

Decision _____

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation into the Creation
of a Shared Database or Statewide Census of
Utility Poles and Conduit in California

I. _____

Order Instituting Rulemaking into Access by
Competitive Communications Providers to
California Utility Poles and Conduit, Consistent
with the Commission's Safety Regulations.

R. _____

**ORDER INSTITUTING INVESTIGATION
INTO THE CREATION OF A SHARED DATABASE
OR STATEWIDE CENSUS OF UTILITY POLES AND CONDUIT**

**ORDER INSTITUTING RULEMAKING
INTO ACCESS BY COMPETITIVE COMMUNICATIONS PROVIDERS
TO CALIFORNIA UTILITY POLES AND CONDUIT, CONSISTENT
WITH THE COMMISSION'S SAFETY REGULATIONS**

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1. Summary

We open this proceeding to consider strategies for increased and non-discriminatory access to poles and conduit by competitive communications providers, the impact of such increased access on safety, and how best to ensure the integrity of the affected communications and electric supply infrastructure going forward. In pursuit of these goals, we will investigate the feasibility of a data management platform that would allow stakeholders to share key pole attachment and conduit information. On a parallel track, we will consider rules that would allow broadband Internet access service (BIAS) providers to attach facilities to poles and to use conduit following their classification as public utility telecommunications carriers in the FCC's 2015 *Open Internet Order*.¹ We will also consider rules specific to conduit, and better pole management practices.

We consolidate this proceeding with R.17-03-009,² recently opened to consider whether and how our existing Rights-of-Way Rules should be applied to facilities (lines, antennas, etc.) installed by competitive local exchange carriers (CLECs) in order to support and enable the provision of service by wireless carriers. Rulemaking 17-03-009 will proceed on the schedule already established for it. Phase I of today's combined OII/OIR will address questions related to data management and BIAS access. Comments on our initial questions are due 40-70 days after publication of this OII/OIR. One or more pre-hearing conferences will then be scheduled. Subsequent phases will consider issues relating to pole and conduit management, access, and safety, as set forth below.

2. Introduction

California has an estimated 4.2 million utility poles, most of them made of wood, but no shared data repository exists to track where they are located, what is attached to

¹ *In re Protecting and Promoting an Open Internet*, Federal Communications Commission (FCC) Report and Order, 30 FCC Rcd 5601 (March 2015) (*Open Internet Order*), at ¶¶ 478-85.

² R.17-03-009, *Order Granting Petition 16-08-016 and ... Instituting Rulemaking to consider Amendments to the Revised Right of Way Rules Adopted in D.16-01-046 (WIA Petition/Rulemaking)*, issued on April 3, 2017.

them, their condition, or even who owns them. California also has thousands of miles of underground utility conduit.

Poorly maintained poles and attachments have caused substantial property damage and repeated loss of life in this State. Unauthorized pole attachments are particularly problematic. A pole overloaded with unauthorized equipment collapsed during windy conditions and started the Malibu Canyon Fire of 2007, destroying and damaging luxury homes and burning over 4500 acres. Windstorms in 2011 knocked down a large number of poles in Southern California, many of which were later found to be weakened by termites, dry rot, and fungal decay. Three deaths occurred in one such incident in 2011 when an electrical conductor separated from a pole in high winds, causing a live wire to fall to the ground. At least five more people lost their lives in pole-related failures in 2012 and 2015. Other pole and pole attachment failures are under consideration in current dockets at the CPUC, about which we express no opinion in this proceeding.³

Communication and other wires are not infrequently found hanging onto roads or yards.⁴ Poles with excessive and/or unauthorized attachments can put utility workers at risk. Facilities deployed in the field may differ from what appears on paper or in a utility's database.⁵

The CPUC has exercised its jurisdiction to ensure the safety of all poles and conduit in California by promulgating rules related to overhead electric and communications facilities (General Order 95) as well as underground electric and

³ See discussion *infra*, describing in greater detail the fires and fatalities referenced here.

⁴ Staff observed such hanging wires in Long Beach site visits during the pendency of the Verizon-Frontier asset sale. The Long Beach City Attorney contacted legal staff to inquire whether the CPUC could require Verizon to remedy these conditions prior to closing. The carriers in turn cited Rule 18 of General Order 95, which is now the subject of R.16-12-001.

⁵ On September 9, 2009 a natural gas transmission pipeline exploded in the City of San Bruno destroying a neighborhood and taking 8 lives. The utility's records of its pipeline deployment were later found to be wholly inadequate; the same may be true of pole and conduit infrastructure.

communications facilities (General Order 128).⁶ It is difficult for the Commission, however, and indeed for the utilities themselves, to have adequate oversight over poles without adequate management and sharing of data.⁷

Wires in underground conduit present a similar set of issues. During the winter storms of 2010-2011 in Los Angeles, for example, widespread and persistent outages of the telephone network occurred, including E911 services, reportedly because of water intrusion and lack of maintenance in underground vaults and conduit, among other reasons.⁸ In that sense, pole and conduit failures pose similar problems. Most communications providers use both, alternately placing their wires and facilities on poles and in conduit. Thus, every utility is required to provide “nondiscriminatory access to any pole, duct, conduit, or right-of-way owned or controlled by it,” to the extent that capacity allows.⁹ California has thousands of miles of underground utility conduit, containing communications and/or electric lines. Here again, the CPUC, as well as utilities and local government, need better data to understand the challenges posed by utility conduits under public streets and in public utility easements.

Our awareness of these safety issues has increased at the same time that advanced

⁶ See, e.g., D.10-02-034, Slip Op. at 5-6, citing *Polk v. City of Los Angeles*, 26 Cal.2d 519, 540-541 (“[t]he safety of overhead wire maintenance is a matter of statewide, rather than local, concern, and the state law is paramount”).

⁷ In this sense, oversight includes forward-looking trend analysis and awareness of current network deployment. Although the Commission may wish to take a more robust oversight role in the future, we emphasize that safety is in the first instance the responsibility of the utility pole and conduit owners and attachers.

⁸ R.11-12-001, Slip Op. at 2-3; see also May 7, 2015 letter, Attachment 1 to May 12, 2015 Notice of Ex Parte Communication (by Public Interest Parties), filed in R.11-12-001, at 4-5; Senate Energy, Utilities and Communication Committee’s February 4, 2011 hearing on Telephone Service Outages and Infrastructure Needs, available (along with audio and “Background” narrative) at <http://seuc.senate.ca.gov/informationalhearings>. Hurricane Sandy caused similar flooding of underground facilities in New York. See Kwasinsky, “Hurricane Sandy Effects on Communications Systems,” at 3 and 5, available at <http://users.ece.utexas.edu/~kwasinski/preliminary%20telecom%20report%20v3%20comp.pdf>; see also D.98-10-065, 1998 Cal. PUC LEXIS 879, 82 CPUC2d 510, at section VII(A)(2) (electric utility underground facilities pose particular safety hazards) (sometimes ROW decision).

⁹ 47 USC § 224(f).

telecommunications technologies have driven demand for access to poles and conduit to unprecedented levels.¹⁰ Competitive carriers like Sonic and Google Fiber/Webpass have complained about difficulties they have experienced in trying to attach to poles and access underground conduit. As we found in our recent decision on competition in the telecommunications market, lack of ready pole and conduit access can be a barrier to increased competition in the communications market.¹¹ Cable, broadband, and other competitive carriers have stated that their access to poles is slowed by inadequate information from, or inordinate delay by, pole owners. Lack of access to this infrastructure limits competition in the communications market, in turn causing higher prices for consumers and diminished economic vitality for California.¹² For that reason, we committed in our competition investigation to “institute a Rulemaking to examine telecommunications access to poles, conduit, and rights of way.”¹³

The supply of poles and conduit is not unlimited, which is another reason that an accurate asset management database or data platform, shared as appropriate among stakeholders, may be an idea whose time has come. It could help competitive carriers

¹⁰ Staff has not been able to quantify the increased level of demand, or the required deployment, but there appears to be consensus that substantial demand and deployment needs exist. *See e.g., In re Accelerating Wireless Broadband Deployment*, WT Docket No. 17-79 (FCC 17-38) (Rel’d April 21, 2017) (*Wireless Deployment NPRM*) at ¶ 32 (“Improving spectrum efficiency for future 4G and 5G services by providing end users with higher quality connections, more bandwidth and lower latency will require significant densification of DAS and small cell facilities. To achieve this anticipated level of service, wireless providers will need flexibility to strategically place thousands of DAS and small cell facilities throughout the country within the next few years”); D.16-12-025, Slip Op. at 111 (“5G will require perhaps ten times as many wireless antennas as currently deployed”). Wireless carriers are installing 4G antennas, and tout the advent of 5G services in or after (and sometimes before) 2020, which they claim will bring fiber-like speeds to wireless communications but will also require the exponential “densification” of the network, and a concomitant increase in (small cell) sites and wired backhaul. Meanwhile, the *wireline* carrier Sonic is rolling trucks to install competitive fiber on available poles in San Francisco (and elsewhere) in order to provide data-hungry consumers a wired broadband alternative, that is (at least today) considerably faster than existing wireless technologies.

¹¹ D.16-12-025, at 109-114, 162-163, Findings of Fact 24-25.

¹² Delayed deployment may also reduce the diversity of facilities and providers, which diversity (and redundancy) may be key to the resiliency of critical infrastructure during an emergency.

¹³ *Id.*, at Ordering Paragraph 5.

and new market entrants plan routes and apply for permission to access available poles and conduit. It could help the Commission answer questions about whether the existing stock of utility poles and conduit have sufficient space and load-bearing capacity¹⁴ to support ubiquitous, competitive, and affordable telecommunications services, while keeping the pole and conduit infrastructure safe for residents, workers, and the environment. It could help pole owners track attachments on their poles, and manage necessary maintenance and rearrangements.

The CPUC held a Pole and Conduit Database Management Workshop on March 17, 2017 to explore these questions further.¹⁵ There seemed to be a broad consensus that, while there is information on poles and pole attachments, that information is not shared with those who need it: competitors who want to get on the poles; joint pole owners unsure about the extent of their co-owners' attachments; SED which has responsibility for ensuring the safety of the poles and attachments; and municipalities, which would presumably also have use for, and be able to contribute to, such data aggregations. Although energy IOUs such as Southern California Edison (SCE), SDG&E, and PG&E attest to having internal pole and conduit management systems in place, it appears that not all poles, pole attachments, and conduit are included in these databases. At the same time the information in such databases is not often or adequately shared with other pole owners and pole attachers (or with the CPUC). This lack of transparency and communication creates both unnecessary safety risks and barriers to access. The workshop also exposed the fact that, even in the age of digitized big data, pole information is often stored on paper and transmitted by U.S. mail.

Pole and conduit architecture introduced in the 19th century has emerged as key to the delivery of 21st century services. This architecture supports the transmission and distribution of the electricity and communications on which the California economy

¹⁴ "Loading-bearing capacity" here refers to strength and loading structural capacity of poles.

¹⁵ Workshop webcast and presentations available at <http://www.cpuc.ca.gov/General.aspx?id=6442453019>.

depends. Poles and conduit thus present intersectional issues,¹⁶ touching on many areas of the Commission's jurisdiction, issues we intend to address in a coordinated fashion. While we do not consolidate this proceeding with a number of other safety and utility infrastructure proceedings pending before the Commission (discussed herein and listed below), we do intend to coordinate these proceedings to the extent possible. This and other matters related to the structure and schedule of this proceeding are addressed in detail in sections 5 through 7 below.

3. Procedural and Factual Background

The Commission adopted its initial Right-of-Way Rules (ROW Rules) in 1998.¹⁷ In D.16-01-046, the Commission revised its ROW Rules, as well as the safety rules in General Order (GO) 95, in order to provide wireless carriers (also known as Commercial Mobile Radio Service, cellular or CMRS carriers) with nondiscriminatory access to utility poles and rights of way (the Revised ROW Rules and GO 95 Amendments). With the exception of certain attachment rates, the Revised ROW Rules provide CMRS carriers with the same access to utility ROW as CLECs and cable television (CATV) corporations.

As this Rulemaking opens, the Commission is considering additional pole and pole attachment safety rules in two proceedings: Rulemaking (R.) 16-12-001, instituted at the urging of the CPUC's Safety & Enforcement Division (SED) to consider specified amendments to Rule 18 of GO 95, tightening the time periods utilities have to correct GO 95 violations; and SED's Petition 17-03-004 which seeks further amendments to GO 95 relating (for instance) to the safety of pole-top attachments.

¹⁶ The intersectional nature of the pole and conduit infrastructure is reflected in many particulars where electric energy and communications infrastructures appear to and often do merge: smart grid applications; telecommunications telemetry for other utilities (gas and water); and applications by energy IOUs to lease fiber and/or provide lit services to communications providers, making the IOUs a carriers' carrier. *See, e.g.,* A.17-04-010, Application of PG&E to Provide Competitive Local Access and Interexchange Services (by leasing lit fiber within its system); *cf.* D.16-12-025, at 105 ("carrier's carrier").

¹⁷ Commission-Adopted Rules Governing Access to Rights-of-Way and Support Structures of Incumbent Telephone and Electric Utilities, adopted in (and found as Appendix A to) D.98-10-065 (ROW Rules).

Because safety often hinges on a greater awareness of conditions in the field, the Commission has discussed initiating a pole census to help us understand the deployed infrastructure and the problems it presents.¹⁸ As we said in our recent Investigation of competition in the telecommunications network, we want Commission oversight to be “data driven.”¹⁹

Such empirical grounding is also necessary to improve access and promote competition, as the Legislature has directed us to do.²⁰ In D.16-12-025, we noted evidence that pole and conduit infrastructure functioned in some instances as bottlenecks inhibiting competition.²¹

Reflecting similar concerns, the California Cable Television Association (CCTA) and the Wireless Infrastructure Association (WIA) filed petitions for access to poles and associated rights-of-way needed to accommodate escalating demand for advanced telecommunications services.²² We denied CCTA’s petition (without prejudice) for reasons stated in D.17-02-046, and granted WIA’s petition in R.17-03-009.

¹⁸ See, e.g., Remarks of Commission President Picker from the dais, December 1, 2016 (in re Item 49). An archived recording is available at http://www.adminmonitor.com/ca/cpuc/voting_meeting/20161201/; see also SED Director Malashenko’s comments regarding the CPUC’s Safety Action Plan and SED Annual Work Plan, at the February 9 and March 23, 2017 Commission meetings, respectively.

¹⁹ Order Instituting Investigation 15-11-007, Slip Op. at 1-2.

²⁰ See, e.g., Public Utilities Code § 709 (“policies for telecommunications in California” include encouraging “the development and deployment of new technologies, ... [and] remov[ing] the barriers to open and competitive markets”); § 709.5(e) (same standards for local exchange carriers and cable providers re intraexchange telecommunications interconnection, unbundling, and service quality); § 882 (“encourage the timely and economic development of an advanced public communications infrastructure” to “provide all citizens and businesses with access to the widest possible array of advanced communications services [and] to ensure cost-effective deployment of technology”).

²¹ D.16-12-025, at 3, *passim*.

²² Both the CCTA and WIA Petitions are vague as to what specific equipment they propose to attach, and what particular services they seek to offer. See, e.g., 16-08-016, Petition of the Wireless Infrastructure Association (WIA) for a rulemaking to Extend the Rights of Way Rules for CMRS Facilities to Wireless Facilities Installed by CLECs, at 10 (“will enable CLECs to offer competitive options for small cell and other solutions to CMRS carriers who often must rely upon the ILECs for access to infrastructure”); see also D.17-02-006, Slip Op. at 14-20 (denying Petition 16-07-009 of the California Cable and Telecommunications Association (CCTA) for a Rulemaking to Extend the Right of Way Rules to CMRS Facilities to wireless facilities Installed by Cable Corporations). Comments in R.17-03-009 are also not
(footnote continued on next page)

The need to take stock of the State’s utility pole and conduit infrastructure is reflected in the above-described Commission actions, as well as in other proceedings related to fire safety, critical infrastructure, and a recently initiated Rulemaking regarding Rule 20 undergrounding, *inter alia*. In D.16-12-025, we committed to institute, within nine months, a “rulemaking to examine telecommunications access to poles, conduit, and rights of way,” and the related issues discussed herein.

4. Competing and Connected Interests

In D.16-12-025, we stated that “[a]ccess to utility poles is one area where the Commission’s safety mandate meets, and must be reconciled with, its goal of a competitive market.”²³ The burgeoning interest in utility poles, conduits, and rights of way raises the question whether there are physical and/or economic limits to the carrying capacity of California poles and conduits, particularly in light of public safety and network integrity concerns.

4.1 Safety

The CPUC is aware of a number of instances where overloaded poles and/or insufficiently maintained attachments have caused fires and other accidents, resulting in millions of dollars of property damage and human dislocation, and in multiple cases directly or indirectly causing fatalities.

In October 2007, strong Santa Ana winds swept across Southern California and caused dozens of wildfires. Several of the worst wildfires were reportedly ignited by downed power lines or other pole attachment failures.²⁴ These fires burned 334 square

entirely illuminating, as the carriers claim that a CPCN does not require them to “list every specific service ... [or] particular types of equipment.” WIA Reply Comments, at 11-12. CalTel provides some detail, suggesting that the services range from mobile phone to wireless BIAS, fixed wireless, Wi-Fi, Mi-Fi, wireless fail-over, and wireless backhaul. CalTel Opening Comments at 9-10. Also unclear is whether WIA seeks access to conduit other than what CLEC status (to the extent their members have this) would give them.

²³ *Id.* at Finding of Fact 25; *see also* Section 6.4.3, *passim*.

²⁴ R.15-05-006, *Rulemaking into Fire Threat Maps, Safety Regulations*, Slip Op. at 2. These included the Grass Valley Fire (1,247 acres); the Malibu Canyon Fire (4,521 acres); the Rice Fire (9,472 acres); the
(footnote continued on next page)

miles, disrupted transportation, and destroyed portions of the electric supply and communications networks, as well as some community water sources.²⁵

The 2007 Malibu fire is a harrowing example of what can go wrong when pole owners are unaware of the condition of their poles and what is on the poles, and when pole attachers act with disregard for public safety. An overloaded pole failed, and the resulting fire burned over 4500 acres, destroyed \$15 million in property, and cost over \$5 million to fight. NextG (a competitive carrier specializing in providing supporting infrastructure to wireless companies, and now a subsidiary of Crown Castle), admitted: (1) it placed attachments on a pole in Malibu Canyon, even though SCE had denied NextG's attachment request because the weight of all the attachments would overload the pole in violation of GO 95's safety standards; and (2) then failed to adequately communicate with the pole owner, SCE, about what was on the pole.²⁶ Edison, for its part, admitted: (1) the pole and its attachments did not meet GO 95 safety standards; (2) it failed to prevent NextG from overloading the pole; and (3) it failed to provide accurate documentation (true and correct field notes) and to preserve physical evidence.²⁷

In 2011, an electric wire conductor on Acacia Avenue in SCE's San Bernardino service area fell to the ground, resulting in the electrocution of a man, and then his wife and stepson when they tried to come to his aid.²⁸ The line failure occurred when two overhead conductors "came into contact or near contact with each other and caused [a

Sedgewick Fire (710 acres); and the Witch and Guejito Fires (197,990 acres). *Id.*; see also CalFire Reports page, available at http://www.calfire.ca.gov/fire_protection/fire_protection_firereports.

²⁵ R.15-05-006, at 2; see also CalFire report, Summary of Witch Fire, and Narrative of Guejito Fire, on CalFire Reports page, *supra*.

²⁶ D.13-09-026, at Appendix A, A-4 to A-6.

²⁷ D.13-09-028, at 9-11.

²⁸ See I.14-03-004, *Investigation into Southern California Edison [SCE] re Acacia Avenue Triple Electrocution Incident and the Windstorm of 2011*, Slip Op. at 2; see also D.14-08-009, approving \$24.5 million settlement.

third] conductor to break [and] fall to the ground.”²⁹ Why those two conductors came into contact or near contact remained something of a mystery, compounded by a similar, near-simultaneous conductor failure on the same circuit only a quarter mile away, which also caused a live electric line to fall to the ground.³⁰ In a windstorm that swept through SCE’s territory several months later, almost 250 poles were damaged or destroyed, a number of which were found to be infected with termite damage, dry rot, and/or fungal decay both below and above the surface.³¹ Staff concluded that SCE and joint pole owners and/or attaching communication providers (AT&T, Champion Broadband, Charter, Sunesys, Time Warner Cable, TW Telecom and Verizon) had all violated GO 95 safety factor requirements.³²

SED reported two additional pole-related fatalities, and other injuries, in 2011-12 incidents.³³ This year (2017), SED issued citations related to a 2015 fire started by tree-powerline contact in PG&E’s Butte County territory, which resulted in two further

²⁹ SED (then CPSD) Preliminary Incident Investigation Report, at 1 *ff*, attached as Attachment 1 to I.14-03-004.

³⁰ *Id.*

³¹ January 11, 2013 CPSD Final Report, “Investigation of SCE Outages of November 30 and December 1, 2011,” found as Attachment 2 to I.14-03-004, at 2. 440,168 customers to lose power (some up to a week). *Id.* at 4-10.

³² *Id.* at 1 (finding that “[a]t least 21 poles and 17 guy wires did not meet the safety factor requirements codified in GO 95, Rule 44.1”).

³³ One person was electrocuted when a power line broke due to a tree growing between the primary lines in SCE’s Los Angeles/Whittier service area, and an additional fatality and further damage were also reported in 2011-2012. *See* Resolution SED-3, *Establishing Citation Procedures for Safety Enforcement*, 2016 Cal. PUC LEXIS 647, at *17-18 and fn. 13 (2016). Other examples of pole-related accidents set forth in Resolution SED-3 include:

- A 2012 San Mateo incident in PG&E’s Peninsula Division in which an overhead conductor failed due to animal contact or other reasons, resulting in an electrocution fatality.
- The 2011 North Fork incident in PG&E’s Yosemite Division in which two PG&E overhead conductors came into contact because of inadequate clearance, injuring a PG&E employee who was working on them; and
- The 2012 Ridgecrest incident in SCE’s service area in which a bird caused an overhead conductor to fail, resulting in a child suffering burns.

deaths.³⁴ The safety of poles and pole attachments is also currently being litigated in further proceedings growing out of the 2007 wildfires.³⁵ The Commission expresses no opinion in this Order regarding the outcome of those proceedings.

Underground facilities present different safety considerations. They can flood, causing prolonged disruption of emergency services, as discussed above. They can themselves be the source of fires, injury, and death.³⁶

The combination of aging (and sometimes ill-maintained) infrastructure and sharply increased demand for that infrastructure raises obvious safety concerns. CLECs and other pole attachers propose to mount substantial equipment on poles, in addition to antennas and fiber – *see, e.g.*, Appendix D.³⁷ The Commission currently does no *ex ante* safety review of proposed pole attachments for pole loading or other safety issues.³⁸ In our original Rights-of-Way decision (D.98-10-058), we relied on the utilities to police

³⁴ SED Citation and Incident Investigation Report re Butte Fire, available at <http://www.cpuc.ca.gov/General.aspx?id=1965>. While the earlier wildfires were driven by high winds, the 2015 Butte Fire ignited in light 4-5 mile per hour wind conditions; in addition to the fatalities, the fire burned 71,000 acres and destroyed hundreds of homes in Amador and Calaveras Counties. *See* D.16-05-036, citing Cal Fire’s Investigation Report on the Butte Fire, Case No. 15CAAEU024918 (April 25, 2016), at page 29, available at http://www.calfire.ca.gov/fire_protection/fire_protection_firereports/ (2015 Fire Reports, Butte Fire).

³⁵ *See* R.15-05-056, A.15-09-010; *compare* I.08-11-007.

³⁶ *See, e.g.*, AP, “Firefighter dies, one injured in manhole blast,” LA Daily News, March 26, 2008, available at <http://www.dailynews.com/article/zz/20080326/NEWS/803269869> (“It appears to be related to what was occurring with the electrical vaults underneath the street, but as I stated, the cause of the explosion is unknown at this point”).

³⁷ *See also* drawings WIA Opening Comments in R.17-03-009, at 11-12, describing additional attached cabinets (radio amplifier, power supply) ranging up to 30 cubic feet and 300 pounds each, as well as drawings attached to Cox and WIA May 16, 2017 Reply Comments.

³⁸ Energy Division staff review projects for compliance with California Environmental Quality Act (CEQA), pursuant to a 21-day process, at the end of which period staff either declares the project exempt and issues a Notice to Proceed (NTP), or (in rare cases) denies the request for a CEQA exemption. *See, e.g.*, D.10-12-004, granting CPCN to Mobilite, and describing the 21-day process. When an exemption is found (as is the norm for all but the largest projects, or projects with special considerations like view), safety *per se* is not a factor considered in the CEQA. The assigned CEQA staff person informally estimates that he processed approximately 180 notices of proposed telecommunications construction in 2016, with an average of 60-70 antennas on each notice related to small cell or DAS antenna construction (the large majority were of this type).

themselves in safety matters.³⁹ The wildfires and other safety hazards occasioned by pole attachment failures, repeated safety violations, the simultaneous growth and aging of the pole and conduit infrastructure, and the increased demand for network assets, all combine to raise questions about whether a more active role for the CPUC in this area would be appropriate.

4.2 Competitive Access

The CPUC's recently completed competition analysis (D.16-12-025) identified pole and conduit access as bottlenecks that potentially operated as barriers to competition.⁴⁰ We noted competitive provider complaints that certain incumbents and public utilities have been erecting obstacles to effectively deny pole and conduit access to potential new market entrants. In particular, D.16-12-025 described some of the problems Google had experienced trying to gain access to poles;⁴¹ other competitive carriers have echoed that perspective.⁴² Google itself appeared late in the competition proceeding to raise concerns about "utilities ... using either their own internal policies or joint association membership rules to frustrate the purpose of California's infrastructure access obligations," and to urge the CPUC to "adopt 'one-touch make-ready' procedures for pole attachments to enable safer, faster, and less-costly broadband deployment."⁴³

In addition to informal complaints regarding access denials, the Commission has received formal complaints. For example, on May 25, 2016, Webpass filed an application for arbitration of its dispute with AT&T over access to conduit and utility

³⁹ D.98-10-058, at sections VII(A)(2), giving lead role to electric utilities "to impose restrictions and conditions which are necessary to ensure the safety and engineering reliability of the facilities."

⁴⁰ D.16-12-025, at 3, *passim*.

⁴¹ D.16-12-025, Slip Op. at 139-140.

⁴² March 17, 2017 Database Workshop, Panel #4 Comments of Sonic's Nathan Patrick and CCTA's Jerome Candelaria (final 40 minutes of webcast).

⁴³ Google Comments in I.15-11-007, at 2, available at <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M169/K916/169916572.PDF>.

support structures.⁴⁴ Both Webpass' requests to access conduit, as well as Google's desire for pole access, have occasioned suggestions from the incumbent that conduit or pole capacity was limited or that other reasons prevented access. Historically, AT&T would purchase some of the common or safety space on behalf of cable and/or competitive carriers after the communications space had been exhausted; in May 2015 AT&T announced that it was discontinuing this practice; still later, it announced that it was reverting to the historical norm.⁴⁵

Finally, we have noted continuing concerns about the potentially anti-competitive role of joint pole associations, specifically "the possibility that pole owners, individually or in pole associations, may be in position to exercise a type of bottleneck control that has the potential to exclude competitors."⁴⁶

The Wireless Infrastructure Association, which despite its name consists primarily of wireline carriers (CLECs) that wish to provide transport services *to wireless carriers*, has petitioned the Commission for changes in the Revised ROW Rules, which would allow them to attach small cell antennas to poles for CMRS carrier use, among other things. We have agreed to consider that Petition in R.17-03-009, which we consolidate with the instant Rulemaking.

⁴⁴ In its Application, which the parties have since settled, Webpass asserted that:

AT&T California has denied Webpass the ability to install splice cases and similar equipment in AT&T California's conduit systems and has also stated that it will deny Webpass the right to install fiber optic cable in a conduit that is partially occupied by an existing AT&T California cable except in entrance facilities owned by other parties or unless AT&T California's cable is enclosed in an inner duct.

Application by Webpass Telecommunications LLC (U#7278C) pursuant to D.98-10-058 for Arbitration of Dispute over Denial by Pacific Bell Telephone Company (U#1001C) of Nondiscriminatory Access to Utility Support Structures (A.16-05-015), May 25, 2016, p. 1-2 (Webpass Application).

⁴⁵ D.16-12-025, Slip Op. at 144, and fn. 307, citing AT&T Notice Regarding Requests to Attach to Poles Managed by the Northern California Joint Pole Association, provided to staff on or about May 5, 2016. We are informed that AT&T has since rescinded this Notice.

⁴⁶ D.16-12-025, at 181.

We cite these complaints, applications, and petitions -- formal and informal -- as examples of the increasing topicality of pole, conduit, and rights-of-way issues.

Bottlenecks and limitations in pole, conduit and right-of-way access may raise costs, and limit or delay competition in wholesale markets, such as the special access (including backhaul and other middle mile) markets discussed in D.16-12-025, even when there are competitors otherwise willing to build such facilities.⁴⁷

We adopted and implemented the initial ROW Rules over fifteen years ago. With the exception of the modifications adopted in D.16-01-046 to accommodate CMRS providers, those initial Rules have remained largely unchanged. In this proceeding, we propose to reexamine those rules as they relate to pole and conduit access, and to modify them to the extent necessary to facilitate safe, non-discriminatory access. We will also consider other steps to promote competition and improve safety.

4.3 Contested Real Estate – Poles, Conduit, & Rights of Way

In recent years, administrative interest and legislative proposals regarding the use of poles, conduit, and public right of way to facilitate the deployment of next generation communications facilities have risen dramatically.⁴⁸ One manifestation of this was California AB 1027, enacted in 2011, which required publicly-owned utilities to lease utility pole and support structure capacity to communications providers at reasonable rates, terms, and conditions.⁴⁹ In 2016, the California Legislature followed the City of San Francisco in enacting “dig once” legislation, specifically directing the California Department of Transportation (CalTrans) to notify interested parties and facilitate collaboration in the installation of broadband facilities (conduit) whenever construction

⁴⁷ D.16-12-025, at 98-118.

⁴⁸ Concurrently, electronic telemetry relating to electric, gas, and water transport and storage has been evolving at a similarly quick pace.

⁴⁹ Codified at Public Utilities Code sections 9510-9516, 9519.

was planned along state highways.⁵⁰

Both federal and state laws have created “shot clocks” mandating that local government process within a set period of time all applications to build wireless facilities in public rights-of-way, including on utility poles.⁵¹

As this OII/OIR has taken shape, we have seen a flurry of new legislative and regulatory proposals at both the state and federal levels, addressing municipalities’ processing of new permit applications by wireless companies and their surrogates, seeking to pave the way for faster deployment of communications technologies including 5G wireless (although final standards for this technology are not expected to be adopted until 2020).⁵²

On December 26, 2016, the FCC – responding to a petition filed by a wireless carrier (Mobilitie LLC), asking that municipalities’ discretion in handling wireless siting permit applications be limited – established a docket and asked for comment *In re Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies*.⁵³ In setting a Comment schedule, the FCC explained the technological advances driving interest in poles and conduit,⁵⁴ and described past controversy and

⁵⁰ AB 1540, enacted September 23, 2016, codified at Govt. Code 14051. In November 2014, the Board of Supervisors and Mayor of the City and County of San Francisco adopted a “Dig Once Ordinance” Ordinance No. 220-14. The ordinance can be found at: <http://tinyurl.com/oaz2qly>, and further information about its implementation can be found at <http://sfgov.org/dt/dig-once>.

⁵¹ See, e.g., AB 56, codified at Govt. Code 65964.1 (adopting federal “shot clock” rules), approved by Governor on October 9, 2015.

⁵² See, e.g., Phillip Tracy, “5G Standards Process” (July 19, 2016) at <http://www.rcrwireless.com/20160719/internet-of-things/5g-standards-process-tag31-tag99>

⁵³ DA 16-127, establishing WT Docket No. 16-421, *In re Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies* (December 26, 2016), available at https://apps.fcc.gov/edocs_public/attachmatch/DA-16-1427A1.pdf (*Small Cell NPRM*).

⁵⁴ *Id.* at 13362-63 (citations omitted):

Current generation 3G and 4G services have fueled mobile wireless data consumption via smartphones, tablets and mobile-enabled PCs to the tune of 1.8 Exabytes per month in 2016 in North America alone, and this consumption is expected to grow six fold by 2022, according to a report by Ericsson. It also estimates that, on a per smartphone basis, mobile data traffic is expected to

(footnote continued on next page)

rulemaking about the extent of municipal discretion.⁵⁵

The City and County of San Francisco (CCSF) filed Comments in the FCC proceeding, asserting it had “permitted hundreds of wireless facilities on utility poles in an expeditious manner.”⁵⁶ At the same time, CCSF noted, “[t]he City’s authority over the placement of wireless facilities on utility poles is limited by ... [CPUC] General Order 95, which establishes statewide utility pole safety requirements to protect both utility workers and the public.”⁵⁷ Comments from other states and state groups in the *Small Cells* docket urged the FCC not to limit state and local laws relating to safety.⁵⁸

In California, the Mobilitie Petition was foreshadowed by the California Supreme Court’s grant a month earlier of review in *T-Mobile v. City & County of San Francisco*. In that case, T-Mobile argues that “local control” over cell siting and pole attachments should be “narrowly prescribed”; CCSF argues that its discretion under Public Utilities Code Section 7901.1 (“reasonable controls as to the time, place, and manner”) includes

increase from 5.1 Gigabytes per month in 2016 to 25 Gigabytes by 2022. This demand for mobile wireless data is expected to continue to grow even more with the proliferation of the Internet of Things (IoT), with an expected 400 million IoT devices connected to cellular networks by the end of 2016 and projected to grow to 1.5 billion devices by 2022, made possible by advances in 4G services and next generation 5G services. While we cannot be sure exactly what 5G will bring, next generation services have the potential to revolutionize the mobile wireless experience by making the IoT widely available through the connection of billions of smart devices to the Internet.

In order to improve spectrum efficiency, future 4G and 5G services will require significant densification of small wireless facilities, including DAS and small cells

CPUC staff have been unsuccessful at obtaining a more exact range for cell densification in a 5G environment, perhaps because no final standards exist, but have heard estimates in the 10-20x range.

⁵⁵ *Id.* at 13364-65, and fns. 28 and 34.

⁵⁶ March 8, 2017 CCSF Comments, at 1.

⁵⁷ *Id.* at 11, and fn. 24, noting that CPUC GO 95 “requires that antennas be mounted at least six feet below or two feet above electrical supply lines (at the top of the pole) and at least two-feet from the center of the pole.”

⁵⁸ *See, e.g.*, Comments of the American Association of State Highway and Transportation Officials (AASHTO), filed March 21, 2017; Comments of Illinois Department of Transportation, filed March 22, 2017, both in FCC WT Docket No. 16-421.

aesthetic considerations.⁵⁹

On February 17, 2017, SB 649 was introduced in the California Legislature. While requiring providers to “comply with all related health, safety, and objective aesthetic requirements for small wireless facility deployments on a ministerial basis,” the legislation limits the discretion of local government, and may inhibit or prohibit the city from obtaining information about the particulars of a project sufficient to establish compliance with such “related health [and] safety” requirements.⁶⁰

On March 7, 2017, SED filed a further petition (Petition 17-03-004), requesting that the Commission adopt additional safety-related changes to GO 95, including rules regarding pole-top attachments, as suggested in an earlier CPUC decision.⁶¹

The FCC has weighed in as well. On April 21, 2017, the FCC released two separate Notices of Proposed Rulemaking proceeding, aimed at accelerating wireline and wireless broadband deployment.⁶² The FCC identifies many of the issues the CPUC has described over the last year, including one-touch attachment and the possible use of a shared data platform to facilitate deployment, while suggesting further rules that would truncate municipal discretion relating to such attachments.⁶³

The FCC frames the conduit bottleneck as, in large part, an information issue:

⁵⁹ *T-Mobile West LLC v. City & County of San Francisco*, 3 CA5th 334 (2016), California Supreme Court review granted December 21, 2016, 211 Cal. Rptr. 3d 259.

⁶⁰ As of June 20, 2017, the bill prohibited cities from requesting the “submission of any additional information other than that required of similar construction projects.” Subsection b(3)(B) of proposed Government Code § 65964.2. SB 649 has been amended several times. The latest version is available at https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB649.

⁶¹ SED Petition 17-03-004, to Adopt, Amend or Repeal Rules in General Order 95 filed in Compliance with Decision 16-01-046 (March 1, 2017).

⁶² *Wireless Deployment NPRM*, *supra*; *In re Accelerating Wireline Broadband Deployment*, WC Docket No. 17-84 (FCC 17-37) (“*Wireline Deployment*, *NPRM*”).

⁶³ See, e.g., *Wireline Deployment NPRM* at ¶¶ 21-24 (one touch make-ready), ¶ 25 (“right-touch make-ready”), and ¶ 27 (use of online databases and maps); see also *Wireless Deployment NPRM*, at ¶¶ 8 *et seq.* (tighter shot clock) and ¶¶ 88 *et seq.* (other limits on local discretion).

Access to Conduit. We seek comment on ways to make the process of gaining access specifically to utility conduit more transparent. We ask whether there are existing online databases or other publicly-available resources to aid telecommunications and cable providers in determining where available conduit exists. Do utilities or municipalities have readily available information on the location and cost of access to conduit? Are there "best practices" that utilities or municipalities have established that make it easier for providers to obtain crucial information on conduit access? We seek comment on whether any local or state jurisdictions have policies on making conduit information more transparent and widely available, especially with regard to alerting the public and providers about the timing and location of conduit trenches being dug by utilities.⁶⁴

The focus on utility poles and conduits appears to be a worldwide phenomenon, as the ever-more connected global network matures. In England, the telecommunications regulator has recently issued a "Consultation on Duct and Pole Access remedies," in which it proposes

To improve access to [the incumbent's] poles and underground ducts that carry telecoms cables. Improving duct and pole access will make it quicker and easier for rival providers to build their own fibre networks, promoting infrastructure-based competition.⁶⁵

Although the incumbent had "recently launched a new digital map which other telecoms providers can access so that the exact position of ducts, poles and chambers can be viewed online," Ofcom asked whether it should further require the incumbent "to provide an online database of duct and pole assets so competitors can plan new

⁶⁴ *Id.* at ¶ 31; *see also* the information exchange requirements in AT&T's standard "Structure Attachment" contract addendum, found as Exhibit A to *Webpass Application*, *supra*, A.16-05-015. The need for data exists as much for pole attachments as for conduit access. CPUC Database Workshop, *supra*, at panel 4 (representatives from CCTA, Sonic, and CWA discussing need for data).

⁶⁵ Consultation on Duct and Pole Access remedies, part of Ofcom's Wholesale Local Access Market Review (April 20, 2017), at ¶ 1.1, available at <https://www.ofcom.org.uk/consultations-and-statements/category-2/duct-pole-access-remedies>.

networks.”⁶⁶ Vodaphone and other carriers have asked Ofcom to expand its proposal to include fiber used to facilitate small cell deployment.⁶⁷ We invite the parties to inform us about best practices in other states and countries.

4.4 Municipalities and Other Stakeholders

Promoting and encompassing both safety and competition will require coordination among many parties. As the National Association of Telecommunications Officers and Advisors (NATOA) has recognized in its Broadband Principles, the development of tomorrow’s broadband networks will require “extensive collaboration” between state and local communities, the private sector, and other stakeholders.⁶⁸ Because a safe and reliable communications and electric supply network is essential to all Californians, we encourage the broadest possible participation in this proceeding.⁶⁹

We have recognized local governments’ “interest in cell siting locations and land use policies.”⁷⁰ Cities bring a set of specific municipal interests to the table, including

⁶⁶ *Id.* at ¶¶ 1.10 and 1.24.

⁶⁷ *Id.* at ¶ A6.21 (noting that “the scale of fibre deployment to small cells will need to be significant”).

⁶⁸ See NATOA et al. Comments in re FCC’s National Broadband Plan docket, filed Jun. 8, 2009, at 3 (“[t]he desired development of high capacity broadband networks and broadband services will require extensive collaboration among parties: local communities, regions, state governments, national government, the private sector, interest groups, and others”), available at <https://ecfsapi.fcc.gov/file/7019917736.pdf> and <http://www.natoa.org/documents/National%20Broadband%20Plan%20Reply%20Final%20Draft.pdf>; the Broadband Principles are at <http://www.natoa.org/policy-advocacy/policy-matters/broadband-principles.html>.

⁶⁹ As noted below, this Order will be served on known municipal and local authorities, as well as incumbent and competitive carriers, public interest advocates, and other stakeholders.

⁷⁰ See, e.g., D.98-10-058, 1998 Cal. PUC LEXIS 879 at *55-61:

Article XI, § 9 of the California Constitution expressly recognizes the authority of a city to prescribe regulations governing persons or corporations that provide public utility service ... In addressing the Commission's role in relation to that of local governments with respect to ROW access, we believe it is appropriate to consider the general approach adopted in General Order ("GO") 159-A, ... relating to the construction of cellular radiotelephone facilities in California. Recognizing local government's interest in cell siting locations and land use policies as well as the Commission's interest in promoting development of wireless technologies and its duty to protect ratepayers, the Commission ceded

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interest in the development of “smart” or “responsive” city functionality.⁷¹ At the same time, cities operate under existing federal and state “shot clock” and other limitations,⁷² including statewide safety and competition rules the CPUC has promulgated.⁷³

Municipal participation in this proceeding is desirable so that we hear the concerns of the cities, and collaborate on a set of policies and rules that respond to both local and statewide concerns (borrowing, perhaps, from the “model code” approach suggested by

regulatory jurisdiction in circumstances where the local agency has a specific interest, yet recognized this Commission's obligation to protect the overriding state interests. GO 159-A, acknowledges that primary authority regarding cell siting issues belongs to local authorities. Local authorities continue to issue permits, oversee the California Environmental Quality Act ("CEQA") compliance, and adopt and implement noticing and public comment requirements, if any. In like manner, local agencies have an interest in managing local ROW and requiring compensation for the use of public ROW. The Commission, on the other hand, has an interest in removing barriers to open and competitive markets.

See also California Constitution, Article XI, sections 7 and 9 (municipal authority); Pub. Util. Code § 2902; *Sprint v. Palos Verdes Estates*, 583 F.3d 716, 722-723 (9th Cir. 2009) (affirming municipal authority over some cell siting issues).

⁷¹ As the FCC stated in its recent *Small Cell NPRM*:

The ubiquitous connection of smart digital devices, particularly machine-to-machine connections such as sensors, wireless utility meters, industrial systems, home automation devices and appliances... is expected to enable smart-city energy grids [and] safer transportation networks (including automated driving and in-vehicle services).

FCC 16-421, at 13362.

⁷² AB 57, enacted 2015, codified at Government Code § 65964.1, and “applicable FCC decisions” cited therein.

⁷³ *See, e.g., Polk v. City of Los Angeles, supra*, 26 Cal.2d at 540-541 (the safety of overhead wire maintenance is a matter of statewide ... concern”). Some municipalities incorporate state or other safety standards in their review of wireless and other deployment applications. *See, e.g.,* SFDPW Order No. 184504, at page 11 (Section 5(L)) (requiring engineer’s certification of compliance with G.O. 95 or NESC), available at <http://www.sfpublicworks.org/sites/default/files/Public%20Works%20Order%20184504.pdf>; *see also* SF Public Works Code at Article 25, re Personal Wireless Service Facilities, available at <http://public-works.sanfranciscocode.org/25/>; Rancho Palos Verdes Ordinance 13.12.230(9)(f) (“Compliance with all public safety requirements that are applicable to telecommunications service providers using public property or public rights-of-way”), available at https://www.municode.com/library/ca/rancho_palos_verdes/codes/code_of_ordinances?nodeId=TIT13PUSE.

the FCC).⁷⁴

5. The Commission's Jurisdiction Over Poles, Conduit, and Rights-of-Way

Federal law requires public utilities to provide “a cable television system or any telecommunications carrier with nondiscriminatory access to any pole, duct, conduit, or right-of-way owned or controlled by” the utility, unless the utility cannot provide access because of “insufficient capacity and for reasons of safety, reliability and generally applicable engineering principles.” 47 U.S.C. § 224(f).⁷⁵

Within that framework, states can elect to regulate the rates, terms, and conditions for pole attachments under state law, when they certify to the Federal Communications Commission (FCC) that they will do so, and in doing so “consider the interests of the subscribers of the services offered via such attachments, as well as the interests of the consumers of the [pole owner(s)] utility services.” 47 U.S.C. § 224(c).

California law authorizes the Commission to prescribe rules governing access to public utility rights-of-way:

Whenever the commission, after a hearing had upon its own motion or upon complaint of public utility affected, finds that public convenience and necessity require the use by one public utility of all or any part of the conduits, subways, tracks, wires, poles, pipes, or other equipment, on, over, or under any street or highway, and belonging to another public utility, and that such will not result in irreparable injury to the owner or other users of such property or equipment or in any substantial detriment to the service, and that such public utilities have failed to agree upon such use or the terms or conditions or compensation therefore, the commission may by order direct that such use be permitted, and prescribe a reasonable compensation and reasonable terms and conditions for the joint use.

⁷⁴ *Wireline Deployment NPRM*, *supra*, at ¶¶ 121-22.

⁷⁵ “Pole attachment” is defined as follows in 47 U.S.C. § 224(a)(4): “any attachment by a cable television system or provider of telecommunications service to a pole, duct, conduit, or right-of-way owned or controlled by a utility.”

California Public Utilities Code § 767. California Public Utilities Code §§ 451, 701, 767.5, 767.7, 768, 768.5, and 1702.5, *inter alia*, provide further authority for the CPUC to establish reasonable rates, terms, and conditions for joint use of utility poles, ducts, conduits, and rights-of-way.

This Commission exercised its option to regulate pole attachment rates, terms, and conditions under state law by issuing a detailed set of pole attachment and right-of-way rules in D.98-10-058. It adopted rules to provide facilities-based local exchange carriers (both incumbent and competitive local exchange carriers, as well as CATV corporations) with nondiscriminatory access to utility ROW and support structures that are owned or controlled by “large and midsize ILECs, ... the CL[E]Cs, and ... the major electric utilities, PG&E, Edison, and SDG&E.”⁷⁶ Decision 98-10-058 adopted a set of Rules related to poles and other rights-of-way issues (“Rules Governing Access to Rights-of-Way and Support Structures of Incumbent Telephone and Electric Utilities,” known as “ROW Rules”).

Decision 98-10-058 also addressed network safety and reliability (while largely delegating safety enforcement to the electric utilities),⁷⁷ pole and duct capacity issues (reserved space, total volume, etc.), and the role of joint pole associations.

Aside from the ROW Rules, the specifics of the Commission’s pole, pole attachment, and conduit oversight are set forth in a series of General Orders (GOs): GO 52 (Construction and operation of power and communication lines for the prevention or mitigation of inductive interference); GO 95 (Overhead electric [and communications] line construction); GO 128 (Construction or' underground electric supply and

⁷⁶ D.98-10-065, 1998 Cal. PUC LEXIS 879 at * 22; *see also* Rules Governing Access to Rights-of-Way and Support Structures of Incumbent Telephone and Electric Utilities found at Appendix A. An ILEC is an incumbent local exchange carrier such as AT&T or GTE/Verizon/Frontier.

⁷⁷ Although D.98-10-058 references GO 95 and GO 128, it is largely silent about the Commission’s role in their enforcement. As shown above, SED is active in *ex post facto* enforcement efforts. While SED has petitioned the Commission for safety-enhancing changes to these General Orders, it has generally not engaged in *ex ante* oversight of the industry.

communication systems); and GO 159A (Construction of cellular radiotelephone facilities in California). A previous GO 170 regulated the relationship between the State and Cities regarding the California Environmental Quality Act (CEQA), but rehearing was granted and the previous GO 170 vacated.⁷⁸

6. Consolidation of R.17-03-009 and the Structure of this Proceeding

As noted earlier, and discussed further below, Rulemaking 17-03-009, instituted in response to the Petition of the Wireless Infrastructure Association, will be consolidated into this proceeding, without disturbing the timeline set forth in that Rulemaking.

We also elect to combine the pole and conduit census and data platform Investigation with the pole and conduit access/management Rulemaking described below for similar reasons: consistent decision making on interrelated issues; a shared record; and administrative efficiency (shared service list and notice).

This proceeding will be structured in phases, so as to allow independent schedules within the proceedings, as reflected in this chart:

	Pole & Conduit Census/Database OII (Safety Focus)	Pole & Conduit Access/Management OIR (Competition Focus)	
		OIR Track 1A	OIR Track 1B
Phase 1	Fact finding re existing pole & conduit data	WIA Petition Rulemaking R. 17-03-009	BIAS Access Rulemaking
Phase 2	Future use and structure of a pole & conduit census, database or data platform	Rules for conduit access, and improved pole and conduit management.	

While the Investigation has a safety focus and the Rulemaking an access focus, safety and access are material factors in both dockets.

⁷⁸ D.11-12-054, granting rehearing of D.10-12-056, at Ordering Paragraph 2 (GO 170 “vacated”).

7. Investigation into the Possibility of Creating a Shared Statewide Database or Census of Utility Poles and Conduit in California

By this Order, the Commission institutes an investigation into how best to effect a statewide pole census, and possible means and uses of a shared asset management database, data platform, and/or work-tracking software. As we are committed to data-driven decisionmaking, a survey of the field is a necessary first step. Staff has propounded data requests to, and received responses from, known utility pole owners and attachers as well as their joint use associations, seeking information about owned and leased poles, pole ownership, pole attachments, and the databases or repositories in which this information is aggregated.⁷⁹ A second staff data request, directed to duct, conduit, and other underground facilities, is attached hereto as Appendix B.

The idea of a shared utility pole and conduit database is not new. The 2009 *National Broadband Plan* cited the need for improved “collection and availability of information regarding the location and availability of poles, ducts, conduits and rights-of-way, “and called for a shared database which would:

ensure that information about utility poles and conduits is up-to-date, readily accessible and secure, and that the costs and responsibility of collecting and maintaining data are shared equitably by owners and users of these vital resources. For example, data could be collected systematically as in Germany, which is mapping fiber, ducts and conduits and is planning to coordinate these data with information about public works and infrastructure projects. Existing industry efforts to collect and coordinate data could be expanded and made more robust. [T]he participation of all pole owners subject to Section 224 and attaching parties in any such database effort could be regulated and streamlined. These databases should be easily searchable, identify the owner of each pole and should contain up-to-date records of attachments and make-ready work that has been

⁷⁹ Staff advises that some of the data responses are not complete.

performed.”⁸⁰

In the more recent Rulemaking on wireless carriers’ access to poles under the Commission’s right-of-way rules, we noted that “the Electric IOUs suggested that a centralized data base of all poles, pole attachments, and load calculations be established, and that all entities with pole attachments should be required to self-report their attachments to the data base administrator.”⁸¹ Although the Commission ultimately decided it was outside the scope of that proceeding, parties like the California Cable Television Association pointed out the utility of such a database:

An accurate, up-to-date database that includes third party attachments protects the safety of the distribution network, but it also helps to ensure that claims for unauthorized attachments are substantiated, and that pole owners can enforce the substantial penalties imposed by pole attachment agreements for attaching without authorization.⁸²

In its responses to data requests on database and software issues, PG&E addressed steps necessary to ensure that shared data is complete and accurate: “Complete information on all attachments and equipment on poles is unattainable so long as Joint Owners are not required to provide all parties information on attachment and equipment

⁸⁰ National Broadband Plan (NBP), Section 6.4, available at <https://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf>. It appears that Germany has recently implemented an “Infrastructure Atlas” as at least one embodiment of the referenced mapping project. See *Gesetz zur Erleichterung des Ausbaus digitaler Hochgeschwindigkeitsnetze [Law to Promote the Deployment of a Digital High-Speed Network (DigiNetzG)]*, available at http://www.bundesrat.de/SharedDocs/drucksachen/2016/0401-0500/466-16.pdf?__blob=publicationFile&v=1 (p. 3). See also EU Directive 2014/61/EU on measures to reduce the cost of deploying high-speed electronic networks, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0061&from=EN>, at 21 (mapping would “allow coordinated access to information on physical infrastructures for public communications network providers while at the same time ensuring the security and integrity of any such information, in particular as concerns national critical infrastructure”).

⁸¹ D.16-01-046, at section 3.8.9.1; see also April 7, 2015 Joint Parties Workshop Report in R.14-05-001, at 8-9 (listing four issues related to “database of utility poles”).

⁸² CCTA Opening Comments on Workshop Report, at 5-6, available at <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M151/K340/151340552.PDF>.

installations.”⁸³

In the March 17, 2017 workshop, representatives of utilities from Northern and Southern California, software providers NOTIFY and NJUNS, competitive carriers, and unions all participated. Representatives of the City and County of San Francisco (CCSF) and the Sacramento Municipal Utility District (SMUD) attended but did not make presentations. Participants discussed the distinctions between asset-management and work-tracking software, the gaps in current database information, the possibility of “smart” poles, and the use cases for pole and attachment database and access software.⁸⁴ After the workshop, and at the Commission’s invitation, several parties submitted further, informal comments. Both Extenet and CalTel urged the Commission to make infrastructure data more widely available to competing carriers.⁸⁵

Commission staff have also become aware of database and pole management strategies in other states, including Connecticut (which has mandated NOTIFY as a work-tracking tool which may also perform asset management functions),⁸⁶ New York

⁸³ February 14, 2017 PG&E Response to DR 12.

⁸⁴ The archived webcast of the workshop is available here:
<http://www.adminmonitor.com/ca/cpuc/workshop/20170317/>.

⁸⁵ Workshop comments and presentations are found at
<http://www.cpuc.ca.gov/General.aspx?id=6442453019>.

⁸⁶ October 8, 2014 decision in Connecticut Public Utilities Regulatory Authority Docket No 11-03-07, *Investigation into the Appointment of a Third Party Statewide Utility Pole Administrator*, at 19:

The [Connecticut Public Utilities Regulatory] Authority reiterates its position that one of the avenues of effective competition is an equitable access to PROW [public rights-of-way] ... Appointment of the SPA [Single Pole Administrator] will end the inefficient system of requiring attachers to submit dual applications with the electric and telephone companies. The Authority expects the SPA, as point of contact, to provide efficient communication, work coordination and cooperation among the attachers to effectively manage pole attachments. Use of the NOTIFY System will provide all attachers, state and local officials and utility companies with critical status information regarding priority of service restoration processes in the event of an emergency, via GIS mapping of the utility pole locations. Appointment of the SPA and use of the NOTIFY System should provide a transparent process with the utility pole owners and attachers responsible and accountable for the regulatory time frames established in the Make-Ready Decision.

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(which has identified NJUNS as a work-tracking software to be used by pole owners and attachers),⁸⁷ and Utah (which has approved NOTIFY for use by its utilities).⁸⁸ The Oregon PUC has worked with the Oregon Joint Use Association (to which it belongs along with the utilities), relating to joint pole inspection best practices, and the development of an electronic mapping program which could be used to facilitate such best practices.⁸⁹

The FCC's recent *Wireline Deployment NPRM* alludes to shared electronic data as one way to promote broadband competition.⁹⁰ In an *ex parte* filing with the FCC, the American Cable Association argued in favor of shared databases, noting that "pole owners are increasingly adopting and implementing, often for their own internal

Subsequent PURA statements suggest that the single pole administrator has not yet been fully implemented.

⁸⁷ See, e.g., <http://www.dps.ny.gov/>, search (on the dark blue banner bar) for case number 08-M-0593, containing filed documents on the SAFET program, which uses the NJUNS database. The relevant orders are SR.No. 17 and amended Sr. No. 3.

⁸⁸ April 27, 2012 Utah Public Service Commission Docket No. 11-035-199, Order Vacating Scheduling Order and Approving Electronic Notification System for Pole Attachments, available at <https://psc.utah.gov/2016/06/21/docket-no-11-035-199/> and <https://pscdocs.utah.gov/electric/elecindx/2011/documents/22349011035199ovsoaaensfpa.pdf>.

⁸⁹ See Division 28 of Oregon Administrative Rules for Poles and Conduit Attachments, at http://arcweb.sos.state.or.us/pages/rules/oars_800/oar_860/860_028.html. Rule 860-28-0200 requires that the

(1) Pole owners and pole occupants ... establish a Joint-Use Association (JUA). The Association shall elect a Board from the JUA, which shall include representatives of pole owners, pole occupants, and government entities. The Board shall act as an advisor to the Commission with respect to:

(a) Adoption, amendment, or repeal of administrative rules governing pole owners and pole occupants; and

(b) Settlement of disputes between a pole owner and a pole occupant that arise under administrative rules governing pole owners and pole occupants.

The Oregon JUA has formed a working group, which has produced an initial draft of "Joint Inspection Best Practices," available at <http://www.ojua.org/wp-content/uploads/2017/02/Joint-Inspection-Best-Practices-v-1.2-2017-1-9.pdf>. The OJUA has also begun the development of an electronic mapping program. <http://www.ojua.org/oregon-utility-mapping-project/>.

⁹⁰ *Wireline Deployment NPRM*, at ¶ 27 ("incentivize utilities to establish online databases, maps").

purposes, the use of web portals for submitting and managing attachment applications.”⁹¹ Such portals and related databases could allow pole owners and attachers “to communicate efficiently and coordinate the works related to pole transfers, pole make-ready, and joint trenching,” as well as share “field survey and ... engineering” data, reducing dispute potential among stakeholders.⁹²

This OII will have two phases: Phase 1 - the gathering of data relating to existing pole and conduit deployment and information repositories; and Phase 2 - an inquiry into strategies and models which would allow for the most efficient, accurate, comprehensive, and transparent management of that data.

Possibility of Stakeholder Proposals

We do not mean for the schedule below to preclude discussions among pole owners, attachers, incumbent and competitive carriers, and other stakeholders, or to prevent the submission to the Commission of a proposal that would accomplish the following: (i) facilitate to the greatest extent non-discriminatory and competitive access to poles and conduit; (ii) provide transparent asset management functionality allowing stakeholder and Commission visibility into data pertaining to pole and conduit location, condition and ownership; (iii) include work-tracking functionality enabling efficient hand-offs between entities and tracking of issue resolution; (iv) identify gaps in pole and conduit information in current utility databases, and propose strategies for closing those gaps; (v) incorporate best practices from other states and even countries; and (vi) provide visibility into the processes of joint pole associations operating in California.

7.1 OII Phase 1: Preliminary Scoping Memo for Data-Gathering Segment

Phase 1 of this Investigation will focus primarily on ascertaining what pole and conduit data are available, how they are collected, to what extent they are already shared,

⁹¹ ACA April 13, 2017 *Ex Parte* in WC Docket No. 17-84 and WT Docket No. 16-421, at 2-3.

⁹² *Id.* at 2, 5.

and how they might additionally be used. *See* staff Data Requests attached hereto as Appendices' A & B. We will consider what other data should be gathered. Among topics to be considered is the most efficient and cost-effective way to collect, integrate, and use data from disparate sources.

7.2 OII Phase 2: Preliminary Scoping Memo for Segment on Database Models Going Forward

In Phase II, we will consider specific strategies, solutions, difficulties and rules relating to the goal of a database, data platform, or other repository or repositories of information that will allow the Commission and qualified stakeholders efficient, accurate, cost-effective, and sufficient access to pole and conduit data. We are not committed to any specific model; there may be solutions besides a single database or repository. We will consider which solutions and strategies are most cost-effective, how the cost should be distributed, as well as the efficiencies and cost-savings such a database might engender.

7.3 OII Schedule

The preliminary schedule for this Investigation is set forth below. The schedule and procedures for this proceeding may be revised by the Assigned Commissioner and/or the assigned Administrative Law Judge (ALJ) as necessary to develop an adequate record, afford due process to all stakeholders, conduct this proceeding in an orderly and efficient manner, arrive at well-grounded conclusions, and achieve a fair resolution of the matters at issue.

Preliminary Schedule for the Investigation Proceeding	
Event	Date (Measured from the Issuance Date of this OII)¹

Preliminary Schedule for the Investigation Proceeding	
Event	Date (Measured from the Issuance Date of this OII)¹
Phase I Combined Opening Comments and Prehearing Conference Statements on issues set forth below, filed and served	40 Days
Phase I Reply Comments Filed and Served	55 Days
Phase I Prehearing Conference (PHC)	To Be Determined
Phase I Additional Workshops, Additional Written Comments, Briefs, Etc.	To Be Determined
Phase I Hearings, If Warranted	To Be Determined
Phase I Projected Submission Date (if applicable)	To Be Determined
Phase II Preliminary Scoping Memo, and Related Proceedings	To Be Determined
¹ . The issuance date is on the first page of this OII/OIR, at the upper right corner. ² . Day 40 and Day 55 are measured from the issuance date of this OIR. The issuance date is on the first page of this OIR, at the upper right corner.	

7.4 OII Phase I: PHC Statements and Opening Comments

The Assigned Commissioner and/or the assigned ALJ will schedule a PHC as soon as practicable. The combined opening comments and PHC statements due on Day 40 shall address the following matters:

1. Although this is denominated an investigation, we are requesting initial comments, verified as to all factual assertions, in response to the topics set forth below. In addition, please provide any objections to or comment on the preliminary scoping memo issues above, the category of this proceeding, the need for hearings, additional issues that should be considered, and/or the schedule.
2. As our initial data requests addressed only poles, please find attached as Appendix B a supplemental set of data requests addressed to duct, conduit, and related underground facilities

(sometimes collectively “conduit”). We request that the identified respondents provide answers in a timely and complete manner, and serve such responses on staff as indicated, and as ordered below. (In general, responses to those data requests, and the following comment questions should be served on the service list, unless you make a showing that the comment material should be confidential under D.16-08-024.

3. What are the confidentiality concerns, if any, regarding the exchange of data among the parties in Phase I of this OII (including responses to Appendix A and B Data Requests, as well as these Comment questions)? Is a Protective Order of the type adopted in R.15-11-007 appropriate here?⁹³ Is there a more efficient way to handle confidentiality issues, e.g., Non-Disclosure Agreement(s)?
4. What percentage of each responding party’s poles and conduit are found in electronic form in a database operated or controlled by the responding party?
 - a. What percent of such pole and conduit data files contain accurate geolocation data?
 - b. What percent of such pole and conduit data files contain complete and accurate information on all owners, attachers and attachments to the pole? (Please estimate if you cannot provide precise responses.)
 - c. What part of that pole and conduit data is currently shared with other utilities, communication providers, or joint pole association/committees? For each such utility, provider, or association/committee, please describe the scope of data that is shared, and how it is shared.
 - d. Which employees or agents of the responding utility/provider have access to such data? In what form? Do employees, contractors, or business partners have access to that data through a web portal, or similar online facility?
 - e. Please describe the totality of your pole and conduit information kept in databases or other information repositories maintained by or through joint pole

⁹³ See Rulings of March 4, April 1, and April 18, 2016 in I.15-11-007.

associations/committees in California.⁹⁴ Do such pole associations/committees primarily maintain work-tracking databases or data platforms, leaving broader asset management data sets to the individual utilities or communications providers? Please provide as complete a description as possible of how such data is found.

5. How is information regarding the physical conditions of (and attachments on and in) poles and conduits collected and stored now?
 - a. Is information collected regarding moisture, decay or fungus conditions in poles? Is there a program to inspect support structures for such conditions? What percentage of support structures is inspected for such conditions annually? To what extent are remote sensors or drones used to collect such information, as opposed to physical inspection by field personnel? Do you have plans to use remote sensors or drones, or other technological tools, to monitor and/or discern physical conditions of support structures?
 - b. Is information collected regarding moisture, root penetration, or other problematic conditions in conduit and other underground facilities? Can remote sensors or other technological tools used to facilitate the collection of this data?
 - c. Should new poles be required to be equipped with sensors that monitor and report unsafe or failing pole conditions?
6. If the Commission were to require pole owners and pole attachers to share a common database and software for competitive access and safety purposes, what essential data fields should the database contain (e.g., pole height, composition, depth buried, attachments and attachment weight, recent photographs of the pole)?
 - a. Are there data, not identified by the participants in panel four at the March 17, 2017 workshop, that the parties deem necessary to do route planning and expedite access to utility support structures, including work-tracking data?

⁹⁴ Staff requested similar information in the Data Requests attached as Appendix A. The Commission wishes to obtain a clearer description of such data than what was obtained in the earlier responses.

Is similar tracking data is necessary for maintenance and repair activities?

- b. Are there specific data pole owners and/or attachers claim is so confidential that it could not be shared between and among other pole owners and/or attachers? Which data? Why?
 - o Can all parties agree that the size, weight, and general functionality of attachments to poles in public rights of way need not (and should not) be confidential?
 - c. What amount of visibility do competitors have today into the size, weight, and general functionality of attachments on existing poles along potential routes? What visibility into location, load, and available capacity on existing poles? As used herein, “competitors” means both new attachers, and parties with existing attachments.
 - d. Are there ways of structuring access to provide appropriate (and possibly differing) levels of access and confidentiality to various identified stakeholders?
7. What is the most efficient and cost-effective way to collect, integrate, and use data from disparate sources? Is there existing software or application protocol interfaces (APIs) that could facilitate this integration? Could common APIs, data integration, and web-portals assist in achieving a shared data platform that would facilitate competition and promote safety?
8. What providers other than NOTIFY and NJUNS (e.g., Varasset) have software capable of performing the asset management, work tracking, and related functions for poles, conduits, and other utility equipment found in public rights of way? What are the relative strengths and weaknesses of these products? What experiences have responding parties had with existing software used for such tasks? Please discuss pros and cons.
9. What shared database and software solutions have been instituted elsewhere? Please provide best practices from other states and countries of which you think relevant here.

10. From what other parties should data be requested?
 - a. Municipalities?
 - b. Water Utilities?
 - c. Other Gas and Electric Facilities?
 - d. Other?
11. Should municipalities have access to any shared database or data platform containing information on poles, conduit and related facilities?
 - a. To what uses could municipalities put such data?⁹⁵
12. Parties are invited to comment on what strategies or models the Commission should pursue to achieve the most efficient, accurate, and comprehensive access to pole and conduit data possible, in a form which is most easily usable and transparent to Commission staff and – to the extent compatible with *bona fide* confidentiality interests – to existing stakeholders and potential new market entrants in the future?
 - a. If some form of shared database were mandated, how might the cost be distributed? What efficiencies and cost-savings might such a database engender?
 - b. Should pole owners, attachers, Commission staff, and other stakeholders work with the existing databases *in situ*, or should the Commission consider construction of a new database for the purposes set forth herein?
 - c. Given PG&E’s comments above, what rule changes are necessary to require pole owners and pole attachers to exchange material data?
 - d. Is information relating to municipally owned poles also found in public utility (IOU) databases?

⁹⁵ See LADWP 2016 Briefing Book, at 5 (308,000 poles) and 15 (“power distribution infrastructure, such as poles and underground cables, remains a major focus, since this equipment is aging rapidly and requires increased investments going forward”), available at www.ladwp.com, or https://www.ladwp.com/ladwp/faces/ladwp?_adf.ctrl-state=3xj0uq8y7_4&_afLoop=282644963705296 (search “2016 Briefing Book”). As used herein, “municipalities” includes all forms of local government, including cities, counties, and local service districts.

- e. Is information relating to IOU energy and communications infrastructure currently found in municipally-owned databases?
- 13. What suggestions do the parties have for maintaining and ensuring the accuracy of such a database or data platform going forward, or developing a solution that allows for data sharing and viewing across different industry segments and stakeholders?
- 14. A proposed schedule for this proceeding, including all major events contemplated by the party such as additional written comments, workshops, workshop reports, mediation, discovery cutoff, evidentiary hearings and/or briefs, requests for oral argument, etc.

8. **Rulemaking Related to Access to Poles, Conduit, and Rights-of-Way**

In D.16-12-025, the Commission stated that

Parties generally recognize that access to poles and conduits is essential for the provision of both wireline and wireless service to retail end-users. Conversely, lack of access to poles and conduit is a critical obstacle to making the telecommunications market fully competitive.⁹⁶

The Commission also recognized that the cost of such access is a key driver in the economic feasibility of competitive telecommunications deployment.⁹⁷ And the deployment of broadband infrastructure is a key driver in the development of new hybrid technologies, such as “Wi-Fi first” networks which combine elements of fixed and wireless service.⁹⁸ But problems loom as access to the “physical layer’s” support structures becomes more contested.⁹⁹ For that reason, Ordering Paragraph 5 of D.16-12-025 reflected the Commission’s intent to directly address this problem:

⁹⁶ D.16-12-025, Slip Op. at 109-110.

⁹⁷ *Id.* at 111-112 (“Poles and conduit are a major part of the expense of deploying telecommunications infrastructure”).

⁹⁸ *Id.* at 140-141.

⁹⁹ *Id.* at 141-143.

Within nine months of this order, the Commission shall institute a Rulemaking to examine telecommunications access to poles, conduit, and rights of way.

While this resolve remains fixed, the Commission must also consider the implications of easier access, questions of available capacity, and whether some form of capacity planning would be appropriate.¹⁰⁰

The original ROW Rules, set forth in D.98-10-058 Appendix A, gave both local exchange carriers (LECs or CLECs) and CATV corporations the right to attach wireline and fixed wireless facilities to utility poles. In D.16-01-046, the Commission provided CMRS carriers the same or similar access to utility poles.¹⁰¹

We institute this Rulemaking to address new services and new market entrants in light of the increasingly hybrid nature of the telecommunications network referenced above, recent developments at the federal level related to broadband providers, problems with pole management identified in D.16-12-025, and general concerns about the safety and reliability of the electric supply and communications infrastructure in this environment. We seek to harmonize our ROW Rules with these new concerns.

8.1 Competitive Telecommunications Carriers – the WIA Petition/Rulemaking

Both the Wireless Infrastructure Association (WIA) and the California Cable Television Association (CCTA) have filed Petitions, as described above, to place facilities on poles in support of CMRS wireless offerings. Both Petitions are referenced in D.16-12-025 as evidence that service providers are increasingly seeking access to

¹⁰⁰ Cf. Rule VIII Revised ROW Rules, which provide that the last attacher has to pay for “capacity expansions and other modifications ... only by all the parties ... which are specifically benefitting from the modification.”

¹⁰¹ CMRS includes cellular services, personal communication services, wide-area specialized mobile radio services, and two-way radiotelephone services. (D.98-09-024 at Footnote 1.) CMRS carriers are “telephone corporations” and therefore public utilities subject to the Commission’s jurisdiction under Pub. Util. Code §§ 216, 233, and 234. 47 U.S.C. § 332(c)(3)(A) limits State jurisdiction over CMRS carriers to “other terms and conditions” of CMRS service. These “other terms and conditions” include facility siting and public safety.

poles.¹⁰² Although both petitions suffer from some ambiguity, it appears that in both cases the petitioners envisioned primarily backhaul and antenna services in support of wireless carriers.¹⁰³ Both the cable providers and the CLECS (the latter the primary members of the WIA) proposed to install antennas on utility poles in order to offer wireless carriers what is essentially a turnkey service – the wireless carriers would only need to add spectrum licenses (if applicable)¹⁰⁴ and the radios necessary to effect the wireless communication.

The Commission denied the CCTA petition primarily because the Public Utilities Code defines a cable television corporation as an entity providing programming for a fee solely over wire, because of its ambiguity, and because of potential mootness. Most (if not all) CCTA members have a CLEC affiliate which would afford them pole access, at least for the backhaul portion of the service (and so puts them in the same category as the WIA Petitioners).¹⁰⁵

The WIA Petition was granted, as its carriers were already licensed to provide telecommunications services.¹⁰⁶ In granting the Petition and opening a Rulemaking, the CPUC addressed the ambiguities and unanswered questions presented by the Petition.

¹⁰² D.16-12-025, Slip Op. at 110 and fn. 294.

¹⁰³ Backhaul is used in different contexts in the telecommunications world, but for our purposes (and generally) it is understood to refer to the primarily wireline transmission of signals from a cellular antenna back into the network. Thus, if a small DAS antenna is placed on a utility pole, communicating wirelessly with mobile handsets in that area, the signals to and from those handsets are transmitted from the pole back into the network by such backhaul lines. *See In re Business Data Services*, Tariff Investigation Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 4723 (May 2016) (*BDS Order*) at ¶ 12 (“Mobile wireless providers purchase [business data services] to backhaul voice and data traffic from cell sites to their mobile telephone switching offices”).

¹⁰⁴ Wi-Fi, for instance, operates on unlicensed spectrum, as do some fixed wireless broadband services. *See, e.g., In re MC Dean, Inc.*, 30 FCC Rcd 13010, at fn. 2 and accompanying text (“[t]oday, most commonly used Wi-Fi equipment operates on unlicensed spectrum”).

¹⁰⁵ D.17-02-006, Slip Op. at 14-20.

¹⁰⁶ Indeed, R.17-03-009 notes the anomaly that some CLECs have already received authority to install “microcells and antennas in or on existing utility poles.” Slip Op. at 24, fn. 30, citing D.03-01-061.

Among other things, the Commission asked the carriers to identify the equipment they were intending to install on the poles, and the services they were intending to offer.¹⁰⁷

We will consolidate the WIA Petition/Rulemaking into this proceeding, as it is closely related to the issues herein. That portion of the Rulemaking, however, will proceed on its own schedule, and within the scope set out in R.17-03-009.

8.2 Facilities Devoted to Broadband Internet Access Services - - the BIAS Rulemaking, Preliminary Scope

In its *Open Internet Order*, the FCC defined BIAS as a “mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all Internet endpoints, including any capabilities that are incidental to and enable [such] service.”¹⁰⁸ Crucially, the FCC found BIAS to be common carrier telecommunications services – “transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.”¹⁰⁹

Given the FCC's finding that BIAS is a telecommunications service, BIAS providers are “telecommunications carriers” and, as such, have a right to attach to poles and utilize conduit under section 224 of the Act.¹¹⁰ While the FCC forbore from many of the common carrier provisions of Title II, it specifically did not forebear from the pole attachment provisions of section 224:

¹⁰⁷ *Id.* at 20-21, Comment questions 4 and 6. As noted by the ALJ in a June 12, 2017 pre-hearing conference, responding parties have been less than fully forthcoming in answering these questions.

¹⁰⁸ *Open Internet Order*, at ¶ 25. We note that BIAS may be both fixed or mobile.

¹⁰⁹ *Id.* at ¶ 331 (“we ... conclude that broadband Internet access service is a telecommunications service subject to our regulatory authority under Title II of the Communications Act regardless of the technological platform over which the service is offered”), and fn. 866, citing the definition of “telecommunications” in 47 U.S.C. § 153(50) quoted in the text above.

¹¹⁰ 47 U.S.C. § 224(f)(1) (a “utility shall provide a cable television system *or any telecommunications carrier* with nondiscriminatory access to any pole, duct, conduit, or right-of-way owned or controlled by it”) (emphasis added); *see also* . 47 U.S.C. § 153(51) (“[t]he term ‘telecommunications carrier’ means any provider of telecommunications services”).

Consistent with the recommendations of certain broadband provider commenters, ... we decline to forbear from applying section 224 and the Commission's associated rules with respect to broadband Internet access service. Section 224 of the Act governs the Commission's regulation of pole attachments. The Commission has recognized repeatedly the importance of pole attachments to the deployment of communications networks, and we thus conclude that applying these provisions will help ensure just and reasonable rates for broadband Internet access service by continuing pole access and thereby limiting the input costs that broadband providers otherwise would need to incur. Leveling the pole attachment playing field *for new entrants that offer solely broadband services* also removes barriers to deployment and fosters additional broadband competition. For similar reasons we find that applying these provisions will protect consumers and advance the public interest under sections 10(a)(2) and (a)(3).¹¹¹

From 2002 through 2015, providers of such BIAS or “solely broadband services” were considered to be “information services,”¹¹² and thus did not have the statutory *right* to nondiscriminatory, just and reasonable access to the poles and conduit that cable providers and telecommunications carriers enjoyed. In the *Open Internet Order*, the FCC tacitly recognized that cable television and telecommunications carriers already had access to poles under the plain language of 47 U.S.C. § 224, and thus addressed itself only to those “new entrants that offer solely broadband services,” whether they be fixed or mobile BIAS providers.

¹¹¹ *Open Internet Order*, at ¶ 478 (footnotes citations omitted) (emphasis added). The FCC explained that non-discriminatory, just and reasonable rates provide an “important investment benefit that will enable those deploying fiber-to-the-home or other competitive networks to deploy more expeditiously and efficiently,” and that “Title II also ‘offers other benefits at the state level, including access to public rights of way,’ which some broadband providers reportedly utilize to deploy networks.” *Id.* at ¶ 413. In addition, the FCC did not forbear from (at least portions of) 47 U.S.C. §§ 253 and 254. *Id.* at fns 1444 and 1449, and accompanying text, ¶ 486 *ff.*

¹¹² *See, e.g., U.S. Telecom Assn. v FCC*, 825 F.3d 674, 691-695 (D.C. Cir., 2016).

While some BIAS providers have apparently been able to negotiate private or commercial pole access agreements, it is unclear whether the terms of such agreements are fairly equivalent to those available to telecommunications carriers. It is our intent to craft a non-discriminatory regime that ensures that all telecommunications providers, including BIAS providers, have nondiscriminatory access to the poles, ducts, conduits, and rights-of-way owned or controlled by utilities under section 224. Furthermore, it is our intent to ensure that they are subject directly to our safety authority.

Two problems complicate our task. The first is that the FCC classified BIAS as a “jurisdictionally interstate” service, which means that states may not promulgate laws or regulations that conflict or are “inconsistent with” the “comprehensive regulatory framework” set out in the *Open Internet Order*.¹¹³ The FCC specifically barred states from imposing “certification requirements” that would restrict entry into the broadband market, suggesting that such requirements would constitute state regulation inconsistent with the federal framework.¹¹⁴ Our challenge, then, will be to ensure that the CPUC maintains safety jurisdiction over all pole attachers, including BIAS providers, without restricting their market entry.

The second problem is that, as this OII/OIR was in preparation, the FCC issued a notice of proposed rulemaking that would re-reclassify BIAS and broadband transport from their current status as telecommunication services back to information services.¹¹⁵ While the FCC’s notice poses the question how it should “take into account our proposed reclassification in our proposals with respect to pole attachments,” the FCC remains bound by the statutory language in section 224 that restricts pole attachments to cable providers and Title II “telecommunications carriers.” We will proceed under the current

¹¹³ *Open Internet Order*, *supra*, at ¶¶ 431-433.

¹¹⁴ *Id.* at ¶ 433.

¹¹⁵ The FCC’s NPRM, entitled *Restoring Internet Freedom*, was approved by a 2-1 vote on May 18, 2017. The approved draft is available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-344614A1.pdf.

legal status of BIAS and broadband providers as “telecommunications carriers,” although we acknowledge that the FCC’s notice injects uncertainty into our undertaking.

Thus, within the scope of this segment of the proceeding are the following issues:

1. How BIAS providers should be classified under state or other law for purposes of extending section 224 rights to them.
2. The identity of providers solely offering BIAS services in California, and which thus lack licensure either as a cable television corporation or a telephone corporation.
3. The types of equipment such BIAS providers are planning to deploy.
4. The types of service such BIAS providers are planning to offer.
5. Whether the CPUC should create a registration process for BIAS providers that desire access to poles and conduit under section 224 and the Commission’s Revised Right-of-Way rules.
 - a. To what extent is such a registration necessary to ensure that standalone BIAS providers received nondiscriminatory access to poles?
 - b. To what extent is such a registration necessary to ensure that the CPUC can enforce its Revised Right-of-Way Rules, its safety rules (GOs 95 and 128), and other rules related to safety and integrity of the network?
6. Whether BIAS infrastructure has some unique operational attributes which would require changes in the Revised Right-of-Way Rules or GOs 95 and 128.

8.3 Phase II or Later: Rules for Conduit Access, Data Sharing, Joint Pole Associations, and Other Adjustments to ROW Rules to Facilitate Competition

Related to the Investigation instituted in this Order, we will consider the question of pole and conduit management more generally, including (a) rules specifically related to conduit access; (b) procedures to facilitate data sharing; (c) the role played by the Southern California Joint Pole Committee (SCJPC) and the Northern California Joint Pole Association (NCJPA) in acting as a clearinghouse for pole location, ownership,

attachment, and access information; and (d) possible adjustments to timelines, responsibilities, and third-party contractor provisions of our ROW Rules.

Conduit Access

The 1998 ROW Rules by and large concatenated conduit with poles, and did not consider conduit as infrastructure with its own dynamics. While we anticipate that conduit will present many of the same capacity and access issues that poles do, we will devote a discrete section of this Rulemaking to it.

Shared Data Platform to Facilitate Information Exchange,

We hope to apply what we have learned about pole and conduit data and data platforms in the concomitant Investigation, and craft rules that enhance pole and conduit access and safety.

Joint Pole Associations

In D.98-10-058, we stated:

We believe that the relationships between joint pole association members and their access agreements for pole attachments warrant further scrutiny within the framework of our jurisdiction over the various members of such associations. We shall direct the ALJ to solicit further comments concerning the implications of joint pole association's attachment agreements as they relate to nondiscriminatory access.¹¹⁶

Nevertheless, D.98-10-058 later found:

Based on parties' comments, we find no need at this time to make any further modifications in the existing arrangements governing joint pole associations to protect third parties that do not belong to a joint pole association. Likewise, no party seeking access to a utility pole should be discriminated against merely because it is not a member of such an association. We may at a later time consider the needs for additional rules to protect against unfair discriminatory treatment for nonmembers of joint pole associations. As we

¹¹⁶ D.98-10-058, 1998 LEXIS 879 at *57.

have stated previously, the ALJ shall solicit further comments concerning the implications of joint pole associations as they relate to nondiscriminatory access.¹¹⁷

Despite the intent to explore these issues further, the Commission did not have the opportunity to meaningfully address the role of joint pole associations until D.16-12-025, in which we stated that we would, in a follow-on Rulemaking:

examine the conduct of pole owners and joint pole associations as one of the topics of the infrastructure access OIR which we will open following the closing of this proceeding. If a pole association had internal policies, membership rules, or other standards that effectively operated to exclude new members or make their pole access onerous, that would raise concerns about barriers to market entry.¹¹⁸

In particular, we noted Google’s inability to gain pole access alleged to have been caused by a misuse of the joint pole authority process.¹¹⁹ Thus, within the scope of this proceeding is the issue of whether California’s two largest pole associations have policies, membership rules, or other standards in effect that operate to exclude new members or make access to poles onerous or even impossible. Were we to make such a finding, we would need to determine what CPUC actions are possible and appropriate to eliminate such barriers to entry, consistent with ensuring the safety of utility poles.¹²⁰

Make-Ready Rules

Google Fiber filed comments on the Proposed Decision that led to D.16-12-025, asserting that “make-ready” processes are inefficient and raise costs and other barriers for potential broadband competitors.¹²¹ Google Fiber asserted that a “one-touch make-ready”

¹¹⁷ *Id.* at *168-169.

¹¹⁸ D.16-12-025, Slip Op. at 181 (section 10.9).

¹¹⁹ *Id.* at 180-81.

¹²⁰ *Cf* Oregon Administrative Rules relating to Pole and Conduit Attachments, *supra*, including rules related to the formation and function of joint pole associations.

¹²¹ *See* I.15-11-007, Comments of Google Fiber Inc. on Proposed Decision of ALJ Bemserderfer (filed November 15, 2016) at 8-9.

(OTMR) process can “improve public safety, expedite network deployment, and lower construction costs.”¹²² We have noted, however, litigation challenges to municipal ordinances allowing “one touch” access to poles in other jurisdictions.¹²³ In federal proceedings, the carriers have suggested an alternative, which they dub “right touch make ready (RTMR).”¹²⁴

Possible Other Amendments to ROW Rules to Promote Competition

We shall explore, in this proceeding, other matters related to the make-ready process, such as timelines for response and approval of attachment applications, the respective responsibilities of joint pole owners upon receipt of an attachment application, timely and efficient dispute resolution, and the reasonableness of make-ready rates.¹²⁵

8.4 Other Issues

Sections 8.1 through 8.3, above, include topics responsive to Ordering Paragraph 5 of D.16-12-025, which stated that the Commission would, “[w]ithin nine months of this order, ... institute a Rulemaking to examine telecommunications access to poles, conduit, and rights of way.” Yet we do not expect that the topics above are exhaustive. We will entertain other issues responsive to or suggested by D.16-12-025 in possible later phases of this proceeding. Such issues might include, but are not limited to: (i) whether there are other categories of telecommunications attachers besides LECs (both CLECs and ILECs), cable television corporations, CMRS and BIAS providers – interexchange carriers, perhaps – that will need access to poles in order to provide the next generation of

¹²² *Id.* at 9.

¹²³ D.16-12-025, at 142 and footnote 365, citing *BellSouth Telecommunications v. Louisville/Jefferson County Metro Govt.*, US Dist. Ct. for Western Dist. of Kentucky, Civil 3:16-cv-124 TBR (February, 2016); *BellSouth Telecommunications v. Nashville, Tenn.*, US Dist. Ct for the Middle Dist. Of Tennessee, Civil 3:16-cv-02509 (September, 2016). Both are Complaints for Declaratory and Injunctive Relief, and both seek to declare illegal and enjoin enforcement of a recently passed ordinances allowing expedited “one touch” access to poles.

¹²⁴ *Wireline Deployment NPRM*, *supra*, at ¶ 25.

¹²⁵ Compare *id.* at ¶¶ 7-20 (timelines), ¶ 27 (shared information), ¶¶ 32-46 (costs).

telecommunications services and what sort of licensure would be necessary for them; and (ii) how energy and water utilities use telecommunications for smart grid and other telemetry purposes, and whether this poses challenges for a unified pole attachment regime.

8.5 Instituting the Rulemaking

By this Order, the Commission institutes a Rulemaking pursuant to Pub. Util. Code § 1708.5 to address utility pole, conduit and rights-of-way access issues. This Order Instituting Rulemaking (OIR) contains a preliminary scoping memo as set forth above. Other matters, including those pursuant to Rule 7.1(d) of the Commission's Rules of Practice and Procedure, are set forth below -- schedule for the rulemaking portion of the proceeding, preliminary determination of the category of this proceeding and the need for hearings, and other matters that are necessary to scope this proceeding.

8.5.1. Access Rulemaking - Schedule

The preliminary schedule for this rulemaking proceeding is set forth below. We anticipate a phased proceeding, with the BIAS and WIA issues addressed in a Phase I, JPA and "one-touch make-ready" issues in a Phase II, and other pole and conduit issues suggested by D.16-12-025 in a Phase III. We intend to address the BIAS issues in as expedited a manner as possible. The WIA Rulemaking is already underway as a separate proceeding, and it is also not our intention to slow that proceeding down in any way.

The Phase II issues, including the joint pole association issues, will be more comprehensively scoped at a later date.

The schedule and procedures for this proceeding may be revised by the Assigned Commissioner and/or the assigned Administrative Law Judge (ALJ) to develop an adequate record, afford due process, conduct this proceeding in an orderly and efficient manner, and achieve a fair resolution of this proceeding

Preliminary Schedule for the Rulemaking Proceeding¹²⁶	
Event	Date (Measured from the Issuance Date of this OIR)¹
Combined Opening Comments and Prehearing Conference Statements Filed and Served in Phase I	60 Days ³
Reply Comments Filed and Served in Phase I	75 Days ⁴
Prehearing Conference (PHC) in Phase I	To Be Determined
Workshops, Additional Written Comments, Briefs, Etc.	To Be Determined
Hearings, If Warranted	To Be Determined
Phase I Projected Submission Date (if applicable)	To Be Determined
Phase II Preliminary Scoping Memo, and Related Proceedings	To Be Determined
^{3.} The issuance date is on the first page of this OIR, at the upper right corner. ^{4.} Day 45 and Day 60 are measured from the issuance date of this OIR. The issuance date is on the first page of this OIR, at the upper right corner.	

Consistent with Pub. Util. Code § 1701.5(a), we intend to complete this proceeding within 18 months from the date this proceeding was initiated. The final schedule for this proceeding will be established by the Assigned Commissioner in a scoping memo issued pursuant to Rule 7.3(a). Pursuant to § 1701.5(b), the scoping memo may establish a completion date for this proceeding that is later than 18 months from the date this proceeding was initiated if the scoping memo includes specific reasons for the necessity of a later date and the Assigned Commissioner approves the later date.

¹²⁶ See Appendix E, Combined Schedule for OII/OIR.

8.5.2 Access Rulemaking – PHC and Comments

The Assigned Commissioner and/or the assigned ALJ will schedule a PHC as soon as practicable. The descriptions in sections 8.2 through 8.4 above shall be considered the Preliminary Scoping Memo for this proceeding. The combined opening comments and PHC statements, due as set forth above, should address the following matters, primarily (but not exclusively) related to Phase I of this Rulemaking:

Procedural

1. The matters set forth in Rule 6.2, including any objections to or comment on the preliminary scoping memo issues above, the category of this proceeding, the need for hearings, additional issues that should be considered, and/or the schedule. Comments that include factual assertions must be verified in accordance with Rule 1.11.

WIA Petition/Rulemaking Issues

2. Any comment on the matters set forth in R.17-03-009, issued in response to the WIA Petition, in light of the concerns expressed herein.

BIAS Rulemaking Issues

3. Whether it is in the public interest to apply the Revised ROW Rules adopted by D.16-01-046 for CMRS carriers' pole attachments to BIAS providers' wireless pole attachments.
4. The specific amendments to the Revised ROW Rules that are necessary to provide BIAS providers (as defined above) with nondiscriminatory access to utility ROW for pole and/or conduit attachments.
5. Which BIAS providers are currently attaching to utility poles in California pursuant to private contractual agreements?¹²⁷
 - a. Pole owners and attachers: please provide all commercial agreements *in operation and effect* at any time during the last two (2) years. (If you claim these documents are

¹²⁷ As used herein, commercial pole attachment agreements means agreements not entered into pursuant to 47 U.S. C. § 224.

confidential, you may submit to staff with the required declaration.)

- b. Conduit owners: please provide copies of all commercial agreements in operation and effect at any time during the last two (2) years. (If you claim these documents are confidential, you may submit to staff with the required declaration.).
6. Please provide a list and description of the types of equipment BIAS providers are attaching, or may wish to attach, to utility poles (and conduit).
 - a. For each such equipment type, please provide:
 - i. the amount of pole space needed for such attachments;
 - ii. the weight of such attachments;
 - iii. the wind load of such attachments; and
 - iv. the amount of pole space and pole load bearing capacity (weight and wind load) that will be needed for all elements of various BIAS pole attachments and/or installations.
 - b. Specifically as to Wireless Internet Service Providers (WISPs) in California which are providing fixed wireless BIAS using licensed and/or unlicensed spectrum (the latter referred to as WiFi). We request that WISPs provide a detailed description of the WiFi equipment they intend to install on poles and provide diagrams or pictures of any existing WiFi pole installations.¹²⁸ In addition, WISPs should provide the dimensions of the equipment they plan to place on the poles, as well as the weight, windload, and amount of pole space required for such equipment.
 - c. Have WISPs requested and been denied pole attachment authority? If so, please describe in detail.
7. What services are BIAS providers offering today, and what services might they offer in the future? Please provide a list and description of the services that BIAS providers may offer to the public or other communications carriers using pole and/or conduit attachments that

¹²⁸ GO 95 and other CPUC General Orders can be found at <http://www.cpuc.ca.gov/generalorders/>.

are installed pursuant to amended Revised ROW Rules that may be adopted in this proceeding. Such services might include, but are not limited to, the following:

- a. Fixed Wireless BIAS;
 - b. Fixed Wireline BIAS;
 - c. Wireless or Mobile BIAS;
 - d. Wi-Fi service;
 - e. Providing wholesale services to other carriers; or
 - f. Other wireless and wireline services (list and describe).
8. BIAS providers – please provide the estimated number of existing utility poles to which you have attached facilities pursuant to commercial agreements or otherwise.
9. Do existing or anticipated BIAS equipment and services have unique operational attributes which would require further changes in the Revised Right-of-Way Rules or GOs 95 and 128?¹²⁹
- a. Are there additional rules would facilitate BIAS access and GO 95 enforcement related to BIAS attachments? Will existing Commission regulations for the design, construction, operation, inspection, and maintenance of pole attachments, such as GO 95, adequately protect public safety, worker safety, and the reliability of co-located utility pole attachments (e.g., power lines and telephone lines)? If not, the party's comments shall provide the following information:
 - i. A detailed explanation regarding why existing regulations do not adequately protect safety and/or reliability.
 - ii. Detailed proposal(s) to mitigate the threat(s), such as the text for new or amended GO 95 or GO 128 rules that could be necessary to accommodate BIAS providers.
10. Is some form of registration for BIAS carriers necessary?

¹²⁹ In particular, do such BIAS providers have a different operational profile than the WIA CLECs before the Commission in R.17-03-009?

- a. To what extent is some form of registration necessary to ensure that standalone BIAS providers receive nondiscriminatory access to poles?
 - b. To what extent is a registration necessary to ensure that the Commission can enforce its Revised Right-of-Way Rules, its GOs 95 and 128, and other rules related to safety and integrity of the network?
11. If some form of registration is necessary, of what should it consist so as not to inhibit market entry or otherwise be inconsistent with the FCC's classification of BIAS as a "jurisdictionally interstate" telecommunications service, as set forth in the *Open Internet Order*? What form of registration for BIAS carriers would be most appropriate and workable?
12. If the FCC re-reclassifies BIAS service as a Title I information service, may the CPUC proceed to craft rules that would allow BIAS providers on poles?
- a. Is there a rationale under state or other law or our reverse-preemption authority that would allow this?
 - b. Do BIAS providers meet the definition of a telephone corporations under Public Utilities Code §§ 216, 233-234? Are there legal impediments to classifying them as such?
13. Whether the "per-foot" fee adopted in D.16-01-046 for CMRS pole attachments and installations should apply identically to BIAS providers' pole attachments and installations. If so, why? Any party that contends a different rate should apply, should address the following matters:
- a. What a reasonable rate would be for various BIAS provider attachments, and why; and
 - b. The rationale for a different rate or rates.
 - c. How to distinguish the elements of a BIAS pole installation that are subject to the "per-pole" fee adopted by D.98-10 056 from the elements that are subject to the "per-foot" fee adopted by D.16-01-046.
14. Are there any CEQA ramifications of BIAS providers attaching to poles? Would a Commission decision to amend the Revised ROW Rules to apply to BIAS providers be exempt from the CEQA and, if so, why. Any party asserting

that CEQA does or does not apply must cite relevant law and/or regulations in support of that position.

15. Whether a hearing is needed for Phase I of this Rulemaking, regarding BIAS providers. Any party that requests a hearing must (A) identify the disputed material facts, (B) summarize the evidence that the party intends to offer at a hearing, and (C) provide a schedule for all hearing-related events.
16. A proposed schedule for Phase I this proceeding, including all major events contemplated by the party such as additional written comments, workshops, workshop reports, mediation, discovery cutoff, evidentiary hearings and/or briefs, requests for oral argument, etc.

Possible ROW Rule Amendments to Facilitate Competition

17. Should the CPUC revisit the timelines it set out in D.98-10-058? The 1998 ROW Rules established a two-step process for requesting attachment space on utility poles. The first process is an initial inquiry where parties ask whether space is available on particular poles while the second step, which is contingent on the results of the first step, results in the submission of any actual request for space on particular poles. The pole owner must respond to the initial inquiry within 10 unless the inquiry requires a field survey or is for more than 500 poles. Pole owners must respond within 45 days to actual requests for space subject to specified mitigating circumstances.¹³⁰ Is this process working in its current form and if not please explain why and provide specific examples. Please describe specific disputes of which you are aware, and how they were resolved. Please provide any proposals you may have to improve the referenced Rules. Should all pole owners be held to same response times as the ILECs?
18. Should the CPUC revisit the requirement in ROW Rule III.B that the pole-owning utility “provide access to maps, and currently available records such as drawings, plans and any other information,” in light of the current state digital

¹³⁰ See ROW Rules, Appendix A to D.98-10-058, at sections III.A and IV.B.1.

technology and the possibility of shared digital data?¹³¹

Please list any additional data which should be provided whether it is included in digital records or not and explain why the data is necessary.

19. Should the CPUC revisit and amend the Third Party Contractor Rules in ROW Rule IV.C, to allow for one-touch make-ready (OTMR) and/or right-touch make ready (RTMR), as discussed above and in the CPUC's competition decision, and in the FCC's recent *Wireline Deployment NPRM*?
20. The 1998 ROW rules require that the incumbent telecommunications and energy providers (AT&T, GTEC - now Frontier, PG&E, Edison and SDG&E) process applications by third party communications companies for access to poles and conduit. The decision fails to designate which utility is responsible, however, for processing attachment requests in joint ownership situations.¹³² Should the Commission clarify the respective responsibilities of joint pole owners?

¹³¹ Compare FCC *Wireline Deployment NPRM*, at ¶ 27:

Making more information publicly available regarding the rates, location, and availability of poles also could lead to faster pole attachment timelines. We seek comment on the types of pole attachment data resources currently available. Are there ways the Commission could incentivize utilities to establish online databases, maps, or other public information sources regarding pole rates, locations, and availability? To what extent are utilities or other entities already aggregating pole information online, either for internal tracking purposes or externally for potential or existing attachers? What pole-related information other than rates, location, and availability could utilities make publicly available (e.g., number of existing attachers, physical condition, available communications space, the status of make-ready work, status of pole engineering surveys)? Should similar information also be made publicly available for ducts, conduits, and rights-of-way? We recognize that increasing transparency of cost information could lead to more efficient pole attachment negotiations. What steps should the Commission take to facilitate access to information regarding pole attachment rates and costs from pole owners subject to Section 224?

¹³² In 2015, a dispute arose between AT&T and PG&E regarding responsibility for processing certain third party requests for attachment space on joint poles. See discussion of AT&T's practice of purchasing into the common or electric space for the benefit of other communications providers, *supra*. AT&T announced at that time that it would discontinue this practice (a policy it has since rescinded), and directed other communications providers to contact PG&E regarding pole access. We are informed that PG&E, in turn, maintained that under JPA rules, AT&T was responsible for processing all third party communications company attachment requests on jointly owned poles.

21. Are there other specific changes to the ROW Rules or GO 95 that would increase safe and non-discriminatory access to poles, conduit, or rights of way, including with regard to jointly owned poles?
- a. ROW Rule 7 concerns reservation of capacity by existing utilities. Rule 7.A prohibits ILECs and electric utilities from adopting policies that result in holding back useable space on or in utility support structures except as set forth in Rule 7.C. Have would-be attachers had difficulty resulting from pole and/or conduit owners' reservation of space? If so please provide concrete examples of such difficulty or dispute, even if the difficulty or dispute were eventually resolved. Are there changes to this rule that would make it more effective? To what extent are different rules for different types of support structures necessary??
 - b. Should the CPUC revisit the dispute resolution procedures set out in D.98-10-058? ROW Rule IX sets forth an expedited dispute resolution process for disputes concerning access to utility support structures. Have this Rule and the related CPUC processes been adequate to facilitate dispute resolution? If not, please propose modifications to the Rule or our process.
 - c. Are there other rule changes that would increase safe and non-discriminatory access to poles, conduit, or rights of way?
22. Should the CPUC work with local governments and with the FCC's Broadband Deployment AC to develop model codes that remove unnecessary regulatory barriers to competition, while ensuring the safety of consumers, workers, and the infrastructure grid in general?¹³³

Cumulative Safety Impacts

23. In January 2016, the Commission promulgated pole access and right of way rules for CMRS providers. Currently under consideration in R.17-03-009 is the application of competitive local exchange carriers (CLECs) for similar access to attach antennas and related equipment on the poles (apparently in

¹³³ Compare *Wireline Deployment NPRM*, *supra*, at ¶¶ 111-112.

service of CMRS carriers). Giving BIAS providers pole access would create a third category of competitive provider/equipment allowed on the poles. Please discuss the cumulative safety impact of the placement of CMRS, CLEC and BIAS fiber, antennas, and/or supporting equipment on utility poles. How do “smart grid” facilities affect this?

24. Do the increasing demand for pole and conduit access, the aging of many such support facilities, repeated and documented safety violations, and the death and property damage that can happen (and has happened) as a result of pole and pole attachment failure, suggest that it is time for the CPUC to take a more active role regarding safety oversight, including the developing a consistent statewide framework for the review of small cell applications?
25. CCTA has stated that “pole owners can enforce the substantial penalties imposed by pole attachment agreements for attaching without authorization.” Please list every such penalty above \$10,000 known by the responding party to have been imposed and collected, identifying which pole owner imposed, which attacher paid, and of what the unauthorized attachment consisted.
26. Do any local or municipal governments currently undertake any *ex ante* safety review of the fiber, antenna, and related equipment installations proposed by cable providers, CMRS providers, and/or competitive carriers? Do local ordinances or rules require such review? Do Public Utilities Code §§ 2902 or 7901.1, or the California Constitution, provide adequate legal authority for such local oversight? Does such authority exist? Is such review necessary?
27. Do local/municipal governments regularly, occasionally, or randomly inspect and/or audit poles and pole attachments after installation for compliance with CPUC GO 95 or other safety requirements? Do local ordinances or rules require such inspection and/or audit? What would be the legal basis for such review and/or audit? Do Public Utilities Code §§ 2902 or 7901.1, or the California Constitution, provide adequate legal authority for local oversight? Does such authority exist? Is such review and/or audit necessary?
28. If the local/municipal governments lack resources, jurisdiction or discretion to review planned pole attachment facilities, or inspect existing facilities, are there cost-effective

ways to achieve oversight to the extent it is necessary for public safety?

29. Would a shared database or data platform facilitate both *ex ante* review and post-installation safety enforcement?
30. Should ROW Rule XI.B, regarding safety, be amended to reapportion responsibility, among incumbent pole owners and pole attachers, for non-compliant or unsafe pole conditions?

Cumulative Competitive Impacts

31. Please discuss the cumulative competitive impact of the placement of CMRS, CLEC and BIAS fiber, antennas, and/or additional supporting equipment on utility poles.
32. In the long term, does the existing stock of utility poles have sufficient space and load-bearing capacity to accommodate all carriers seeking access, and to support safe, ubiquitous, competitive, and affordable telecommunications services, including wireline and wireless services? If not, when and where will the lack of capacity first make itself felt?
 - a. What is the estimated cumulative number of utility poles that must be replaced and additional utility poles that will have to be added to support new CMRS, CLEC, and/or BIAS attachments over the next ten years (through 2027) if the rules are changed to allow CLEC antennas and BIAS attachments? What will the consequences be?
 - b. Please describe how you see the pole and conduit infrastructure, and the services they support, evolving over the next ten years? Is the “smart grid” implicated?
 - c. Are other vertical structures (e.g., streetlights) available to support the deployment of these services so as to ameliorate concern about capacity? Will they be used? What factors will determine what the ecology of poles, conduit, and other communications support structures looks like in ten years?
33. If one wireless carrier, CLEC, or BIAS provider attaches equipment like that pictured in Appendix D, or as described in the Comments and schematic drawings submitted in R.17-03-009, does that effectively preclude a second wireless carrier, CLEC, or BIAS provider from installing similar equipment? Can this be remedied? Are shared facilities or multi-carrier antenna a possible solution?

34. What level of “densification” will 5G require? Can we estimate the number of additional small cells that will be required? Will that densification occur largely in urban centers, or will 5G be deployed in equal measure in rural areas? What is the most likely timeline for the full deployment of this technology? Will 5G attachments primarily rely on utility support structures, light poles, or other structures? Please describe what you believe to be the most likely development of this “ecosystem.”
35. How have other states and countries handled a shortage of pole or conduit capacity? Best practices? How do the legal and regulatory systems for pole attachments differ in such other states and countries, i.e., what practices elsewhere are relevant to pole attachments in this country?
36. What is the impact of current undergrounding programs on the availability of above ground vertical structures on which to site small cell antennas?
37. What is the impact of a first-come, first-serve system, where the last attacher to an overloaded pole is required to erect a new pole? Does the last attacher’s duty to replace existing poles with stronger and/or larger poles to support additional telecommunications attachments pose a barrier to entry? Are there ways to more equitably apportion those costs?
38. Whether existing urban streetscapes can accommodate more pole attachments, the replacement of existing poles with larger poles, and possibly more poles.

Conduit

39. What conduit issues should the Commission consider in Phase II of this proceeding? In responding to this inquiry, parties are invited to address all of the pole concerns described herein that find an analogy in underground duct and conduit, as well as issues that are uniquely germane to conduit.

Municipal and Smart Grid Issues

40. Whether and to what extent should the poles and pole attachments of municipal entities and publicly owned utilities should be included in this proceeding under the rubric of safety, or for any other reason.

41. Whether the use of the network to support the smart-grid, or other telemetry needs of the energy IOUs or water companies, require consideration in the Revised ROW Rules, GO 95, or elsewhere.

Joint Pole Associations or Committees

42. Do joint pole associations need to update their rules or procedures to accommodate the WIA, CLECs and/or BIAS providers that may obtain pole attachment rights in this proceeding, and/or CMRS providers that obtained access to poles in D.16-01-046?
43. What reforms of joint pole association or committee procedures would help promote competitive access to on in the telecommunications marketplace?
44. Joint pole associations or committees active in California are directed to respond to the questions in Appendix C, and their utility members are directed to request that they do so and provide any necessary information.

General Question

45. Any other matters relevant to the scope, schedule, and/or conduct of this rulemaking proceeding.

To receive service of comments and reply comments, persons should request to be added to the Official Service List for this proceeding as described in Section 5.1.7 of today's Order.

Pursuant to Pub. Util. Code § 1708.5(f), the Commission may conduct this proceeding using notice and comment rulemaking procedures. Therefore, the Rulemaking Phase I comments and reply comments due on Day 40 and Day 55, respectively, may constitute the record used by the Commission to decide matters within the scope of this proceeding. Parties should include in their comments and reply comments all legislative facts and other information they want the Commission to consider in this proceeding, as there may not be another opportunity for parties to present such information to the Commission.

9. Combined Proceeding – Further Considerations Applicable to Both the Investigation & the Rulemaking

9.1 Category and Need for Hearings

Pursuant to Rule 7.1(e), the Commission will exercise its discretion in light of the hybrid nature of this proceeding, and preliminarily categorize it as primarily a quasi-legislative rulemaking proceeding.

As permitted by Rule 6.2, parties may address these preliminary determinations in their written comments that are filed and served in accordance with the schedule set forth below. The Assigned Commissioner will make a final determination regarding the category of this proceeding and the need for hearings in a scoping memo issued pursuant to Rules 7.1(d) and 7.3(a).

9.2 Public Notice of Workshops

Any workshops in this proceeding shall be open to the public and noticed in the Commission's Daily Calendar. The notice in the Daily Calendar shall inform the public that a decisionmaker or an advisor may be present at the workshop. Parties shall check the Daily Calendar regularly for such notices.

9.3 Ex Parte Communications

This combined OII/OIR is preliminarily categorized as quasi legislative. *Ex parte* communications are permitted.

Pursuant to Rule 8.5(b), the applicable rules for *ex parte* communications apply until the date of the Assigned Commissioner's scoping memo that finalizes the proceeding's category pursuant to Rule 7.3(a). The Assigned Commissioner's scoping memo establishes the applicable rules for *ex parte* communications beginning on the date the scoping memo is issued.

9.4. Coordination with Related Proceedings

The following proceedings, *inter-alia*, have overlapping subject matter with this Investigation and Rulemaking, and we will seek to coordinate this OII/OIR with those proceedings, even when they are not formally consolidated in this proceeding.

- R.06-10-056 (CEQA)¹³⁴
- R.15-05-016 (fire map proceeding)
- A.15-09-001 (PG&E GRC)
- A.15-09-010 (Wildfire Expense Memorandum Account proceeding, or WEMA)
- R.15-06-009 (Physical Security for Electric Supply Facilities)
- A.16-09-001 (SCE TY 2018 GRC)
- R.16-12-001 (GO 95 issues)
- P.17-03-004 (GO 95 issues)
- A.17-04-010 (PG&E Application for CPCN as telephone corp.)
- A.17-05-004 (Bear Valley TY 2018 GRC)
- R.17-05-010 (Rule 20 undergrounding)

SDG&E and SoCalGas GRC Applications, expected in September 2017.

9.5 Intervenor Compensation

Pursuant to Pub. Util. Code § 1804(a)(1) and Rule 17.1, a customer who intends to seek an award of compensation must file and serve a notice of intent to claim compensation no later than 30 days after the date of the PHC.

¹³⁴ CEQA is primarily directed to environmental factors, but the Commission's attempts to craft a systemic approach to telecommunications siting have been addressed in part in the CEQA context, and have implicated the relationship between CPUC and the cities. See CEQA Statute and related regulations, at http://resources.ca.gov/ceqa/docs/2014_CEQA_Statutes_and_Guidelines.pdf

9.6 Official Service List

The Official Service List for this OII/OIR shall consist of the Respondents identified below, the attendees of the March 17, 2017 workshop, and the parties listed on the Official Service List of incorporated Rulemaking 17-03-007. Thus, any person or entity that is listed in the Party category, State Service category, or Information Only category on the Official Service List for R.17-03-007 will transfer to the same category on the Official Service List for this OII/OIR proceeding. Except for the Respondents identified below, any party on the Official Service List (including those in the state service and information only categories) may request deletion or change of category by contacting the Commission's Process Office at process_office@cpuc.ca.gov. Henceforth, additions to the Party category on the Official Service List for this rulemaking proceeding shall be governed by Rule 1.4.

Persons who are not parties but wish to receive electronic service of documents filed in this proceeding may contact the Process Office for placement on the Official Service List pursuant to Rule 1.9(f) in the "Information Only" category or "State Service" category, as appropriate.

The Official Service List for this rulemaking proceeding is available on the Commission's web site. Each person and entity on the Official Service List is responsible for ensuring that their information on the Official Service List is correct and up-to-date. This information can be corrected and updated by sending an e-mail to the Process Office and everyone on the Official Service List.

9.7 Service of OII/OIR, and Compliance with Section 1711(a)

In addition to those on the initial Official Service List above, and in order to notify those who might be affected by, or subject to, the rules, procedures, and/or policies that may be adopted in this OII/OIR, we direct the Commission's Executive Director to serve a notice of availability of this OIR on the following:

- The service lists for R.14-05-001 (CMRS attachments), R.15-11-007 (telecom competition), and R.16-12-001 (Rule 28/GO 95).

- All CLECs that have a CPCN issued by the Commission to provide full facilities-based or limited facilities-based local exchange service.
- All CMRS carriers that have a CPCN or WIR to provide facilities-based CMRS.
- All California counties, incorporated cities, and incorporated towns, to the extent practical.
- To the extent possible, and not included above, cable television corporations and Video Service Providers, WISPs, entities operating in California that submit Form 477 data to the FCC and/or broadband availability data to the CPUC.

In order to effect service on counties, cities, and incorporated towns, we also direct the Commission's Outreach Office to reach out to associations of local governments to inform these associations about the rulemaking proceeding instituted by today's Order and how to participate in this rulemaking proceeding. The Outreach Office may determine (1) the specific associations of local governments that are selected for outreach,¹³⁵ and (2) the form and content of the outreach.

Cal. Pub. Util. Code § 1711(a) states:

Where feasible and appropriate, except for adjudication cases, before determining the scope of the proceeding, the commission shall seek the participation of those who are likely to be affected, including those who are likely to benefit from, and those who are potentially subject to, a decision in that proceeding. The commission shall demonstrate its efforts to comply with this section in the text of the initial scoping memo of the proceeding.

We find that the requirements of Cal. Pub. Util. Code § 1711(a) are satisfied by the aforementioned service and notice of today's OII/OIR, and the outreach that the Outreach Office will conduct.

¹³⁵ The associations of local governments selected for outreach by the Outreach Office may include, but are not limited to, the following: The California State Association of Counties, the California League of Cities, and individual county associations/councils of governments.

9.8 Filing and Serving Documents

Information about procedures for electronic filing of documents at the Commission is available at www.cpuc.ca.gov/PUC/efiling. All documents formally filed with the Commission's Docket Office must include the Docket Office's approved caption for this rulemaking proceeding.

This proceeding will follow the electronic service protocols in Rule 1.10. All parties in this proceeding shall serve documents and pleadings using electronic mail, whenever possible, transmitted no later than 5:00 p.m. on the date scheduled for service.¹³⁶ Additionally, Rule 1.10 requires service on the assigned ALJ of both an electronic copy and a paper copy of documents that are filed and/or served.

When serving a document, each party must use the current Official Service List on the Commission's website. The format of served documents must comply with the requirements in Rules 1.5 and 1.6.

The Assigned Commissioner and/or the assigned ALJ may establish additional requirements for filing and/or serving documents in this proceeding.

9.9 Discovery

Parties may conduct discovery consistent with Article 10 of the Commission's Rules. Any party issuing or responding to a discovery request shall serve a copy of the request or response simultaneously on all parties (except for specific data claimed to be confidential under D.16-08-024), and on the Communications Division Director, Assistant General Counsel for Telecommunications, and any other staff member that requests it. Discovery requests and responses shall not be served on the assigned ALJ.

Electronic service under Rule 1.10 is sufficient, except Rule 1.10(e) does not apply to the service of discovery requests and responses. Deadlines for responses may be

¹³⁶ If no e-mail address is provided, service should be made by first class mail. Parties are expected to provide paper copies of served documents upon request.

determined by the parties. Motions to compel or limit discovery shall comply with Rule 11.3.

9.10 Public Advisor

Any person interested in participating in this proceeding who is unfamiliar with the Commission's procedures may obtain more information by visiting the Commission's website at <http://consumers.cpuc.ca.gov/pao>, by e-mailing the Commission's Public Advisor at public.advisor@cpuc.ca.gov, or by calling the Public Advisor at 866-849-8390, 415-703-2074, or 866-836-7825 (TTY).

10. Respondents

Named as Respondents in this proceeding are the pole owners and pole attachers on which the Appendix A data requests were served. And, as we have concluded that joint pole/use associations are agents of utilities under our jurisdiction, and essential to understanding the utility pole and conduit ecology, we include such associations as Respondents herein, but only for the purpose of responding directly to Commission data requests. Additionally, we invite the participation of all municipalities, municipal utilities, municipal planning and permitting agencies, and their county counterparts. We encourage them, community organizations, and other stakeholders to become parties to this proceeding by following Rule 1.4 of our Rules of Practice and Procedure.

11. Treatment of Potentially Confidential Information and Documents

We start with the presumption that most of the materials related to the matters at issue here are not confidential, as they pertain to utility poles and conduits that exist on, over, and/or under public streets, rights of way, and easements dedicated to public utility use, and relate to the deployment and interconnection of telecommunications services, *inter alia*.¹³⁷ We understand that exceptions may obtain for detailed specifications of proprietary utility databases and software, security-sensitive facilities, and possibly other facilities or aggregations of data. Even in such cases, however, we urge the parties to

¹³⁷ See, e.g., 47 U.S.C. § 252(h) (publication of interconnection agreements).

redact only the allegedly confidential material and distribute copies of the documents in that form. Unredacted versions of these documents should be submitted to the Commission staff pursuant to Pub. Util. Code § 583, and distributed to parties as appropriate pursuant to non-disclosure agreements between the parties, or – failing that – pursuant to a protective order herein. We will take comment on the precise extent of confidentiality appropriate to this proceeding, and consider whether we should enter a protective order here as we did in I.15-11-007.

Consistent with D.16-08-024, and our practice in I.15-11-007, we find the following categories of information are presumptively not confidential: statewide total poles owned; statewide total poles jointly owned; statewide total poles to which responding party attaches; statewide total poles accounted for in databases or accessible by utility software; and the name, general description, and software used to access such data.

Any party seeking confidential treatment of a document should mark the document accordingly and submit an accompanying declaration consistent with Decision 16-08-024. Pleadings containing confidential material may be filed under seal with an accompanying motion, with service on the assigned Commissioner, assigned ALJ, Commission staff who are on the service list, and persons who have met the conditions for access to such documents. A party filing information or documents under seal should file at the same time a public version of such documents, appropriately labeled; public versions should be served on all parties. Discovery responses containing allegedly confidential information shall be served under seal to the Commission staff identified above; public versions should be served on all parties. Information and documents filed or submitted under seal will be afforded the protections provided by GO 66 and Public Utilities Code section 583, absent a ruling otherwise by the assigned Commissioner or the Commission.

We expect the parties to cooperate in the facilitation of this Investigation and Rulemaking, and to that end cooperate in good faith in the discovery and dissemination of relevant information, and with regard to confidentiality issues.

The Assigned Administrative Law Judge and/or Assigned Commissioner may make further rulings regarding confidentiality matters, the schedules set forth herein, and other procedural matters consistent with the intent and spirit of this Order.

O R D E R

IT IS ORDERED that:

1. The Commission institutes an Investigation into the possible creation of a database of information relating to utility poles and underground conduit in California, as set forth more fully above. The Investigation will first identify what data is relevant to stakeholders and safety oversight, and then explore strategies for making such data available to stakeholders, including the Commission.
2. The Commission institutes a Rulemaking relating to pole and conduit access and management, pursuant *inter alia* to Ordering Paragraph 5 of Decision 16-12-025, as set forth more fully above. The initial phase of the Rulemaking will address the rights of competitive local exchange carriers (in R.17-03-009) and BIAS providers to attach equipment to existing utility poles, as set out more fully above.
3. A second phase of the Rulemaking, and further phases if necessary, will address conduit access, pole and conduit management more generally, and any other remaining issues from Decision 16-12-025.
4. We consolidate Rulemaking 17-03-009 with this proceeding.
5. Both the Investigation and the Rulemaking shall proceed according to the schedule(s) set forth above.
6. The Assigned Administrative Law Judge(s) and/or Assigned Commissioner may adjust such schedule(s), and make rulings on confidentiality and other procedural issues, so as to accomplish the goals of this proceeding.
7. In all phases of this proceeding, the Commission's safety mandate shall provide a framework for analysis and decisionmaking.

8. Named as Respondents in this proceeding are the pole owners and pole attachers on which the Appendix A data requests were served. And, as we have concluded that joint pole/use associations are agents of utilities under our jurisdiction, and essential to understanding the utility pole and conduit issues, we include such associations as Respondents herein, but only for the purpose of responding directly to Commission data requests.

9. Respondents shall answer the Data Requests in Appendix B within 40 (forty) days of the publication of this OII/OIR.

10. Respondent joint pole associations shall answer the Data Requests in Appendix C within 40 (forty) days of the publication of this OII/OIR.

11. No information contained in this Order is found to be confidential. The following further categories of information are presumptively not confidential: statewide total poles owned; statewide total poles jointly owned; statewide total poles to which responding party attaches; and the name, description, and software used in existing utility pole databases. This list may be expanded or modified by the Assigned Administrative Law Judge(s) or Assigned Commissioner, as appropriate.

12. The Executive Director will cause this Order to be served on the service lists for the following additional Commission proceedings: Rulemaking (R.) 14-05-001, R.15-11-007, and R.16-12-001, on all major California cities, counties, towns, and other municipal agencies to the extent possible, and on all Form 477 filers offering service in California to the extent possible.

13. Interested persons must follow the directions in Rule 1.4 to become a party, and in Section 9.6 (above) of this Order to be placed on the official service list as a non-party.

14. The Commission's Process Office will publish the official service list on the Commission's website (www.cpuc.ca.gov) as soon as practicable.

This order is effective today.

Dated _____, 2017, at San Francisco, California.

APPENDIX A

Staff Data Requests Regarding Utility Pole-Related Databases (Served January)

STATE OF CALIFORNIA

EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



DATA REQUEST

Date: January 27, 2017

To: Southern California Edison (U# 338)
Pacific Gas & Electric Co. (U#39)
San Diego Gas & Electric Co. (U#902)
Bear Valley Electric Service (U #913)
PacifiCorp (U#901)
Liberty Utilities (CalPeco Electric) LLC (U#933)
Pacific Bell, dba AT&T California (U#1001), wireless and other affiliates
Cellco Partnership (U#3001) and wireless affiliates, dba Verizon
MCI Metro Access Transmission Services (U#5378) and wireline affiliates,
some or all dba Verizon
Comcast Phone of California, LLC (U#5698)
Frontier California Inc. (U#1002)
Cox California Telecom, LLC (U#5684)
Charter Fiberlink CA-CCO, LLC (U#6878)
Time Warner Cable Information Services (U#6874)
Southern California Gas Co. (U#904)
Northern California Joint Pole Authority (NCJPA)
Southern California Joint Pole Committee (SCJPC)

From: David Lee, P.E.	Chris Witteman, Staff Counsel
Utilities Engineer, Energy Division	Legal Division
California Public Utilities Commission	California Public Utilities Commission
dkl@cpuc.ca.gov	wit@cpuc.ca.gov

Re: Data Request Pole and pole attachment census

The Commission is considering performing a census of utility poles and pole attachments in California, and to that end requests that you provide the information and documents requested below, no later than February 10, 2017. Unless specified otherwise, this data request refers to and requests information and documents generated or created during the last two years. If you have any questions or concerns, please communicate them as soon as possible to the above identified staff.

DEFINITIONS

As used herein:

“Poles” or **“Utility Poles”** means any wood, steel, concrete or other structure to which overhead electric or communications facilities are attached, including without limitation poles, towers, trees, buildings, and the like, but excluding customer premises that have service drops attached but are not used for further conveyance.

“You” **“your”** and/or **“responding utility”** means or refers to the above utility addressees responding to these requests, and all affiliates, agents, and/or employees of the utility addressee, as well as any entity acting on behalf of the utility addressees, or any of them. For telecommunications carriers, cable franchisees, and/or DIVCA holders, “all affiliates” includes both wireless and wireline affiliates.

“Database” means any organized collection or repository of data or information about California utility poles.

“Facilities” means or refers to, without limitation, wires, conductors, antennas, guy wires, cables, and/or any other equipment used to facilitate the transmission of communications or energy.

INSTRUCTIONS

- a. Please provide all information in your possession, custody or control, or in the possession, custody and/or control of your affiliates or agents, that is responsive to these data requests.
- b. Please Bates-stamp all documents produced, identify the Bates-range of documents produced in response to each DR. Responses and documents

may be produced and served electronically, but they should be machine-readable and searchable to the fullest extent possible.

- c. If you have any question about the meaning or scope of the data requests herein, please direct that question to identified CPUC staff at your earliest opportunity.
- d. Please identify the personnel (employees, consultants, agents, etc) who provided information for each of the data requests below. As used in this context herein, “identify” means to provide the full name, business address, and title of each employee, consultant or agent who provided such information.
- e. If you do not know the exact answer to any of the requests below, please so indicate and provide your best estimate.
- f. Where applicable, please provide data in Microsoft Excel format.

REQUESTS

1. Please state separately the number of utility poles in California which you (a) solely own, either directly or indirectly, (b) jointly own, either directly or indirectly, or (c) lease space on. As used herein, “lease” means any commercial transaction by which you are able to attach facilities to poles that you do not own.
2. To the extent you own utility poles jointly with any other entity, please identify the entities besides you that co-own, in whole or in part, poles to which you attach your overhead facilities, and state the number of poles each such entity co-owns.
3. To the extent that you lease space on other entities’ poles, please identify those entities, and state the number of poles on which you lease space.
4. Please identify and describe any database(s) you maintain, control or operate that collect(s) information on the location of utility poles that you own or operate or to which you attach your facilities in California.
5. Please identify and describe any database(s) maintained, controlled and/or operated by parties other than you, which database(s) contain information on the location of utility poles that you own or operate or to which your facilities in California are attached. As used in this request, “identify” means to provide the name of the database, and the name, address, contact person, and telephone number of the entity which maintains such database(s).
6. As to all such databases, for each database:
 - a. please identify and describe the software used by such database;

- b. please identify all data fields used in such database, including but not limited to all data fields (if any) related to pole ownership, all attachers and pole tenants including third party attachers and/or tenants, facilities attached, and total pole capacity including remaining pole capacity;
 - c. to the extent you know, please identify all persons (or classes of persons) and entities that have access to such database, and state or describe to what extent database management is collaborative;
 - d. please state whether and the extent to which such database utilizes a geographic information system (GIS) to identify locations (longitude and latitude) of each pole;
 - e. please state how often and under what conditions such databases are updated;
 - f. please identify the persons (or entities) that collect and input the data into such database; and
 - g. for each such database, please provide sample data for at least 100 typical poles (in the form of an Excel spreadsheet) which illustrates the data fields described above, and shows how they are deployed. If the data cannot be meaningfully expressed in an Excel spreadsheet, please contact the technical staff identified above in order to discuss the best means to provide such a sample.
7. To the extent not described in response to the requests above, please describe the process of gathering and inputting pole-related data into the above databases.
8. Do you keep track of unauthorized attachments to the poles, and if so, how do you do it? What data fields are associated with such tracking? As used herein, “unauthorized attachment” means any attachment prohibited by GO 95, Rule 34 (such as signs, rope, banners, etc...), as well as any third party attachments (communications or otherwise) installed on poles without proper notification to and approval by the pole owner (or co-owners).
9. Do you track poles with no facilities on them? If so, how is that done, and what data fields are associated with such tracking?
10. Are any of the poles you own or operate, or to which your facilities are attached, equipped (to your knowledge) with radio frequency identification (RFID) tags? Are there fields associated with such RFID tags in the databases identified above? Please identify such fields.

11. Specific to Southern California Edison, and to the extent not already provided, please provide all information requested above as it pertains to the “centralized database for pole loading information,” as referenced in your 2015 GRC testimony (SCE-03, Vol. 06, Pt. 2, at 17).
12. Specific to Pacific Gas and Electric, and to the extent not already provided, please provide all information requested above as it pertains to the “joint pole database,” as referenced in your 2017 GRC testimony (Exhibit 4, pp. 8-2 and 8-13).
13. Specific to Pacific Gas and Electric, and to the extent not already provided, please provide all information requested above as it pertains to PG&E’s Primavera database.
14. Other than such database(s) identified in response to the requests above, please identify any other repositories of data you possess or control, or about which you have knowledge, regarding ownership of and/or facilities on California poles to which your electric or communication-related facilities are attached.

Southern California Edison (U# 338) Cindy.Jacobs@sce.com Christine.Fanous@sce.com	Bear Valley Electric Service (U #913) Quan, Nguyen Nguyen.Quan@gswater.com
Pacific Gas & Electric Co. (U#39) CJW5@pge.com (Chris Warner) mdp5@pge.com (Mark Patrizio)	PacifiCorp (U#901) Cathie.Allen@pacificorp.com
San Diego Gas & Electric Co. (U#902) PMills@semprautilities.com CManzuk@semprautilities.com	Southern California Gas Co. (U#904) AAyres@semprautilities.com
Liberty Utilities (CalPeco Electric) LLC (U#933) Alain.Blunier@libertyutilities.com VidhyaPrabhakaran@dwt.com	Pacific Bell, dba AT&T California (U#1001), wireless and other affiliates David Miller, dm9282@att.com
Cellco Partnership (U#3001) and wireless affiliates, dba Verizon rudymreyes@verizon.com jesus.g.roman@verizon.com	MCI Metro Access Transmission Services (U#5378) and wireline affiliates, some or all dba Verizon rudymreyes@verizon.com jesus.g.roman@verizon.com
Comcast Phone of California, LLC (U#5698) suzannetoller@dwt.com John_Gutierrez@cable.comcast.com	Frontier California Inc. (U#1002) Charlie.Born@ftr.com
Cox California Telecom, LLC (U#5684) Marg Tobias marg@tobiaslo.com esther.northrup@cox.com	Charter Fiberlink CA-CCO, LLC (U#6878) & Time Warner Cable Information Services (U#6874) JMctarnaghan@perkinscoie.com , ABeaumont@perkinscoie.com ,
Southern California Joint Pole Committee (SCJPC) angela@scjpc.net	Northern California Joint Pole Authority (NCJPA) Erika@ncjpa.com
Glenn.Semow@cpuc.ca.gov	Cynthia.walker@cpuc.ca.gov
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APPENDIX B

Data Requests Regarding Ductwork, Conduit, and other Underground Facilities

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



DATA REQUEST

Date: June 29, 2017

To: Southern California Edison (U# 338)
Pacific Gas & Electric Co. (U#39)
San Diego Gas & Electric Co. (U#902)
Bear Valley Electric Service (U #913)
PacifiCorp (U#901)
Liberty Utilities (CalPeco Electric) LLC (U#933)
Pacific Bell, dba AT&T California (U#1001), wireless and other affiliates
Cellco Partnership (U#3001) and wireless affiliates, dba Verizon
MCI Metro Access Transmission Services (U#5378) and wireline affiliates,
some or all dba Verizon
Comcast Phone of California, LLC (U#5698)
Frontier California Inc. (U#1002)
Cox California Telecom, LLC (U#5684)
Charter Fiberlink CA-CCO, LLC (U#6878)
Time Warner Cable Information Services (U#6874)
Southern California Gas Co. (U#904)

From: David Lee, P.E.
Utilities Engineer, Energy Division
California Public Utilities Commission
dkl@cpuc.ca.gov

Chris Witteman, Staff Counsel
Legal Division
California Public Utilities Commission
wit@cpuc.ca.gov

Re: Data Request Duct, Conduit & Other Below-Ground Facilities

On January 17, 2017, Commission staff served you with data requests related to utility pole and pole attachment data. The Commission now wishes to make similar requests is considering performing a census of duct, conduit and other underground utility facilities in California, and to that end requests that you provide the information and documents requested below, no later than thirty days from the issuance of the above OII/OIR. Unless specified otherwise, this data request refers to and requests information and documents generated or created during the last two years. If you have any questions or concerns, please communicate them as soon as possible to the above identified staff.

DEFINITIONS

As used herein:

“Conduit” means any underground duct, conduit, tubing, or other underground facilities such as manholes and vaults, used in the provision of utility or communication provider service.

“Conduit Miles,” as used herein, means the number of miles or fractions of miles of conduit the responding party owns, leases, or otherwise occupies.

“You” “your” and/or **“responding utility”** means or refers to the above utility addressees responding to these requests, and all affiliates, agents, and/or employees of the utility addressee, as well as any entity acting on behalf of the utility addressees, or any of them. For telecommunications carriers, cable franchisees, and/or DIVCA holders, “all affiliates” includes both wireless and wireline affiliates.

“Database,” Data platform, means any organized collection or repository of data or information about California utility poles.

“Facilities” means or refers to, without limitation, wires, conductors, antennas, guy wires, cables, and/or any other equipment used to facilitate the transmission of communications or energy.

INSTRUCTIONS

- a. Please provide all information in your possession, custody or control, or in the possession, custody and/or control of your affiliates or agents, that is responsive to these data requests.
- b. Please Bates-stamp all documents produced, identify the Bates-range of documents produced in response to each DR. Responses and documents may be produced and served electronically, but they should be machine-readable and searchable to the fullest extent possible.
- c. If you have any question about the meaning or scope of the data requests herein, please direct that question to identified CPUC staff at your earliest opportunity.
- d. Please identify the personnel (employees, consultants, agents, etc) who provided information for each of the data requests below. As used in this context herein, “identify” means to provide the full name, business address, and title of each employee, consultant or agent who provided such information.
- e. If you do not know the exact answer to any of the requests below, please so indicate and provide your best estimate.
- f. Where applicable, please provide data in Microsoft Excel format.

REQUESTS

1. Please state the number of conduit miles in California which you solely own, either directly or indirectly.
2. Please state the number of utility conduit miles in California which you jointly own with another utility or communications provider.
 - a. Please identify such co-owner(s), and the number of conduit miles co-owned with each.
3. Please state separately the number of utility conduit miles in California in which you lease space. As used herein, “lease” means any commercial transaction by which you are able to attach facilities to poles that you do not own.
4. Please identify and describe any database(s) or data platform(s) you maintain, control or operate that collect(s) information on the location of underground conduit that you own or operate or in which you attach your facilities in California.

5. Please identify and describe any database(s) or data platform(s) maintained, controlled and/or operated by parties other than you, which database(s) contain information on the location of underground conduit that you own or operate or in which your facilities in California are found. As used in this request, “identify” means to provide the name of the database, and the name, address, contact person, and telephone number of the entity which maintains such database(s).
6. For each of the databases or data platforms in DRs 4 and 5:
 - a. please identify and describe the software used by such database or data platform;
 - b. please identify all data fields used in such database related to conduit, including but not limited to all data fields (if any) related to conduit ownership, co-owners, facilities attached, and total conduit capacity
 - c. to the extent you know, please identify the category and rough count of employees, agents, contractors, other persons (or classes of persons) and entities that have access to each such database or data platform. Do such employees agents, contractors, other persons (or classes of persons) and entities access the database or data platform over a web portal?
 - d. please state whether and the extent to which such database utilizes a geographic information system (GIS) to identify locations (longitude and latitude) of conduit;
 - e. please state how often and under what conditions such databases are updated; and
 - f. please identify the persons (or entities) that collect and input the data into such database, and describe the process; and
 - g. for each such database, please provide sample data for at least three different segments of conduit with different configuration and/or occupancy.
7. Do you maintain data on conduit with no facilities in it? If so, what data fields are associated with such tracking?
8. Is any of the conduit you own or operate, or in which your facilities are attached, equipped (to your knowledge) with radio frequency identification (RFID) tags? Are there fields associated with such RFID tags in the databases identified above? Please identify such fields.

APPENDIX C

Data Requests for Joint Pole Associations or Committees

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



DATA REQUEST

Date: June 29, 2017

To: Southern California Joint Pole Committee
Northern California Joint Pole Association

From: Glenn Semow
Public Utility Rate Analyst
California Public Utilities Commission
grs@cpuc.ca.gov

Chris Witteman, Staff Counsel
Legal Division
California Public Utilities Commission
wit@cpuc.ca.gov

Data Requests for Joint Pole Authorities and/or Committees in California

1. Current Membership Lists.
2. Identification of all members of the Administrative Board or the functional equivalent.
3. Identification of all members of the Operating Committee or its functional equivalent.
4. Current By-Laws, current Joint Pole Agreements, and other constituting documents.
5. Current Operations/Routine Handbook.
6. To the extent different than the Handbook, the "Routine" (or functional equivalent) as that term is used in the 1998 NCJPA Joint Pole Agreement (R 7/1/02).
7. Most recent annual audit.
8. Any further documents describing the process by which a pole access request is routed and resolved.

APPENDIX D

Photo of Equipment Shrouds that Accompany Antenna Attachments



APPENDIX E

Combined Schedule for OII/OIR

Preliminary Schedule for the Investigation Proceeding		Preliminary Schedule for the Rulemaking Proceeding	
Event	Date (Measured from the Issuance Date of this OII)¹	Event	Date (Measured from the Issuance Date of this OIR)¹
Phase I Combined Opening Comments and Prehearing Conference Statements on issues set forth below, filed and served	40 Days	Combined Opening Comments and Prehearing Conference Statements Filed and Served in Phase I	60 Days
Phase I Reply Comments Filed and Served	55 Days	Reply Comments Filed and Served in Phase I	75 Days
Phase I Prehearing Conference (PHC)	To Be Determined	Prehearing Conference (PHC) in Phase I	To Be Determined
Phase I Additional Workshops, Additional Written Comments, Briefs, Etc.	To Be Determined	Workshops, Additional Written Comments, Briefs, Etc.	To Be Determined
Phase I Hearings, If Warranted	To Be Determined	Hearings, If Warranted	To Be Determined
Phase I Projected Submission Date (if applicable)	To Be Determined	Phase I Projected Submission Date (if applicable)	To Be Determined
Phase II Preliminary Scoping Memo, and Related Proceedings	To Be Determined	Phase II Preliminary Scoping Memo, and Related Proceedings	To Be Determined

APPENDIX F

GLOSSARY¹

¹ Definitions are derived from the FCC's 2016 Voice Telephone Services Report, available at <https://www.fcc.gov/wireline-competition/voice-telephone-services-report>, from *Newton's Telecom Dictionary* (24th and 27th Eds., 2008 and 2013 respectively), and from other sources.

TERM	DEFINITION
3G	Third Generation Mobile System, an upgrade from 2G. 3G promise(d) higher data speeds – up to 2 megabits per second, or roughly in line with cable modems and faster DSL lines. 3G networks are discussed as “graceful enhancements” of the GSM cellular standard, including greater bandwidth, more sophisticated compression techniques, and the inclusion of in-building systems.
4G	Fourth Generation cellular wireless network, a higher-bandwidth, higher speed successor to 2G and 3G mobile systems. While 3G treated voice as digital circuit-switched and data as packet-switched, 4G treats voice and data uniformly as digital packet switched. Whereas 3G relied on traditional wide area network concept (cell towers, “macro” cells), 4G encompasses hybrid networks and allows roaming among (e.g.) wireless LANS, - Bluetooth, Wi-Fi hotspots, and freespots. In 2010, the International Telecommunications Union (ITU) issued a report finding that carriers were inaccurately and prematurely advertising the availability of “true” 4G service. ¹
5G	Wireless service in high frequency bands, also known as millimeter wave (mmW) radio frequency bands, which allow high-capacity but short distance data transmission. ² 5G technology holds the promise of facilitating machine-to-machine communication, enabling Internet of Things (IoT) applications including wearables, fitness and healthcare devices, autonomous driving cars, and other technology. ³ In February 2017, the ITU issued a draft report with target specifications for 5G technology, the first step in creating final technological specifications and standards for the technology, which are expected in 2020. ⁴
Antenna	Device for emitting and/or receiving radio frequency signals. (GO 95, § 20.0)

¹ *Newton’s Telecom Dictionary*, 27th Ed., at p. 81.

² *In re Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, FCC 16-89 Report and Order, and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014 (July 14, 2016), at ¶¶ 2, 6 (“Millimeter wave [mmW] frequencies [had] historically been considered unsuitable for mobile applications because of propagation losses at such high frequencies and the inability of mmW signals to propagate around obstacles. Technological advances hold promise for potentially unlocking mmW bands for mobile and other operations...”).

³ *Id.* at ¶ 7.

⁴ Sebastian Anthony, “5G mobile specs announced,” February 24, 2017 *Ars Technica UK*, available at <https://arstechnica.co.uk/information-technology/2017/02/5g-mobile-imt-2020-specs/>.

TERM	DEFINITION
BDS, or “Business Data Services”	The name the FCC recently gave to what for decades had been called “special access,” high speed, dedicated lines used by business customers for last-mile and middle mile applications. BDS services typically provide dedicated symmetrical transmission speeds with performance guarantees, such as guarantees for traffic prioritization, guarantees against certain levels of frame latency, loss, and jitter. ⁵ Backhaul services provided to mobile carriers are a species of BDS.
Broadband, broadband Internet access service (BIAS)	Service that provides end users access to the Internet. ⁶
Climbing Space	Space reserved along the surface of a climbable pole or structure to permit ready access for linemen to equipment and conductors located on the pole or structure. GO 95, § 20.7.
CMRS	Commercial Mobile Radio Service, aka “cell service” or “wireless service.”
Coaxial cable	The technology widely used by cable system operators to terminate their services at the end user’s premises.
Communications Space	Usually refers to space on a utility pole dedicated to communications providers, and usually found below the electric supply and safety spaces.
Conduit	As used herein, a pipe, tube or duct, usually located underground.
Copper local loop	The technology widely used by telephone companies to terminate their service at the end user’s premises.
CLEC	Competitive Local Exchange Carrier: A local exchange carrier (LEC) that operates within the traditional service area of an unaffiliated incumbent LEC.
DAS	Distributed Antenna System

⁵ *BDS Order, supra*, at ¶ 13.

⁶ *Open Internet Order*, at ¶ 21 (defining BIAS as a “mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all Internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up Internet access service”).

TERM	DEFINITION
DAS Antenna	Distributed Antenna System antennas.
Electric Supply Line	Electric distribution lines, usually occupying the electric supply or upper part of the pole space.
FCC	Federal Communications Commission
Fixed wireless service	A radio communication service between specified fixed points, [usually] provided by microwave transmission. Does not include communication by Wi-Fi or by mobile communications protocols.
FTTP or FTTH	Fiber to the Premises or Fiber to the Home: A network access architecture in which optical fiber is deployed all the way to the customer's premises (home).
ILEC	Incumbent Local Exchange Carriers, also referred to as the legacy telephone carriers. The FCC's <i>Telephone Voice Services Report</i> defines ILEC as a "company or cooperative that was providing telephone service in a localized area, typically on a monopoly basis, prior to enactment of the Telecommunications Act of 1996."
IOU	Investor Owned Utilities, usually used in reference to energy utilities.
ITU	International standards setting body, based in Geneva, Switzerland. Started in 1934. If its members – virtually every country in the world – agree on a standard, that effectively becomes a world standard.
Internet protocol or IP	A set of formal rules that govern how packets transit the Internet.
Joint Use Pole	Joint Use of Poles or Poles Jointly Used means occupancy of poles or structures by circuits of different ownership or by two or more of the following classes of circuits of the same ownership: <ul style="list-style-type: none"> • Communications circuits • Railway or trolley circuits • [Electric] Supply circuits other than trolley circuits GO 95, Rule 21.8.
Last Mile Network Facility	A facility, wired or wireless that provides access from the customer location to the network.
LEC or local telephone carrier/company	Local Exchange Carrier: A company that provides telephone service within a localized area and access services that connect its customers to long-distance (Interexchange Carrier) networks.

TERM	DEFINITION
Local loop	The physical connection between the customer's premises and the telephone company's local switching office, typically provided using copper, fiber, or a combination of copper and fiber facilities. A cable company's last mile connection to its end-users is the functional equivalent of a local loop.
Micro Cell	Smaller than a macro cell (traditional cell tower), and larger than a pico cell. One observer defines it as "a Wi-Fi antenna and its coverage area." ⁷
Mobile wireless service	A radio communication service between an antenna and a mobile device using a mobile communications protocol, e.g., GSM, CDMA, LTE, etc. between mobile stations.
POTS	Plain Old Telephone Service, the traditional service offered over the Public Switched Telephone Network (PSTN), and used primarily for voice.
POU	Publicly owned utilities, such as Los Angeles Department of Water and Power (LADWP).
Pole	Wood, concrete, or steel structure.
Public Switched Network	What was previously referred to as the public switched telephone network (PSTN) is now referred to as the "public switched network" (although the switches are now likely to be routers or "soft switches"), and includes telephone and broadband telecommunication between telephone numbers and/or IP addresses. ⁸
"Public Internet"	Sometimes referred to as "best efforts Internet," in order to contrast it with managed networks where voice or data transmission is accompanied with a "service level agreement." ²

⁷ Newton's Telecom Dictionary, 30th Ed 2016, at 815 ("Basically it's a Wi-Fi antenna and its coverage area").

⁸ OIO, at ¶ 48 ("with the Commission's previous recognition that the public switched network will grow and change over time, this Order updates the definition of public switched network to reflect current technology, by including services that use public IP addresses. Under this revised definition, the Order concludes that mobile broadband Internet access service is interconnected with the public switched network"); ¶ 319 ("Revising the definition of public switched network to include networks that use standardized addressing identifiers other than NANP numbers for routing of packets recognizes that today's broadband Internet access networks use their own unique addressing identifier, IP addresses, to give users a universally recognized format for sending and receiving messages across the country and worldwide").

² See *BDS Order*, at ¶¶ 59-65.

TERM	DEFINITION
Switched access line	A service connection between an end user and the local telephone company's switch; the basis of plain old telephone service (POTS).
Telecommunications	The one-way or two-way transmission of information, including voice, between distant locations via wires or electromagnetic (especially radio) waves; <i>see also</i> 47 U.S.C. § 153(50).
UNE	Unbundled Network Element: A physical or functional element of an ILEC network that must be provided to a CLEC at a cost-based price, as provide for in the Telecommunications Act of 1996.
VoIP	Voice over Internet Protocol – technology which allows the transmission of voice signals over a data network using Internet Protocol.
VoLTE	Voice over LTE (Long Term Evolution - LTE is the term assigned by the ITU to the transition of GSM to 4G wireless). VoLTE allows 4G mobile operators to send both voice and data over network segments previously devoted just to data.
WIA	Wireless Infrastructure Association
Wi-Fi	Wi-Fi or WiFi is a technology for wireless local area networking with devices based on the IEEE 802.11 standards. It generally a short-range transmission technology, using unlicensed spectrum that can be subject to interference.
Wi-Fi First	A wireless consumer service that looks first to Wi-Fi facilities, and then to CMRS facilities
Wireline (or landline or wired) Voice Service	Voice service provided over a wired last-mile—includes both interconnected VoIP and switched access service.
WISPs	Wireless Internet Service Providers