

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Verizon Pennsylvania LLC and Verizon North LLC**

**v.**

**Metropolitan Edison Company, Pennsylvania Electric Company, and  
Pennsylvania Power Company  
Docket No. C-2020-3019347**

**Rejoinder Testimony  
of  
Scott Carlin**

**List of Topics Addressed**

**Field Audit of FirstEnergy's and Verizon's Poles**

**NON-PROPRIETARY VERSION**

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1 **II. FIELD AUDIT OF FIRSTENERGY'S AND VERIZON'S POLES**

2 **Q. After reviewing Verizon's surrebuttal testimony and exhibits, do you have any**  
3 **general comments?**

4 A. Yes. The conclusions set forth in my rebuttal testimony remain unchanged. My  
5 rejoinder testimony may not respond to every individual issue raised in Verizon's  
6 surrebuttal testimony regarding my rebuttal testimony. Instead, my rejoinder testimony is  
7 focused on responding to particular issues I identified in Verizon's surrebuttal testimony.  
8 If there are any claims by Verizon that I do not address in this rejoinder testimony, it does  
9 not mean that I agree with them.

10

11 **Q. Verizon's witnesses contend that DRG's field study data is inaccurate and**  
12 **unreliable, with Mr. Mills pointing out certain alleged errors in the data. (Verizon**  
13 **Statement No. 1.1, pp. 51-59; Verizon Statement No. 2.1, pp. 21-29; Verizon**  
14 **Statement No. 3.1, pp. 35-40.) Do you agree that the field audit study's data is**  
15 **inaccurate and unreliable?**

16 A. No. As in all large attribute data collection samples, errors in the field can occur.  
17 However, this is why a valid quality control process was utilized to verify the validity of  
18 the sample. Attached as CONFIDENTIAL FirstEnergy Exhibit SC-2 is a copy of DRG's  
19 document outlining the "QA/QC Process" it used for the field audit study. [BEGIN  
20 CONFIDENTIAL] [REDACTED]

[REDACTED]



1

[REDACTED]

2

[REDACTED]

3

[REDACTED]

4

[REDACTED]

5

[REDACTED]

6

[REDACTED]

7

[REDACTED]

8

[REDACTED]

9

[REDACTED]

10

[REDACTED] [END CONFIDENTIAL]

11 The alleged errors identified by Verizon, which I address in more detail later in  
12 my rejoinder testimony, do not render DRG’s study unreliable. As shown above, DRG  
13 followed a detailed quality control and quality assurance process to ensure that the study  
14 produced reliable results.

15 Further, the incontrovertible fact is that the validity of the sample, including all  
16 attributes verified, is substantially above the industry-accepted standard for accuracy.  
17 Indeed, FirstEnergy’s sample consists of 2,139 attributes that were collected and  
18 accurately recorded. By comparison, Verizon only identified a total of 15 actual attribute  
19 errors in the data for FirstEnergy’s sample.<sup>5</sup> Therefore, even after counting the actual  
20 alleged errors identified by Verizon, the sample still has a 99.30% accuracy rate. Such a

3

4

[REDACTED]

<sup>5</sup> This figure of 15 actual attribute errors excludes the alleged errors identified by Mr. Mills that, as explained later in my rejoinder testimony, are not actually errors.

1 result is well within DRG's internal accuracy rate of 98% or higher, and well above the  
2 industry standard of 97%. Thus, the data used by FirstEnergy is accurate and reliable.

3  
4 **Q. You mentioned previously that Mr. Mills pointed out specific alleged errors in the**  
5 **data. (Verizon Statement No. 1.1, pp. 51-59.) Do you have any comments on these**  
6 **alleged errors?**

7 A. Yes. First, Mr. Mills avers that there were "seven poles where FirstEnergy's contractor  
8 misidentified a cable television attachment as Verizon's attachment." (Verizon  
9 Statement No. 1.1, p. 51.) Specifically, Mr. Mills references pole Scid numbers 14, 116,  
10 137, 313, 367, 786, and 1486. (Verizon Statement No. 1.1, p. 51 n.127.)

11 Although I agree that pole Scid numbers 116 and 313 do not have Verizon  
12 attachments on the poles and that the identification note for Scid number 14 pointed to  
13 the incorrect attachment, Mr. Mills incorrectly asserts that DRG mismarked cable  
14 television attachments as Verizon's attachments on pole Scid numbers 137, 367, 786, and  
15 1486.<sup>6</sup> To help clarify, the following paragraphs and photographs show where Verizon's  
16 attachments on pole Scid numbers 14, 137, 367, 786, and 1486 are located. Specifically,  
17 for pole Scid number 14, Verizon is attached to the pole, but the identification note in the  
18 the database's photograph was misplaced. The cable television line is well above the  
19 Verizon facility and does not impact the Verizon space calculation. Verizon's attachment  
20 is circled in red in the photograph below:

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<sup>6</sup> For pole Scid numbers 14 and 1486, the number of attachments identified in DRG's spreadsheet is incorrect. For pole Scid 367, the photo was labeled incorrectly, but the data in DRG's spreadsheet is correct.



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Verizon's attachment for pole Scid number 137 shows a Verizon J-hook attachment and flat strap phone holder for the service drop, as seen in the following photograph that was included in the database:



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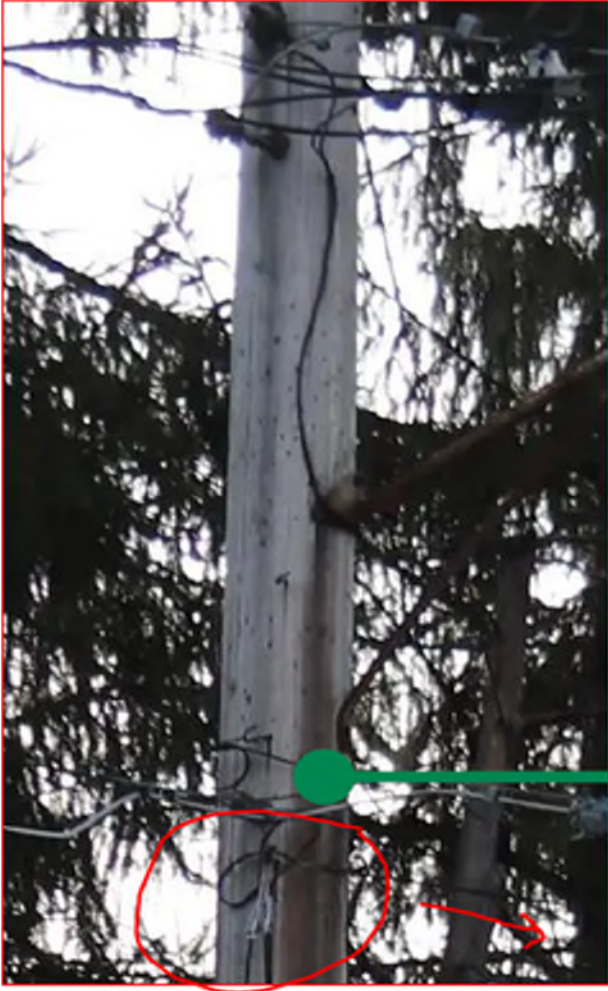
1            Additionally, for pole Scid number 367, the following photo from the database  
2 clearly shows that Verizon has a slack attachment at the location as well as a cable  
3 television line at approximately the same location. Both Verizon and the cable television  
4 company appear to have a bundled service line to the peak of the nearby building.



5  
6            For pole Scid number 786, as seen in the database picture below, the circled splice  
7 box feeds the service drop circled above on the pole. These are Verizon attachments that  
8 were likely encroached on by the cable television facility between them. In this case, the  
9 Verizon space was under-measured by a few inches.



10  
11            In the database picture of pole Scid number 1486, there are two flat strap service  
12 conductors that feed an underground service to adjacent homes. The pole attachment  
13 point is magnified in the database picture below, clearly showing Verizon's equipment.



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1           Second, Mr. Mills contends that there were “six poles where” DRG “recorded an  
2 incorrect number of attaching entities,” specifically the poles identified with Scid  
3 numbers 108, 304, 313, 398, 786, and 1487. (Verizon Statement No. 1.1, p. 52.)

4           However, under the project’s scope of work, all poles were deemed to have  
5 FirstEnergy facilities attached to them. This was done because FirstEnergy has a pole  
6 ownership interest in the pole (as identified in the FirstEnergy mapping system) and as  
7 part of the project scope, that interest was documented as being an attacher on all poles  
8 that are FirstEnergy-owned. As such, a physical attachment was not identified as being  
9 on the pole in the data, but for counting process, the pole was deemed to have been  
10 “attached.” In the end, only 6out of 3,038 poles did not actually have FirstEnergy  
11 facilities attached, so this assumption did not have any material impact on the sample.  
12 Therefore, Mr. Mills’s concern is grossly overstated.

13           As a further clarification, Mr. Mill’s assertion that FirstEnergy’s ownership of a  
14 pole is dictated solely by the fact that the Companies have an attachment on that pole is  
15 incorrect. (*See* Verizon Statement No. 1.1, p. 53.) For this scope of work, pole  
16 ownership is determined by FirstEnergy’s pole records, not by a pole tag in the field.

17  
18 **Q. Mr. Mills also alleges that the field audit study data contains “significant errors that**  
19 **inflate the amount of space FirstEnergy says Verizon occupies” by assuming that**  
20 **“Verizon has six inches of clearance *above* its facility in all cases” and that “Verizon**  
21 **occupies six inches of space *below* its facility.” (Verizon Statement No. 1.1., pp. 54-**  
22 **57.) Would you please respond?**

1 A. For the space that Verizon’s attachments occupy on FirstEnergy’s poles, DRG followed  
2 the procedures outlined in the DRG’s FirstEnergy Random Pole Sample Project  
3 Procedures Manual, a copy of which was attached to my rebuttal testimony as  
4 FirstEnergy Exhibit SC-1. Specifically, the manual stated that “[e]ach communications  
5 Attacher is deemed to occupy six (6) inches of clearance above its highest usable space  
6 attachment and six (6) inches below its lowest usable space attachment.” (FirstEnergy  
7 Exhibit SC-1, FE00135.) As a result, “if Verizon has two adjacent attachments separated  
8 by ten (10) inches, then Verizon is deemed to occupy 10” + 6” above for a total of 22”.”  
9 (FirstEnergy Exhibit SC-1, FE00135.)

10 As explained by FirstEnergy witness Coleman, this assumption is reasonable  
11 because safety standards require at least 12” of space on the pole. (See FirstEnergy  
12 Statement No. 4-RJ.) Further, to achieve this standard, the scope of work for data  
13 collection utilized this requirement as the foundation for the data collection. The  
14 information provided meets that standard, which is a clearly reasonable assumption.

15  
16 **Q. Mr. Mills also claims that the field audit study data contains errors regarding the**  
17 **space FirstEnergy occupied on Verizon’s poles. (Verizon Statement No. 1.1., pp. 57-**  
18 **58.) As alleged support, Mr. Mills points to pole Scid number 1244, “where the**  
19 **lowest FirstEnergy attachment was measured as Met-Ed’s primary (37 feet 8**  
20 **inches) instead of at the bottom of the bracket located lower on the pole.” (Verizon**  
21 **Statement No. 1.1, pp. 57-58.) Would you please respond?**

22 A. When gathering data on the space occupied by FirstEnergy’s attachments on Verizon’s  
23 poles, DRG followed the procedures outlined in the DRG’s FirstEnergy Random Pole

1 Sample Project Procedures Manual. (See FirstEnergy Exhibit SC-1.) In that manual,  
2 “FirstEnergy Space Measurement” was defined as:

3 Provide a measure of FirstEnergy space on Verizon owned pole. To  
4 determine the FirstEnergy space on the Verizon-owned poles, the Auditor  
5 will count the distance from the top of the pole down to the lowest  
6 FirstEnergy attachment in the *usable space*. For locations with a  
7 streetlight, the lowest power attachment will not include streetlights  
8 located in the communication worker safety zone, but if the streetlight is  
9 located more than 40” below the lowest power attachment, the lowest  
10 FirstEnergy attachment will recorded as the lowest physical point of the  
11 street light bracket or street light drip loop. Power down guys will not be  
12 counted as the lowest FEOC attachment on the pole. The pole top  
13 measurement, lowest power measurements and FE Space will be recorded  
14 in the spreadsheet in inches.

15  
16 (FirstEnergy Exhibit SC-1, FE00134.) In Mr. Mills’s example using pole Scid number  
17 1244, the data was collected accurately per FirstEnergy requested standards. The bracket  
18 does not extend the require space for FirstEnergy, and based on the scope of work, the  
19 lowest FirstEnergy attachment was accurately measured as provided in both the photo  
20 and data attributes.

21  
22 **Q. Mr. Mills further argues that certain poles “should not have been included in the**  
23 **data set because they are stand-alone street-light poles without wireline**  
24 **attachments.” (Verizon Statement No. 1.1, p. 58.) As an example, he points to pole**  
25 **Scid numbers 1143, 1210, 1298, 1381, and 1389. (Verizon Statement No. 1.1, p. 58.)**  
26 **Would you please respond?**

27 A. Because these poles were provided in the random sample, data was collected on these  
28 poles as part of the project scope. This was done to assure that all poles that existed in  
29 the field had a documented location and height associated. However, as explained by Mr.

1 Guo, they were ultimately excluded for analysis purposes. (See FirstEnergy Statement  
2 No. 7-RJ.) Therefore, they had no impact on the project at hand.

3  
4 **Q. Verizon’s witnesses characterize DRG’s field audit study as a “litigation-motivated**  
5 **effort designed by counsel to quickly collect data to try to charge Verizon higher**  
6 **rates.” (Verizon Statement No. 1.1, p. 50; see Verizon Statement No. 2.1, p. 21.) Do**  
7 **you agree?**

8 A. No. The field audit study was a well-designed and well-performed analysis of the  
9 characteristics of FirstEnergy’s attachments to Verizon’s poles and of Verizon’s  
10 attachments to FirstEnergy’s poles. DRG performed the study consistent with best  
11 practices for the industry and in accordance with FirstEnergy’s scope of work outlined in  
12 the DRG Random Pole Sample Project Procedures Manual. (See FirstEnergy Exhibit  
13 SC-1.) Simply put, DRG performed a field audit study to gather reliable data on the  
14 relevant pole characteristics, not to produce results that were favorable to FirstEnergy.  
15 Any implications by Verizon to the contrary are completely unfounded. Indeed, if  
16 Verizon hired DRG to perform the field audit study in the same manner as FirstEnergy,  
17 DRG would have produced the same reliable work product.

18  
19 **Q. Dr. Tardiff also claims that DRG’s field audit study did not “exhibit the proper care**  
20 **these requirements call for” because it was “completed in less than two months**  
21 **(over a period including the end-of-year holidays) with the specifications for the**  
22 **effort provided by counsel in response to Verizon’s FCC complaint, rather than as a**  
23 **result of a collaboration of the joint use owners with an objective of producing**

1           **reliable measures of relevant pole characteristics.” (Verizon Statement No. 3.1, p.**  
2           **36.) Please respond.**

3    A.    DRG has for the past 25 years always endeavored to uphold the highest level of integrity  
4           when working for all interested parties in the substantial breadth of experience we hold in  
5           this industry. DRG has worked equally for electric utilities, incumbent local exchange  
6           carriers, and third party attachers in doing this type of work and always strives to provide  
7           independent and unbiased results in the work it completes. As explained previously,  
8           DRG’s field audit study was performed consistent with best practices for the industry and  
9           produced reliable and accurate results that should not be disregarded in this proceeding.  
10          Moreover, the timeline for the project was dictated solely by the timing of Verizon filing  
11          its Complaint against FirstEnergy one week before Thanksgiving. Although it was not an  
12          ideal timeline, given the necessary work over the holidays, DRG diligently and reliably  
13          conducted its field audit study with experienced personnel, in accordance with industry  
14          standards, and in line with DRG’s quality control process. The fact that such work  
15          stretched over the “end-of-year holidays” played absolutely no factor in the accuracy and  
16          reliability of the study’s results.

17  
18    **III.    CONCLUSION**

19    **Q.    Does this conclude your rejoinder testimony?**

20    A.    Yes, it does.