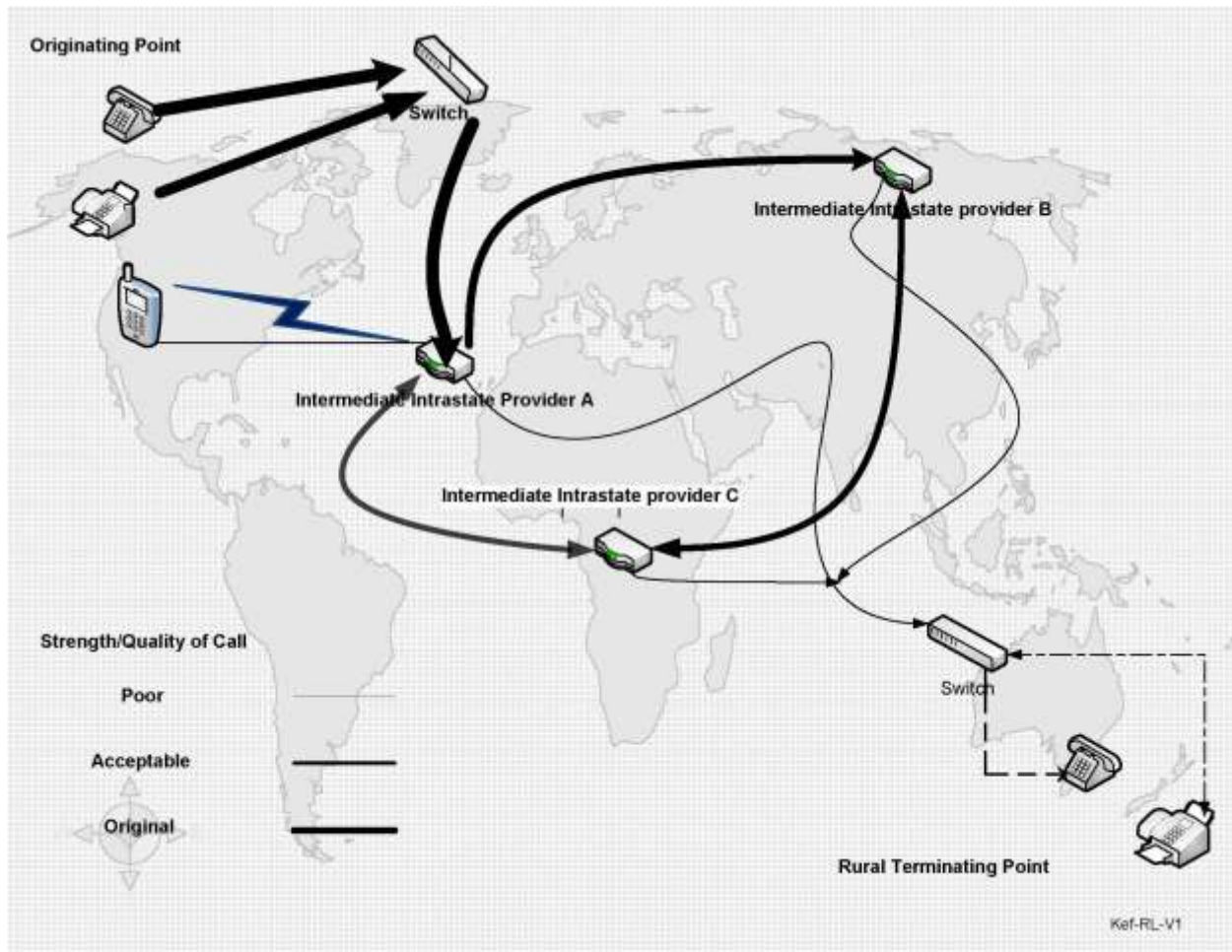


*The intermediate provider network facilities can be located inside or outside of California.

(END OF APPENDIX B)

APPENDIX C

Simplified Route Loop Involving Originating Carrier, LCRs, Terminating Carrier*



* Call routing is not limited by state (e.g. California) or jurisdictional boundaries. The example shown above is provided for illustrative purposes only.

(END OF APPENDIX C)

APPENDIX D

Selected Public Utilities Codes Relevant to Call Completion Failures

239. (a) (1) "Voice over Internet Protocol" or "VoIP" means voice communications service that does all of the following:

(A) Uses Internet Protocol or a successor protocol to enable real-time, two-way voice communication that originates from, or terminates at, the user's location in Internet Protocol or a successor protocol.

(B) Requires a broadband connection from the user's location.

(C) Permits a user generally to receive a call that originates on the public switched telephone network and to terminate a call to the public switched telephone network.

(2) A service that uses ordinary customer premises equipment with no enhanced functionality that originates and terminates on the public switched telephone network, undergoes no net protocol conversion, and provides no enhanced functionality to end users due to the provider's use of Internet Protocol technology is not a VoIP service.

(b) "Internet Protocol enabled service" or "IP enabled service" means any service, capability, functionality, or application using existing Internet Protocol, or any successor Internet Protocol, that enables an end user to send or receive a communication in existing Internet Protocol format, or any successor Internet Protocol format through a broadband connection, regardless of whether the communication is voice, data, or video.

233. "Telephone line" includes all conduits, ducts, poles, wires, cables, instruments, and appliances, and all other real estate, fixtures, and personal property owned, controlled, operated, or managed in connection with or to facilitate communication by telephone, whether such communication is had with or without the use of transmission wires.

216.8. "Commercial mobile radio service" means "commercial mobile service," as defined in subsection (d) of § 332 of Title 47 of the United States Code and as further specified by the Federal Communications Commission in Parts 20, 22, 24, and 25 of Title 47 of the Code of Federal Regulations, and includes "mobile data service," "mobile paging service," "mobile satellite telephone service," and "mobile telephony service," as those terms are defined in § 224.4.

224.4. (a) "Mobile data service" means the delivery of nonvoice information to a mobile device and includes nonvoice information communicated to a mobile telephony services handset, nonvoice information communicated to handheld personal digital assistant (PDA) devices and laptop computers, and mobile paging service carriers offering services on pagers and two-way messaging devices. Unless specified, "mobile data service" does not include nonvoice information communicated through a wireless local area network operating in the unlicensed radio bands, commonly known as a "Wi-Fi" network.

(b) "Mobile paging service" means the transmission of coded radio signals for the purpose of activating specific small radio receivers

designed to be carried by a person and to give an aural, visual, or tactile indication when activated.

(c) "Mobile satellite telephone service" means voice communication to end users over a mobile satellite service involving the provision of commercial mobile radio service, pursuant to Parts 20 and 25 of Title 47 of the Code of Federal Regulations.

(d) "Mobile telephony service" means commercially available interconnected mobile phone services that provide access to the public switched telephone network (PSTN) via mobile communication devices employing radio wave technology to transmit calls, including cellular radiotelephone, broadband Personal Communications Services (PCS), and digital Specialized Mobile Radio (SMR). "Mobile telephony services" does not include mobile satellite telephone services or mobile data services used exclusively for the delivery of nonvoice information to a mobile device.

451. All charges demanded or received by any public utility, or by any two or more public utilities, for any product or commodity furnished or to be furnished or any service rendered or to be rendered shall be just and reasonable. Every unjust or unreasonable charge demanded or received for such product or commodity or service is unlawful.

Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in § 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

All rules made by public utility affecting or pertaining to its charges or service to the public shall be just and reasonable.

558. Every telephone corporation and telegraph corporation operating in this State shall receive, transmit, and deliver, without discrimination or delay, the conversations and messages of every other such corporation with whose line a physical connection has been made.

710. (a) The commission shall not exercise regulatory jurisdiction or control over Voice over Internet Protocol and Internet Protocol enabled services except as required or expressly delegated by federal law or expressly directed to do so by statute or as set forth in subdivision (c). In the event of a requirement or a delegation referred to above, this section does not expand the commission's jurisdiction beyond the scope of that requirement or delegation.

(b) No department, agency, commission, or political subdivision of the state shall enact, adopt, or enforce any law, rule, regulation, ordinance, standard, order, or other provision having the force or effect of law, that regulates VoIP or other IP enabled service, unless required or expressly delegated by federal law or expressly authorized by statute or pursuant to subdivision (c). In the event of a requirement or a delegation referred to above, this section does not expand the commission's jurisdiction beyond the scope of that requirement or delegation.

(c) This section does not affect or supersede any of the following:

(1) The Emergency Telephone Users Surcharge Law (Part 20 (commencing with § 41001) of Division 2 of the Revenue and Taxation Code) and the state's universal service programs (§ 285).

(2) The Digital Infrastructure and Video Competition Act of 2006 (Division 2.5 (commencing with § 5800)) or a franchise granted by a local franchising entity, as those terms are defined in § 5830.

(3) The commission's authority to implement and enforce §§ 251 and 252 of the federal Communications Act of 1934, as amended (47 U.S.C. Secs. 251 and 252).

(4) The commission's authority to require data and other information pursuant to § 716.

(5) The commission's authority to address or affect the resolution of disputes regarding intercarrier compensation, including for the exchange of traffic that originated, terminated, or was translated at any point into Internet Protocol format.

(6) The commission's authority to enforce existing requirements regarding backup power systems established in Decision 10-01-026, adopted pursuant to § 2892.1.

(7) The commission's authority relative to access to support structures, including pole attachments, or to the construction and maintenance of facilities pursuant to commission General Order 95 and General Order 128.

(8) The Warren-911-Emergency Assistance Act (Article 6 (commencing with § 53100) of Chapter 1.5 of Part 1 of Division 2 of Title 5 of the Government Code).

(d) This section does not affect the enforcement of any state or federal criminal or civil law or any local ordinances of general applicability, including, but not limited to, consumer protection and unfair or deceptive trade practice laws or ordinances, that apply to the conduct of business, the California Environmental Quality Act (Division 13 (commencing with § 21000) of the Public Resources Code), local utility user taxes, and state and local authority governing the use and management of the public rights-of-way.

(e) This section does not affect any existing regulation of, proceedings governing, or existing commission authority over, non-VoIP and other non-IP enabled wireline or wireless service, including regulations governing universal service and the offering of basic service and lifeline service, and any obligations to offer basic service.

(f) This section does not limit the commission's ability to continue to monitor and discuss VoIP services, to track and report to the Federal Communications Commission and the Legislature, within its annual report to the Legislature, the number and type of complaints received by the commission from customers, and to respond informally to customer complaints, including providing VoIP customers who contact the commission information regarding available options under state and federal law for addressing complaints.

(g) This section does not affect the establishment or enforcement of standards, requirements, or procedures, including procurement policies, applicable to any department, agency, commission, or political subdivision of the state, or to the employees, agents, or contractors of a

department, agency, commission, or political subdivision of the state, relating to the protection of intellectual property.

(h) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

1013. (h) The commission, after notice and a hearing if requested, may cancel, revoke, or suspend the registration of any telephone corporation upon any of the following grounds:

- (1) The corporation does not provide the information required by this article.
- (2) The corporation fails to provide or maintain a performance bond.
- (3) The corporation conducts any illegal telephone operations.
- (4) The corporation violates any of the applicable provisions of this code or of any regulations issued thereunder.
- (5) The corporation violates any order, decision, rule, regulation, direction, demand, or requirement established by the commission under this code.
- (6) The corporation fails to pay any fee or fine imposed upon the utility under this code.
- (7) The corporation files a false statement to the commission.
- (8) The corporation knowingly defrauds a customer.
- (i) As an alternative to the cancellation, revocation, or suspension of a registration, the commission, after notice and a hearing, may impose upon the holder of the registration a fine in an amount not to exceed twenty

thousand dollars (\$20,000) for each offense, and order reparations and restitution to customers for each offense.

(j) Every violation of this section or any part of any order, decision, decree, rule, direction, demand, or requirement of the commission, by any telephone corporation or person is a separate and distinct offense, and in case of a continuing violation each day's continuance thereof shall be a separate and distinct offense.

(k) In construing and enforcing this section relating to penalties, the act, omission, or failure of any officer, agent, or employee of any registered telephone corporation qualifying under this section acting within the scope of his or her official duties or employment, shall in every case be the act, omission, or failure of the corporation. The commission may assess interest to commence upon the day the payment is delinquent. All fines, assessments, and interest collected shall be deposited at least once each month in the General Fund.

(l) Actions to enforce the decision of the commission ordering the payment of fines, reparations, or restitution under this section shall be brought in the name of the people of the State of California, in the superior court of the county, or city and county, in which the corporation complained of, if any, has its principal place of business, or in which the person, if any, complained of, resides or in which the commission has offices. The enforcement of a commission decision or order under this section shall be commenced and prosecuted to final judgment by the attorney of the commission.

(m) The provisions of this section do not apply to commercial mobile radio service.

SECTION 2100-2119

2101. The commission shall see that the provisions of the Constitution and statutes of this State affecting public utilities, the enforcement of which is not specifically vested in some other officer or tribunal, are enforced and obeyed, and that violations thereof are promptly prosecuted and penalties due the State therefor recovered and collected, and to this end it may sue in the name of the people of the State of California. Upon the request of the Commission, the Attorney General or the district attorney of the proper county or city and county shall aid in any investigation, hearing, or trial had under the provisions of this part, and shall institute and prosecute actions or proceedings for the enforcement of the provisions of the Constitution and statutes of this State affecting public utilities and for the punishment of all violations thereof.

2102. Whenever the commission is of the opinion that any public utility is failing or omitting or about to fail or omit, to do anything required of it by law, or by any order, decision, rule, direction, or requirement of the commission, or is doing anything or about to do anything, or permitting anything or about to permit anything to be done, in violation of law or of any order, decision, rule, direction, or requirement of the commission, it shall direct the attorney of the commission to commence an action or proceeding in the superior court in and for the county, or city and county, in which the cause or some part thereof arose, or in which the corporation complained of has its principal place of business, or in which the person complained of resides, for the purpose of having such violations or

threatened violations stopped and prevented, either by mandamus or injunction. The attorney of the commission shall thereupon begin such action or proceeding in the name of the people of the State of California, by petition to such superior court, alleging the violation or threatened violation complained of, and praying for appropriate relief by way of mandamus or injunction.

2103. Upon the filing of a petition pursuant to § 2102, the court shall specify a time, not exceeding 20 days after the service of the copy of the petition, within which the public utility complained of shall answer the petition, and in the meantime the public utility may be restrained. In case of default in answer, or after answer, the court shall immediately inquire into the facts and circumstances of the case. Such corporations or persons as the court deems necessary or proper to be joined as parties, in order to make its judgment, order or writ effective, may be joined as parties. The final judgment in any such action or proceeding shall either dismiss the action or proceeding or direct that the writ of mandamus or injunction issue or be made permanent as prayed for in the petition, or in such modified or other form as will afford appropriate relief. An appeal may be taken to the Supreme Court from such final judgment in the same manner and with the same effect, subject to the provisions of this part, as appeals are taken from judgments of the superior court in other actions for mandamus or injunction.

2104. (a) Except as provided by §§ 2100 and 2107.5, and in addition to the remedies provided in §§ 688.020 and 688.030 of the Code of Civil

Procedure, actions to recover penalties under this part may be brought in the name of the people of the State of California, in the superior court in and for the county, or city and county, in which the cause or some part thereof arose, or in which the corporation complained of has its principal place of business, or in which the person complained of resides. The action, if brought pursuant to this section, shall be commenced and prosecuted to final judgment by the attorney or agent of the commission. All fines and penalties may be sued for and recovered. The commission may enjoin the sale of a public utility's or common carrier's assets to satisfy unpaid fines and penalties. The commission may use any of the remedies afforded to a creditor under the Uniform Fraudulent Transfer Act (Chapter 1 (commencing with § 3439) of Title 2 of Part 2 of Division 4 of the Civil Code). Respondents who fraudulently transfer assets to avoid paying commission-imposed fines or penalties are subject to prosecution under §§ 154, 531, and 531a of the Penal Code. In all of these actions, the procedure and rules of evidence shall be the same as in ordinary civil actions, except for prosecutions under the Penal Code or as otherwise herein provided. All fines and penalties recovered by the state in any action, together with the costs thereof, shall be paid into the State Treasury to the credit of the General Fund. Any action may be compromised or discontinued on application of the commission upon the terms the court approves and orders.

(b) This section shall remain in effect only until January 1, 2014, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2014, deletes or extends that date.

2104. (a) Except as provided by §§ 2100 and 2107.5, actions to recover penalties under this part shall be brought in the name of the people of the State of California, in the superior court in and for the county, or city and county, in which the cause or some part thereof arose, or in which the corporation complained of has its principal place of business, or in which the person complained of resides. The action shall be commenced and prosecuted to final judgment by the attorney or agent of the commission. All fines and penalties may be sued for and recovered. The commission may enjoin the sale of a public utility's or common carrier's assets to satisfy unpaid fines and penalties. The commission may use any of the remedies afforded to a creditor under the Uniform Fraudulent Transfer Act (Chapter 1 (commencing with § 3439) of Title 2 of Part 2 of Division 4 of the Civil Code). Respondents who fraudulently transfer assets to avoid paying commission-imposed fines or penalties are subject to prosecution under §§ 154, 531, and 531a of the Penal Code. In all of these actions, the procedure and rules of evidence shall be the same as in ordinary civil actions, except for prosecutions under the Penal Code or as otherwise herein provided. All fines and penalties recovered by the state in any action, together with the costs thereof, shall be paid into the State Treasury to the credit of the General Fund. Any action may be compromised or discontinued on application of the commission upon the terms the court approves and orders.

(b) This section shall become operative on January 1, 2014.

2104.5. Any penalty for violation of any provision of this act, or of any rule, regulation, general order, or order of the commission, involving

safety standards for pipeline facilities or the transportation of gas in the State of California may be compromised by the commission. In determining the amount of such penalty, or the amount agreed upon in compromise, the appropriateness of such penalty to the size of the business of the person charged, the gravity of the violation, and the good faith of the person charged in attempting to achieve compliance, after notification of a violation, shall be considered. The amount of any such penalty, when finally determined, or the amount agreed upon in compromise, may be recovered in a civil action in the name of the People of the State of California in the superior court in and for the county, or city and county in which the cause or some part thereof arose, or in which the corporation complained of has its principal place of business or the person complained of resides. In any such action, all penalties incurred, or amounts agreed upon in compromise for violations committed up to the time of commencing the action may be sued for and recovered. In all such actions, the procedure and rules of evidence shall be the same as in ordinary civil actions, except as otherwise herein provided. All fines and penalties recovered by the state in any such action, together with the costs thereof, shall be paid into the State Treasury to the credit of the General Fund.

2105. All penalties accruing under this part shall be cumulative, and a suit for the recovery of one penalty shall not be a bar to or affect the recovery of any other penalty or forfeiture or be a bar to any criminal prosecution against any public utility, or any officer, director, agent, or employee

thereof, or any other corporation or person, or to the exercise by the commission of its power to punish for contempt.

2106. Any public utility which does, causes to be done, or permits any act, matter, or thing prohibited or declared unlawful, or which omits to do any act, matter, or thing required to be done, either by the Constitution, any law of this State, or any order or decision of the commission, shall be liable to the persons or corporations affected thereby for all loss, damages, or injury caused thereby or resulting therefrom. If the court finds that the act or omission was wilful, it may, in addition to the actual damages, award exemplary damages. An action to recover for such loss, damage, or injury may be brought in any court of competent jurisdiction by any corporation or person.

No recovery as provided in this section shall in any manner affect a recovery by the State of the penalties provided in this part or the exercise by the commission of its power to punish for contempt.

2107. Any public utility that violates or fails to comply with any provision of the Constitution of this state or of this part, or that fails or neglects to comply with any part or provision of any order, decision, decree, rule, direction, demand, or requirement of the commission, in a case in which a penalty has not otherwise been provided, is subject to a penalty of not less than five hundred dollars (\$500), nor more than fifty thousand dollars (\$50,000) for each offense.

2108. Every violation of the provisions of this part or of any part of any order, decision, decree, rule, direction, demand, or requirement of the commission, by any corporation or person is a separate and distinct offense, and in case of a continuing violation each day's continuance thereof shall be a separate and distinct offense.

2109. In construing and enforcing the provisions of this part relating to penalties, the act, omission, or failure of any officer, agent, or employee of any public utility, acting within the scope of his official duties or employment, shall in every case be the act, omission, or failure of such public utility.

2110. Every public utility and every officer, agent, or employee of any public utility, who violates or fails to comply with, or who procures, aids, or abets any violation by any public utility of any provision of the California Constitution or of this part, or who fails to comply with any part of any order, decision, rule, direction, demand, or requirement of the commission, or who procures, aids, or abets any public utility in the violation or noncompliance in a case in which a penalty has not otherwise been provided, is guilty of a misdemeanor and is punishable by a fine not exceeding five thousand dollars (\$5,000), or by imprisonment in a county jail not exceeding one year, or by both fine and imprisonment.

2111. Every corporation or person, other than a public utility and its officers, agents, or employees, which or who knowingly violates or fails to comply with, or procures, aids or abets any violation of any provision of

the California Constitution relating to public utilities or of this part, or fails to comply with any part of any order, decision, rule, direction, demand, or requirement of the commission, or who procures, aids, or abets any public utility in the violation or noncompliance, in a case in which a penalty has not otherwise been provided for the corporation or person, is subject to a penalty of not less than five hundred dollars (\$500), nor more than fifty thousand dollars (\$50,000) for each offense.

2112. Every person who, either individually, or acting as an officer, agent, or employee of a corporation other than a public utility, violates any provision of this part, or fails to comply with any part of any order, decision, rule, direction, demand, or requirement of the commission, or who procures, aids, or abets any public utility in such violation or noncompliance, in a case in which a penalty has not otherwise been provided for such person, is guilty of a misdemeanor, and is punishable by a fine not exceeding one thousand dollars (\$1,000), or by imprisonment in a county jail not exceeding one year, or by both such fine and imprisonment.

2112.5. Notwithstanding any other provision of law, any person who willfully violates the provisions of § 588 is guilty of a misdemeanor, subject to a penalty of not less than five hundred dollars (\$500), nor more than two thousand dollars (\$2,000), for each offense.

2113. Every public utility, corporation, or person which fails to comply with any part of any order, decision, rule, regulation, direction, demand,

or requirement of the commission or any commissioner is in contempt of the commission, and is punishable by the commission for contempt in the same manner and to the same extent as contempt is punished by courts of record. The remedy prescribed in this section does not bar or affect any other remedy prescribed in this part, but is cumulative and in addition thereto.

2114. Any public utility on whose behalf any agent or officer thereof who, having taken an oath that he will testify, declare, depose or certify truly before the commission, willfully and contrary to such oath states or submits as true any material matter which he knows to be false, or who testifies, declares, deposes, or certifies under penalty of perjury and willfully states as true any material matter which he knows to be false, is guilty of a felony and shall be punished by a fine not to exceed five hundred thousand dollars (\$500,000).

(END OF APPENDIX D)

APPENDIX E
List of Acronyms

ALJ	Administrative Law Judge
ARS	Automatic Route Selection
ATIS	Alliance for Telecommunications Industry Solutions
CoS	Class of Service
CD	Communications Division of the Commission
CHCF-A	California High Cost Fund-A
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission or Commission
FCC	Federal Communications Commission
FDX	Full Duplex
ICC	Intercarrier Compensation
IP	Internet Protocol
ILEC	Incumbent Local Exchange Carrier
LCR	Least Cost Routing
LCRs	Least Cost Routers
LRN	Location Routing Number
LNP	Local Number Portability
NECA	National Exchange Carrier Association
NPA	Numbering Plan Area
NPRM	Notice of Proposed Rulemaking
NPSC	Nebraska Public Service Commission
NTCA	National Telecommunications Cooperative Association
NXX	Central Office Code
OII	Order Instituting Investigation
OIR	Order Instituting Rulemaking
OPASTCO	Organization for Promotion and Advancement of Small Telecommunications Companies
OPUC	Oregon Public Utilities Commission
PSTN	Public Switched Telephone Network
TDM	Time-division Multiplexing
VoIP	Voice over Internet Protocol
WIR	Wireless Identification Registration
WTA	Western Telecommunications Alliance

(END OF APPENDIX E)