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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.	Investigation 17-06-027
And Related Matters.	Rulemaking 17-06-028 Rulemaking 17-03-009

ADMINISTRATIVE LAW JUDGE'S RULING PROVIDING PROPOSED GLOSSARY TO THE PARTIES AND OTHER GUIDANCE REGARDING COMMENT QUESTIONS

Attached to this Ruling as Appendix A is a Proposed Glossary that Commission staff prepared. As part of their Comments in Rulemaking (R.) 17-06-028, parties are invited to provide input regarding the accuracy or precision of the definitions proposed therein. The Commission reserves the right to include a glossary as part of any final decision in this matter.

This Ruling also provides some clarification regarding the prioritization of the Comment questions posed in Section 8.5.2 of the Rulemaking. Questions 1 and 3-16 are of primary importance for Phase I of the Rulemaking. If the parties believe that the other questions set out in that section have bearing on the Phase I BIAS questions, they may address those questions as well. The other questions

in Section 8.5.2 will be the specific focus of Phase II (and any subsequent Phases) of this proceeding.

IT IS RULED that:

1. As part of their Comments in Rulemaking 17-06-028, the parties may provide comment regarding the Proposed Glossary, which is attached hereto as Appendix A.

2. Questions 1 and 3-16 are of primary importance for Phase I of the Rulemaking.

Dated August 11, 2017, at San Francisco, California.

/s/ ROBERT M. MASON III
Robert M. Mason III
Administrative Law Judge

APPENDIX A
PROPOSED GLOSSARY[1]

[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 other FCC decisions, from *Newton's Telecom Dictionary* (30th Ed., 2016), from the Commission's GO 95, and from other sources. These definitions are offered in aid of the discussion we hope will ensue from this OII/OIR, and not as a binding statement of the Commission. We invite the parties to provide technical corrections with any Comments they file.

TERM	DEFINITION
3G	Third generation wireless telecommunications based on the International Mobile Telecommunications-2000 (IMT-2000) set of standards. 3G delivers data speeds up to 2 megabits per second. 3G networks enable the combination of circuit switched voice and video calling along with internet access (internet protocol, or "IP"). 3G, 4G and 5G are sometimes used as marketing terms rather than engineering terms.
4G	Fourth generation wireless telecommunications based on the 4G/IMT-Advanced set of standards. 4G offers higher-bandwidth compared to 2G and 3G mobile standards. While 3G treated voice as digital circuit-switched and data as packet-switched, 4G supports voice and data uniformly as packet switched (internet protocol) traffic. 4G networks enable mobile web access, IP telephony, gaming services, high-definition mobile TV, and two-way live video conferencing. 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	Fifth generation wireless telecommunications based on are the proposed next telecommunications standards beyond the current 4G/IMT-Advanced standards. Generally speaking, 5G has referred to wireless service in high frequency bands, also known as millimeter wave (mmW) radio frequency bands, which allow high-capacity but short distance data transmission and require line-of-sight between node and device.[2] 5G technology holds the promise of facilitating machine-to-machine communication, enabling Internet of Things (IoT) applications including wearables, fitness and

[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…").

TERM	DEFINITION
	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] . Some argue it is more of a marketing than an engineering term.
Antenna	Device for emitting and/or receiving radio frequency signals. (GO 95, § 20.0)
Backhaul	Typically refers to telecommunications transport of voice and other data from a wireless antenna back to a mobile telephone switching office, or other parts of the network. See "BDS" below.
Base Station	A structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network …The term includes, but is not limited to, radio transceivers, antennas, … regular and backup power supplies, and comparable equipment, regardless of technological configuration (including Distributed Antenna Systems and small-cell networks).[5]
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,

[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/.

[5] 47 CFR §1.40001, promulgated in *In re Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies,* FCc 14-123, 29 FCC Rcd 12865 (2014) (*2014 Wireless Facilities Siting* decision). The FCC included "coaxial or fiberoptic cable" in this definition.

TERM	DEFINITION
	guarantees against certain levels of frame latency, loss, and jitter.[6] Backhaul services provided to mobile carriers are included in the FCC definition of BDS.
Broadband Internet access service (BIAS)	Service that provides end users access to the Internet.[7]
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 (examples include service offered by Verizon Wireless, AT&T Mobility, Sprint, and T-Mobile).
Coaxial cable	Usually refers to the facilities widely used by cable system operators to terminate their services at the end user's premises, although it has other uses.
Communications Space	Usually refers to space on a jointly used pole dedicated to communications providers, and usually found below the electric supply level (and below safety or common spaces, if any).
Conduit	A tube or duct for enclosing conductors or cables. GO 128, Rule 20.7.
Copper local loop	The technology widely used by telephone companies to terminate their service at the end user's premises.[8]
CLEC	Competitive Local Exchange Carrier: A local exchange carrier (LEC) that operates within the traditional service area of an unaffiliated incumbent LEC.[9]
DAS	Distributed Antenna System. A network of spatially

[6] *BDS Order, supra,* at ¶ 13.

[7] *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").

[8] FCC's 2016 Voice Telephone Services Report, Glossary, p. 13.

[9] *Id.*

TERM	DEFINITION
	separated antenna nodes connected to a common source via transport medium that provides wireless service within a geographic area or structure.[10]
DAS Antenna	Distributed Antenna System antennas.
DAS Network	Whereas each small-cell deployment includes its own transceiver equipment that generally serves one wireless carrier/operator, a DAS network involves the use of transceiver equipment at a central hub site to support multiple antenna locations throughout the desired coverage area and in "neutral-host" deployments can serve multiple wireless carriers/operators.[11]
Electric Supply Line	Line which is used for transmitting electrical energy, sometimes referred to (in GO 95, for example) as a "conductor" or "circuit."
FCC	Federal Communications Commission
Fixed wireless service	A radio communication service between specified fixed points, [usually] provided by microwave transmission. Typically uses 900 MHz, 1.8 GHz, 2.4 GHz and 5 GHz frequencies; the latter two are most common and require line of sight. 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 *Telephone Voice Services Report* 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 in reference to energy utilities.

[10] Definition from DAS Forum, found at http://transition.fcc.gov/presentations/02012012/panel-1/allen-dixon.pdf

[11] FCC's 2014 *Wireless Facilities Siting* decision, at ¶ 11 and fn. 19.

TERM	DEFINITION
ITU	International Telecommunications Union, an 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.[12] May work in conjunction with, or adopt the standards of, the European Telecommunications Standards Institute (ETSI) and Third Generation Partnership Project (3GPP).[13]
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: • 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.
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.
Microcell	Smaller than a macrocell (traditional cell site, range of up to 22 miles), with a range of about 1.2 miles or less. It is larger than a pico cell, which has a range of about 200 yards. One observer defines it as "a Wi-Fi antenna and its coverage area."[14]

[12] *Newton's Telecom Dictionary, supra,* at 717.

[13] *See* ETSI 2015 and 2016 Annual Reports, at http://www.etsi.org/images/files/AnnualReports/etsi-annual-report-april-2016.pdf and http://www.etsi.org/images/files/AnnualReports/etsi-annual-report-april-2017.pdf

[14] *Newton's Telecom Dictionary, supra*, at 815 ("Basically it's a Wi-Fi antenna and its coverage area").

TERM	DEFINITION
Mobile wireless service	Radio communications (voice or data) between an antenna and a mobile device over a wide area while moving Mobile communication standards include GSM, CDMA, LTE, etc. between mobile stations.
POU	Publicly owned utilities, such as Los Angeles Department of Water and Power (LADWP).
Pole	Wood, fiberglass, concrete, or steel structure, including towers, trees, buildings, and the like, located on or in any right-of-way or easement owned, controlled, or used by a public utility or cable television corporation, that supports overhead electrical and/or communication lines.[15]
Radio	Radio transceiver. In the UMTS network, the radio is called a "Node B" and contains a transceiver, power amplifier, and channel cards. In LTE networks it's called an "evolved Node B," or "eNode B." In both cases, the Node B is connected to the antenna with a waveguide, which is a hollow, metallic tube through which radio waves pass. For WiFi systems, the radio is often called an access point.
Small Cell	Low-powered wireless base stations that function like cells in a mobile network but provide significantly smaller coverage area than traditional macrocells. Unlike DAS antenna networks (see above), each small-cell deployment includes its own transceiver equipment.[16]
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; *see also* 47 U.S.C. § 153(50).
UNE	Unbundled Network Element: A physical or functional

[15] *Cf.* Pub. Utils. Code § 767.5.

[16] 2014 FCC *Wireless Facilities Siting* decision, at fn. 19.

TERM	DEFINITION
	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	VoIP standard for LTE (Long Term Evolution - LTE is the term assigned by the ITU to the transition of GSM to 4G wireless).
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 is generally a short-range transmission technology using unlicensed radio-frequency spectrum that can be subject to interference.
Wi-Fi First	A wireless service that looks first to Wi-Fi facilities, and then to CMRS facilities.
WISPs	Wireless Internet Service Providers