Before the
DEPARTMENT OF TELECOMMUNICATIONS AND CABLE
Commonwealth of Massachusetts

CRC COMMUNICATIONS LLC, D/B/A OTELCO, *Complainant*, v. MASSACHUSETTS ELECTRIC COMPANY D/B/A NATIONAL GRID, AND VERIZON NEW ENGLAND INC. *Respondents*.	File No. DTC- 22-4

DECLARATION OF LAWRENCE M. SLAVIN, Ph.D.

I, Lawrence M. Slavin, declare as follows:

1. My name is Dr. Lawrence M. Slavin. I am principal and co-owner of Outside Plant Consulting Services, Inc., a private practice specializing in standards, guidelines and construction practices for outside plant facilities in the telecommunications and power industries. My address is 15 Lenape Avenue, Rockaway, New Jersey, 07866.

2. I received a B.S. in Mechanical Engineering from The Cooper Union for the Advancement of Science and Art. I then pursued an M.S. in Engineering Mechanics at New York University, where I also received my Ph.D. in Mechanical Engineering. My professional background includes a wide range of consulting experiences in various roles in the telecommunications and power industries. In addition to my other interests and activities, I represent the national telephone industry, via the Alliance for Telecommunications Industry Solutions, on the National Electrical Safety Code (NESC) Committee. I actively participate on various NESC subcommittees, including the relevant

Subcommittee 4 (Overhead Lines – Clearances) and Subcommittee 5 (Overhead Lines – Strength & Loading), as well as on Subcommittee 7 (Underground Lines), Interpretations Subcommittee, Executive Subcommittee and Main Committee. I also serve on Accredited Standards Committee 05, responsible for several utility standards, including *ANSI O5.1, Wood Poles, Specifications and Dimensions*. I am also a past and present contributor to the frequently referenced, widely used and respected Telcordia *Blue Book – Manual of Construction Procedures*. More details regarding my background are attached to my declaration as Attachment A.

3. My participation in these organizations is directly relevant to the present dispute between OTELCO and both National Grid and Verizon ("Pole Owners"). In particular, since entering into the National Grid Attachment Agreement and the Verizon Pole Attachment Agreement on March 9, 2021, OTELCO has experienced unnecessary delays and excessive make-ready costs associated with its applications, which have significantly hindered its deployment of competitive broadband service to Massachusetts residents, businesses, and institutions.

4. I previously provided pre-filed testimony in this docket at the request of OTELCO. Among other things, my testimony addressed the practice of pole "boxing," or "opposite side" construction (typically the rear side of the pole, facing away from the road), as it relates to efficient construction techniques for overhead communication lines and compliance with appropriate safety codes and industry practices, and how the ability to use this method, as opposed to the installation of a new, larger pole, will increase the feasibility of providing broadband services to the public. My testimony also addressed Verizon's and National Grid's claims that boxing creates safety issues and complicates the completion of

future work, and I discussed the benefits of boxing to both pole owners and other attachers, as well as any possible drawbacks.

5. OTELCO has now requested that I address assertions made by Verizon and National Grid that they cannot assess OTELCO's requests to box poles identified on prior pre-construction surveys as requiring replacement without conducting new surveys. To do so, I have considered the guidelines, including associated factors or criteria, that National Grid and Verizon claim to consider in analyzing boxing requests, including criteria provided by David Wolanin in an email to David Allen (OTLECO) sent on December 9, 2022, which is attached to my declaration as Attachment B. I also opine on whether Verizon and/or National Grid actually consider all of these criteria in practice, in light of Verizon's current use of boxing for its own needs, and the presence of boxing on Verizon and National Grid jointly owned poles.

6. I make this Declaration in support of OTELCO's Motion for Enforcement of the Final Order in the above-captioned case. I know the following information based my own personal knowledge, or information otherwise obtained, as described, and if called as a witness in this action, I could and would testify competently under oath.

7. I am aware that Verizon and National Grid are now requiring that OTELCO resurvey all poles that involve requests for boxing. I further understand that approximately one year has elapsed since Verizon initially denied OTELCO's requests to box poles on February 2, 2022, and that the surveys were primarily conducted between July 2021 and February 2022. Osmose performed the survey work for National Grid and Pike performed the survey work for Verizon. The information collected by both entities in the initial pre-construction surveys, as well as information that should already be available to the Pole

Owners through their existing records, should be sufficient to evaluate OTELCO's boxing requests for at least those poles previously identified as otherwise requiring replacement.

Purpose of Surveys

8. A key purpose of the pre-construction surveys is to identify the pole attributes (e.g., height, class, …), as well as the type and location of the various attachments on the pole, allowing an evaluation of whether additional facilities (e.g., OTELCO fiber) may be attached, consistent with the requirements of the NESC. In particular, it is necessary to satisfy the minimum clearances between the lowest communication cable and the ground surface below (e.g., 15.5 ft above roads, including the sag conditions), between the highest communications cable and the electric supply cables above (e.g., 40 inches at the pole, and 30 inches along the span), as well as the spacing between the communications cables themselves (e.g., 12 inches spacing for cables mounted on the same face of the pole, unless all of the parties, including the pole owner(s), agree to less spacing between communications cables).

9. Whereas some poles may have available space for a new attachment without any adjustments to the present lines, typically by mounting above the highest existing communications cable, it is sometimes necessary, and possible, to obtain sufficient space by moving the existing cables up or down, consistent with meeting all required clearances, and/or by making other adjustments to existing facilities on the pole, as may be required (such as covering an electrical riser or addressing a drip loop). This is accomplished as part of the "make-ready" process. It is often a challenge to satisfy all the clearance requirements on existing poles, especially with the growing number of existing and potentially new tenants, giving rise to the need to prematurely replace the poles. Thus, as I explained in my

previous testimonies, using the available space on the opposite side of the pole (boxing) is often a viable, appropriate solution.

10. I understand that, subsequent to an Order being issued in this proceeding that required Verizon and National Grid to evaluate each boxing request and only deny such requests if "specific safety, reliability, or engineering issues regarding a specific pole" exist, OTELCO asked to box only those Verizon and National Grid poles that were identified as needing replacement as a result of the initial surveys. Verizon and National Grid responded that they would need to resurvey these poles as well as neighboring poles to determine if boxing could be done consistent with their standards.

Pole Owners' Criteria for Evaluating Boxing Requests

11. When evaluating a request for boxing, the Pole Owners' claim to consider a number of factors or criteria. These are provided in (1) "Verizon Guidelines on Boxing and Extension Arms, Version 1.1, JS Revised 5-22-2019" ("Verizon Guidelines"), which was attached to the declaration of David Wolanin as Exhibit A, as part of Verizon's response to OTELCO's original complaint; (2) the "Network Operations and Engineering Flash" (05-12-20) ("Engineering Flash") attached to Mr. Wolanin's Declaration as Exhibit B; (3) a copy of Intercompany Operating Procedure# 8 ("IOP # 8") of the Joint Ownership Agreement between the Pole Owners[1]; (4) National Grid's "Operating Procedures Boxing of Joint Used Poles" ("Operating Procedures"), in response to OTELCO's request for information No. 1-32 (Attachment DTC-NG-1-32,); and (5) additional criteria recently provided by David Wolanin in his aforementioned email to David Allen (Attachment B).

[1] Each of the three referenced written policies are in the record, attached to the Declaration of David Wolanin. *See* Response of Verizon to Pole Attachment Complaint and Declaration of David L. Wolanin, with Exhibits, Exhibits A, B and D. (May 12, 2022).

Non-Objective Nature of Pole Owners' Guidelines and Criteria

12. It is important to recognize that the recent additional criteria in Attachment B are not specifically included in the written guidelines Verizon Guidelines on Boxing and Extension Arms or the Network Operations and Engineering Flash, and in some cases are vague and rather subjective in their implementation. For example, the precise size of equipment is not specified other than to say "large." Similarly, the presence of an embankment or pole misalignment may or may not be relevant, depending upon the degree of the embankment or misalignment. Moreover, by Mr. Wolanin's own statement, these are only "as of now" standards. While standards or guidelines can certainly be modified over time, they should not be a moving target at any given time. Standards should provide the attacher clear and unambiguous guidance on what construction practices are acceptable and what are not at that time.

13. In general, however, I would also not describe the other sets of factors to be considered as objective "standards" for allowing boxing, but instead are a list of often subjective criteria or conditions that reflects a preference of the Pole Owner(s) to not allow other entities to employ this method, without actual reference to "specific reasonable safety, reliability or engineering issues." The claim that such criteria also apply to Verizon notwithstanding, the subjective nature of the implementation is confirmed by the following statement in the Verizon Guidelines:

> *Factors to be considered by Verizon in the determination of whether the use of boxing or extension arms is appropriate for a particular attachment on a particular pole* ***include, but are not limited to****, the factors listed below. Verizon will use the same factors to determine whether applicants can use the pole attachment techniques of boxing and*

extension arms as it uses to determine whether Verizon can use such pole attachment techniques for its own attachments. ***No single factor is necessarily dispositive, and the fact that one or more such factors may be present for a particular attachment on a particular pole does not mean that use of these attachment techniques will be authorized by Verizon for that attachment on that pole if the presence of other factors militates against employing such attachment techniques in that instance.***

14. Similarly, the Verizon's Network Operations and Engineering Flash states:

This type of construction will be considered on a case-by-case basis with the consent of the pole owner.

And IOP # 8" of the Joint Ownership Agreement states:

In determining whether Pole Boxing is appropriate for a particular Attachment, the Parties, ***among other things****, shall consider ...*

15. National Grid's Operating Procedures also provide a list of factors, providing some information as to what issues are relevant, but fail to provide definitive standards that can be readily understood and applied by attachers, reflecting a preference to prohibit boxing based on generalized claims of safety and reliability and complication of customer restoration efforts. This is precisely the type of generalized denial the DTC found to be insufficient in denying boxing requests. Some of the factors are merely restatements of the Pole Owners preference to avoid boxing ("whether there are other attachment methods or make-ready work that could be performed that obviate the need for use of boxing"), and others are too vague to provide meaningful guidance ("whether the particular pole in

question is able to support attachments using such methods from the perspective of safety, reliability, and sound engineering principles").

16. In summary, the guidelines and directives demonstrate a general preference to avoid boxing and are inconsistent with the DTC's Final Order.

New Surveys are Not Required

17. The various guidelines described above include, among other things, suggestions of possible alternatives to boxing (e.g., overlashing to existing line), and, failing the feasibility of such options, factors to consider when determining the possibility of attaching on the opposite side of the pole. These factors include the type of items on the pole, the local configuration, and whether other poles in that same pole line are already boxed. To the extent these characteristics may actually help determine the feasibility of boxing a particular pole, or set of poles, they should be reflected in the surveys. However, if not specifically captured, the Pole Owners presumably already have most or all of the relevant details based on previous attachment information and required surveys, as part of the need for understanding the overall status of their poles. Thus, in general, no new or further surveys should be required for the purpose of evaluating OTELCO's pending requests to implement boxing on some poles.

18. Although it is conceivable that new surveys may reveal information not already in either pole owner's possession (e.g., that either additional attachments that have been made to some of the poles in the areas of interest, or that, as a result of planned make-ready, the location of existing attachments has changed), it is highly unlikely that such changes would relax the need for use of the opposite side of any previously identified otherwise problematic poles. To the extent the delays have allowed for the placement of additional attachments by other parties on other surrounding poles, the possibility of using the opposite

side construction along these poles may be warranted as well. Further delaying evaluation of OTELCO's boxing requests will only serve to exacerbate any possible issues. The installation of OTELCO cables should therefore proceed without further delay in the areas where the need for such (opposite side) construction due to insufficient space has been identified and evaluated in accordance with objective specific safety, reliability and engineering principles, using the information in the previously conducted surveys and any other information already in the Pole Owners' possession.

Boxing Poles in a Row Avoids "Weaving" Concerns

19. I understand that Verizon recently also raised weaving as a general reason to deny boxing. David Wolanin's declaration provided in this proceeding also stated, "Boxing can also result in cables weaving from one side of a pole to the other side of the next pole in a line of poles, again complicating future work on that line, and potentially making it less safe and more time-consuming and costly" (see Wolanin Declaration, paragraph 9). Notably, weaving is not listed in the "as of now" standards most recently provided to OTELCO. Moreover, to the extent such weaving may be an issue, as a practical matter, a reasonable solution would be to employ opposite side (e.g., rear) construction (boxing) along an entire row of poles, even if some intermediate poles may have room for attachments (after make-ready, etc.) on the front side. **Indeed, the Guidelines mention, as a possible mitigating factor, when determining whether the use of boxing on a particular pole is appropriate, "whether other poles in the same pole line are already boxed."**

Boxing is Not an Unusual Situation

20. There are additional factors listed in the Engineering Flash, Section 3.2.3, as "key points to remember" in considering boxing requests. One key point states, "Backside

Construction (attachment on the field side of the pole) may be permitted solely on an exception basis, **and only where Verizon would use the same type of construction for the placement of its own facilities.**" Similarly, the Guidelines seem to indicate boxing is only utilized in limited circumstances. While boxing is clearly permitted by language of the Guidelines and the key considerations, both suggest it is only for exceptional circumstances.

21. However, consistent with Verizon's above "parity policy," I have reviewed a number of examples of Verizon and National Grid poles in which opposite side construction has been used (i.e., cable attachments are mounted on both sides of the same pole), but with no apparent or obvious reason. I reviewed the sample of boxing photographs attached to David Allen's Declaration as Exhibit C (Belchertown), and D (Palmer and East Hampton). *See* Allen Decl. ¶30. These include both Verizon and non-Verizon applications. Thus, if the Verizon standard is applied in a nondiscriminatory manner, I would conclude that boxing should be more liberally applied in circumstances where no reasonable safety, reliability or engineering concerns are present.

22. Notably, one of the example poles in the Belchertown area uses opposite side construction and it is presumably the Verizon (i.e., lowest) cable that is on the opposite (rear) side of the pole, facing away from the road, which would otherwise be the less desirable side of the pole for operations. *See* Allen Decl., Exh. C at 2. It is quite possible that this position was selected on this pole to maintain consistency with the position of the cable on other poles in the line (i.e., to avoid weaving), for which the opposite side may have been required, for some reason, on at least one of the poles.

23. It is also evident that boxing has been allowed in cases violating their own guidelines (Attachment B) including side-taps or conduit risers – apparently with Verizon's

own cables mounted on the opposite side of the pole. *See* Allen Decl., Exh. D (P46, P58, P59 and P61).

24. In general, the examples show that Verizon itself applies boxing, on either individual poles (weaving) or a series of adjacent poles (to avoid weaving), which options should also be available to OTELCO. *See* Allen Decl., Exh. C and D; *see also* Allen Prefiled Testimony, Exh. F. The assessment as to which alternative is best can be gleaned from surveys and other existing pole owner records and/or determined as the pole is being boxed and neighboring make-ready work is performed. It is likely that Verizon makes such determinations at the time of installation of its cables, and it is reasonable that a qualified contractor under supervision of OTELCO may do so as well, in coordination with make-ready performed by the pole owner and/or other attacher, as appropriate

25. In conclusion, I can find no reasonable justification to require OTELCO to delay its network build while Verizon and National Grid conduct an entirely new set of pre-construction surveys. All of the information necessary to review OTELCO's boxing requests, including the criteria listed in Verizon's purported standards, is available in the existing pre-construction surveys or information that the Pole Owners should already have, or be aware of, from previous installations or records. The conditions on the poles on which OTELCO requested to implement opposite side construction (primarily those requiring replacement) should not have changed over time in any relevant manner (i.e., there should be no additional attachments to the poles), as they were already at capacity, or had other issues, and the pole owners presumably have not allowed other entities to box these poles since the date of the Order. To the extent additional attachments on the poles in question and/or surrounding poles may have changed over time, such changes should be known to

the Pole Owners. Furthermore, any additional cables are more likely to support boxing additional poles (possibly an entire row of poles), rather than provide a safety, reliability or engineering basis to deny boxing on other poles.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge.

By: _____
Dr. Lawrence M. Slavin

Dated: February 21, 2023

Attachment A

Outside Plant Consulting Services, Inc.

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About Outside Plant Consulting Services, Inc. (OPCS)
Dr. Lawrence M. Slavin

Outside Plant Consulting Services, Inc. (OPCS) was established in the year 2002 to help meet the needs of the telecommunications and power industries in establishing standards, guidelines and practices for outside plant facilities and products. The OPCS Group provides related support services for field deployment, and product evaluation and analysis. Dr. Lawrence (Larry) M. Slavin, Principal of OPCS, has extensive experience and expertise in such activities, based upon his many years of service at AT&T/Lucent Bell Telephone Laboratories (Distinguished Member of Technical Staff) in telecommunications product design and development, followed by a career at Telcordia Technologies (Bellcore) in its research and professional service organizations. (See attached Experience and Education.)

As Principal Consultant and Manager/Director of the Network Facilities, Components, and Energy Group at Telcordia, Dr. Slavin was responsible for professional services related to the telecommunications industry. These activities included technical leadership in developing installation practices and "generic requirements" documents, introducing new construction methods, and performing analyses on a wide variety of technologies and products (poles, duct, wire and cable, electronic equipment cabinets, flywheel energy storage systems, turbine-generators, ...). Throughout his long career, he has had a leading role in the evolution of many telecommunications related fields and disciplines -- including aerial and buried plant design and reliability; advanced construction and cable and duct placement techniques; copper pair, coaxial, and fiber-optic technology; flywheel energy storage systems; physical design and development of hardware and electronic and electro-optic systems ("SLC 96" digital loop carrier, ...); cable media and equipment reliability studies; exploratory fiber-optic hardware development; and systems engineering.

Dr. Slavin has been a member of numerous industry and professional committees and organizations, often in a leadership position (see attached Industry Activities). He is the author of numerous industry technical papers, reports or documents (partial Bibliography attached, with resume), as well as the editor and primary author of ASCE Manual No. 118, *Belowground Pipeline Networks for Utility Cables*, published by the American Society of Civil Engineers. Dr. Slavin is also author of the recently published book ***Overhead Distribution Lines – Design and Application***, by Wiley–IEEE, and is a contributor to the **Telcordia *Blue Book - Manual of Construction Procedures***.

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Industry Activities (**Present** and Past)

- **National Electrical Safety Code Committee**
  - **Represents the national telephone industry, via Alliance for Telecommunications Industry Solutions, ATIS**
  - **Executive Subcommittee**
  - **Main Committee**
  - **Interpretations Subcommittee**
  - **Subcommittee 4 (Overhead Lines – Clearances)**
  - **Subcommittee 5 (Overhead Lines – Strength & Loading)**
  - **Subcommittee 7 (Underground Lines)**
- **Accredited Standards Committee ASC-O5**
  - ***ANSI O5.1, Wood Poles, Specifications and Dimensions***
  - ***ANSI O5.2, Wood Products, Structural Glued Laminated Timber for Utility Structures***
  - ***ANSI O5.3, Wood Products, Solid Sawn-Wood Products and Braces***
- **ASCE 7 Icing Subcommittee**
- **ASCE Utility As-Built Standards Committee**
- Transportation Research Board
  - Utilities Committee, AFB70
- Pole Reliability Based Design (RBD) Committee, ASCE
  - *Reliability-Based Design of Utility Pole Structures*
- Distribution Pole Standard Committee, ASCE
- ASCE Journal of Pipeline Systems Engineering and Practice, Associate Editor
- **Committee F17 on Plastic Piping Systems, ASTM**
  - **Subcommittee F17.67 on Trenchless Plastic Pipeline Technology**
  - **Task Group Leader for development and revision of HDD Standard ASTM F1962**
  - *ASTM F1962, Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings*
- Trenchless Installation of Pipelines (TIPS) Committee, ASCE
  - *Manual of Practice No. 118 for Belowground Pipeline Networks for Utility Cables, Chair*
  - *Manual of Practice No. 115 for Pipe Ramming Projects, Vice-Chair*
  - *Manual of Practice No. 112 for Pipe Bursting Projects*
- Plastics Pipe Institute (PPI)
  - Municipal Advisory Board
  - *MAB-7, Guidelines for Use of Mini-Horizontal Directional Drilling for Placement of HDPE (PE4710) Pipe in Municipal Applications*
- Center for Underground Infrastructure Research and Education (CUIRE)
  - Industry Advisory Board
- North American Society for Trenchless Technology (NASTT)
  - Charter Member
  - Chair of Directional Drilling Subcommittee
- Trenchless Technology Center, Louisiana Tech University
  - Industry Advisory Board
- Missouri Western State College
  - HDD Steering Committee

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Education

Ph.D. - Mechanical Engineering, New York University, 1969

Master of Science - Engineering Mechanics, New York University, 1963

Bachelor of Science - Mechanical Engineering, The Cooper Union, 1961

Awards

- ASCE Outstanding Reviewer, Journal of Pipeline Systems Engineering and Practice, 2013
- Best Paper Award, *Maxi-HDD Pull Loads for Entry and Exit Points at Different Elevations*, International Conference on Pipelines and Trenchless Technology, Beijing 2011 (ICPTT 2011)
- ASCE Outstanding Reviewer, Journal of Pipeline Systems Engineering and Practice, 2010, 2013, 2016
- Certificate of Recognition, Sigma Xi - The Scientific Research Society, The Picatinny Chapter, *Flywheel Energy Storage Systems for the Telephone Outside Plant*, 1996
- 1983 Bell Laboratories Distinguished Technical Staff Award for Sustained Achievement

Experience

Experience 1990 – 2001 (Reverse Chronological Order)

Telcordia: Network Reliability, Operations and Deployment

- Principal Consultant representing the telecommunications industry on various professional organizations and forums. Has been a key member of the National Electric Safety Code Committee (NESC), responsible for specifying safety standards for aerial and buried telecommunications and power facilities in the United States. (Had a leading role in the development of the 2002 edition of the NESC.) Has also been an important member on the ANSI-05 (Wood Poles) standards committee, as well as an active participant in training and certification activities for the directional drilling industry.

Telcordia: Physical Network and Product Integrity and Reliability

- Director of the Network Facilities, Components, and Energy Group. Managed large group (12 engineers) responsible for developing requirements, testing, and analysis of outside plant media, components, and powering for telecommunications applications, including installation guidelines, including *Blue Book – Manual of Construction Procedures*.
- Investigation of physical characteristics and related requirements of fiberglass reinforced aerial service wire to prevent problems such as previously experienced during severe winter storm.

Telcordia: Applied Research

- Development and deployment of low-cost utility construction and cable installation techniques to facilitate introduction of the "information superhighway" for the Regional Bell Operating Companies (RBOCs). Instrumental in introducing blown-cable installation technology in United States. Served as chairman of the Directional Drilling subcommittee of the North American Society for Trenchless Technology (NASTT), and was responsible for developing directional drilling standards for the American Society for Testing & Materials (ASTM).
- Investigation of feasibility of electro-mechanical (flywheel) energy storage systems, including containment studies, creation of industry specifications, evaluation of seismic implications, and coordination of industry-wide flywheel safety forum.
- Design and installation of full-scale environmental test facilities across the country for evaluating reliability of fiber-optic and coaxial transmission media and components.

Experience 1961 – 1989 (Reverse Chronological Order)

Bell Laboratories: Loop Transmission Systems

Has had numerous design and/or coordination responsibilities during this decade of rapid growth in metallic- and fiber-optic-based digital loop carrier systems. The following is only a partial list:

- Design and development of customer-premises remote terminal electronic cabinets, including cabinet design, integration of complex digital telecommunications equipment, addressing thermal design issues, and meeting Underwriters Laboratories (UL) and FCC requirements.
- Design and development of "Lightguide Distributing Unit" concept (received original patent).
- Exploring feasibility of optical data links for broadcasting video channels, including the design of the system architecture, overall analysis, and subsequent construction of working electronic/fiber-optic models.

- Planning and installation of metallic and fiber-optic cable and hardware facilities at the Bell Laboratories Lightwave Facility at Chester, NJ -- the showcase of AT&T/Lucent digital and optical networks and hardware systems.
- Physical design of SLC 96 digital loop carrier system
- Ensuring reliability of SLC 96 digital loop carrier systems, including coordination of field tracking and factory studies, and implementation of analytical techniques.

Bell Laboratories: Main Distributing Frame Systems & Hardware

The lack of understanding of this important interface between the central office and outside plant facilities led to numerous, widespread crises in the larger telephone exchanges throughout the country in the 1970s. Has had a leading role in advancing the state-of-the-art and general understanding of MDF systems, including:

- Coordinating design and development of various MDF protector and terminal block hardware.
- Establishing tools and methods for MDF rehabilitation.
- Producing the *MDF Planning and Engineering Guidelines*.

Bell Laboratories: Engineering Analysis & Applied Mechanics

Provided consultation services for numerous projects requiring expertise in engineering mechanics. The investigations included mathematical and computer modeling, as well as laboratory and field experiments, for investigating the following areas:

- Vulnerability of communications cables to nuclear attack.
- Buried waveguide systems, including potential hazards of earthquakes and the design optimization of welded waveguide couplings.
- Dynamic response of missile structures.

Bell Laboratories: Computer Program Systems Studies

- Developed various computer program systems for the AT&T Telstar project and US Navy applications.

Attachment B

From: Wolanin, David L (Dave) <david.l.wolanin@verizon.com>
Sent: Tuesday, December 13, 2022 11:12 AM
To: David Allen <david.allen@gonetspeed.com>
Cc: Comeau, Richard A <richard.comeau@eversource.com>; Kelly, Stephanie <stephanie.kelly@verizon.com>; Ava-Marie Madeam <avamarie.p.madeam@verizon.com>; Jeffrey Bruni <jeffrey.bruni@gonetspeed.com>; Samuel De Jesus <samuel.dejesus@gonetspeed.com>; John Furey <john.furey@gonetspeed.com>; Anna Raby <annamaria.raby@eversource.com>; Renaud, Paul R <paul.renaud@eversource.com>; Owens, Steve M <steve.owens@eversource.com>; Engstrom, Erin M <erin.engstrom@eversource.com>; Kevin F. Penders <kpenders@keeganwerlin.com>; david.w.hayes@verizon.com; Jamie Hoare <jamie.hoare@gonetspeed.com>; Debbie Brill-Poulin <debbie.brill-poulin@gonetspeed.com>; Alexander W (Alex Moore) Moore <alexander.w.moore@verizon.com>; Ellen M Cummings <ellen.m.cummings@verizon.com>; Ronald H Burrowes <ronald.h.burrowes@verizon.com>
Subject: Re: [E] RE: Pole Replacement - DTC 22-04

David,

I provide below the information you requested, but first, a few other items need to be addressed. You state that GoNetSpeed contacted Verizon on October 14 to request a discussion of the DTC's decision in D.T.C. 22-4 and to ask Verizon to consider boxing specific poles. I am not aware of any such contact. The first communication I have from OTELCO concerning the DTC's decision was an email Debbie Brill-Poulin sent to me on October 25, asking Verizon to reconsider, in light of the decision, the company's make-ready determinations on the approximately 1,800 poles that were identified for replacement in our make-ready estimates to OTELCO.

I responded to Debbie by email on November 14, stating that Verizon is willing to reconsider those determinations and explaining that we would need to resurvey the poles in OTELCO's applications in order to determine whether the requested poles are suitable for boxing. I also explained the administrative process we would need to follow to obtain the new surveys and issue new make-ready estimates, which we intend will identify each pole allowed to be boxed and the basis for any findings that a pole is not suitable for boxing. I also offered to meet with OTELCO and the other pole owners to discuss these matters. Debbie took me up on that offer by email dated November 18, and Verizon then worked with OTELCO and Eversource to schedule a joint call, which took place on November 30.

During that call, we explained that boxing a pole may affect, or be affected by, the planned height of the attachments on the poles on either side of the pole to be boxed, at a minimum, and potentially an entire line of poles, so OTELCO's request to box more than 1,800 poles means that thousands of poles in the pending applications will need to be resurveyed. Verizon's systems for processing attachment applications have no way of automatically ordering new surveys of the poles or reconciling the results of the new surveys with the existing survey results for pending applications. And the huge volume of the new revision work means that manually identifying the poles to be resurveyed to create new applications for just those poles and reconciling those results would be extremely labor-intensive and would likely take longer than cancelling the current applications and starting fresh.

In response to your numbered requests, here is the following information:

1. Attached is a spreadsheet labelled "Otelco Status 12.9.22," showing the current status of each OTELCO attachment application pending with Verizon in Massachusetts, including both Eversource municipalities and National Grid municipalities. For each application, the spreadsheet shows the Verizon group working on the application now, the number of poles to be set by each pole owner and, in column G, my comments as to the status of the application. For applications that have been sent to Construction, the spreadsheet also includes an estimate of the percentage of work completed to date (broken down by work charged to OTELCO and work performed at Verizon's expense) and the number of poles that Verizon has replaced compared to the number of pole replacements charged to OTELCO in the make-ready estimates. This information should help OTELCO choose which applications it might want to cancel and resubmit and which ones it wants to move forward on. The spreadsheet is a snapshot of the status of the applications as of December 9, 2022, and is not meant as a project-planning document.

2. As of now, Verizon intends to apply the following standards in assessing whether a pole scheduled to be replaced may be subject to boxing:

- whether there are side-taps on the pole
- whether there is a corner on the pole (pole line not in a straight line)
- whether there is conduit riser on the pole
- whether there is a large piece of equipment mounted in the communications space (for example, a cross-connect box, catv power supply or wireless radio/antenna)
- whether the pole is on an embankment

Pole surveys may reveal additional conditions that we may need to consider in assessing whether to allow a pole to be boxed. In addition, any facility that is installed on the opposite side of a pole must still comply with applicable clearance requirements, including mid-span clearances.

3. Verizon does allow applicants to remove poles from submitted applications as a courtesy when the applicant no longer wants to attach to the pole. This work is very time-intensive and increases the risk of errors, and we are not set up to do this on a large scale. Assuming that OTELCO intends to submit new applications for the poles removed from the pending applications, the new make-ready surveys would need to account not only for the current conditions on the neighboring poles but also the conditions once the current make-ready work (moves) is completed, significantly complicating the survey and reconciliation process. Doing the project work in this piecemeal fashion is also likely to result in substantial re-work, when facilities that are moved on poles that remain in the original applications must be moved again if a pole is allowed to be boxed.

4. As you know, the pole attachment process often depends on the performance of existing third-party attachers in addition to the pole owners. For that reason, and also due to the need to manage our resources to serve other third-party attachers and perform other work as well, Verizon cannot commit to a timeframe for completing make-ready work for OTELCO. Also, we are not aware of any "temporary" attachment techniques in place of boxing a pole that are safe and that are truly temporary, in that

they can be and are easily replaced with a permanent attachment once all make-ready determinations have been made.

5. Verizon has no objection to an OTELCO representative joining our vendor on the make-ready surveys. I'm not sure what you mean by "fully participate" in the concurrence process, but we think the process works best if our vendor makes the initial determination of the make-ready work that is required on an application, with Verizon's review. As you know, OTELCO is free to object to work included in our make-ready estimates, and Verizon remains willing to consider OTELCO's objections, within reason.

Verizon will continue to work with OTELCO to process its attachment applications, perform any required make-ready work and issue licenses in a timely manner, consistent with our other obligations.

verizon✓

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On Thu, Dec 8, 2022 at 4:21 PM David Allen <david.allen@gonetspeed.com> wrote:

Good afternoon,

On October 14th, GoNetspeed contacted both Eversource and Verizon requesting a discussion on the topic of the October 10th DTC decision, including a request to consider boxing on specific poles. A meeting date of November 30th was eventually accepted by Eversource and Verizon. In that meeting, both Verizon and Eversource communicated that boxing would only be considered on new applications, and that any previously submitted applications would need to be resubmitted in their entirety, regardless of the number of poles requested to be boxed on that application. As a follow-up to our meeting, we request the following to evaluate the terms offered by Verizon and Eversource to reconsider boxing determinations for pole replacements on poles designated for replacement:

1. We reiterate our need for a full status update on previously submitted applications, including a disclosure of what stage the applications are in.
2. Please provide a list and explanation of all standards to be applied when determining if boxing will be permitted. We require this to determine which poles are even eligible under your requirements.
3. The current practice allows us to remove specific poles from a submitted application without cancelling the entire application, where we have determined the attachment to the removed pole is not cost effective. Can Eversource and Verizon both confirm that you will continue to permit this practice?

4. Will Verizon and Eversource commit to a timeframe for processing resubmitted poles, with an attachment remedy if and when the timeframes are exceeded?
5. Will Verizon and Eversource allow Otelco to fully participate in the survey and concurrence process?

We look forward to continuing to work with you both in effectuating the determination of the DTC.

Sincerely,

David Allen

GM/SVP of Network Operations

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