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Commissioner: Liane Randolph
Admin. Law Judge: Jessica T. Hecht
ORA Project Mgr.: Ana Maria Johnson
ORA Expert Witness: Adam Clark



Office of Ratepayer Advocates

California Public Utilities Commission

**Office of Ratepayer Advocates Testimony on
Nondiscriminatory Access and PG&E's
Application for a CPCN to Provide Competitive
Local Exchange Service**

San Francisco, California
November 22, 2017

MEMORANDUM

This report was prepared by Adam Clark of the Communications and Water Policy Branch of the Office of Ratepayer Advocates (“ORA”) under the general supervision of Program & Project Supervisor, Ana Maria Johnson. A statement of qualifications from Adam is presented in Attachment A to this testimony. ORA is represented in this proceeding by legal counsel, Niki Bawa.

This testimony is comprised of the following chapters:

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1 **I. EXECUTIVE SUMMARY**

2 On April 6 2017, Pacific Gas and Electric Company (“PG&E”) filed Application 17-04-
3 010 (“Application”) with the California Public Utilities Commission (“Commission”) for a
4 Certificate of Public Convenience and Necessity (“CPCN”) to provide full facilities-based and
5 resold competitive local exchange access and non-dominant interexchange services. On May 15
6 2017, ORA protested PG&E’s Application over several issues of concern. The Scoping Memo
7 and Ruling of Assigned Commissioner and Administrative Law Judge (“Scoping Memo”), filed
8 July 13 2017, recognizes the concerns of ORA and other parties and asks questions to explore
9 the issues. Acknowledging the need for “healthy competition” in the telecommunications market,
10 the Scoping Memo asks, “[h]ow does PG&E plan to ensure non-discriminatory access to its
11 facilities, including but not necessarily limited to solely or jointly owned poles?”¹ The Scoping
12 Memo offers parties the opportunity to recommend conditions that are necessary to support
13 competition in the communications market and non-discriminatory access to PG&E facilities.²

14 This testimony examines PG&E’s plans and existing processes to consider how granting
15 PG&E a CPCN to operate as a competitive local exchange carrier (“CLEC”) will affect access to
16 PG&E distribution facilities and communication services. After review of PG&E’s testimony
17 and responses to data requests, concerns remain over the likely effect of PG&E’s entry into the
18 telecommunications market as a CLEC. If PG&E’s application is granted, the Commission
19 should impose several conditions in order to address these concerns. Specifically, the
20 Commission should adopt mitigating measures regarding timelines for responses to requests for

¹ Scoping Memo at page 7.

² Scoping Memo at page 7.

1 access or information, limitations on the use of the power zones of utility poles, requirements on
2 the availability of dark fiber and fiber swaps, restrictions on exclusive arrangements,
3 requirements for the disclosure of rates, and limitations of PG&E CLEC services.

4 **II. INTRODUCTION**

5 PG&E plays an integral role in the telecommunications market as a provider of services
6 and access to distribution facilities, such as poles and conduit. If PG&E offers services as a
7 CLEC, it will compete with other telecommunications providers and could have an incentive to
8 treat its CLEC operations more favorably by restricting other telecommunications companies
9 access to PG&E utility poles, for example. The Commission should adopt special conditions and
10 mitigating measures, as discussed below, to ensure that PG&E provides nondiscriminatory
11 access to services and facilities.

12 **III. SUMMARY OF RECOMMENDATIONS**

13 The Commission should adopt the following recommendations if it decides to approve
14 PG&E's CPCN application:

- 15 • The Commission should direct PG&E to respond to applications (for access)
16 submitted to its Tenant Program in less than 45 days, and respond to requests for
17 information within 20 days.
- 18 • The Commission should prohibit PG&E from using existing fiber lines installed
19 in the power zone of utility poles for its CLEC operations and leases of dark fiber
20 to other providers.
- 21 • The Commission should prohibit PG&E from installing any additional fiber in the
22 power zone for its CLEC operation and leases of dark fiber to other providers.

- 1 • The Commission should require PG&E to continue to offer its dark fiber services
2 located in the communications space, as they are available today. PG&E should
3 continue to make available, at minimum, the same number of fiber strands, and
4 along the same routes, as is currently offered to third parties as dark fiber or via
5 fiber swaps.
- 6 • The Commission should prohibit PG&E CLEC operations from entering into
7 exclusive arrangements with any single customer utilizing PG&E’s existing fiber
8 network and generally maintain the ability to serve multiple customers.
- 9 • The Commission should prohibit PG&E from leasing every fiber strand along any
10 route of its existing network to a single customer.
- 11 • The Commission should require PG&E to fulfill the requirements outlined in Rule
12 5.2 of General Order 96-B, for all of PG&E’s CLEC services.
- 13 • The Commission should identify, in Ordering Paragraphs, the specific services
14 that PG&E is allowed to offer.
- 15 • The Commission should not, at this time, allow PG&E to offer retail
16 communication services to residential customers. In the future, if PG&E desires to
17 offer retail communication services to residential customers, PG&E should file an
18 application seeking authority from the Commission to do so.

19 **IV. DISCUSSION**

20 **A. Distribution Facilities**

21 Communication providers rely on PG&E for access to distribution facilities in order
22 deploy networks and provide service. PG&E currently offers communications providers access
23 to support structures in the public right of way (“ROW”), including distribution poles, under the

1 Commission’s rules adopted in Decision (“D.”) 98-10-058 and other applicable rules. PG&E also
2 currently offers communications providers with access to distribution facilities as Non-Tariffed
3 Products and Services (“NTP&S”), including: facility joint use arrangements, use of
4 underground conduit, licensed use of dark-fiber, and other access to distribution facilities for the
5 placement of attachments and equipment.³

6 PG&E claims its internal processes for evaluating and managing requests for access will
7 prevent preferential treatment and provide nondiscriminatory access to all CLECs.⁴ PG&E
8 explains that its internal “Joint Utilities Group” is currently responsible for processing requests
9 for ROW access. The utility claims all similarly situated carriers are treated equally,⁵ and its
10 Joint Utilities Group processes requests on a first-come, first-served basis using uniform
11 standards, terms and conditions.⁶ PG&E offers to continue this arrangement, with its Joint
12 Utilities Group maintaining its current responsibilities and processes, if the Commission
13 approves the Application.

14 Some communication providers contend PG&E’s internal procedures are *not* sufficient to
15 ensure nondiscriminatory access to distribution facilities.⁷ Companies cite as evidence purported
16 deficiencies that currently exist, even prior to the concerns surrounding a potential PG&E CLEC
17 business. For example, the California Association of Competitive Telecommunication

³ The Prepared Testimony of Pacific Gas and Electric Company regarding the Application for a Certificate of Public Convenience and Necessity to Operate as a Competitive Local Exchange Carrier (“PG&E Testimony”), September 22, 2017, at page 2-2.

⁴ Application at page 12. *See also*, PG&E Testimony at pages 2-9, and 4-1 to 4-8.

⁵ Application at page 12.

⁶ PG&E Testimony at pages 2-8, 2-9, and 4-1 to 4-8.

⁷ CALTEL protest at pages 3-4, and 7.

1 Companies (“CALTEL”) claims PG&E’s current processes routinely impose unreasonable costs
2 and delays in response to requests for access.⁸ If PG&E begins to offer CLEC services in a
3 competitive market, it could have new incentives to impose unreasonable costs and delays in
4 response to requests for access.

5 If the Commission approves the Application, it should ensure that all authorized
6 communication providers,⁹ including PG&E CLEC operations, have nondiscriminatory access to
7 PG&E’s distribution facilities in the public ROW and NTP&S. PG&E should not award
8 preferential treatment to its CLEC operations, and should not discriminate against other third
9 party providers. In order to ensure nondiscriminatory access, the Commission should require
10 PG&E to make concrete, verifiable commitments in processing requests for access, restrictions
11 on installations in the “power zone” of utility poles, the availability of fiber swap arrangements,
12 and access to existing fiber.

13 **1. Application Process & Timelines**

14 The Commission should direct PG&E to meet concrete milestone intervals in response to
15 requests for access to all vital distribution facilities, including poles, conduit and other support
16 structures. The Commission’s existing ROW rules do not impose timelines for access to PG&E
17 distribution facilities. The Commission’s ROW rules impose timelines for incumbent local
18 exchange carriers (“ILEC”), but not for investor owned utilities such as PG&E. For example, the

⁸ CALTEL protest at page 3.

⁹ In D.16-01-046, the Commission adopts rules authorizing licensed telecommunication carriers (including CLECs), cable TV (“CATV”) providers, and CMRS providers to access support structures in the public ROW for the placement of attachments on a nondiscriminatory basis. *See also*, D.16-01-046 at Findings of Fact 1 and Conclusion of Law 1.

1 ROW rules include a 45 day limit for ILECs to respond to requests for access, and a 10 or 20 day
2 limit for ILECs to respond to requests for information.¹⁰

3 PG&E claims to use a 45 day response time as a self-imposed guideline for requests to
4 access distribution poles, and reports that its average and median response times were both less
5 than 45 days across the past two calendar years.¹¹ PG&E did not provide statistics on the
6 timeliness of its responses to requests for information regarding the availability of surplus space
7 or excess capacity on or in support structures and rights of way. If the Commission approves the
8 Application, it should order PG&E to respond to applications (for access) submitted to its Tenant
9 Program in less than 45 days, and respond to requests for information within 20 days. These
10 conditions will help to mitigate PG&E’s incentives to delay requests from competitive third-
11 party communications providers.

12 **2. Access to Power Zone**

13 The Commission’s rules for overhead line construction include restrictions on the
14 placement of lines on utility poles.¹² Poles are generally divided into zones or levels where
15 higher voltage equipment is carried at a higher level. Communications providers install their
16 lines within the communication zone, which is located below the electrical supply space (“power
17 zone”). Competitive communications providers are subject to the capacity restrictions of a

¹⁰ D.16-01-046 at pages A-26 and A-27.

¹¹ PG&E Testimony at page 4-1.

¹² General Order 95 at Rules 32, 38 and 91.

1 communication zone and typically do not have access to a pole's power zone.¹³ PG&E has
2 previously installed some of its existing fiber optic cables within the power zone on distribution
3 poles.¹⁴

4 PG&E's use of its fiber lines that are installed in the power zone for its own CLEC
5 operations would result in preferential access to utility poles for network distribution. The
6 Commission should prohibit PG&E from using fiber lines installed in the power zone for its
7 CLEC operations and leases of dark fiber to other providers. PG&E should also maintain its
8 current practice of not permitting other communications providers to have access to the power
9 zone.

10 PG&E's testimony claims its CLEC operations does "not intend" to install additional
11 fiber in the power zone, because of difficulties in access to maintenance and repairs.¹⁵ As
12 discussed in ORA's testimony of Cameron Reed, PG&E's previous fiber installations (in power
13 zones) raise concerns related to safety. To alleviate these concerns, the Commission should order
14 PG&E to not install any additional fiber in the power zone for the purpose of supporting its
15 CLEC operations and leases of dark fiber to other providers. This condition will facilitate a level
16 playing field and non-discriminatory access to distribution poles while maintaining safety.

¹³ For example, in addition to the rules set forth in General Order 95, PG&E's pro forma Master License Agreement for Commercial Mobile Radio Service Providers states, "Licensee is NOT permitted to install any Attachment in the Electrical Zone unless PG&E, in its sole discretion, agrees in writing." Refer to PG&E Testimony, Attachment C, Pro Forma Commercial Mobile Radio Service (CMRS) License Agreement at page 4-AtchC-7.

¹⁴ PG&E Testimony at 2-2. September 22, 2017.

¹⁵ PG&E Testimony at 2-2. September 22, 2017.

1 **3. Dark Fiber & Fiber Swaps**

2 PG&E currently contributes to the total supply of installed fiber capable of providing
3 essential communications services in California. PG&E currently makes installed fiber available
4 to third party operators via the sale of dark fiber or the execution of fiber swaps.¹⁶ Dark fiber and
5 fiber swaps facilitate competition in the wholesale and retail communications markets by easing
6 market entry for new service providers. The FCC explains, “[D]ark fiber takes on significant
7 aspects of facility-based competition” and “is particularly attractive for competitive LECs
8 seeking to expand their network reach.”¹⁷ With the availability of dark fiber, communication
9 service providers do not necessarily have to engage in the expensive and time consuming
10 construction and/or installation process to deploy their own networks.

11 PG&E leases or executes “fiber swaps” between PG&E and other fiber owners.¹⁸ The
12 utility explains, “[t]his type of arrangement is made when two fiber owners agree to exchange
13 access to excess fiber along routes where one party needs access and the other party has available
14 fiber.”¹⁹ Similar to dark fiber, fiber swaps also play an important role the communications
15 market; fiber swaps help to enhance competition. Fiber swaps effectively increase the supply of
16 fiber networks at cost-effective, or even discounted, rates. According to the National
17 Telecommunication and Information Administration, “A [fiber] network built with extra capacity
18 offers many advantages... [The] extra capacity can serve as a cost-effective way to acquire

¹⁶ PG&E Testimony at pages 1-1 and 2-2.

¹⁷ See *In re Business Data Services*, Tariff Investigation Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 4723, May 2016, at page 31.

¹⁸ PG&E Testimony at 2-2. September 22, 2017.

¹⁹ PG&E Testimony at 2-2. September 22, 2017.

1 bandwidth from providers through fiber swaps or trades, for example, rather than having to pay
2 cash or build new infrastructure.”²⁰ Essentially, exchanging access to excess or unused fiber
3 strands with another fiber owner is often a cost-effective way to expand a network.

4 Despite the importance of dark fiber and fiber swaps, PG&E has not yet evaluated the
5 capacity of its fiber resources and facilities,²¹ or fully assessed the needs or demand for its
6 potential CLEC business services.²² Without this information, it is difficult to assess the full
7 effects of PG&E’s potential CLEC services on the supply of fiber available to third party
8 operators via dark fiber or fiber swaps. If the Commission grants PG&E CLEC authority, it
9 should impose conditions to ensure the continued availability of PG&E dark fiber and fiber
10 swaps. The Commission should require PG&E to continue to offer its dark fiber services, as they
11 are available today. PG&E should continue to make available, at minimum, the same number of
12 fiber strands, and along the same routes, as is currently offered to third parties as dark fiber or via
13 fiber swaps.

14 **B. CLEC Services**

15 PG&E states, “[i]f granted CLEC authority, PG&E proposes to offer ‘lit fiber’ and other
16 services (as market demand and availability of PG&E facilities allows) to third-party
17 communication services providers, communication companies, and large institutional
18 (wholesale) customers that need point-to-point services along routes where PG&E can make lit

²⁰ National Telecommunication and Information Administration. BroadbandUSA: An Introduction to Effective Public-Private Partnerships for Broadband Investments at page 14. January 2015. Available at https://www2.ntia.doc.gov/files/ntia_ppp_010515.pdf.

²¹ PG&E Testimony at page 2-6, lines 8-10. *See also*, Attachment B, “PG&E Response to ORA Data Request no.4-1,” November 3, 2017, at Answer 1.

²² PG&E Testimony at page 2-4, lines 6-10. *See also*, Attachment B, “PG&E Response to ORA Data Request no.4-1,” November 3, 2017, at Answer 1.

1 fiber available.”²³ First, the Commission should clearly list the type of services that PG&E will
2 be able to offer under the requested CPCN CLEC operation. Second, to ensure PG&E’s CLEC
3 operation follows the principles of nondiscriminatory access, the Commission can draw from its
4 previous decision allowing Southern California Edison (“SCE”) CLEC authority and require
5 similar commitments from PG&E related to service arrangements and rates, as discussed below.

6 **1. Exclusive Service Arrangements**

7 The Commission previously realized that exclusive service arrangements are counter to
8 the principles of nondiscriminatory access and can limit the benefits of a new CLEC entering
9 into the market. In granting Southern California Edison (“SCE”) CLEC authority, the
10 Commission noted:

11 SCE proposes to implement a nondiscriminatory access policy that
12 prohibits SCE from entering into exclusive arrangements with any
13 CLC. To the extent it is commercially practical, SCE also agrees to
14 seek to negotiate arrangements that do not license or lease all of
15 the available dark fiber along any segment of the fiber optic
16 pathway to a single CLC. We [the Commission] also approve these
17 policies.²⁴

18 If the Commission grants PG&E’s request for CLEC authority, the Commission should
19 require that PG&E also implement a “nondiscriminatory access policy” similar to SCE’s policy.
20 PG&E’s nondiscriminatory access policy should keep its CLEC operations from entering into
21 exclusive arrangements with any single customer when utilizing PG&E’s existing fiber network,
22 and generally maintain the ability to serve multiple customers. Furthermore, regarding leases of
23 dark fiber, PG&E’s nondiscriminatory access policy should also keep PG&E from leasing every

²³ PG&E Testimony at page 2-5, lines 22-26.

²⁴ D.98-12-083 at pages 11-12.

1 fiber strand along any route of its existing network to a single customer. These policies will help
2 to ensure access to PG&E CLEC services and dark fiber leases to promote competition in the
3 telecommunications market.

4 **2. Rates**

5 PG&E proposes to offer CLEC services on a de-tariffed basis pursuant only to bi-lateral
6 contracts.²⁵ PG&E claims this approach will provide the flexibility needed to better meet
7 individual customer's needs, while retaining the benefits of clearly defined contractual terms.²⁶
8 However, in granting SCE CPCN authority, the Commission realized that making wholesale and
9 business enterprise communication services available without rates could lead to anticompetitive
10 conduct and discriminatory pricing.²⁷

11 The Commission should require PG&E to establish uniform rates for its services to
12 ensure nondiscriminatory pricing. In the Application, PG&E states, "[I]t will provide information
13 concerning its rates, terms, and conditions of service on its Web site on the Internet as required
14 by General Order 96-B, Rule 5.2."²⁸ The referenced rule generally requires carriers to post on a
15 webpage the rates, charges, terms and conditions of de-tariffed services offered to the public.
16 However, it is unclear if the Rule 5.2 of General Order 96-B will apply to PG&E's CLEC
17 business services, such as lit fiber services, because (a) PG&E did not "de-tariff" the services,
18 and (b) PG&E plans to offer the services to other telecommunications providers and large

²⁵ Application at 13.

²⁶ PG&E Testimony at page 2-6 to 2-7.

²⁷ D.98-12-083 at page 11.

²⁸ Application at page 13.

1 enterprise customers and not the general public.²⁹ To avoid potential confusion, and ensure
2 nondiscriminatory rates, the Commission should specifically require PG&E to fulfill the
3 requirements outlined in Rule 5.2 of General Order 96-B, for all of PG&E’s CLEC services.

4 **3. Limitations of Services**

5 In its Application, PG&E explains its intentions to offer only a limited set of
6 communications facilities based services.³⁰ PG&E submitted to the Commission information and
7 Testimony pertaining narrowly to the aforementioned limited set of services. As a result, the
8 record developed in this proceeding is not sufficient to examine the effects on the public interest
9 of PG&E moving to offer retail communication services to residential customers. PG&E’s
10 potential entry into the retail market would raise new competitive issues which are not raised by
11 the provisioning of wholesale and business enterprise services. As recommended above, the
12 Commission should identify in Ordering Paragraphs the specific services that PG&E can offer if
13 granted CLEC authority.

14 The Commission took a similar approach when it granted SCE CLEC authority.³¹ More
15 specifically, the Commission granted SCE CLEC authority to offer the following services:
16 access and interexchange services, including facilities-based switched access local transport,
17 unbundled loop concentration, special and switched access resale, and digital subscriber lines,

²⁹ Application at page 4 states, “Applicant intends to offer services that other telecommunications providers and large enterprise customers require as the overall demand for wireless and broadband services continues to grow. Applicant does not intend to provide residential local exchange services.”

³⁰ Application at page 4.

³¹ D.98-12-083. Ordering Paragraph 2.

1 and high-capacity point to point services.³² The Commission further limited the
2 telecommunication service offerings of SCE to non-residential end users. For example, the
3 Commission granted SCE CLEC authority to sell digital subscriber lines *to only* the following
4 customers: long distance carriers, competitive local carriers, internet service providers,
5 commercial mobile radio service providers, and cable and satellite television companies within
6 limited tandem switch subtending areas.³³ The Commission should take a similar approach for
7 PG&E, and identify (in Ordering Paragraphs) the specific services that the utility is allowed to
8 offer if granted CLEC authority.

9 PG&E claims it does not intend to offer retail communication services to residential
10 customers.³⁴ The Commission should not, at this time, allow PG&E to offer retail
11 communication services to residential customers. In the future, if PG&E desires to offer retail
12 communication services to residential customers, PG&E should file an application seeking
13 authority from the Commission to do so. The Commission ordered SCE to follow this same
14 process when it granted the utility CLEC authority in 1998.³⁵ At that time of a new PG&E
15 application, the Commission can conduct a detailed review to determine whether or not the
16 request serves the public interest.

17 **V. CONCLUSION**

18 If PG&E expands its business operations to offer services as a CLEC, it will compete
19 with communication providers that rely on PG&E in order to conduct business. This dynamic

³² *Id.*

³³ *Id.*

³⁴ PG&E Testimony at page 2-6.

³⁵ D.98-12-083. Ordering Paragraph 3.

1 will provide PG&E an incentive to restrict other communications companies' access to services
2 or distribution facilities. In order to ensure nondiscriminatory access to PG&E facilities and
3 services, the Commission should consider special conditions and mitigating measures including
4 timelines for responses to requests for access or information, limitations on the use of the power
5 zones of utility pole, requirements on the availability of dark fiber and fiber swaps, restrictions
6 on exclusive arrangements on PG&E's existing fiber network, requirements for the disclosure of
7 rates, and limitations of PG&E CLEC services.

8

ATTACHMENTS

ATTACHMENT A

Statement of Qualifications and Experience

My name is Adam Clark. I am currently employed by the CPUC as a Public Utility Regulatory Analyst V assigned to the Communications and Water Policy Branch of ORA. I joined ORA in October of 2014. I initially joined the CPUC in June of 2007 as a Regulatory Analyst in the Communications Division. I received a Bachelor of Arts Degree in Business Economics and Sociology from the University of California at Santa Barbara in 2006.

I have worked on an extensive variety of telecommunications issues, including general rate cases, inter-carrier compensation, public purpose programs, and broadband deployment. I have analyzed Advice Letters seeking CPUC approval for telecommunication tariff changes and rate revisions. I have analyzed project proposals for California Advanced Services Fund, as well as project proposals for the American Recovery and Reinvestment Act. I have performed extensive research on California's telecommunications and broadband markets, and contributed to numerous reports and assessments on those markets, including comments filed by the CPUC in response to inquiries by the Federal Communications Commission. I have also aided the CPUC in review of proposed mergers and acquisitions in telecommunications markets.

ATTACHMENT B

PG&E Response to ORA Data Request No. 4-1

**PACIFIC GAS AND ELECTRIC COMPANY
Competitive Local Exchange Carrier (CLEC)
Application 17-04-010
Data Response**

PG&E Data Request No.:	ORA_004-Q01		
PG&E File Name:	CLEC_DR_ORA_004-Q01		
Request Date:	October 25, 2017	Requester DR No.:	ORA-PG&E-4
Date Sent:	November 3, 2017	Requesting Party:	Office of Ratepayer Advocates
PG&E Witness:	David Wright	Requester:	Niki Bawa

QUESTION 1

Chapter 2, section A.2 of the *Prepared Testimony of Pacific Gas and Electric Company* filed September 22, 2017 states that PG&E’s fiber network consists of 4,638 miles of fiber optic cables. Please answer the following:

- a. How much bandwidth, capacity, and fiber strands availability does PG&E currently have?
- b. How much bandwidth, capacity, and fiber strands availability is currently unused?
- c. Of the capacity identified in response to 4.b, how much unused capacity is available for PG&E’s proposed CLEC operations?
- d. How much bandwidth, capacity, and fiber strands availability does PG&E need to operate a safe and reliable Utility network?
- e. How much bandwidth, capacity, and fiber strands availability does PG&E anticipate will be required operate a safe and reliable CLEC network?
- f. To what extent does the amount of bandwidth, capacity, and fiber strands availability that PG&E needs to operate a safe and reliable network change? Will the necessary amount grow or decrease over time?

ANSWER 1

- a. The amount of bandwidth/capacity that the Utility currently has is directly related to the type of equipment that is connected to the fiber strands. PG&E utilizes several different types of equipment for the gas and electric network, varying from routers, relays, legacy multiplexors, channel banks, Synchronous Optical Network (SONET) multiplexors, and

Dense Wave Division Multiplexing (DWDM) multiplexors. Each device can be configured with a wide range of bandwidth. Due to the number of units that have been deployed out in the field, it would be difficult to gather this information. However, the primary transmission equipment used for routing gas and electric data are SONET and DWDM systems. The SONET system is configured to 80 Gbps, while the DWDM system is configured to 374,000 Gbps. Providing a meaningful response to the fiber strand availability question is difficult without specifying geographic boundaries/parameters. With the large amount of fiber miles in the system today, it is not possible at this time to provide a definitive answer to this question.

- b. At this time, the SONET network is about 46% utilized, based on the number of cross-connects on system compared to available cross-connects overall. The DWDM network is about 20% utilized. The available bandwidth for the rest of the system is unknown, as previously described. It is not possible at this time to provide a definitive answer to the fiber strand availability question, as stated in question 1.a.
- c. In answering this question, PG&E assumes the reference to question 4.b was intended to refer to question 1.b. The CLEC does not plan to utilize the existing utility network equipment. Therefore, any spare capacity on these systems will not be available for CLEC use. It is not possible at this time to provide a definitive answer to the fiber strand availability question, as stated in question 1.a.
- d. Utility gas and electric network bandwidth, capacity, and fiber strand availability requirements are geographically and data demand dependent. PG&E IT telecom architects, product specialists, and engineers continuously evaluate telecom network loading and demand in an effort to assure that a percentage of the unused or underutilized

bandwidth, capacity and fiber strands are available for use by the utility gas and electric networks.

- e. Bandwidth, capacity, and fiber strand requirements will be largely driven by CLEC client data network requirements. PG&E has not engaged in direct discussions or negotiations related to providing CLEC services with any client companies. It is not possible at this time to provide a definitive answer to this question.
- f. PG&E continues to require increased affordable and reliable bandwidth from many sources to support Utility gas and electric operations. These sources include bandwidth available from PG&E's spare capacity as well as leveraging 3rd party capacity. PG&E anticipates this need will continue for the foreseeable future.