REPORT OF THE

COMPETITIVE ACCESS TO BROADBAND INFRASTRUCTURE WORKING GROUP

Presented to the
Broadband Deployment Advisory Committee
of the
Federal Communications Commission
Washington, DC
January 23-24, 2018

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WORKING GROUP CHARGE AND DELIVERABLE

Charge

I. To develop recommendations on measures to promote speedier and more efficient competitive access to utility poles while ensuring safety and the integrity of existing attachments.

- To review the Commission's timeframe (and timeframes for states not under Commission pole jurisdiction) for gaining access to utility poles, identify delays, and make recommendations to result in faster access.
- To explore pole attachment processes like one-touch make-ready and right-touch make-ready; and to provide a recommendation on a consensus approach.
- To discuss make-ready fees and pole attachment rates associated with access to poles; and to provide recommendations.
- To review the Commission's complaint process, identify delay or inefficiencies, and recommend changes necessary to expedite the process.

II. To examine and develop recommendations on measures to promote competitive access to other broadband infrastructure, *e.g.*, ducts, conduits, and rights-of-way.

III. To recommend steps to improve the transparency of information regarding the availability of utility poles, rights-of-way, and other broadband infrastructure.

Deliverable

To present recommendations for a vote to the Broadband Deployment Advisory Committee, including possible recommendations for further study.

LEADERSHIP AND MEMBERSHIP

Working Group Chair: Ken Simon, Crown Castle

Working Group Vice-Chair: Brent Skorup, Mercatus Center at George Mason University

Working Group Members:

Allen Bell, Southern Company

Aaron Deacon, KC Digital Drive

David Don, Comcast

Daniel Friesen, City of Buhler, Kansas

Bruce Holdridge, Gila River Telecommunications

Kirk Jamieson, Mobilitie

Ross Lieberman, American Cable Association

Geoffrey Manne, International Center for Law and Economics

Cindy McCarty, East Kentucky Network d/b/a Appalachian Wireless

Milo Medin, Google Fiber

Rosa Mendoza Davila, Hispanic Technology & Telecommunications Partnership

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Nicol Turner-Lee, Brookings Institution

George Wyatt, Jr., Association of Communications Engineers

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Designated Alternates:

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Kristian Stout, International Center for Law and Economics

Megan Stull, Google Fiber

Colleen Thompson, AT&T Mobile

Joseph Tiernan, Massachusetts Department of Telecommunications and Cable

FEES AND RATES COMMITTEE

Charge

To provide recommendations regarding make-ready fees and pole attachment rates associated with access to poles.

Members

Committee Chair: Karen Charles Peterson, Massachusetts Department of Telecommunications and Cable

Chris Nurse, AT&T Mobile

Brian O'Hara, National Rural Electric Cooperative Association

Mike Saperstein, Frontier Communications

Brent Skorup, Mercatus Center at George Mason University

Christopher Yoo, University of Pennsylvania

METHODS AND PRACTICES COMMITTEE

Charge

To provide recommendations regarding pole attachment processes like one-touch make-ready and right-touch make-ready.

Members

Committee Chair: Lyle Nyffeler, Samsung Electronics America

Aaron Deacon, KC Digital Drive

David Don, Comcast

Daniel Friesen, City of Buhler, Kansas

Kirk Jamieson, Mobilitie

Milo Medin, Google Fiber

TIMING AND PROCESS COMMITTEE

Charge

- To review the Commission's timeframe (and timeframes for states not under Commission pole jurisdiction) for gaining access to utility poles, identify delays, and make recommendations to result in faster access.
- To review the Commission's complaint process, identify delay or inefficiencies, and recommend changes necessary to expedite the process.

Members

Committee Chair: Ross Lieberman, American Cable Association

Allen Bell, Southern Company

Cindy McCarty, East Kentucky Network d/b/a Appalachian Wireless

Christine O'Connor, Alaska Telephone Association

Nicol Turner-Lee, Brookings Institution

George Wyatt, Jr., Association of Communications Engineers

OTHER INFRASTRUCTURE AND TRANSPARENCY COMMITTEE

Charge

- To examine and develop recommendations on measures to promote competitive access to other broadband infrastructure, *e.g.*, ducts, conduits and rights-of-way.
- To recommend steps to improve the transparency of information regarding the availability of utility poles, rights-of-way and other broadband infrastructure.

Members

Committee Chair: Lee Seydel, Fiber Utilities Group

Bruce Holdridge, Gila River Telecom

Geoffrey Manne, International Center for Law and Economics

Rosa Mendoza Davila, Hispanic Technology & Telecommunications Partnership

Paul Mitchell, Microsoft

Grant Seiffert, Connected Nation

INTRODUCTION TO PROPOSALS

The Working Group finalized and approved a total of twelve proposals to be presented to the BDAC. Of the twelve proposals, three were presented to the BDAC for formal consideration and were approved by the BDAC at the November 09, 2017, meeting (listed in order of presentation):

- Pole Attachments FCC Enforcement: Complaint Shot Clock (Timing and Process Committee)
- Hurdles: Complaint Process (Fees and Rates Committee)
- Hurdles: Double Recovery of Capital Costs (Fees and Rates Committee)

The following eight proposals were presented to the BDAC for formal consideration at the January 23-24, 2018, meeting, at which time they were approved (six with "friendly amendments"):

- Streamlining Make-Ready Workflow (Methods and Practices Committee)
- Streamlining Make-Ready Contractor Management (Methods and Practices Committee)
- Defining "Complete" Attachment Applications (Timing and Process Committee)
- Joint Field Survey to Examine and Analyze Proposed Pole Attachments (Timing and Process Committee)
- Improving the Requesting Attachers' Self-Help Remedy (Timing and Process Committee)
- Hurdles: Rate Disclosure (Fees and Rates Committee)
- Maximizing Use of Broadband Infrastructure Eligible for Subsidy (E-rate) (Other Infrastructure and Transparency Committee)
- Common Database Proposal (Other Infrastructure and Transparency Committee, in conjunction with the Methods and Practices Committee)

The Working Group's remaining proposal, entitled "Common Infrastructure Efficiencies", was presented to the BDAC during the January 23-24, 2018, meeting but was tabled by the Working Group for possible consideration at a future time. It is included under the Appendix at the end of this report.

POLE ATTACHMENTS FCC ENFORCEMENT: COMPLAINT SHOT CLOCK

Timing and Process Committee

Working Group Vote: **Pass** (17 Yes, 0 No, 0 Abstain)

Executive Summary of Proposal

Attachers and a number of pole owners have expressed concern that the FCC takes too long to resolve pole attachment complaints, which produces uncertainty that could impact deployment of broadband facilities. A modification to § 1.1425, Review Period for Pole Access Complaints, would require that final action on a complaint filed by a cable television system operator or telecommunications carrier regarding claims pertaining to access to a pole, duct, conduit or right-of-way owned or controlled by a utility should be expected within 180 days from the date the complaint is filed with the Commission, with discretion afforded to the Commission to pause the 180-day review period in situations where actions outside the Commission's control might delay the Commission's review of such an access complaint.

Issue/Background

The objective of the federal "pole attachment" statute, Section 224 of the Communications Act, is to facilitate access to poles, ducts and conduit, consistent with safety and reliability requirements, to enable the expeditious deployment of cable, telecommunications and broadband infrastructure. Accordingly, when pole owners and pole attachers dispute access, as well as the rates, terms and conditions for such access, to these critical facilities, or with regard to other related issues, it is important to achieve the objective of Section 224 and to obtain prompt resolution of pole attachment complaints.

Application of Proposal

In the *2011 Pole Attachment Order*[1], the FCC acknowledged concerns about the length of time required to resolve pole attachment complaints but did not adopt a shot clock, finding that the record was not sufficient and that other processes it adopted could address these concerns. In the pending *Accelerating Wireline Broadband Deployment* Notice of Proposed Rulemaking[2], the FCC revisits its decision and proposes to adopt a 180-day shot clock for complaints alleging a complete denial of access. It also seeks comments about whether this shot clock should apply to complaints alleging a pole owner is imposing unreasonable rates, terms and conditions.[3] The FCC notes that under Section 224(c)(3)(B), a state asserting jurisdiction over the rates, terms and conditions for pole attachments could lose the ability to resolve a complaint if it does not act within 180 days after the complaint is filed.[4]

Comments from Stakeholders in FCC Wireline NPRM

Selected Commenters Favoring a 180-Day Shot Clock (including American Cable Association, Crown Castle, CTIA, Lumos, NCTA, US Telecom, Verizon, Wireless Infrastructure Association, and the Wireless Telecommunications International Association)

- The current process without any deadline for the FCC to resolve complaints "dares" an attacher to bring an enforcement action, knowing that it is costly to pursue a complaint and virtually impossible to have it resolved in a timely fashion.

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1 *Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, Report and Order and Order on Reconsideration, WC Docket No. 07-245, GN Docket No. 09-51, 26 FCC Rcd 5240, 5286, para. 102 (2011).

2 *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84, Notice of Proposed Rulemaking, Notice of Inquiry, and Request for Comment, FCC 17-37, para. 47 (Apr. 21, 2017).

3 *Id.*, para. 51.

4 *Id.*, para. 47.

- The mere fact that such a complaint is pending produces a degree of uncertainty that may serve as a deterrent to the deployment of broadband facilities.
- A 180-day shot clock would introduce greater predictability and certainty for attachers, promote more timely deployment of broadband infrastructure, provide greater uniformity for addressing pole attachment complaints, and afford the FCC with sufficient time to adjudicate the disputes fairly and reasonably.
- The six-month timeframe is the same period that Congress allowed for reverse-preemption states to decide pole attachment complaints.

Selected Commenters Opposing a 180-Day Shot Clock (including Coalition of Concerned Utilities and the Utilities Technology Council)

- Pole attachment access disputes involve technically complex issues and detailed facts. In addition, pole records at many utilities are voluminous, and discovery can be extremely burdensome. Sufficient time must be allocated to examine the complex and difficult issues.
- A 180-day shot clock will discourage or prevent the FCC's Enforcement Bureau from undertaking the necessary examination and analysis to sufficiently consider the evidence on the record in a complaint proceeding.

Summary of the Deliberation Among Committee Members

Members of the Committee believe that, because it would reduce uncertainty about rights and responsibilities, attachers and poles owners would benefit by having the FCC resolve pole attachments complaints within 180 days of the complaint's filing. The Committee rejected proposals that the shot clock should begin at times, such as after the complaint pleading cycle ends, other than when a complaint is filed, because the Committee believes their proposal gives sufficient time for the FCC to receive and consider all evidence. At the same time, the Members supported giving the FCC the ability to "pause" the shot clock in limited circumstances where it would serve the public interest, *e.g.*, when needed to receive key additional evidence or where the parties seek to pursue direct resolution. Unlike the *Accelerating Wireline Broadband Deployment* NPRM's proposal to apply the 180-day shot clock only to complaints alleging a

complete denial of access, the Committee suggests that the shot clock should apply to any allegation against a pole owner for not following the FCC's rules, including imposing unreasonable rates, terms and conditions.

Industry Precedents

1. New Hampshire Public Utilities Commission (PUC 1304.03) – "The commission shall issue its order resolving the complaint within 180 days of the receipt of a complete petition under this part."
2. Washington Statute WAC 480-54-070(1) – "The commission will enter an initial order resolving a complaint filed in conformance with this rule within six months of the date the complaint is filed.[5] The commission may extend this deadline for good cause."

Conclusion

Proposed Rule Change to § 1.1425, Review Period for Pole Access Complaints, specifically:

1. Except in extraordinary circumstances, final action on a complaint filed by a cable television system operator or telecommunications carrier regarding claims involving access to a pole, duct, conduit or right-of-way owned or controlled by a utility should be expected no later than 180 days from the date the complaint is filed with the Commission.
2. The Commission shall have the discretion to pause the 180-day review period in situations where actions outside the Commission's control are responsible for unreasonably delaying Commission review of an access complaint.

[5] A complaint may involve denial of access, a failure to negotiate in good faith the rates, terms, and conditions of an attachment agreement, or a dispute about the rates, terms, or conditions in, or compliance with, an agreement.

HURDLES: COMPLAINT PROCESS

Fees and Rates Committee

Working Group Vote: **Pass** (20 Yes, 0 No, 0 Abstain)

Executive Summary of Proposal

Adopt a reasonable shot clock process for all pole attachment complaints, which would apply to complaints between pole attachers and pole owners.

Issue/Background

Pole attachers and pole owners do not have an expedited process for resolving complaints about rates or fees related to the attachment process. These issues can languish for a protracted amount of time at the FCC, which impedes broadband deployment.

Application of Proposal

To facilitate the complaint process and to reach a resolution that does not continue to delay broadband deployment, a reasonable shot clock would be 180 days. This complaint process shot clock would apply both to complaints filed by attachers and those by pole owners.

Conclusion

A reasonable shot clock process of 180 days should be applied to complaints filed by pole owners and pole attachers. [Please also refer to the preceding proposal by this Working Group's Timing and Process Committee.]

HURDLES: DOUBLE RECOVERY OF CAPITAL COSTS

Fees and Rates Committee

Working Group Vote: **Pass** (20 Yes, 0 No, 0 Abstain)

Executive Summary of Proposal

The FCC should provide clarification that recovery by a pole owner for capital costs previously recovered through the make-ready process is not acceptable.

Issue/Background

In rare instances, when calculating attachment rates, some pole owners have included capital costs that have been previously recovered in the calculation of make-ready fees.

Application of Proposal

The Commission should clarify that pole owners must subscribe to appropriate and accurate accounting principles and rules, mandating that pole owners cannot use an increase in rates to recover capital costs already addressed in make-ready fees.

Conclusion

Pole owners should not be able to recover capital costs through the make-ready process more than once.

STREAMLINING MAKE-READY WORKFLOW

Methods and Practices Committee

Working Group Vote: **Pass** (16 Yes, 0 No, 1 Abstain)

Working Group Vote ("Friendly Amendments"): **Pass** (18 Yes, 0 No, 2 Abstain)

Executive Summary of Proposal

The Commission should create rules for a streamlined application, permitting and make-ready process that utilize a one-touch make-ready model in the communications space to expedite the deployment of broadband infrastructure. The rules should provide pole attachers with a single-contractor, single-trip solution for simple make-ready work which expedites make-ready work and provides adequate staff and resources to support all sizes of projects. For wireless attachments, the Committee encourages streamlining the approval by electric utilities of contractors to perform work on wireless attachments in the power space, although electric utilities may reserve work in the power space on their own facilities as needed. The rules also should balance every community's interest in safety and continuous service. Finally, these rules should be uniform across all jurisdictions and for all entities. Therefore, the Committee encourages the Commission to seek to compel all jurisdictions, including municipally-owned utilities, rural electric cooperatives and reverse preemption states, into a unified one-touch make-ready process.

Issue/Background

The make-ready process takes too long and is a significant barrier to faster broadband deployment. There are many parties involved, with varying obligations and sometimes competing interests, resulting in multiple trips to the utility pole and long waits in-between a confusing and often redundant sequence of steps. In many cases, one contractor could perform all the work on one visit to the satisfaction of the pole owner, any existing attacher, and the new attacher. There is not always consensus among various stakeholders (*i.e.*, pole owners, existing

attachers, and new attachers) about how to distinguish simple and complex cases, how to qualify contractors for make-ready work, and how to identify when the prolonged process is a result of anti-competitive interests rather than valid issues for resolution. These problems fall into two categories: a problem of process; and a problem of management and competing interests.

This process inefficiency exists in part because there is no active, collaborative and coordinated forecasting, planning, deployment and close-out system. The process is bureaucratic, time-consuming and unnecessarily confusing for existing attachers and new attachers alike. This general process failure is largely because pole owners, whose permission and oversight ultimately are required for broadband attachers, are often not in the telecommunications business and do not generally have incentives, priority or expertise in optimizing telecommunications deployment.

Proposal

To ensure consistent understanding of the various types of make-ready work, the Commission should adopt the following categories for transfer/attachment activities:

1. Simple Make-Ready Work in the Communications Space - Simple transfers where existing attachments in the communications space could be transferred without any expectation of a service outage(s) or facility damage and which do not require splicing of any communication attachment or relocation of existing wireless attachments.

2. Complex Make-Ready Work in the Communications Space - Transfers and work within the communications space that would be reasonably likely to cause a service outage(s) or facility damage, including work such as splicing of any communication attachment or relocation of existing wireless attachments. Any and all wireless activities, including those involving mobile, fixed, and point-to-point wireless communications and wireless internet service providers, are to be considered complex.

3. Make-Ready Work in or above the Power/Supply Space – Make-ready work in or above the power space, including make-ready work to prepare for wireless attachments in the power space. Such attachments could be for any and all wireless uses, including mobile,

fixed, and point-to-point wireless communications and wireless internet service providers.

It would be up to the attacher and its qualified contractor (reference this Working Group's "Make-Ready Contractor Management proposal) performing the work to make the reasonable determination as to whether work in the communications space is to be deemed simple or complex, subject to the pole owner's right to object to such determination.

Additionally, the Commission should enact a rule requiring the following for each aforementioned category:

1. For simple transfers within the communications space, a one-touch make-ready regime should be adopted that includes set guidelines for implementing expedited "shot clocks" throughout the permitting and make-ready processes and appropriate payment and dispute resolution mechanisms to incentivize adherence to these "shot clocks".

2. For complex work in the communications space, a rule should be established whereby the new attacher would give notice to the pole owner and existing attachers to complete the contemplated make-ready work within 30 days. If the make-ready work could not be completed within 30 days for reasons of safety or service interruption, the pole owner or existing attachers would provide written notice to the new attacher explaining the need for the extension and the proposed completion date. If the extended date exceeds 60 days from the original notice, the new attacher could perform the make-ready work itself. To assist with any sequencing of the performance of the complex make-ready work, it would be the responsibility of the qualified contractor and the new attacher to provide notification to the pole owner and existing attachers to outline the necessary sequencing of make-ready work.

3. For work in or above the power space which includes make-ready work for mobile, fixed, and point-to-point wireless communications and wireless internet service providers, the Commission should urge the parties to work together collaboratively and require transparency in contractor management. The rule should allow electric utility pole owners to opt to perform any work on their own facilities separately from the

installation of the wireless attachment, but ideally a pole owner would approve a contractor to perform both steps. To ensure transparency and efficiency pole owners should maintain readily available lists of approved contractors for work in the power space, including contractors with wireless expertise. In the case of very complex situations in the power space, a maximum "shot clock" timeline should be established during which engineers or field representatives from various interested parties could visit the pole, decide what work needs to be done, determine who could/should perform the work, and actually complete the make-ready work.

4. Concerning outages, the new attacher would notify an existing attacher immediately if the new attacher had reason to believe that the existing attacher's equipment might have been damaged or its service interrupted.

5. To prepare for post make-ready inspection, the new attacher would inform the existing attachers that make-ready work had concluded within 15 days of completion.

Further, the Commission should address the following issues:

A. Ensure Equal Pole Attachment Rights

To ensure equality in contractual terms amongst all attachers, the Commission should allow an attacher to insert a "Most Favored Nation" ("MFN") provision into any applicable pole attachment agreement with a pole owner. This process would be similar to Interconnection Contract Agreement (ICA) MFN options permitted under the rules today. Pole owners should not be allowed to discriminate between attachers by providing different treatment on the basis of larger bargaining power, conflicting relationships, or competitive reasons.

B. Lists of Approved Contractors

Pole owners currently must maintain lists of pre-approved contractors that have the pole owner's permission to work on its poles for one-touch make-ready work in the communications space and for contractors who could perform wireless work in the power space, with an indication of which kinds of work any given contractor is allowed to perform. The pole owner should not unreasonably withhold permission for contractors that otherwise maintain the minimum qualification requirements referenced in this Committee's companion "Make-Ready

Contractor Management" proposal. Since contractors currently perform work in multiple categories, contractors therefore should be approved in multiple categories, including simple make-ready in the communications space, complex make-ready in the communications space, work relating to wireless attachments in or above the power space, and other categories as needed.

C. Notification Obligations

The Commission should outline recommended notification obligations, by party, action and timeline, starting from permit application submission and continuing through completion of work. Events that trigger notification would include:

- Permit/request for attachment. The new attacher shall provide twenty-five days' notice to the pole owner and existing attachers identifying its contractor. If the attacher is certifying a new contractor, it must include such certification. The attacher also shall specify the category of attachment and the make-ready work contemplated, whether simple make-ready in the communications space, complex make-ready in the communications space, and/or make-ready work in the power space for wireless attachments.
- Response to a request for attachment
- Make-ready work required
- Work performed, accepted, evaluated, etc.
- Information on where to attach, contractor doing work, etc.

D. Costs

Any new attacher should incur all costs (on an actual-cost basis rather than as a flat fee) associated with any new attachment, including:

- Make-ready work for all attachments
- Field inspection of each existing attacher (if desired, below)

- Any damage to existing attachments and pole owner assets incurred during make-ready and attachment activities. Any third party or indirect damages should be addressed in the attachment agreement(s) between the parties already in place.
- The exception to "all costs" are costs associated with bringing the pole into compliance with current safety and pole owner construction standards to the extent such poles were out of compliance prior to attachment.

E. Test a Make-Ready Process Management System

The Commission should establish a pilot program to spur development of regional or state management of the make-ready process with a systems view of broadband deployment. While the specific recommendations outlined above may be distributed throughout the management of the process as it exists today and would result in greater efficiencies, additional benefit may be gained by consolidating some of these tasks within a single organization, either a current party to the process (such as pole owners, but with a more active and incentivized management role) or a third party (such as a state or multi-county association or agency, an electric co-op in a rural area, or a metropolitan planning authority or regional transit authority in an urban area). This system is proposed as a "proof of concept" pilot for which the Commission would provide the necessary funding.

Conclusion

The Commission should implement the following recommendations:

1. Institute a more efficient make-ready process, as follows:
    a. Facilitate one-touch make-ready for simple work in the communications space (including allowing the qualified contractor to make the determination as to whether the planned make-ready work is simple or complex, subject to the pole owner's right to object to such determination).
    b. Allow an existing attacher to complete complex make-ready work in the communications space within 30 days after notice to the pole owner and existing attachers, subject to extension as described above.

c. Encourage pole owners and attachers to collaborate on complex and wireless make-ready and attachment work by utilizing qualified contractors to perform as much work as possible while on-site for all attachers and the pole owner, thereby reducing repeat trips, speeding deployment, eliminating redundant work, and minimizing costs.

2. Ensure equitable pole attachment rights and treatment by permitting an MFN clause in pole attachment agreements.
3. Require pole owners to maintain a list of approved contractors for each type of make-ready work on the pole.
4. Enact notification provisions.
5. Mandate that costs incurred during the make-ready process be properly allocated among the relevant parties.
6. Explore whether regional bodies should be created to manage and enforce the make-ready process.

STREAMLINING MAKE-READY CONTRACTOR MANAGEMENT

Methods and Practices Committee

Working Group Vote: **Pass** (15 Yes, 0 No, 2 Abstain)

Working Group Vote ("Friendly Amendments"): **Pass** (18 Yes, 0 No, 2 Abstain)

Executive Summary of Proposal

A key set of delays occurs in the engagement of contractors approved to perform pole attachment work. First, the lack of unified contractor qualification and selection standards for make-ready work creates inefficient multi-trip, multi-vendor touches of the pole, and those unnecessary multiple touches increase the probability of safety and reliability risks. Second, the lack of transparent approved contractor lists causes delay. Third, the lack of a uniform and readily understood approval process for contractors causes delay. Fourth, the lack of commonly accepted quality standards, which contributes to the discomfort by pole owners and existing attachers with other contractors performing work on their facilities, also causes delay. Finally, electric utility pole owners are not incentivized to manage communications space operations, nor is it their core work, putting telecom pole owners in the position of managing competitor processes on top of their own work.

This proposal provides standards to meet these concerns that attachers could employ to identify and engage qualified contractors. Attachers would name the contractor they intend to use when the attacher provides notice to the pole owner of the new attachment. If the attacher identifies a contractor not already on a pole owner's approved list, the attacher also would certify that the contractor would meet both industry standards and pole owner standards, as detailed in this proposal.

Issue/Background

1. Existing attachers worry that one-touch make-ready endangers their attachments and provision of service because they are in control of neither the contractor nor the quality of work performed.

2. One-touch make-ready creates a need for a contractor to touch facilities owned by third-party attachers. Attachers should have the benefit of one-touch make-ready for simple work in the communications space.

3. Opponents of one-touch make-ready often cite unknown contractor qualifications as a principle reason why one-touch make-ready should not be adopted.

4. A significant difference in the risk of service outages exists between simple and complex make-ready work. Complex make-ready work is not required to be performed in one-touch make-ready but would benefit from being part of the contractor qualification process.

5. One-touch make-ready was developed focused solely on wireline attachments in the communications space. Since attachments in the power/supply space are not addressed, a separate category for broadband attachment work in the power space hereby is proposed. Electric utility pole owners would maintain control over such work, would continue to manage their own equipment in the power space, would approve appropriate contractors to perform wireless attachment work in the power space, and would provide a readily available approved contractor list.

6. Moving existing wireless attachments, including attachments for mobile, fixed, and point-to-point wireless communications and wireless internet service providers, is considered a form of complex make-ready work.

7. Safety and reliability issues are a bona fide concern of all parties: pole owners as well as new and existing third-party attachers.

8. Pole owners often express a lack of interest in managing the pole attachment process in the communications space and typically defer contractor choice to the attacher.

Exceptions do exist, however, especially with jurisdictions which avail their poles for third party attachment and establish a list of approved contractors. Even with interested pole owners, pole attachment management for others may not be a core business or concern. Incentives and guidelines often do not exist to manage contractors efficiently for speed and quality. Communications attachment work is neither the focus nor the expertise of electric utility pole owners, and telecom pole owners are required to provide resources to support competitors.

Proposal

A. General Contractor Qualification Requirements Applicable to All Categories of Make-Ready Work

1. Institute minimum competency requirements for attachers and their contractors to ensure safety and reliability during make-ready operations.
2. For all make-ready work, including complex work in the communication space and power space/supply work, establish efficient processes for pole owners to approve contractors based on industry standards and reasonable pole owner requirements.
3. Pole owners, or others agreeable to the pole owners, would keep readily available and current lists of approved contractors to perform simple and complex make-ready work in the communication space and work in the power space, as well as similar lists for other categories.
4. In addition to those contractors placed on an approved list by the pole owner, attachers may propose contractors to the pole owner for approval for any category of make-ready work. Contractors may not propose themselves, however, but could be proposed by an attacher and in turn become certified as qualified by that attacher. An attacher could name and certify a contractor in its notice to a pole owner for make-ready work on a specific pole or set of poles, in accordance with notice requirements laid out in the accompanying Make-Ready Workflow proposal.

5. The minimum qualification requirements should be objective and include the following:

    a. The attacher and any contractor would follow commercially reasonable safety and operational guidelines of the pole owner, if made available. If unavailable, the attacher and any contractor would follow NESC guidelines.

    b. The attacher would be obligated to use contractors competent to read and follow licensed-engineered pole designs for make-ready work if so required by the pole owner.

    c. The attacher and any contractor would follow all local, state and federal laws and regulations, including but not limited to, Qualified and Competent Persons requirements of OSHA rules.

    d. The contractor would meet or exceed any uniformly applied and reasonable safety and reliability (outage or damage) record thresholds set by the pole owner, if made available. For example, the contractor should not have a record of significant safety violations or worksite accidents.

    e. The contractor must have adequate insurance or a performance bond.

6. Pole owners may include commercially reasonable requirements in addition to, but not in conflict with, the minimum qualification requirements relating only to issues of safety and reliability. Any such requirements must be implemented on a non-discriminatory basis amongst all attachers (including the pole owner itself), be in writing, and be made available on the pole owner's public website for reference. As a practical matter, such requirements generally are found in a pole attachment agreement between the pole owner and the attacher.

B. Contractor Approval for Simple Make-Ready Work in the Communications Space

Simple transfers are considered those occurring in the communications space with no expected impact, resulting outage, splicing of any communication attachment, or relocation of existing wireless attachments. This would include the installation of a wireless attachment if the work on

another party's equipment is simple work (complex work being the attacher's own wireless attachment installation). For simple attachments, an attacher would be authorized to proceed with one-touch make-ready after providing notice to the pole owner and existing attachers of at least twenty-five calendar days describing the proposed work and contractor of choice. Such notice would constitute the attacher's certification that its contractor meets the required qualifications.

Either a pole owner or an existing attacher could reject a contractor proposed by an attacher before the twenty-five calendar day notice period expires, but only on established, declared transparent grounds uniformly applied on the basis of safety or reliability qualification failure pursuant to the standards outlined in Section A(5) above. Failure to object within the time period would be deemed approval of the attacher's proposed contractor.

This process would allow efficient use of qualified contractors who meet both industry competency requirements and safety and reliability requirements of the pole owner.

C. Contractor Approval for Complex Make-Ready Work in the Communications Space

For complex attachments in the communications space, one-touch make-ready does not apply. Nevertheless, since each attacher works only on its own equipment, there should be no impediment to allowing an attacher to choose its own contractor(s), as long as the general requirements above are satisfied and the attacher provides advance notice to the pole owner, which would afford the pole owner the opportunity to raise any concerns. In addition, complex make-ready work requires advance agreement between the pole owner and any impacted existing attacher, and any contractor qualification concerns could be addressed in those discussions.

D. Contractor Approval for Power/Supply Space Work

Make-ready work in or above the power space (including make-ready work to prepare for wireless attachments in the power space) is often necessary for wireless attachments. These attachments could be for any and all wireless uses, including mobile, fixed, and point-to-point wireless communications and wireless internet service providers. Pole owners would retain full

control of work in or above the power space and would maintain a list of approved contractors to perform such work.

The Commission should urge the parties to work together collaboratively and require transparency in contractor management. The rule would allow electric utility pole owners to choose to perform any work on their own facilities separately from the installation of a wireless attachment, but ideally a pole owner would approve a contractor to perform both steps. To ensure transparency and efficiency, pole owners should maintain readily available lists of approved contractors for work in the power space, to include approval of contractors with wireless expertise. Wireless contractors approved by an electric utility pole owner for work in the power space may also be competent, and if so approved, for work in the communications space.

E. Alternative for Contractor List Management

The Commission may wish to consider the designation of an independent third party to maintain current approved contractor lists and notification records and to oversee contractor qualification to the extent pole owners so desired. If, for example, a database administrator or a project advisory group is named, the contractor management support function could be included in their scope.

Conclusion

Developing a consistent, efficient, transparent and equitable method for identifying, qualifying and utilizing contractors for all categories of make-ready work would materially speed broadband deployment. Contractors could be qualified for one, multiple, or all categories of make-ready work. Once implemented, all simple work in the communications space would be considered one-touch make-ready, with a simple but reliable and safe engagement of approved contractors on which all stakeholders could rely. For all other categories, a simple contractor qualification process also would apply. For all categories of make-ready work, the risk of material delay would be avoided for the benefit of all concerned.

DEFINING "COMPLETE" ATTACHMENT APPLICATIONS

Timing and Process Committee

Working Group Vote: **Pass** (18 Yes, 0 No, 0 Abstain)

Working Group Vote ("Friendly Amendments"): **Pass** (14 Yes, 0 No, 0 Abstain)

Executive Summary of Proposal

For a pole attachment application to be complete, the requesting attacher needs to supply necessary information that the utility specifies in a master service agreement or in publicly-released requirements to begin to survey the poles. An application would be deemed complete ten business days after it is filed unless the utility informs the requesting attacher and identifies the specific information that has not been provided. In resubmitting an application, a requesting attacher need only provide the "missing" information identified by the utility, and a resubmitted application would be deemed complete five business days after it is filed unless the utility informs the requesting attacher that the identified information has not been provided.

Issue/Background

In the *2011 Pole Attachment Order*, the Commission established a timeline for a utility to address attachment requests. The timeline is triggered when a requesting attacher files a complete application, but the Commission did not require a utility to specify the information that is needed to be contained in its complete application and did not provide a process for deeming an application as complete. As a result, requesting attachers may submit applications that they believe to be complete, but either the utility rejects the application (*i.e.*, fails to deem it complete) because it determines information relevant to conducting a survey is not supplied or the utility fails to respond in a timely manner.

Application for Proposal

Attachments would be facilitated, and potential disputes between requesting attachers and utilities would be reduced, by creating a more transparent and objective application process, where requesting attachers would be more certain that they were supplying information utilities need to begin a survey and that their applications would be considered in a timely manner.

Legal Background

The timeline adopted in the *2011 Pole Attachment Order* is triggered by a complete application. The Commission raised the issue of when an application should be considered complete in the rulemaking proposal leading to this order[6]; however, it did not establish information requirements for either a "complete" application or a process for determining when an application is complete.

Selected Comments from Stakeholders in the FCC Wireline NPRM

1. Charter Communications

> "One opportunity for improvement would be to limit burdensome application requirements by pole owners. Although the information that pole owners require to evaluate a new attachment can vary, it often consists of a route map and drawings of individual poles showing the proposed location and configuration of the new attachment on the pole. However, some pole owners have excessive application requirements, including unnecessary engineering, that have marginal (if any) safety value — and which add significantly to the cost and schedule for deploying new attachments."

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[6] *See Implementation of Section 224 of the Act et al.*, WC Docket 07-245 *et al.*, Order and Further Notice of Proposed Rulemaking, 25 FCC Rcd 11864, 112, para. 37 (2010). The rulemaking referenced the New York Public Service Commission's 2004 decision cited in n. 2, *infra*.

2. Coalition of Concerned Utilities

> "The information that utilities require in applications, however, is vital to a safe and timely application process. Information provided in response to applications provides the data needed to accurately plan and account for work that will have a significant impact on the utility and its customer and reliability commitments."

Industry Precedents

In 2004, the New York Public Service Commission adopted a timeline for attachments, which specified, among other things, that a utility process an application within five business days of receipt and notify an applicant promptly of any deficiencies.

A review of various pole attachment agreements in different jurisdictions indicates that no agreement defines the term "complete" or provides a specific process to determine when an application is complete.

Summary of the Deliberation Among Committee Members and the BDAC

Committee members discussed two interrelated issues concerning the submission of applications to attach by telecommunications carriers and cable operators to utilities that can delay timely deployment of broadband service. First, utilities need applicants to provide complete, accurate and sufficient information related to the proposed attachments, and applicants need to know what information utilities require to fill out their applications. Second, applicants need utilities to consider and find applications to be complete in a timely manner. Committee members recognize that the FCC's pole attachment timeline does not start until the utility deems an application to be complete, and that, because the Commission has not specified when an application is complete and how this should be determined, uncertainty exists for utilities and attachers, as does an increased potential for disputes to arise.

One Committee member proposed to limit the information that a utility may request in an application to only that which is known to the applicant; however, Committee members were not prepared to accept this recommendation and thereby restrict the information that may be requested by a utility beyond existing restrictions found in the Commission's rules (*i.e.*, "information necessary under [the utility's] procedures to begin to survey the poles"). At the

same time, Committee members agreed that a utility should not be permitted to demand that an applicant supply additional information before deeming an application complete that the utility did not explicitly require at the time of the application's submission. To reduce uncertainty, the Committee decided that an applicant need only supply the information that is expressly stipulated in its master agreement with the utility and/or set forth in a utility's instructions related to its application. Committee members further agreed that this recommendation struck the right balance between ensuring that utilities can request and collect information they deem necessary to begin to survey poles and enabling applicants to ascertain the information that utilities require to find an application complete.

The Committee members also concluded that the timeline would have little value if utilities could take an unlimited amount of time to deem applications to be complete. Members debated whether the utility should have five or ten days to deem an application to be complete, and they settled on seven days. Members also decided that utilities, in finding an application to be incomplete, must inform the applicant promptly about what information is missing or insufficient and that an applicant should be able to cure an incomplete application by only providing the missing or insufficient information rather than having to submit information that was not required to be provided in the first instance. Committee members decided that utilities should have three days to review whether applicants provided the missing or insufficient information, and an application therefore should be deemed complete if this deadline is not met.

However, as a condition of approval, the BDAC amended the Committee's recommendation accordingly: changing the number of days a utility has to deem an application to be incomplete from seven calendar days to ten business days; and changing the number of days a utility has to deem a resubmitted application to be incomplete from three calendar days to five business days.

Proposal

Proposed Rule Change: At the end of 1.1420(c) the following underlined text should be added:

"(c) Survey. A utility shall respond as described in 1.1403(b) to a cable operator or telecommunications carrier within 45 days of receipt of a complete application to attach facilities to its utility poles (or within 60 days, in the case of larger orders as described in

paragraph (g) of this section). This response may be a notification that the utility has completed a survey of poles for which access has been requested. A complete application is an application that provides the utility with the information necessary under its procedures, as specified in a master service agreement or in publicly-released requirements at the time of submission of the application, to begin to survey the poles. An application shall be deemed complete ten business days after its submission unless the utility notifies the applicant that the application is incomplete and enumerates all reasons for finding it incomplete. Any resubmitted application need only address the utility's enumerated reasons for the application being incomplete and shall be deemed complete within five business days after its resubmission unless the utility specifies which enumerated reasons were not addressed."

JOINT FIELD SURVEY TO EXAMINE AND ANALYZE PROPOSED POLE ATTACHMENTS

Timing and Process Committee

Working Group Vote: **Pass** (20 Yes, 0 No, 0 Abstain)

Executive Summary of Proposal

A utility in performing a field inspection as part of any pre-construction feasibility survey would be required to permit a requesting attacher and existing attachers potentially affected by the proposed work to be present for the survey. The utility would use commercially reasonable efforts to provide advance notice of the survey of not less than three days to a requesting attacher and any existing attacher.

Issue/Background

During review of an attacher's application, a utility and a requesting attacher may reasonably disagree over the need for make-ready work on one or more poles, which consequently can delay approval of the application. Moreover, existing attachers, which may have a stake in the make-ready work, are not involved in the make-ready process until they are told how their attachments might need to be modified to accommodate a new attacher.

Rationale for Proposal

By jointly conducting a field inspection of each pole for which the attacher is requesting access, a utility and attacher could more readily avoid or resolve common issues. This coordination would speed up the application process and lower the cost of attachments. Moreover, the cost to the utility would be minimal, since it already will be conducting a survey. The utility needs only to provide notice to the attacher and, if it accepts, to allow the attacher to participate in the inspection. Similar benefits would accrue by enabling existing attachers with attachments on the affected poles to be on-site during the joint survey. These attachers could provide a utility and

requesting attacher with input, which again could expedite make-ready and lower the cost of attachments.

Legal Background

Neither the FCC nor the States have previously addressed the issue of joint field surveys.

Selected Comments from Stakeholders in FCC Wireline NPRM

Utility commenters, while not discussing joint surveys explicitly, generally state that they must control the application and survey processes: "Surveying the pole lies at the crux of ensuring safety, which cannot be compromised under any circumstances. The Commission must therefore ensure that utilities are provided sufficient time to conduct the surveys necessary to protect and maintain the safety, reliability, and integrity of the electric and communications infrastructure."[7]

The American Cable Association has recommended that "utilities be required to provide attachers with the option to conduct joint pole surveys ... [and be prohibited] from making unreasonable demands related to the joint survey, such as giving attachers only a few days' notice of the survey date or requiring payment to conduct the joint survey that would be in addition to the amount the utility would incur to conduct its own survey."[8]

Industry Precedents

1. As found in the Master Service Agreement (MSA) between Southern New England Telephone (now Frontier Communications) and a Connecticut municipality[9]:

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[7] Joint Reply Comments of Alliant Energy Corporation et al., WC Docket No. 17-84, at 16 (July 17, 2017).

[8] Reply Comments of the American Cable Association on the Notices of Proposed Rulemaking, WC Docket No. 17-84 and WT Docket No. 17-19, at 18 (July 17, 2017).

[9] Source: http://www.ct.gov/broadband/lib/broadband/ctgig_project/attachment_d_snet_muni_pole_attachment_ agreement_3_31_15.pdf.

"A field inspection will be performed by the SPA [Single Pole Administrator] and Frontier representatives with optional participation by Other Owner(s), Other Licensees and Municipality."

2. Excerpted from Verizon's MSA for the State of New York[10]:

   "At the option of the Licensee, the field inspection will be performed: (1) by representatives of the Licensor with optional participation by joint owner(s), joint user(s), and other Licensees and the Licensee, or (2) by Licensee, after first providing notice to the Licensor of its intention to perform said field inspection."

3. From Consolidated Edison's New York MSA[11]:

   "There shall also be a joint field inspection by Edison and LICENSEE."

Summary of the Deliberation Among Committee Members

Members of the Committee agreed that a joint survey would be a useful option for the attacher and could benefit the utility as well. They also agreed that the pole owner should be able to establish the timing of the joint survey and then give the attacher reasonable notice (of not less than three days) to participate. The group decided not to be prescriptive on what constitutes specific notice.

One Committee member, a utility representative, noted that any notice requirement should not reduce the amount of time that the pole owner had to complete the application within any government-mandated timeframe. For instance, a pole owner seeking to conduct the survey the same day that the application was filed could mean a needless waste of three days and therefore less time to finish the application in full. The group decided this would not be an issue unless the Commission's current survey timeframe is shortened. The group further decided that, in the event that the timeline for completing the survey was shortened to less than 57 days in total, the

[10] Source: https://www22.verizon.com/wholesale/attachments/pcl/PCL_NY_Pole_Agmt_1.pdf

[11] Source: https://legacyold.coned.com/team/docs/pole-attachment-agreement.pdf

joint survey proposal should be accommodated by adding three days to the timeline to account for the joint survey proposal's three-day notice requirement. This then would keep a utility whole with regard to honoring this joint survey proposal.

Based on input from the Working Group, the proposed rule was expanded to require utilities to provide notice to existing attachers potentially affected by the proposed make-ready work. The Committee concluded that the benefits of allowing any existing attacher to be on-site during the survey process, which is earlier than these parties often are aware of work potentially affecting their attachments, far outweighed possible concerns by new attachers about giving potential competitors advance notice of their deployment plans.

In response to questions from Working Group members about whether existing attachers, by being given advance notice of survey work, could somehow slow the survey process, it was made clear that the proposal does not require a utility to set a date for the survey that is convenient for existing attachers (or even new attachers); rather, it only requires the utility to give any existing attacher the right to be notified and to be present at the date and time set solely by the utility.

Proposal

Proposed Rule Change: To be added to the end of § 1.1420(c), the following underlined text is recommended:

"(c) Survey. A utility shall respond as described in § 1.1403(b) to a cable operator or telecommunications carrier within 45 days of receipt of a complete application to attach facilities to its utility poles (or within 60 days, in the case of larger orders as described in paragraph (g) of this section). This response may be a notification that the utility has completed a survey of poles for which access has been requested, consistent with its obligation to offer the opportunity for joint surveys as set forth below. A complete application is an application that provides the utility with the information necessary under its procedures to begin to survey the poles. A utility shall permit a cable operator or telecommunications carrier requesting attachment and any entities with existing attachments on the affected poles to be present for a field inspection conducted as part of a survey. A utility shall use commercially reasonable efforts to provide a cable operator or telecommunications carrier requesting attachment and any

entities with existing attachments on the affected poles with advance notice of not less than three days of a field inspection as part of a survey."

IMPROVING THE REQUESTING ATTACHERS' SELF-HELP REMEDY

Timing and Process Committee

Working Group Vote: **Pass** (18 Yes, 0 No, 0 Abstain)

Working Group Vote ("Friendly Amendments"): **Pass** (13 Yes, 1 No, 0 Abstain)

Executive Summary of Proposal

Improve the Commission's existing self-help remedy that requesting attachers may use when existing attachers do not perform make-ready within the 60-day timeline by: (1) focusing the utility's role on initial notification of the need for make-ready work by existing attachers and eliminating utility involvement in self-help make-ready work; (2) enabling a requesting attacher to invoke the self-help remedy and to perform make-ready in accordance with applicable government laws and regulations and engineering and safety standards by using a utility's approved contractor or a contractor to which the utility does not reasonably object; and (3) requiring the requesting attacher, when invoking the self-help remedy: (i) to have adequate insurance or an adequate performance bond; (ii) to provide advance notice to the utility and existing attachers so they can be present when it performs the make-ready work and to provide post-attachment notice so they can inspect the work; and (iii) to cease work if the utility or existing attachers notify it that the work has damaged the pole or their attachments such that an outage has occurred.

Issue/Background

In adopting the timeline in the *2011 Pole Attachment Order*, the Commission permitted a requesting attacher to undertake make-ready work in the communications space when existing attachers failed to perform within the 60-day timeframe. The Order, however, requires that a requesting attacher first permit a utility to undertake the work and, if the utility does not act,

then to undertake the work using utility-approved contractors. The Order also places the burden for monitoring performance by existing attachers on the utility, although the utility has less of a stake than the requesting attacher in ensuring such work would be performed. As a result of these issues, requesting attachers have found the self-help remedy to be of uncertain value, and consequently it has been rarely invoked.

Preface

This Working Group has focused on various mechanisms to expedite pole attachment make-ready. It separately has adopted a proposal to provide for one-touch make-ready in certain circumstances which would enable a requesting attacher to perform make-ready work immediately upon approval of its application and thereby obviate the need for sequential make-ready work by multiple existing attachers. A requesting attacher, however, may decide not to use one-touch make-ready for a variety of reasons, perhaps, by example, because it is willing to wait 60 days for an existing attacher to perform the work to avoid any chance of being liable for moving existing attachments. There are also certain circumstances where one-touch make-ready would not be available. For that reason, to provide a requesting attacher with an alternative approach, which is complementary to one-touch make-ready, the Working Group also seeks to improve the existing self-help remedy as discussed herein.

Rationale for Proposal

As the Commission found in 2011, enabling a requesting attacher to undertake make-ready work when an existing attacher fails to act within the 60-day window provides both a reasonable incentive for an existing attacher to perform make-ready work and a reasonable alternative when it does not. In addition, the self-help remedy encourages discussion among the utility, existing attachers, and the requesting attacher, which limits disputes and lessens the need for parties to bring complaints to the Commission. While the self-help concept is sound, the policies implementing the concept have created challenges, which can be addressed with the following recommended fixes.

First, the requesting attacher, not the utility, should play the key role in reminding existing attachers of their need to undertake make-ready work. Second, the utility should not be involved

in self-help make-ready work, and the requesting attacher should be able to undertake the work promptly, in accordance with applicable federal, state and local laws and regulations and applicable engineering and safety standards, by using a utility-approved contractor or a contractor to which the utility does not reasonably object within four days when existing attachers do not act within the 60-day window. Third, a requesting attacher, upon invoking the self-help remedy and undertaking make-ready work on the attachments of existing attachers: (i) should have adequate insurance or provide an adequate performance bond; (ii) should inform the utility and existing attachers so they can be present when it performs the work and so they can inspect the work after it is performed; and (iii) should cease work immediately on relevant poles if the utility or existing attachers notify it that the work has damaged the pole or their attachments such that an outage has occurred.

Legal Background

The timeline adopted in the *2011 Pole Attachment Order* provides a requesting attacher with the right to undertake make-ready work if existing attachers in the communication space do not perform within the 60-day window (or 105 days for larger orders) ((§1.1420(i)). The regulations also require the requesting attacher to give the utility 15 days to undertake the work (§1.1420(i)(2)) and to use a contractor (§1.1422(b)) from a list of approved contractors that the utility is required to provide (§1.1422(a)).

Comments from Stakeholders in the FCC Wireline NPRM (WC Docket No. 17-84)

In the Wireline NPRM, the Commission sought comment on whether to adopt new rules allowing a requesting attacher to perform routine make-ready work in lieu of the existing attacher. Among the different practices the Commission proposed to achieve this objective included modifying the existing self-help remedy so that a requesting attacher could use its own contractors and adopting one-touch make-ready or right-touch make-ready. In regard to modifying the existing remedy, the following comments are representative of those filed.

1. American Cable Association

   "The Commission should improve the effectiveness of the self-help remedy by providing greater clarity on the relative rights and responsibilities of each party. Specifically, the

Commission should clarify that if existing attachers fail to complete make-ready within the Commission's 60-day timeframe, the new attacher has an enforceable right to undertake all necessary make-ready using its own contractor, including work in the electric space. The new attacher would be required to provide reasonable notice to existing attachers so they can be present while the work is performed and would remain liable for any damages caused by faulty make-ready work. The Commission also should eliminate the 15-day period for utilities to undertake make-ready at the end of the 60-day period, as ACA representatives reported that utilities generally have no interest in handling such work."

2. Coalition of Concerned Utilities

   "Communications companies should select the contractors performing work in the communications space on the poles, but any decisions about who controls make-ready engineering and make-ready work in the communications space should remain with each electric utility pole owner."

3. Midwest Electric Utilities

   "The Midwest Electric Utilities have little or no direct involvement in the performance of make-ready work in the communications space. All of the make-ready work in the communications space is performed either by the new or existing attacher or by their qualified contractors, and any coordination concerning matters such as the use of contractors, the timing of completion of make-ready work, and so forth, is entirely in the hands of communications companies."

Summary of the Deliberation Among Committee Members and the BDAC

Committee (members agreed that the Commission's 2011 self-help remedy appropriately balances the rights of requesting attachers that do not seek to use the proposed one-touch make-ready (or similar practice) and those of existing attachers, but the rules and requirements implementing the concept needed to be amended and clarified, which then could lead to more effective use of the remedy. Committee members also determined that utilities were not carrying out their obligations under the rules, which were intended to facilitate a requesting attacher's

use of the self-help remedy, but an improved outcome could be achieved without imposing new rules or greater enforcement penalties on them. Rather, Committee members agreed that requesting attachers could take on many of the obligations now imposed on utilities.

First, Committee members decided a utility need only provide to existing attachers the following: i) notice of the requesting attacher's make-ready work; ii) the deadline for them to complete such work according to the Commission's rules; and iii) the requesting attacher's contact information. Once a utility gave this notice, a requesting attacher, having sufficient incentive to ensure existing attachers completed their work, would assume oversight responsibility.

Second, based on information that utilities rarely, if ever, assert their right to complete make-ready work that is uncompleted by existing attachers within 15 days, Committee members agreed to remove this obligation on utilities, which would facilitate a requesting attacher completing make-ready work as quickly as possible.

Third, for several reasons, Committee members decided that utilities need not provide, and requesting attachers need not utilize, utility-approved contractors to complete make-ready work under the self-help remedy. To begin with, based on discussions with utilities and attachers, the Committee determined that a requesting attacher, especially one which has elected to wait 60 days to allow existing attachers to move their own attachments, has sufficient incentive to use a competent contractor who would perform the remaining work properly. However, the BDAC amended the Committee's recommendation to require the new attacher to use either a utility-approved contractor or a contractor to which the utility did not reasonably object.

The Committee's updated self-help remedy gives existing attachers affected by a requesting attacher's execution of self-help a reasonable opportunity to accompany and consult during the work and requires requesting attachers to perform work in accordance with applicable federal, state and local laws and regulations and applicable engineering and safety standards, which enables existing attachers that are unsatisfied with make-ready work performed on its attachments to bring a complaint to the Commission or to bring a civil action against the requesting attacher. The BDAC added to this process a requirement that the new attacher notify the utility and existing attachers post-attachment to give them an opportunity to inspect the

work and a requirement that the new attacher cease work immediately if the utility or existing attachers notify it that the work has damaged the pole or their attachments such that an outage has occurred.

Finally, due to the fact that existing attachers have 60 days to perform the make-ready work themselves and the other protections that the updated self-help remedy provides, Committee members did not think it necessary for requesting attachers to put up a performance bond or to provide additional indemnification to existing attachers, which is not required under the existing self-help make-ready requirement. In addressing this issue, the BDAC decided that the new attacher either should have adequate insurance or post an adequate performance bond.

Proposal

Proposed Rule Change: To amend §1.1420 and 1.1422 as follows:

§ 1.1420 Timeline for access to utility poles.

(a) The term “attachment” means any attachment by a cable television system or provider of telecommunications service to a pole owned or controlled by a utility.

(b) All time limits in this subsection are to be calculated according to § 1.4.

(c) Survey. A utility shall respond as described in § 1.1403(b) to a cable operator or telecommunications carrier within 45 days of receipt of a complete application to attach facilities to its utility poles (or within 60 days, in the case of larger orders as described in paragraph (f) of this section). This response may be a notification that the utility has completed a survey of poles for which access has been requested. A complete application is an application that provides the utility with the information necessary under its procedures to begin to survey the poles.

(d) Estimate. Where a request for access is not denied, a utility shall present to a cable operator or telecommunications carrier an estimate of charges to perform all necessary make-ready work within 14 days of providing the response required by § 1.1420(c), or in the case where a prospective attacher's contractor has performed a survey, within 14 days of receipt by the utility of such survey.

(1) A utility may withdraw an outstanding estimate of charges to perform make-ready work beginning 14 days after the estimate is presented.

(2) A cable operator or telecommunications carrier may accept a valid estimate and make payment anytime after receipt of an estimate but before the estimate is withdrawn.

(e) Make-ready. Upon receipt of payment specified in paragraph (d)(2) of this section, a utility shall notify ~~immediately and~~ in writing ~~all known~~ entities with existing attachments that may be affected by the make-ready of the need for and nature of make-ready work. For attachments in the communications space, the notice shall ~~and .~~

~~(1) For attachments in the communications space, the notice shall~~:

~~(i) Specify where and what make-ready will be performed.~~

~~(ii) Set~~set a date for completion of make-ready by such entities that is no later than 60 days after notification is sent (or 105 days in the case of larger orders, as described in paragraph (g) of this section). For wireless attachments above the communications space, the notice shall set a date for completion of make-ready that is no later than 90 days after notification is sent (or 135 days in the case of larger orders, as described in paragraph (g) of this section). A utility shall provide a cable operator or telecommunications carrier requesting attachment with a copy of such notification and the contact information of entities with existing attachments that may be affected by the make-ready, and thereafter a cable operator or telecommunications carrier requesting attachment shall be responsible for all further notifications to, and coordination with, such entities except as may be otherwise directed by the utility.

~~(iii) State that any entity with an existing attachment may modify the attachment consistent with the specified make-ready before the date set for completion.~~

~~(iv) State that the utility may assert its right to 15 additional days to complete make-ready.~~

~~(v) State that if make-ready is not completed by the completion date set by the utility (or, if the utility has asserted its 15-day right of control, 15 days later), the cable operator~~

~~or telecommunications carrier requesting access may complete the specified make-ready.~~

~~(vi) State the name, telephone number, and e-mail address of a person to contact for more information about the make-ready procedure.~~

~~(2) For wireless attachments above the communications space, the notice shall:~~

~~(i) Specify where and what make-ready will be performed.~~

~~(ii) Set a date for completion of make-ready that is no later than 90 days after notification is sent (or 135 days in the case of larger orders, as described in paragraph (g) of this section).~~

~~(iii) State that any entity with an existing attachment may modify the attachment consistent with the specified make-ready before the date set for completion.~~

~~(iv) State that the utility may assert its right to 15 additional days to complete make-ready.~~

~~(v) State the name, telephone number, and e-mail address of a person to contact for more information about the make-ready procedure.~~

~~(f) For wireless attachments above the communications space, a utility shall ensure that make-ready is completed by the date set by the utility in paragraph (e)(2)(ii) of this section (or, if the utility has asserted its 15-day right of control, 15 days later).~~

(f) For the purposes of compliance with the time periods in this section:

(1) A utility shall apply the timeline described in paragraphs (c) through (e) of this section to all requests for pole attachment up to the lesser of 300 poles or 0.5 percent of the utility's poles in a state.

(2) A utility may add 15 days to the survey period described in paragraph (c) of this section to larger orders up to the lesser of 3000 poles or 5 percent of the utility's poles in a state.

(3) A utility may add 45 days to the make-ready periods described in paragraph (e) of this section to larger orders up to the lesser of 3000 poles or 5 percent of the utility's poles in a state.

(4) A utility shall negotiate in good faith the timing of all requests for pole attachment larger than the lesser of 3000 poles or 5 percent of the utility's poles in a state.

(5) A utility may treat multiple requests from a single cable operator or telecommunications carrier as one request when the requests are filed within 30 days of one another.

(g) A utility may deviate from the time limits specified in this section:

(1) Before offering an estimate of charges if the parties have no agreement specifying the rates, terms, and conditions of attachment.

(2) During performance of make-ready for good and sufficient cause that renders it infeasible for the utility to complete the make-ready work within the prescribed timeframe. A utility that so deviates shall immediately notify, in writing, the cable operator or telecommunications carrier requesting attachment and other affected entities with existing attachments, and shall include the reason for and date and duration of the deviation. The utility shall deviate from the time limits specified in this section for a period no longer than necessary and shall resume make-ready performance without discrimination when it returns to routine operations.

(h) If a utility fails to respond as specified in paragraph (c) of this section, a cable operator or telecommunications carrier requesting attachment in the communications space may, ~~as specified in~~consistent with § 1.1422, ~~hire a contractor to~~ complete a survey. If make-ready is not complete by the date specified in paragraph (e)~~(1)(ii)~~ of this section, a cable operator or telecommunications carrier requesting attachment in the communications space may, consistent with § 1.1422, ~~hire a contractor to~~ complete the specified make-ready either with a licensed contractor from the utility's approved list or by using a contractor to which the utility does not reasonably object within four days. A contractor performing make-ready must have adequate insurance or post an adequate performance bond.

~~(1) Immediately, if the utility has failed to assert its right to perform remaining make-ready work by notifying the requesting attacher that it will do so; or~~

~~(2) After 15 days if the utility has asserted its right to perform make-ready by the date specified in paragraph (e)(1)(ii) of this section and has failed to complete make-ready.~~

§ 1.1422 Contractors for survey and make-ready.

~~(a) A utility shall make available and keep up-to-date a reasonably sufficient list of contractors it authorizes to perform surveys and make-ready in the communications space on its utility poles in cases where the utility has failed to meet deadlines specified in § 1.1420.~~

~~(b) If a cable operator or telecommunications carrier hires a contractor for purposes specified in § 1.1420, it shall choose from among a utility's list of authorized contractors.~~

(~~c~~a) A cable operator or telecommunications carrier that ~~hires a contractor for~~ undertakes a survey or make-ready work pursuant to § 1.1420(i) shall provide a utility with a reasonable opportunity for a utility representative to accompany and consult with ~~the authorized contractor and~~ the cable operator or telecommunications carrier during either of those activities.

(b) A cable operator or telecommunications carrier that undertakes make-ready work pursuant to § 1.1420(i) shall:

(1) Provide entities with existing attachments that may be affected by the make-ready with a reasonable opportunity to accompany and consult with the cable operator or telecommunications carrier during that work;

(2) Ensure that any work it performs on existing attachments is in accordance with applicable federal, state, and local laws and regulations and applicable engineering and safety standards;

(3) Provide the utility and any entity with an attachment that has been moved with notice that the work is complete; and

(4) Cease work immediately on the relevant poles upon being notified by the utility or an entity with an existing attachment that the work has damaged the pole or an existing attachment such that an outage has occurred.

(~~d~~c) The consulting representative of an electric utility may make final determinations, on a nondiscriminatory basis, where there is insufficient capacity and for reasons of safety, reliability, and generally applicable engineering purposes.

HURDLES: RATE DISCLOSURE

Fees and Rates Committee

Working Group Vote: **Pass** (16 Yes, 0 No, 0 Abstain)

Executive Summary of Proposal

Publishing contact information on the public website for the trade association representing electric cooperatives would facilitate a pole attacher's ability to quickly and efficiently determine pole attachment rates, terms and conditions.

Issue/Background

On occasion, specifically with electric cooperatives, major communications providers have found that pole attachment rates and related information are not easily obtainable.

Proposal

To address this concern, the National Rural Electric Cooperative Association (NRECA) should publish on its public website the name and contact information for the statewide electric cooperative manager in each state. A pole attacher seeking information on rates, terms and conditions to deploy broadband services in rural electric cooperative territory could contact the relevant statewide manager to receive information, in a reasonable timeframe, for a specific electric cooperative(s) in the state.

Conclusion

NRECA shall publish on its public website contact information for statewide electric cooperative managers to facilitate a pole attacher's ability to efficiently determine pole attachment rates, terms and conditions.

MAXIMIZING USE OF BROADBAND INFRASTRUCTURE ELIGIBLE FOR SUBSIDY (E-RATE)

Other Infrastructure and Transparency Committee

Working Group Vote: **Pass** (12 Yes, 1 No, 2 Abstain)

Working Group Vote ("Friendly Amendments"): **Pass** (20 Yes, 0 No, 0 Abstain)

Executive Summary of Proposal

The Commission should review, clarify and revise, as necessary, program rules focused on accelerating broadband deployment and lowering the cost of broadband to community anchor institutions, such as schools, libraries and hospitals, to ensure that use of the resulting infrastructure is maximized.

Issue/Background

The E-rate program[12] provides discounts to schools and libraries to obtain telecommunications and Internet access at affordable rates. Available data indicates that the program has been largely successful in improving classroom connectivity in schools across the country, including those in rural areas, as well as in facilitating connectivity at public libraries nationwide. In addition, the Healthcare Connect Fund[13] provides subsidies that discount eligible expenses for high capacity broadband for eligible healthcare providers. To comply with statutory requirements, these programs limit the eligible use of broadband services funded by the subsidy. For example, services provided to schools must be used for "educational purposes."

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[12] https://www.fcc.gov/general/e-rate-schools-libraries-usf-program

[13] https://www.fcc.gov/general/rural-health-care-program#HCF

The E-rate program has enabled high capacity broadband capability for school facilities and libraries in communities that otherwise have limited broadband connectivity. Similarly, the Healthcare Connect Fund has accelerated deployment of broadband to a range of healthcare institutions, including those in rural communities. While these deployments have improved access for students during the school day in schools, medical staff at medical facilities, and communities at large in public libraries, in many localities – particularly in rural areas and on tribal lands – the population at large has limited access to broadband connectivity in the home.

In many cases, students remain without access at home where either broadband service is prohibitively expensive or is not available at all. Others in the community likewise are unable to access the Internet at home. In these situations, the students without access are at an educational disadvantage – hence the "homework gap" – and adults without access are similarly disadvantaged, leaving them unable to pursue online education, take advantage of online news and entertainment, apply for a job, or otherwise participate in the 21st century digital world. In the United States today, an estimated 34 million Americans do not have access to broadband, including 24 million in rural areas.

Application of Proposal

This policy recommendation is aimed at further maximizing the value that can be derived from the program subsidization of facilities and services in affected communities by enabling use of excess capacity of the provisioned service for additional uses. Important public interest objectives are served by ensuring that all citizens have access to affordable 21st century broadband Internet. Allowing available capacity to remain underutilized serves only to continue to further disadvantage these communities.

While the program-subsidized broadband facilities are heavily utilized during the day, they are largely idle otherwise, resulting in underutilization of available – and paid-for -- broadband capacity that could be exploited to the benefit of the community. Peak broadband usage for residential households typically occurs in the early morning, late afternoon, and evening. Under this recommendation, subsidy program rules would be reviewed, clarified and revised, as necessary, to allow program-subsidized broadband capacity at schools, libraries and healthcare

facilities to be extended beyond the school or library premises for commercial use in the surrounding communities under the control of the relevant school or institution.

Technologies now exist that can enable the broadband capacity of the anchor institution to be made available wirelessly to the surrounding community. Several wireless technologies could be employed to enable this extension. Extending these networks in this way would reduce the cost of providing broadband connectivity to the surrounding community as additional backhaul capacity in many cases would not be required. Leveraging the capacity of the schools therefore would lower the cost of deployment into the surrounding area. Indeed, in one example[14], Mid-Atlantic Broadband Communities Corporation and Microsoft, with support from the Virginia Tobacco Region Revitalization Commission, recently have launched just such a program in southern Virginia, aiming to connect more than 3,000 students in 1,000 homes by the end of 2017.

Extending the schools' capacity to the community in this way raises the possibility that the connectivity could or would be used for non-educational purposes. Additionally, the program rules are unclear on the degree to which service must be bound to the physical premises of the school. For this reason, Microsoft, Mid-Atlantic Broadband Communities Corporation, and other participants in the Virginia program initiated a petition for clarification of existing E-rate program rules in June 2016 in WC Docket No. 13-184,"Modernizing the E-rate Program for Schools and Libraries"[15], which remains open.

Likewise, for libraries, it is unclear whether extending the service beyond the library premises would render the service ineligible for subsidy, and similar questions exist regarding use of healthcare institutions' broadband facilities. A review and possible revision of the program rules would clarify qualification criteria for such additional purposes, considering the totality of factors inhibiting broadband rollout, affordability and uptake within the community.

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[14] https://news.microsoft.com/2017/05/23/mid-atlantic-broadband-communities-and-microsoft-launch-new-homework-network-to-bring-thousands-of-students-online-in-rural-virginia/

[15] https://www.fcc.gov/ecfs/filing/60001990439

Accordingly, this policy recommendation is to review, clarify and revise, as necessary, *all subsidy program rules* that apply to the provision of broadband infrastructure and services, with the goal of ensuring that the resulting infrastructure is maximally utilized.

Under this recommendation, these anchor institution facilities could be extended for *commercial* use in the community, which would result in a "shared use" of federally funded infrastructure. Enabling this "shared use" would bring down costs for an operator to serve the surrounding community (and, potentially, the rates charged to the school or library) and would be in the public interest.

Proposal

The Commission should review, clarify and revise, as necessary, program rules focused on accelerating broadband deployment and lowering the cost of broadband to community anchor institutions, such as schools, libraries and hospitals, to ensure that use of the resulting infrastructure is maximized. This recommendation is not intended to impact subsidy eligibility and competitive bidding for services.

1. The Commission should determine that E-rate-funded broadband service could be used beyond an institution's physical premises, including to provide ancillary commercial broadband services, as long as the following conditions apply:

    a) Use does not negatively impact or interfere with its use for E-rate-subsidized purposes;

    b) Use is constrained to ancillary use of excess capacity; and,

    c) Use does not occur either in census blocks where carriers receive Connect America Fund or other high-cost universal service support to provide broadband service or in census blocks that are not deemed as eligible areas for the distribution of support from the Connect America Fund (CAF).

2. To ensure that all residential locations receive broadband service, the Commission should consider how to use E-rate and other universal service funding to deploy service

to certain unserved and underserved locations. Among the issues the Commission should consider are:

a) Whether an ancillary commercial broadband offering that is not subject to filtering controls, that may otherwise be applicable, could be offered that leverages federally funded E-rate infrastructure, as long as the following conditions are met:

   i. Use does not negatively impact or interfere with its use for E-rate subsidized purposes;

   ii. Use is constrained to ancillary use of excess capacity;

   iii. Use is limited to certain unserved and underserved residential locations as set forth by the Commission; and,

   iv. No contract awarded to an anchor institution prior to the Commission adopting any rules for this purpose should enable such ancillary commercial use of an E-rate subsidized service; and, in awarding any contract issued after adoption of rules that deems such expanded use allowable, an anchor institution would undertake a competitive bidding process consistent with the Commission's existing competitive bidding process for awarding E-rate before selecting a provider.

b) Whether, based on available evidence, an unserved or underserved residential location where federally funded E-rate infrastructure may be used to offer an ancillary commercial broadband offering should include residential locations in census blocks where:

   i. There is not any combination of two or more competitive alternative wireline or fixed wireless broadband offers.

   ii. Where only one competitive alternative wireline or fixed wireless broadband offer is available, such competitive offer is only made available at a price greater than 125% of the average price for similar service available within the nearest census tract where there are two or more competitive alternative wireline or fixed wireless broadband offers available.

iii. Where there are not two or more competitive alternative wireline or fixed wireless broadband offers available, a one-year notice of intent to make subsidy-funded broadband service available in the community pursuant to this recommendation would be provided to potential commercial providers, and subsidy-funded broadband service will not be made available if two or more competitive alternative wireline or fixed wireless broadband offers are made available within that time. Further, during this notice period, any commercial provider obligated to deploy under CAF II, A CAM, or Alaska USF programs and with deployment plans in place could challenge the proposed alternative service, and, in such case, such service would not be offered unless the challenger's service is not deployed within 24 months.

iv. To ensure protection of infrastructure investments, whether this service should not be made available to any household already taking service from any wireline or fixed wireless ISP, including those receiving CAF funding, or to any household where such service is available 30 days from initial request.

c) Whether overall administration of the subsidy programs would need to change in order to facilitate ancillary use of subsidized infrastructure as contemplated here.

d) Whether an institution that is the beneficiary of a subsidy could also financially participate in providing an ancillary commercial service offered in unserved or underserved areas leveraging the subsidy-funded infrastructure, and, if so, under what conditions.

e) What rules, if any, might be necessary to ensure that E-rate program funding cannot be abused to intentionally fund excess capacity.

COMMON DATABASE PROPOSAL

Other Infrastructure and Transparency Committee

(in Conjunction with the Methods and Practices Committee)

Working Group Vote: **Pass** (10 Yes, 4 No, 2 Abstain)

Working Group Vote ("Friendly Amendments"): **Pass** (15 Yes, 3 No, 2 Abstain)

Executive Summary of Proposal

Increased broadband development will require the involvement of every resource possible. This extensive application of new resources also will require a change in the delivery model currently in operation. Because the availability of rights of way is limited, it will necessitate that those rights of way, and the infrastructure contained in them, be shared. This is not a new concept, as communications, power, water and sewer facilities have been sharing these areas since their respective inceptions. In fact, for most utilities, roadways and roadsides establish the only viable public routes within which one can install equipment to provide service. As demand increases, the clamor for scarce space will become an area of contention and delay, and as a consequence the country will experience restricted development unless solutions are created to alleviate this congestion. Understanding the problem, and to whom the problem should be addressed, is paramount to developing a practical solution, and access to data describing infrastructure assets in common rights of way is the best way to achieve such an understanding, and organizing our regulations, laws and practices around that data will create the most effective solution.

Within the owner community, an effort is underway to improve communications about deployment opportunities to gain efficiencies. The National Joint Utilities Notification System (NJUNS) has been developing a notification system to identify joint construction savings opportunities amongst utilities. A database that identifies construction plans geographically not only would help attachers capitalize on use opportunities but could help utilities identify possible efficiencies in right of way infrastructure development.

This proposal addresses the need for a database of information tied to geographic locations of infrastructure elements, which is an important national function. Such a database either could be developed and maintained centrally or could be accessed through a common data interface function, depending on the best use of resources and existing data. The dilemma associated with this proposal is that, while the need is clear, the requirements are defined and the limitations are visible, it will take substantially more than a part-time focal effort to develop the business design, financial considerations and technical implementation of such a function. For that reason, a paid focus team should be created to develop the business flows, financial requirements, technical design and project plan for a "database function" that serves the national need.

This proposal also outlines a team of individuals with particular skill sets, an expected timeline for the outcome, and a definition of the outcome. Included are a proposed budget for the development of the project and a description of a year-long project to develop the function, prepare plans for two pilot programs, and define the overall costs of the implementation after such pilots have been completed. This effort will define four decision points:

1. A decision now to proceed with a more complete definition of the costs of this effort
2. A decision in one month to allocate funds and resources for a one-year design effort
3. A decision in one year to proceed with pilot programs to ensure adequacy of the design
4. A decision at the end of the pilot program to proceed with national implementation

The remainder of this summary will describe the database in broad terms so that the Commission can begin to appreciate the scope of the system. It is important to recognize that this description is a functional one, and any or all of it may change as the design effort described above is completed.

This proposal provides high-level information for the development of a common database that would house data concerning infrastructure projects and addresses the problem of a lack of knowledge regarding the ownership of current and planned infrastructure projects, the lack of coordination by infrastructure builders, and a lack of cost efficiencies that is a possible

byproduct of the first two problems. One use case for the proposed database will be presented as an example of its intent.

1. A database should be built and populated to adequately represent the available common infrastructure elements, including routes, locations and rights of way.
2. This database would be commissioned by the FCC as a public resource, with its development to be funded by the user community in the form of usage fees or licenses. This database should be built and operated by industry experts but overseen by the Commission in the context of a public/private partnership.
3. This database could be developed as an aggregation of existing databases, or information from different databases, currently operated by owners as well as a new subset of databases covering those elements not currently recorded by the owner.
    a. If an owner provides database access, such owner should be compensated by usage fees, upcharges in rental fees, or federal funds.
    b. If an owner undertakes data entry in a new database, such owner should be compensated by usage fees or federal funds.
    c. Operators of a public database should be compensated for their development efforts by usage fees or federal funds.
4. Population of this database would be encouraged by requiring federal program participants – those regulated as well as those receiving funding –to submit entries to the database.
5. The use of the database for efficient access to basic pole information, such as pole locations, specifications and attachments, would be balanced against respecting the need for security by the pole owners. This database would serve as a clearinghouse for all necessary information that a new attacher would need to efficiently plan for its attachment to another entity's poles.

6. Another use of this database would be to manage workflow and to track progress on approved attachment projects by incorporating workflow automation to improve the consistency, efficiency and speed of the pole attachment process.

7. It is recognized that the costs of this database would be substantial, and that implementation and operation might require federal funding or congressional allocation.

    b. There are hundreds of millions of infrastructure elements to be recorded and maintained, and the duration and interest in data entry can only be accomplished through incentives.

    c. Until basic data is available, usage fees will be insufficient to fund development, so a development fund may be required to get the system to operating capacity. This may require a funding mechanism similar to how the Highway Fund was used to develop the Interstate Highway System.

Issue/Background

The primary issue that this proposal addresses is the lack of knowledge of and coordination among infrastructure projects that often leads to a lack of efficiency and a possible significant waste of resources when deploying new infrastructure. Currently, there is simply no single place to go to determine infrastructure ownership or to obtain information about current and planned infrastructure projects. This lack of consolidated knowledge directly hinders one of the BDAC's stated goals: transparency. Since broadband access, mobile and otherwise, is becoming (or has already become) a critical utility, it is crucial that the government and corporate partners not only innovate regarding technical factors, such as spectrum wavelengths and how signals are transmitted across vast stretches of land, but also in the way that data is collected and disseminated to make the deployment of infrastructure as cost- and schedule-efficient as possible.

As an example, there is a serious lack of quality information on poles as well as the processes and forms that pole owners require for new attachments to such poles. Many utility pole owners, perhaps most, do not maintain a database of their own pole infrastructure that is readily

accessible electronically. This lack of accessible, standardized pole data dramatically increases the uncertainty, cost and time for any potential new attacher, which in turn limits competition in the marketplace. This also increases the risk of accidents, failure of poles, and damage to any existing attacher's equipment.

In addition to a lack of basic pole data, many utility pole owners do not have attachment process information that is readily accessible electronically. The current written information given to prospective new attachers often is so opaque and varied (*i.e.*, not using standardized terminology) that many utilities require attachers to have their employees and contractors trained by the utility in how to manage the attachment process with that utility.

Having this information readily obtainable and organized in an effective way would have an impact on all of the BDAC charges and deliverables by facilitating effective information-sharing to enable actions and decisions within and among key stakeholders. Depending on the model for providing access, this database could be maintained at little to no net cost to the government, and its value could be funded by the users under supervision of the Commission.

Proposal

This proposal would establish the foundation of a database function to be developed in the national interest as a general function, and such function would serve to increase the efficiency of new construction on shared rights of way, poles and other infrastructure that is held under private and public ownership. A proposed focus team would develop the design and business parameters required to complete and operate this database function. First, we will describe the cost and team, to be followed by a functional description of the database and some use cases that illustrate examples of project improvements.

The Focus Team Approach

The focus team would be tasked with developing support materials for the following decisions:

1. A decision now to proceed with a more complete definition of the costs of this effort – this document is the elemental data for that decision.

2. A decision in one month to allocate funds and resources for a one-year design effort. This decision will be presented to the Commission along with potential sources and methods for funding. Beyond the Committee document, Commission resources must be engaged to further prepare this document for final decision.

3. A decision in one year to proceed with pilot programs to ensure adequacy of the design. Should the Commission authorize the focus team to develop decision support materials, these materials (listed below) would comprise an approach to database services to include the total cost for technology and input as well as for a set of pilot programs that could be used to validate concepts and costs.

4. A decision at the end of the pilot program to proceed with the national implementation. The intent of the focus team would be to develop a database capability that could operate on the value of its content, in a transactional business manner. The database designers would make every effort to use existing data and database functions available in private industry today.

This proposal addresses the allocation of resources and time to complete a detailed functional business design for this database function. The focus team would operate under the direction of the Commission and would produce the following materials for analysis:

1. Design Approach

   This decision would determine whether the project would be a complete central database or a WEB-based hybrid using interface languages to interact with existing databases. The best solution would use existing databases and would interface with those databases to reduce the cost of data management and decrease process change in existing utility-owned data functions.

2. Industry Examination

   This study would cover the industry to examine which data exists, where it is located, and how the volumes of data should be collected. The study will represent each construction type – aerial, buried, wireless, hybrid, regeneration site, public building,

rooftop and others – and would determine which relevant data should be stored for each construction type.

3. Functional Access Processes

   This study would present the active business flows that are needed to complete a functional data request/response transaction. It would present the methods needed for display and specify any functions required for bulk input and output. This study also would present a functional method for transaction billing and would suggest the proper public/private mix of rates and taxation for these transactions. Recipient of cash flows would be determined so that owner/attacher impact could be quantified.

4. Documented Design of Technology

   This study would offer a complete cost for development of the technology needed for the database function and for tracking and billing transactions. A completed design and development cost would be included.

5. ROI of Model

   The return on investment for this project would be determined to define the positive impacts created by the function and the method used for determining costs and benefits.

The team is comprised of the following resources:

1. Database / Software Expert – Full Time

   This individual would be an expert in developing databases commonly used in industry applications such as inventory management. While naming a software language or storage technique is premature, the identified individual would have at least 15 years of experience in developing database management systems in modern network-connected database and data access environments.

2. GIS Mapping Expert – Full Time

   This individual would have extensive experience in geographic information systems (GIS) development. It is imperative that the data systems proposed to be developed also be able to produce viable maps so that locations could be related to content in a geographic format. The GIS Mapping Expert would have at least 15 years of direct experience placing utility components in a spatial environment.

3. Well-Connected Industry Expert – Half Time

   For this position a seasoned industry expert with well-developed relationships with both providers and attachers is envisioned. This individual would leverage an extensive list of professional connections to gain insight, develop solutions, and resolve concerns and issues associated with the database. The selected candidate would have at least 25 active years in the industry and should be able to enumerate valuable connections and contacts during the selection process. It is conceivable that a member of NJUNS could be contracted for this position.

4. Outside Plant and Construction Methods Expert – Half Time

   This individual would be an experienced utility construction manager or engineer possessing diverse areas of expertise, including experience in aerial, buried, and tower construction. If such diversity is not available in one individual, then two or more contracts may be let to fill this position.

5. E-Commerce / Business Development Expert – Full Time

   This individual would possess well-developed business experience with online transaction-oriented methods. As stated in the issue description, this system potentially could become revenue generating, with benefits going back to data owners and systems operators. In order to facilitate that sort of cash flow management, an individual with direct experience in developing a transaction business would be preferable. The best candidate would have developed an online business with billable transactions that have been tracked and recorded by a system.

6. Legal and U.S. Regulatory Codes Expert – Half Time

   To ensure that the database complies with the codes and laws administered by the Commission, an expert in this area of government would be required. It is expected that a current FCC employee could fill this role provided that individual has extensive experience. Given the input required, the creative ability to adjust methods to work within current code is essential, and a junior employee would not suffice.

7. Industry Pricing Expert - Half Time

   As the evolution of new broadband takes place, access to generated revenue also will evolve. Federally mandated fees and taxes will become less prevalent, and the ability to track monetary exchange will continue to grow in complexity. This database, which is expected to operate on fees, would need to be developed so that fee sources could be moved from specific database transaction counts to perhaps content volume or royalty methods. A keen vision of the past and potential future would be required, and this position would be responsible for ensuring that the required operating funds for the database are being accounted for in the development of networks and network services over the coming years.

8. Project Manager / Documenter - Full Time

   An experienced project manager would be required to keep the team operating in a unified direction. This proposed database contemplates a complex design, which would require a comprehensive set of documents. The project also would require that the end result of the effort culminate in a carefully costed development with long-term value that can be assessed as being ROI neutral or positive. A project manager with experience documenting results in similar technical project development for at least 10 years would be required.

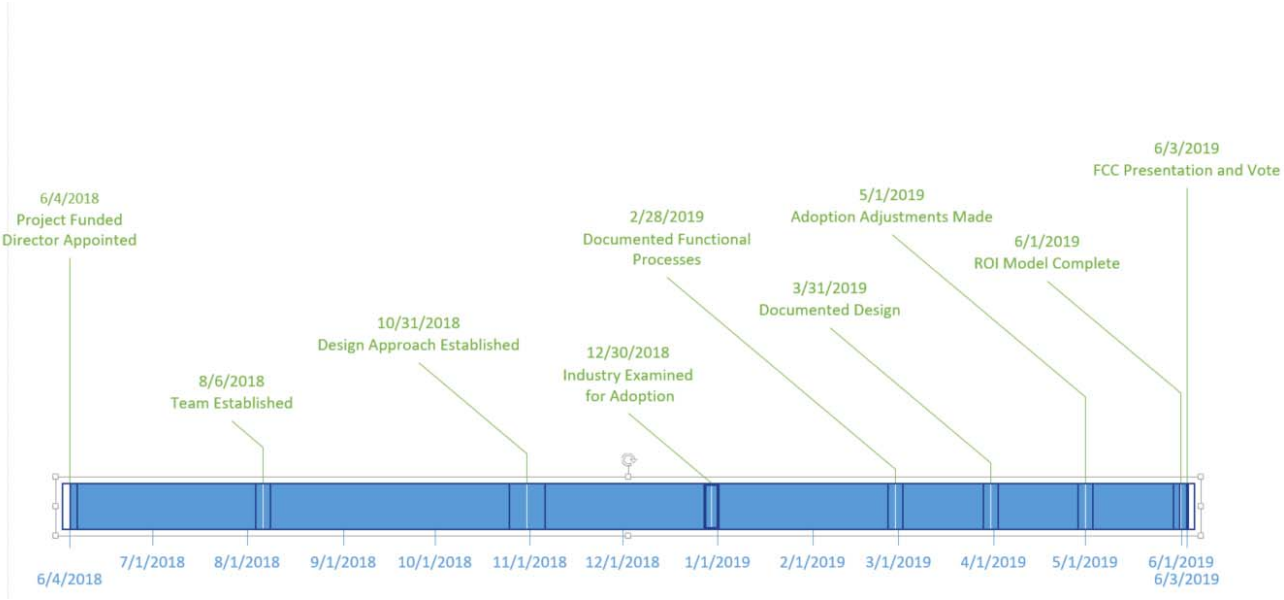
9. Director – Half Time

   The director of this team would have ultimate responsibility to produce a set of documented recommendations and plans that can be sized, tested for ROI, and produced. Such results would require a technical design, a process and usage design,

and a timeline for development of the technology, as well as a business implementation plan that meticulously spells out the practices that would be used to ensure successful implementation and adoption by industry. This director should possess a business development and technology background and should be considered by industry as a moderate.

Timeline

Documentation would be produced on a timeline described below to ensure that the Commission could make further operational commitments in one year.



Cost

	Duration		52 Weeks			
	Weekly	Travel	Rate	Travel	Hours	Total
Database / Software Expert – Full Time	40	0.25	$ 150.00	$14,300.00	$312,000.00	$ 326,300.00
GIS Mapping Expert – Full Time	40	0.05	$ 150.00	$ 2,860.00	$312,000.00	$ 314,860.00
Well Connected Industry Expert – Half Time	20	0.5	$ 175.00	$28,600.00	$182,000.00	$ 210,600.00
Outside Plant and Construction Methods Expert – Half Time	20	0.05	$ 120.00	$ 2,860.00	$124,800.00	$ 127,660.00
E-Commerce / Business Development Expert – Full Time	40	0.25	$ 120.00	$14,300.00	$249,600.00	$ 263,900.00
Legal and U.S. Regulatory Codes Expert – Half Time	20	0.05	$ 120.00	$ 2,860.00	$124,800.00	$ 127,660.00
Industry Pricing Expert - Half Time	20	0.05	$ 120.00	$ 2,860.00	$124,800.00	$ 127,660.00
Project Manager / Documenter - Full Time	40	0.25	$ 120.00	$14,300.00	$249,600.00	$ 263,900.00
Director – Half Time	20	0.125	$ 175.00	$ 7,150.00	$182,000.00	$ 189,150.00
Project Total						$1,951,690.00

The Database

This proposal provides high-level information for a common database to be developed that would house data concerning infrastructure projects. This proposal addresses the problem of a lack of knowledge regarding the ownership of current and planned infrastructure projects, the lack of coordination between infrastructure owners and builders, and potential cost efficiencies by resolving the first two problems.

Development of such a complex data system necessitates that both ownership of the proposed database must be established and a funding source – whether fee-based, grant, or publicly owned and funded – be established. Content sources must be identified and compensated by the model, and integrity of the data must be verified by owners and users alike.

The Application

This section outlines the high-level details of the database. For the purpose of this document we will use the word "database" to mean an environment that encompasses a database (data management system), geographic information system and analysis capabilities, and a user-friendly interface to input, search and manage infrastructure element data.

Application Data

Multiple project types could be tracked in the application:

- Existing (*i.e.*, constructed or installed) infrastructure elements
- Currently active infrastructure element projects
- Proposed and future infrastructure projects

For all types the following valuable data would be tracked and catalogued:

- Location –This likely would be best accomplished by having a geographic information system (GIS) application within the application environment to ensure the location data is accurate.
- Type – Pole, box, bridge, building, etc.
- Size/Dimensions – The size and dimensions of the element
- Features – To include cabling, access features, etc.
- Currently Deployed Utilities – *E.g.*, fiber optic cable, electrical wiring, transformers, antennas, etc.
- Possible Uses/Current Use – Structural data to indicate what possible uses the element could accommodate and what it currently is being used for
- Owner/Decision Maker – Who owns and/or maintains the element
- Owner/Decision Maker Contact Information – The best way to contact the owner/decision maker about the element
- Known Permitting or Licensing Constraints – This would communicate currently known future/upcoming permit, licensing and other constraints as well as those that are currently in place for the element.
- Other Key Stakeholders – This could include architectural review boards, homeowners associations, state and local entities, etc.
- Environmental Factors
- Community Concerns

Some key features of the application should include*:*

- Search and filter capabilities by data elements listed above as well as by location, type, features, and other criteria
- Data management

- Reporting
- Analytics
- Basic workflows (create, review, approve, notifications, etc.)
- Security/access control
- Ability for external entities to input data for review and population in the system
- A mechanism to publicize or disseminate information to interested stakeholders to take action

Data Collection

There are three types of stakeholders that could provide valuable data to this database, and each would be represented in the category of past and existing infrastructure elements and future/point forward infrastructure elements:

- Government entities that have built or own infrastructure elements and are willing to supply information to the database (assuming this encompasses all government entities)
- Corporations or individuals that have built or own infrastructure elements that are ***willing*** to supply information
- Corporations or individuals that have built or own infrastructure elements that are ***unwilling*** to supply information

To develop a database that is incomplete due to a lack of participation, it would be imperative that current infrastructure owners be incentivized to make data available. This can be accomplished by compensating owners for data use, preferably by distributing a portion of the per-use fee to the owner. Other methods for incenting owners could include simply creating data interfaces to their existing data sets or creating an interface language that could be used to interact with multiples of existing data sets. All of which would be a function of design but likewise must be addressed to ensure data ubiquity. With a comprehensive common database

being the desired outcome, there are numerous benefits to having this information, including but perhaps not limited to:

- Cost savings
- Schedule efficiencies
- Space and land utilization efficiencies
- Planning efficiencies

The Commission should encourage industry to supply this data by implementing any or all of the following mechanisms: fee royalties; rental upcharges; and/or permit/schedule improvement.

Funding Approaches

The quantity of owners, users and database elements included in this discussion would be substantial, to say the least, involving potentially thousands of owners, thousands of users, and hundreds of millions of elements. These numbers indicate that the database would be complex, ownership would be distributed, and content would be in a constant state of change. It is a significant undertaking that, in the course of its lifetime, would consume considerable cost of development. The usefulness of such a database would be defined in the breadth of its content, and, to become useful, this database would need to be funded by the public. To reach operational stability, we recommend three possible approaches:

- Fee-Based Approach – Any user of the database would be charged a fee.
- Fund-Based Approach –The Commission would petition Congress for a fund with which to develop the database and to compensate owners for their data.
- Combined Approach – A fund would be petitioned by the Commission to develop a database and to compensate the developers and data owners for their content. Once developed, the database would be supported as a fee-based system.

Actions to Be Tracked

The Commission would need to track certain events in any project that is under its supervision to ensure that the database managers are aware of any new activity. By notifying the database

operators, the Commission could ensure the database is maintained as a living entity. The following events should be tracked and notified by the Commission:

- Federal infrastructure procurements
- State and local infrastructure procurements
- State and local permitting (commercial and residential)
- Self-reported corporate projects

Security and Access

Regarding the other entities (*e.g.*, government, enterprise and other willing parties), the database should be constructed in such a way that external parties could submit information for review and population within the system. Access to the data would be controlled by multiple security methods to ensure that no single entity could download or access the entire data set, and the data access would be based on appropriate security validation, need-to-know and other criteria, safeguards and requirements. This would include controlling access to layers of the data across different geographies in the system. As with any database, user access should be controlled by username and password, user credentials should be regularly reviewed, and encrypted data flows should be required.

Sample Workflows

1. Process Oversight

The make-ready and attachment processes would be managed in the database. This could include elements, for example, of the Connecticut joint pole authority's Notify system and any Commission-specified time periods. This also would allow all attachers to learn and use a single system for data entry and would make timing and process transparent and readily measurable.

2. Contractor Qualification & Oversight

Contractor qualification and oversight also could be managed through the database. In another proposal this Committee recommends the adoption of one-touch make-ready in certain circumstances, where the pole owner would approve contractors to allow single-touch make-ready for all make-ready work. Ideally, a group of contractors would be common among

attachers and pole owners, so that each stakeholder would be satisfied that its interests are addressed because each contractor is one already approved. Although this process typically is administered by the current administrator, the pole owner, or by a third party manager, this proposal recommends that an unencumbered third party working in coordination with the pole owner be delegated such responsibility.

3. As example the Commonwealth of Virginia is undertaking an infrastructure project within ZIP Code 20136, specifically:

- The Program resource would identify the specific State RFP for the infrastructure project.
- The Program resource would enters a new record/case in the system with all available information.
- The Program resource would request additional information from the State agency
- Once the announcement is published, automated notifications would be sent to stakeholders who have indicated that ZIP Code 20136 is of interest to their company.
- A corporate partner would access the system, search for projects happening in Virginia within ZIP Code 20136, and find this project, and possibly others.
- The corporate partner is able to coordinate with the State agency, as well as potentially with the designated contractor, to explore joint infrastructure deployment and/or use of infrastructure being deployed for cost and schedule efficiencies.

Conclusion

Creating a common database that contains a comprehensive set of information about existing and planned infrastructure element projects would create a collaborative environment to increase common use efficiency, facilitated by information sharing and transparency. A standardized, accessible database, featuring automated workflow tools for pole and attacher and associated asset and process information, should be the foundation of a much more efficient and faster broadband deployment system. This should include a set of pole attachment and contractor qualification systems that are built into the database to provide a much clearer way

for the whole attachment ecosystem to enable work to be performed in a safe, efficient and predictable manner. This proposal acknowledges that the database undertaking would be a massive and complex effort, for which continued study and development would be essential, perhaps through other working and development groups with support and oversight from the Commission.

While this document contains a concise description of the technology and its use, the Commission will require much more detailed information and more complete planning to enable such a development. We have proposed a one-year project detailing adequate resources to design and plan the project, determine the long-term cost, and develop a pilot program intended to vet the design.

CONCLUSION

Final Statement

The members of this Working Group appreciate the privilege and opportunity to participate in this process in support of the broader initiative to facilitate streamlined deployment of, and broader access to, high-speed broadband as a national strategic priority.

APPENDIX

One proposal, entitled “Common Infrastructure Efficiencies”, was presented to the BDAC during the January 23-24, 2018, meeting but was tabled by the Working Group for possible consideration at a future time.

COMMON INFRASTRUCTURE EFFICIENCIES

Other Infrastructure and Transparency Committee

Working Group Vote: **Pass** (13 Yes, 1 No, 2 Abstain)

Executive Summary of Proposal

The need exists to explore the means by which broadband infrastructure deployment is either hampered or encouraged through the creation of various efficiencies. There are many methods that could be employed to increase available infrastructure and to eliminate the scarcity of right of way-based infrastructure elements. The goal of this proposal is to identify proper incentives that the Commission could introduce into the process of building and maintaining infrastructure that would facilitate optimal broadband deployment.

At this juncture, the recommendations below are beyond this Working Group's capabilities to further develop. Consequently, it is recommended that the Commission consider this proposal as a work item and apply appropriate dedicated resources to fully develop the concepts included herein. This Committee recognizes both that deployment is a private issue and that right of way scarcity is a public concern that will limit broadband deployment potential. This would require the involvement of, at a minimum, a person familiar with poles and pole owners, a person familiar with municipal and state construction and permitting procedures, and one or more persons familiar with the conflicting needs of different types of pole attachers (*e.g.*, cable companies, power utilities, and wireless providers).

Issue/Background

An important part of this exercise would be to develop the means for reliably determining ownership of existing infrastructure, which frequently is unclear. At a minimum, any firm seeking to undertake a new buildout should be able to easily determine an infrastructure element owner through an accessible database, public records, or a similar resource. [This

concern is further addressed in the preceding Common Infrastructure Database proposal but also is listed here as an area of concern.]

In addition to examining the means by which governmental units can decrease the transaction costs of traditional siting (*e.g.*, on utility poles), there should be an examination of the means by which these governmental units can best incentivize private entities to make portions of their buildings available for siting wireless equipment. For instance, this could take the form of leasing agreements with the owners of commercial or nonprofit buildings to allow for the installation of various wireless facilities. The role of the governmental unit in this regard would be as facilitator to optimize the amount of private space to be dedicated for wireless deployment.

Finally, the deployment and utilization of "creative" common infrastructure elements, such as shared messenger wire, shared fiber sheath, shared duct, shared communications hut and shared trench, should be promoted. Relatedly, if any government or corporation is building out new infrastructure, it should be required to carry some form of 5G-enabling technology through the aforementioned shared resources.

Proposal

In order to achieve the objective of encouraging infrastructure efficiencies, the Commission should implement the following policies relating to infrastructure sharing and scheduling improvements that could be used to offset the costs associated with developing additional infrastructure.

Subject Facilities and Specific Challenges to Competition

The following list of structures represents likely targets for the Commission to focus on when encouraging competitive access. Each entry should identify any competitive challenges that could arise as a specific feature of particular hardware.

Importantly, the goal of this proposal is to provide economic incentives that help to align the interests of various private parties so that they voluntarily could achieve the most economically efficient results. By way of example, colocation on macro towers has proved to be very effective in many areas of the country, given that equipment was installed on transmission towers that

were not regulated and that the parties agreed to terms without government intervention. Light poles could work the same way. Other examples to consider include:

- Utility poles
- Messenger wires
- Trenches
- Sheaths
- Ducts
- Buildings used for antennas
  - Public buildings
  - Private buildings
- Buildings used for signal regeneration
  - Space offered in public buildings
  - Private colocation/regeneration facilities
  - Private data centers
  - Space offered in private buildings
- Alternative public structures
  - Traffic lights
  - Lamp posts
  - Utility towers
  - Water towers
  - Bridges
  - Radio towers
  - Community centers

Specific Proposal

The Committee recommends that the Commission encourage private and public entities interested or involved in the deployment of broadband Internet access service in a community to find ways to make such deployment plans known to others in the community, consistent with

the interests of the parties to keep certain aspects of such plans private for competitive reasons or for the public safety.

The purpose of such greater disclosure would be to facilitate opportunities for parties not involved in one entity's deployment plans to confer with such entity to identify, prior to construction, mutually agreeable potential to share in the cost of such deployment or in the use of the deployed broadband infrastructure. The benefits of such increased communication could result in a more timely and less costly deployment. It also could lead to opportunities for both parties to share in the deployment costs for the installation of their own infrastructure, such as apportioning the cost of trenching so each party could install its own conduit and/or fiber. It could promote the installation of infrastructure necessary for deployment (*e.g.*, poles, conduit, ducts, etc.) by one party that then could be used by others in the future, such as the installation of surplus ducts, more space in conduit, or poles taller than otherwise would need to be installed. Furthermore, it could lead to the deployment of sufficient quantities of fiber that could be used by others in the future.

While the purpose of this proposal is to facilitate opportunities for parties to work together, this proposal should not be construed to require the Commission to directly or indirectly require any provider to incur any expense that it otherwise would not incur to install infrastructure for shared use or to require a provider that has invested private capital in its infrastructure to share such infrastructure with others (unless otherwise allowed or agreed). Instead, this proposal seeks to find ways to compensate owners for overbuilding so that such infrastructure can be availed for purchase and thereby used by broadband builders that might be entering a market. Such overbuild conditions could include: heavier messenger wire; excess duct space; excess fiber; taller poles and the like, which have a "material cost" considerably smaller than the total of construction. However, these excess "material costs" commonly are avoided because the builder has no current or future need to warrant the additional incremental expense. If there was a method of compensation that would carry the cost of the excess material until such time as it was sold and the builder then was completely compensated, all construction could be incentivized to add unused capacity, and competitors would be able to purchase readily available infrastructure to speed capacity deployment. This proposal seeks to develop incentives for

building excess capacity that would carry the costs until a builder was able to recover such costs by selling their excess capacity.

Operationalizing

In order to create the necessary coordination among the various parties contemplated in this proposal, the Commission would need to assemble a small team of experts competent in relevant functional areas and capable of researching and providing specific recommendations on the matter.

This most likely would require 3-5 industry experts, led by a project manager, and working for a period of six to twelve months. To ensure that electrical pole owners have adequate representation on this panel, the Commission should designate that a majority of personnel is sourced from industry (e.g., if five people are assigned to the task, three of them should be hired from a pool of applicants that represents the interests of electrical pole owners).

The cost estimates for such a six-month project are as follows:

	Hourly Rate	Weekly Hours	Weeks	Cost
Industry Expert (pole owners)	$175.00	4o	26	$182,000.00
Industry Expert (pole attachers)	$175.00	40	26	$182,000.00
Industry Expert (construction and permitting)	$175.00	40	26	$182,000.00
Project Manager	$120.00	20	26	$ 62,400.00
Total				$608,400.00

Proposal

Given the widely dispersed nature of potential attachment locations, there is great opportunity to increase the efficiency of infrastructure deployment. However, discovering and realizing these efficiencies will require detailed knowledge of the business realities that the parties to these transactions face as well as new possibilities to facilitate such efficiencies (*e.g.*, by working with builders during new construction). This proposal presents a very cost-effective way to avail these efficiencies and to provide them to industry on a voluntary basis.