PUBLIC SERVICE COMMISSION OF THE DISTRICT OF COLUMBIA
1325 G STREET, N.W., SUITE 800
WASHINGTON, D.C. 20005

OPINION AND ORDER

September 1, 2015

FORMAL CASE NO. 1102, IN THE MATTER OF THE INVESTIGATION INTO THE CONTINUED USE OF VERIZON WASHINGTON, DC, INC.'S COPPER INFRASTRUCTURE TO PROVIDE TELECOMMUNICATIONS SERVICES, Order No. 17952

Before the Commission:

Betty Ann Kane, Chairman
Joanne Doddy Fort, Commissioner
Willie L. Phillips, Commissioner

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I. INTRODUCTION

1. By this Order, the Public Service Commission of the District of Columbia ("Commission") continues its investigation into the copper-to-fiber facilities transition currently being undertaken by Verizon Washington, DC Inc. ("Verizon DC" or "Company"). As a procedural matter, the Commission grants motions to correct the transcript filed by Verizon DC and the Office of the People's Counsel ("OPC").[1] The Commission makes decisions on the nine identified issues in this proceeding. Regarding the first issue, the Commission determines that there are no local exchange services offered within a wire center area provided by copper lines connected to Time Division Multiplexing ("TDM")-enabled switch equipment ("switched copper voice service") that cannot also be provided by fiber lines connected to TDM-based circuit switch equipment ("switched fiber voice service"), but there are capabilities and functionalities of switched copper voice service that cannot be provided over switched fiber voice service. Additionally, there are services, capabilities, and functionalities provided by switched copper voice service that cannot be provided over fiber lines connected to Internet Protocol ("IP") softswitch equipment, particularly Verizon DC's FiOS Digital Voice ("FDV") service. In relation to the second issue, the Commission finds that in some circumstances, switched fiber voice service and FDV service do not provide the same or better call and response capabilities for emergency services, crisis management, priority access, and security services, necessitating battery backup. On the third issue, the Commission finds that there are no differences between the services provided by switched copper voice service and switched fiber voice service; therefore these services should be afforded the same regulatory treatment. FDV service and Voice over Internet Protocol ("VoIP") services are different services, meriting different regulatory treatment. Regarding the fourth issue, the Commission determines that switched fiber voice service must include the same services, capabilities, and functionalities as switched copper voice service, including access to power from the central office or through a battery backup unit ("BBU"). Relating to the fifth issue, the retail quality of service ("RQS") standards that exist currently apply to both switched copper voice service and switched fiber voice service; the Commission continues that mandate. In a new rulemaking, the Commission will establish battery backup standards applicable to all telecommunications service providers offering local exchange service. On the sixth issue, the Commission finds that all FDV service is IP-enabled service and most FDV service is a VoIP service, as defined by the D.C. Code; therefore FDV service is not a service that is regulated by the Commission. Relating to the seventh issue, the Commission finds no record evidence of areas in the District of Columbia where there are poorly performing copper-based facilities but no immediate plans to transition to fiber facilities. For the eighth issue, while the Commission finds that many of Verizon DC's disclosures to its customers regarding switched fiber voice service or FDV service are adequate, the Commission directs Verizon DC to amend its welcome kits and customer service scripts to include information about the BBU and a disclosure that FDV service is an unregulated service. The Commission also directs Verizon DC to amend its instructions to its technicians to obtain documentation of a

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[1] *Formal Case No. 1102, In the Matter of the Investigation into the Continued Use of Verizon Washington, DC, Inc.'s Copper Infrastructure to Provide Telecommunications Services ("Formal Case No. 1102")* ,Office of the People's Counsel's Motion to Correct the Evidentiary Hearing Transcript, filed February 13, 2015; Verizon Washington, DC Inc.'s Motion to Correct Confidential Transcript, filed February 13, 2015; Verizon Washington, DC Inc.'s Motion to Correct Public Transcript, filed February 13, 2015.

customer's choice regarding the installation of a BBU if the customer agrees to a service migration to fiber facilities. Regarding the ninth issue, the Commission finds based on this record that Verizon DC does permit retention or return to copper facilities for customers who do not choose to purchase service provided over fiber facilities. The Commission will continue to require Verizon DC to permit customers to retain or return to copper facilities for as long as its current Price Cap Settlement Agreement is in effect or until otherwise ordered by the Commission. The Commission directs Verizon DC to make changes to customer service and technician scripts, welcome kits, and tariffs to implement this Order and file a copy of these revised materials with the Commission within 30 days of the date of this Order.

II. BACKGROUND AND PROCEDURAL HISTORY

2. In Order No. 17045, the Commission opened this proceeding to investigate Verizon DC's continued use of its copper infrastructure for the provision of telecommunications services in the District of Columbia and whether, and under what circumstances, the Company plans to transition customers from the telecommunications services provided over copper facilities to telecommunications services provided over fiber facilities. As a part of this proceeding, the Commission indicated that it planned to, among other actions, request specific information from Verizon DC and seek input from interested persons.[2]

3. On March 1, 2013, the Commission released Order No. 17092,[3] which directed Verizon DC to respond to seven questions regarding its transition activities. Verizon DC filed its Response to Order No. 17092 on April 1, 2013.[4] OPC filed comments on Verizon DC's Response to Order No. 17092 on July 19, 2013,[5] while the Communications Workers of America, AFL-CIO ("CWA") filed comments on Verizon DC's Response to Order No. 17092 on July 19, 2013.[6] Verizon DC filed Reply Comments on August 26, 2013.[7] During the comment period, OPC filed three motions to compel discovery,[8] while CWA filed one motion to compel.[9]

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2 *Formal Case No. 1102*, Order No. 17045, rel. January 17, 2013.

3 *Formal Case No. 1102*, Order No. 17092, rel. March 1, 2013.

4 *Formal Case No. 1102*, Verizon Washington, DC Inc.'s Response to Order No. 17092 ("Verizon DC Response to Order No. 17092"), filed April 1, 2013.

5 *Formal Case No. 1102*, Comments of the Office of the People's Counsel, filed July 19, 2013.

6 *Formal Case No. 1102*, Letter to Brinda Westbrook-Sedgwick, Commission Secretary, from Vincent A. Trivelli, Counsel for CWA, filed July 19, 2013.

7 *Formal Case No. 1102*, Verizon Washington, DC Inc.'s Reply Comments, filed August 26, 2013.

8 *Formal Case No. 1102*, Motion of the Office of the People's Counsel to Compel Responses to OPC Data Requests Nos. 1 and 2 ("OPC First Motion to Compel"), filed June 14, 2013; Motion of the Office of the People's Counsel to Compel Verizon's Responses to OPC Data Request No. 3 and OPC Follow Up Data Request No. 2 ("OPC Second Motion to Compel"), filed July 12, 2013; Motion of the Office of the People's Counsel to Compel Verizon's Responses to OPC Follow-Up Data Request No. 3 ("OPC Third Motion to Compel"), filed August 8, 2013, as corrected by Corrected Motion of the Office of the People's Counsel to Compel Verizon's Responses to OPC Follow-Up Data Request No. 3 ("OPC Corrected Motion"), filed August 23, 2013.

4. On October 8, 2013, OPC filed a Motion for Expedited Commission Action and Interim Relief ("OPC Expedited Action Motion"),[10] requesting that the Commission: "(1) grant OPC's three pending motions to compel outstanding data requests from Verizon [DC]; (2) establish a procedural schedule including evidentiary and community hearing dates for the investigation initiated in this [D]ocket[;] and (3) issue immediately an order requiring Verizon [DC] to cease and desist from unlawfully terminating D.C. customers' telecommunications service without their knowledge and consent in contravention of 15 DCMR §310 and allow FiOS customers seeking to return to copper-based or regulated fiber service to return to those services."[11]

5. On November 8, 2013, the Commission released four Discovery Orders regarding the four Motions to Compel: Order Nos. 17291, 17292, 17293, and 17294. These orders granted in part and denied in part OPC's First, Second, and Third Motions to Compel and the CWA Motion to Compel, respectively.[12]

6. On December 9, 2013, the Commission issued two orders: Order No. 17313 in *Formal Case No. 1090*, which directed Verizon DC to file certain additional materials concerning customer service transcripts when repairs are requested for copper service[13] and Order No. 17314 in this proceeding, holding the OPC Expedited Action Motion in abeyance, and permitting OPC to file an Amended Motion to allow OPC to include information obtained from the discovery process in *Formal Case No. 1090* and documents filed pursuant to Order No. 17313.[14] Order No. 17314 also permitted Verizon DC to file a response to the Amended Motion.[15]

7. On February 10, 2014, OPC filed its Amended Motion, seeking several forms of relief. First, OPC requested that the Commission issue an order without further process, finding that section 328 of the Consumer Bill of Rights ("CBOR") applies to Verizon DC's provision of telecommunications services, so that Verizon DC would be required to adequately disclose to its consumers the service and regulatory differences among switched copper line service, switched fiber service, and VoIP service, before obtaining consumer consent to change from switched

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9 *Formal Case No. 1102*, Motion of the Communications Workers of America, AFL-CIO to Compel Verizon's Response to Communications Workers of America, AFL-CIO Data Request No. 1, filed July 9, 2013.

10 *Formal Case No. 1102*, Office of the People's Counsel's Motion for Expedited Commission Action and Interim Relief ("OPC Expedited Action Motion"), filed October 8, 2013.

11 OPC Expedited Action Motion at 1.

12 *Formal Case No. 1102*, Order No. 17291, rel. November 8, 2013; Order No. 17292, rel. November 8, 2013; Order No. 17293, rel. November 8, 2013; Order No. 17294, rel. November 8, 2013.

13 *Formal Case No. 1090, In the Matter of the Investigation into the Reliability of Verizon Washington, DC's Telecommunications Infrastructure* ("*Formal Case No. 1090*"), Order No. 17313, rel. December 9, 2013.

14 *Formal Case No. 1102*, Order No. 17314, ¶¶ 15, 19.

15 Subsequently, the Commission permitted all parties to file a response to OPC's Amended Motion. *See Formal Case No. 1102*, Order No. 17368, ¶ 10, n. 21, rel. February 5, 2014.

copper line service. OPC also sought, through the application of Title 15 of the District of Columbia Municipal Regulations ("DCMR") §328, to require Verizon DC to retrain its personnel and revise its internal operating procedures so that Verizon DC customer service representatives have the information needed to accurately answer questions about transitioning services and so that customer service representatives immediately honor customer requests to return to copper. OPC also sought to impose a requirement that Verizon DC provide replacement backup batteries at no cost to a customer during a warranty period of three years. Alternatively, OPC sought a schedule for expedited evidentiary hearings on these issues. OPC also sought a requirement that Verizon DC cease and desist from taking actions to unlawfully terminate the provision of telecommunications services to District of Columbia consumers.[16]

8. On April 21, 2014, CWA filed a Response to OPC's Amended Motion ("CWA Response").[17] CWA believed that the record in this proceeding was sufficient to support actions to ensure that customers are informed about service differences and that the copper infrastructure is maintained. However, should the Commission determine that an evidentiary hearing is necessary, CWA stated that it was prepared to participate in that proceeding.[18]

9. On April 23, 2014, Verizon DC filed its Opposition to the Amended Motion.[19] Verizon DC accused OPC of objecting to Verizon DC's provision of the "latest, most advanced, most sought-after communications facilities."[20] Verizon DC argued that it is deploying its fiber optic facilities not only to provide FiOS, but also to provide basic, TDM-based, circuit-switched voice services at existing rates, terms, and conditions. Verizon DC argued that Fiber Optic Services ("FiOS") would benefit consumers and promote the economic development of the District of Columbia. Verizon DC also argued that fiber facilities are less susceptible than copper to environmental risks. Verizon DC asserted that OPC's "effort to block this progress is wrong on the facts and the law," requesting the Commission to deny the Amended Motion.[21]

10. On May 23, 2014, OPC filed a Reply: to correct alleged mischaracterizations of the reasons behind OPC's request for Commission action and the evidence supporting its requests in this proceeding; to show that additional data responses submitted to OPC after the filing of the Amended Motion belie Verizon DC's statements in its Opposition; and to show that

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16 OPC Amended Motion at 2.

17 *Formal Case No. 1102*, Letter to Brinda Westbrook-Sedgwick, Commission Secretary from Vincent Trivelli, Counsel for CWA ("CWA Response"), filed April 21, 2014.

18 CWA Response at 2.

19 *Formal Case No. 1102*, Verizon Washington, DC Inc.'s Opposition to the Amended Motion of the Office of the People's Counsel Expedited Commission Action and Request for Interim Relief ("Verizon DC Opposition"), filed April 23, 2014.

20 Verizon DC Opposition at 1.

21 Verizon DC Opposition at 1.

Verizon DC's Opposition contradicts earlier statements about the maintenance of copper facilities upon which the Commission has relied.[22]

11. On June 6, 2014, Verizon DC filed its Response to the Latest Motion of the Office of the People's Counsel.[23] Verizon DC argued that OPC's Reply added nothing to the record in this proceeding to substantiate its claims that Verizon DC has terminated a customer's telephone service without knowledge or consent, or has otherwise violated District of Columbia law or the Commission's rules or orders. Verizon DC urged the Commission to deny the Amended Motion and close this proceeding.[24]

12. In Order No. 17528, the Commission denied OPC's Amended Motion.[25] However, the Commission determined that there were factual issues in dispute regarding the copper-to-fiber facilities transition that merited an evidentiary hearing. In that Order, the Commission proposed nine issues, seeking input from the parties concerning the proposed issues list.[26] The Commission also established the procedural schedule for the remainder of the proceeding in Order No. 17528.[27] In Order No. 17563, the Commission finalized the issues list and revised the procedural schedule.[28]

13. On September 3, 2014, Verizon DC, OPC, and CWA, the parties to this proceeding, filed Direct Testimony.[29] On October 24, 2014, Verizon DC and OPC filed their Rebuttal Testimony.[30] CWA did not file any rebuttal testimony.

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22 *Formal Case No.* 1102, OPC Motion for Leave to Reply and Limited Reply to Verizon's Opposition to OPC Amended Motion for Expedited Commission Action and Request for Interim Relief at 2-3, filed May 23, 2014.

23 *Formal Case No. 1102*, Verizon Washington, DC Inc.'s Response to the Latest Motion Filed by the Office of the People's Counsel ("Verizon DC Response"), filed June 6, 2014.

24 Verizon DC Response at 1.

25 *Formal Case No. 1102*, Order No. 17528, rel. July 3, 2014.

26 Order No. 17528, ¶ 277-279.

27 Order No. 17528, ¶ 80.

28 *Formal Case No. 1102*, Order No. 17563, rel. July 28, 2014.

29 *Formal Case No. 1102*, Verizon Washington, DC Inc.'s Direct Testimony of Thomas MacNabb, and Paul Vasington ("Exhibit VZ (A)"), filed September 3, 2014; Verizon Washington, DC Inc.'s Confidential Direct Testimony and Exhibits of Karen Campbell, ("Exhibit VZ (B)"), filed September 3, 2014; Direct Testimony and Exhibits of Peter M. Bluhm, Esq., Robert Loube, Ph.D., David J. Malfara, Sr. on Behalf of the Office of the People's Counsel, f ("Exhibit OPC (A)"), filed September 3, 2014; CWA Direct Testimony of Edward Mooney ("Exhibit CWA (A)"), filed September 3, 2014.

30 *Formal Case No. 1102* Verizon Washington, DC Inc.'s Rebuttal Testimony of Thomas MacNabb and Paul Vasington, ("Exhibit VZ (2A)"), filed October 24, 2014; Verizon Washington, DC Inc.'s Confidential Direct Testimony and Exhibits of Karen Campbell, ("Exhibit VZ (2B)") filed October 24, 2014; Direct Testimony and Exhibits of Peter M. Bluhm, Esq., Robert Loube, Ph.D., David J. Malfara, Sr. on Behalf of the Office of the People's Counsel, ("Exhibit OPC (2A)"), filed October 24, 2014.

14. In Order No. 17632, the Commission scheduled a technical conference for Verizon DC to make a technical presentation to discuss the operation and attributes, including the network architectures, elements, and call flows, of switched copper voice service, and FDV service. On October 14, 2014, representatives from Verizon DC, OPC, and Commission staff participated in the technical conference. On October 24, 2014, Verizon DC filed its Technical Conference Report.[31] This Report contained a revised version of the presentation given by Verizon DC at the Technical Conference, as well as responses to several questions posed by Commission staff and OPC at the technical conference and afterwards.

15. On October 24, 2014, the Commission issued Order No. 17680, directing Verizon DC to reply to several questions by November 17, 2014.[32] Verizon DC filed its Response on November 17, 2014.[33]

16. On November 5 and 10, 2014, the Commission held two community hearings to obtain input from community members regarding the nine issues in this proceeding. Numerous consumers presented oral and written statements for inclusion in the record of this proceeding throughout the duration of this proceeding. Additionally, on April 27, 2015, the Windstream Corporation filed Comments ("Windstream Comments"),[34] the D.C. Federation of Civic Associations filed the Community Brief of District of Columbia Consumers on Services Provided by Verizon Washington, DC Inc. ("Community Brief"),[35] and Advisory Neighborhood Commission 3D filed Comments.[36]

17. On November 26, 2014, Verizon DC filed a Joint Motion requesting the Commission to postpone the evidentiary hearings because the parties were still engaged in settlement negotiations.[37] The Commission granted the Joint Motion in Order No. 17718.[38]

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31 *Formal Case No. 1102*, Verizon Washington, DC Inc.'s Technical Confidential Conference Report, filed October 24, 2014.

32 *Formal Case No. 1102*, Order No. 17680, rel. October 24, 2014.

33 *Formal Case No. 1102*, Verizon Washington, DC Inc.'s Response to Order No. 17680 ("Verizon DC Response to Order No. 17680"), filed November 17, 2014.

34 *Formal Case No. 1102*, Letter to Brinda Westbrook-Sedgwick, Commission Secretary, from Malena F. Barzilai, Senior Government Affairs Counsel, Windstream Corporation ("Windstream Comments"), filed April 27, 2015. This letter was written on behalf of the Windstream entities certificated and operating in the District of Columbia: Cavalier Telephone Mid-Atlantic, LLC; US LEC of Virginia, LLC d/b/a PAETEC Business Services; PAETEC Communications, Inc.; and McLeod USA Telecommunications Services, LLC.

35 *Formal Case No. 1102*, Community Brief of District of Columbia Consumers on Services Provided by Verizon Washington, DC Inc., filed April 27, 2015.

36 *Formal Case No. 1102*, Letter to Betty Ann Kane, from Thomas M. Smith, Chair ANC 3D ("ANC 3D Comments"), filed April 27, 2015.

37 *Formal Case No. 1102*, Joint Motion to Postpone the Evidentiary Hearing ("Joint Motion"), filed November 26, 2014.

38 *Formal Case No. 1102*, Order No. 17718, rel. December 2, 2014.

After further settlement negotiations, Verizon DC filed a Joint Motion to Schedule Public Interest or Evidentiary Hearing to schedule either a public interest or evidentiary hearing for January 20 and 21, 2015.[39] In Order No. 17746, the Commission directed the parties to file any settlement agreement by January 12, 2015 and rescheduled hearings for January 22 and 23, 2015.[40]

18. Evidentiary hearings were held January 22 and 23, 2015. Both Verizon DC and OPC filed motions to correct the hearing transcript to correct minor errors on February 13, 2015. CWA filed its post-hearing brief on March 13, 2015,[41] while OPC and Verizon DC filed their post-hearing briefs on March 16, 2015.[42] Post-hearing reply briefs were filed by CWA, OPC, and Verizon DC on April 27, 2015.[43] Also on April 27, 2015, Verizon DC filed a Motion to Correct OPC Cross Examination Exhibit 92 ("Verizon DC Exhibit Motion").[44] In Order No. 17879, the Commission re-opened the record to receive comments on the updated exhibit.[45] OPC filed Comments on Corrected OPC Cross-Examination Exhibit 92 on May 29, 2015 ("OPC Exhibit 92 Comments").[46] The record re-closed on May 29, 2015.[47]

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39 *Formal Case No. 1102*, Joint Motion to Schedule Public Interest or Evidentiary Hearing, filed December 18, 2014.

40 *Formal Case No. 1102*, Order No. 17746, rel. December 19, 2014.

41 *Formal Case No. 1102*, Initial Brief of the Communications Workers of America, AFL-CIO ("CWA Brief"), filed March 13, 2015.

42 *Formal Case No. 1102*, Opening Brief of the Office of the People's Counsel for the District of Columbia ("OPC Brief"), filed March 16, 2015; Verizon Washington, DC Inc.'s Post-Hearing Brief ("Verizon DC Brief"), filed March 16, 2015.

43 *Formal Case No. 1102*, Reply Brief of the Communications Workers of America, AFL-CIO ("CWA Reply Brief"), filed April 27, 2015; Reply Post-Hearing Brief of the Office of the People's Counsel ("OPC Reply Brief"), filed April 27, 2015; Verizon Washington, DC Inc.'s Confidential Reply Brief ("Verizon DC Reply Brief"), filed April 27, 2015.

44 *Formal Case No. 1102*, Verizon Washington, DC Inc.'s Motion to Correct OPC Cross Examination Exhibit 92, filed April 27, 2015.

45 *Formal Case No. 1102*, Order No. 17879, rel. May 14, 2015.

46 *Formal Case No. 1102*, The Office of the People's Counsel's Comments on Corrected OPC Cross Examination Exhibit 92 ("OPC Exhibit 92 Comments"), filed May 29, 2015.

47 The Commission notes that Verizon DC, OPC, and CWA made filings in August 2015, but declines to discuss them in this Order because they were filed after the close of the record. *See, Formal Case No. 1102*, Verizon Washington, DC Inc.'s Notice of Supplemental Authority, filed August 12, 2015; OPC's Response to Verizon Washington, DC Inc.'s August 12, Notice of Supplemental Authority, filed August 20, 2015; Letter to Brinda Westbrook-Sedgwick, Commission Secretary, from Vincent A. Trivelli, Counsel, CWA, filed August 25, 2015.

III. PROCEDURAL ISSUES

19. On February 13, 2015, OPC and Verizon DC both filed motions to correct the transcript of the evidentiary hearing. Since the Motions contain only minor changes to the transcript to make the transcript clearer, the Commission grants the Motions.[48]

IV. DISCUSSION

A. Introduction

20. The parties to this proceeding, as set out in their post-hearing and reply briefs and summarized below, take radically different positions with respect to the need for this proceeding, the resolution of each of the nine issues and the proposed outcome that they are seeking from the Commission. The parties' overview and their positions on each of the nine issues are set out below along with the decisions of the Commission.

21. **Verizon DC Overview. In its initial brief,** Verizon DC urges the Commission to encourage fiber deployment in the District of Columbia. Verizon DC argues that its rollout of fiber has been greeted in this proceeding with doubt, even though the Commission has applauded the introduction of new communications technology in the District of Columbia. Verizon DC contends that, at the behest of OPC, the Commission has investigated Verizon DC's deployment of fiber, at tremendous expense, while Verizon DC's competitors have deployed their own networks freely. By indulging OPC and conducting this resource-intensive, monopoly-style proceeding, Verizon DC contends that the Commission is discouraging fiber deployment and making it difficult for Verizon DC to transition to the most advanced telecommunications technology available. Verizon DC believes that it is time to close this proceeding.[49]

22. Verizon DC believes that this proceeding has shown what is already obvious: that fiber deployment is one part of the significant transition in communications technologies already occurring as consumers and communities have increasingly sought out new wireline and wireless options for voice, broadband, and other services. Verizon DC argues that customers are demanding the increased reliability and enhanced services available only over fiber optic cables.[50] Further, Verizon DC contends that customers are taking advantage of a wide selection of competitive options and technologies for voice and data services offered by wireless, cable, over-the-top VoIP, and telephone service providers, choosing the platforms and services that best suit their needs.[51] Verizon DC asserts that these choices increasingly are for services provided over wireless, fiber, or cable facilities.[52]

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48 The Commission notes that one of OPC's requested corrections, referring to line 16 of page 110 of the transcripts, appears to be an error.

49 Verizon DC Brief at 2.

50 Verizon DC Brief at 2.

51 Verizon DC Brief at 2-3.

52 Verizon DC Brief at 3.

23. Despite all of the resources invested in this proceeding, Verizon DC believes that there is no real issue to be decided by the Commission. Verizon DC asserts that it is committed to providing the high-quality services that District of Columbia customers demand over the best facilities available. While Verizon DC responds to the issues in this docket, Verizon DC urges the Commission to close this docket and allow Verizon DC to concentrate on the most important constituency in this proceeding: District of Columbia consumers.[53]

24. **OPC Overview**. OPC acknowledges that Verizon DC's copper-to-fiber transition brings benefits to District of Columbia customers, but asserts that these benefits also bring shortcomings. OPC claims that the record in this proceeding demonstrates that Verizon DC's current copper-to-fiber transition practices contravene Verizon DC's regulatory obligations and core telecommunications values, especially regarding public safety and consumer protection. Additionally, OPC contends that the record demonstrates that the Commission must augment its regulation and oversight of Verizon DC's transition to protect consumers and to set in place policies that will prevent future degradation of services as the transition progresses.[54]

25. OPC notes that the Commission opened this investigation following consumer complaints that Verizon DC was engaging in coercive marketing practices aimed at persuading consumers to migrate to fiber facilities and was failing to maintain its existing copper infrastructure adequately. OPC applauds the Commission for acting now. OPC claims that during this investigation, it has become clear that the consumer complaints were on-target. OPC alleges that Verizon DC believes that it knows best for its customers, which is to replace copper facilities with fiber facilities in every instance.[55] OPC claims that Verizon DC has made known its displeasure with this investigation, seeking to deflect attention from specific service concerns and offering high-level, vague, and evasive statements.[56]

26. OPC argues that both the Commission and OPC have the right to demand that Verizon DC's telecommunications services are safe and reliable during and after the transition and that Verizon DC's transition-related marketing and copper facility repair practices are fair to District of Columbia consumers. OPC believes that District of Columbia consumers have the right to be adequately informed of the advantages and disadvantages of each of Verizon DC's telecommunications services and the functionalities and service-reliability implications of any service changes, so that consumers may be able to make their own informed decisions regarding their services. Contrary to Verizon DC's assertion, OPC claims that this proceeding is not about a conflict between old and new technologies. To OPC, the concern is not whether switched fiber voice service or FDV service is better than switched copper voice service.[57] Instead, OPC asserts that its focus is to ensure that consumer rights and choices are respected and that service

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53 Verizon DC Brief at 3.

54 OPC Brief at 2.

55 OPC Brief at 4.

56 OPC Brief at 4-5.

57 OPC Brief at 5.

is at all times safe and reliable, regardless of the physical medium or network technology used to provide the service.[58]

27. OPC argues that the Commission has broad statutory authority to investigate and order corrective action when Verizon DC is found to have failed to comply with its regulatory obligations. Even if Verizon DC's FDV service is a VoIP service or IP-enabled service under the D.C. Code, OPC still asserts that the Commission has determined that:

> there was [no] legislative intent to restrict the authority of the Commission to obtain information, investigate or decide issues when it appears that the operations of Verizon DC's VoIP and IP-enabled services have an impact on the regulated services that remain clearly under the Commission's jurisdiction.[59]

To OPC, this language means that the services in this proceeding are incontrovertibly Commission-jurisdictional.[60]

28. OPC represents that the Commission must base its factual findings and conclusions of law upon substantial record evidence. OPC argues that the District of Columbia courts have found that "substantial evidence" means "'more than a mere scintilla' it is 'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'"[61] Additionally, OPC claims that the "'substantial evidence' test is not directed solely at the quantity of evidentiary support for an administrative determination. ... There 'must be a [d]emonstration in the findings of a 'rational connection between facts found and the choice made.'"[62]

29. OPC argues that Verizon DC has not presented substantial, reliable, or probative evidence to support its positions on the issues in controversy.[63] In OPC's view, the evidentiary record in this proceeding supports at least two key findings: Verizon DC's three voice services are not equivalent in terms of reliability and functionality; and further regulation and Commission oversight are necessary to ensure that Verizon DC's voice services and marketing practices are safe, adequate, just, and reasonable.[64]

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58 OPC Brief at 5-6.

59 OPC Brief at 11-12, citing Order No. 17291, ¶ 37.

60 OPC Brief at 12.

61 OPC Brief at 12, citing *Washington Pub. Interest Org. v. Pub. Serv. Comm'n of D.C.*, 393 A.2d 71, 77, n. 6 (D.C. 1979) (citations omitted by OPC).

62 OPC Brief at 12, citing *Washington Pub. Interest Org. v. Pub. Serv. Comm'n of D.C.*, at 77 (citations omitted by OPC).

63 OPC Brief at 12.

64 OPC Brief at 12-13.

30. **CWA Overview.** As a general matter, CWA supports the transition from copper facilities to fiber facilities, since fiber facilities provide consumers with high-speed Internet and video options. CWA urges the Commission to pursue policies that encourage Verizon DC investment in fiber deployment to all residents, businesses and institutions in the District of Columbia.[65] CWA focuses on three issues: Verizon DC disclosures to customers regarding switched fiber voice service and FDV service; Verizon DC's compliance with the Cable Franchise Agreement; and Verizon DC's obligations to maintain the copper network during the transition instead of moving to other technologies such as Voice Link.[66]

31. **Verizon DC Reply Brief.** Verizon DC begins its Reply Brief by noting that both OPC and CWA concede that District of Columbia consumers are clamoring for new technology, specifically best-in-class services that fiber facilities can provide. Verizon DC contends that CWA encourages the Commission to pursue policies that promote Verizon DC investment in fiber deployment in the District of Columbia. Verizon DC argues that while OPC claims to support fiber deployment, OPC simultaneously requests the Commission to erect roadblocks to Verizon DC's investment in fiber facilities by singling Verizon DC out for regulations that would hinder the implementation of new technologies in the District of Columbia. In contrast, Verizon DC argues that its competitors - many of whom began deploying fiber facilities and offering advanced services over these facilities years before Verizon DC – would be free to pursue customers unfettered.[67]

32. With its proposed new requirements, Verizon DC contends that OPC is requesting that the Commission change the terms and conditions under which Verizon DC provides TDM-based service in the District of Columbia when these services are provided over fiber facilities. Verizon DC argues that any such changes require a Commission finding that such services "are in any respect unreasonable or unjustly discriminatory" or "that any service is inadequate or cannot be obtained."[68] Verizon DC asserts that such a finding must be "supported by and in accordance with the reliable, probative, and substantial evidence."[69] Verizon DC submits that the record in this proceeding fails to meet these standards. Verizon DC argues that its copper-to-fiber migration practices are customer-focused and consistent with its obligations under District law and the Commission's rules. Verizon DC contends that OPC cannot seek to change the Commission's rules in a contested proceeding. Thus, Verizon DC argues, OPC's proposals to impose new RQS rules or amend 15 DCMR § 328 must be considered in a rulemaking proceeding, not this proceeding.[70]

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65 CWA Brief at 2.

66 CWA Brief at 2-3.

67 Verizon DC Reply Brief at 1.

68 Verizon DC Reply Brief at 2, citing D.C. Code § 34-908 (2001).

69 Verizon DC Reply Brief at 2, citing D.C. Code § 2-509(e) (2001).

70 Verizon DC Reply Brief at 2.

33. Verizon DC claims that OPC's proposed mandates on Verizon DC's provision of regulated voice services are a solution in search of a problem and should be rejected. Verizon DC contends that despite OPC's best efforts to solicit complaints, OPC fails to provide the reliable, probative, and substantial evidence necessary to justify its recommendations in this proceeding.[71]

34. **OPC Reply Brief.** OPC argues that Verizon DC mischaracterizes the nature of this proceeding, ignoring the enormity of the issues in this proceeding and the "deafening public outcry by District consumers regarding the Company's copper-to-fiber transition practices."[72] OPC asserts that Verizon DC forgets that it was the Commission that opened this proceeding on its own initiative to investigate complaints about Verizon DC's copper repair and related fiber-transition marketing practices.[73]

35. Contrary to Verizon DC's contentions in its Brief, OPC claims that the deployment of fiber facilities across the District has not been "greeted ... with doubt."[74] Instead, OPC argues, it is Verizon DC's migration practices that caused the Commission to open this proceeding. OPC contends that the purpose of this proceeding is to ensure that Verizon DC abides by its legal obligations so that, regardless of the Verizon DC facility used, customers receive safe, reliable, and efficient service. OPC represents that customers – not Verizon DC – are entitled to choose the service that they prefer. In order to make this decision, OPC argues that customers are entitled to complete and accurate information. Additionally, OPC asserts, Verizon DC must respect customers' choices and not seek to undermine these choices.[75]

36. OPC contests Verizon DC's assertion that the Commission has discouraged fiber deployment merely by initiating this proceeding. OPC contends that Verizon DC's fiber deployment is proceeding apace. OPC also claims that this complaint is belied by Verizon DC's claim that it is the only company "poised to provide all District households with fiber all the way to the home."[76] OPC contends that to the extent that full and accurate consumer disclosures make it more difficult for Verizon DC to transition to fiber facilities, the alternative suggested by Verizon DC – that consumers be given incomplete or misleading information – is a greater concern.[77]

37. OPC contends that as an incumbent local exchange carrier ("ILEC") and public utility under the D.C. Code, Verizon DC has obligations that competitive providers do not. OPC

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71 Verizon DC Reply Brief at 5.

72 OPC Reply Brief at 1-2.

73 OPC Reply Brief at 2.

74 OPC Reply Brief at 4-5, citing Verizon DC Brief at 2.

75 OPC Reply Brief at 5.

76 OPC Reply Brief at 5, citing Verizon DC Brief at 2.

77 OPC Reply Brief at 5-6.

claims that the Commission has a corresponding obligation to investigate and correct any Verizon DC practices, schedules, or services that are in any respect "unreasonable, insufficient, or unjustly discriminatory, or that any service is inadequate or cannot be obtained."[78]

B. ISSUE 1: Are there services, capabilities and functionalities of voice telecommunications service provided within a wire center service area that can be provided by copper lines connected to TDM- enabled circuit switched equipment which cannot also be provided by fiber lines connected to TDM circuit switched equipment or to fiber lines connected to IP softswitch equipment? If yes, specify and explain the importance of such to residential and business customers.

1. Positions of the Parties

38. **Verizon DC Brief.** Verizon DC argues that it generally provides two types of wireline voice services in the District of Columbia. First, Verizon DC provides traditional, TDM-based voice service that transmits calls within the Public Switched Telecommunications Network ("PSTN") using circuit switches in Verizon DC central offices in the District of Columbia ("switched voice service"). Verizon DC maintains that it provides this service pursuant to its obligations under District of Columbia law, the Commission's rules, its tariffs that are filed with the Commission, and its Price Cap Plan. Verizon DC represents that since its inception, voice service was provided over a dedicated copper pathway from the customer's location to a Verizon DC switch to the PSTN and delivery to another party. Over time, Verizon DC asserts that it began to deploy fiber facilities in the feeder and distribution portions of the network. Approximately ten years ago, Verizon DC maintains that it began deploying fiber facilities all of the way to the customer's premises in certain parts of Verizon's incumbent territory.[79] In 2009, Verizon DC began deploying fiber to the premises ("FTTP") in the District of Columbia to provide traditional, TDM-based services.[80] Verizon DC claims that this deployment is occurring under the schedule established by the Cable Franchise Agreement.[81]

39. Verizon DC asserts that its TDM-based voice service is the same, regardless of whether it is provided over copper or fiber facilities. Verizon DC contends that this service is provided to residential and business customers under the same tariffed terms, conditions, and rates, subject to the same Commission regulations and oversight. Verizon DC argues that the capabilities and functions of the service do not change: call and response capabilities for emergency services, crisis management, priority access, and security services are the same. According to Verizon DC, customer equipment that had traditionally worked on traditional voice services provided over copper facilities, such as fax machines, security alarms, home alarm systems, medical alert and monitoring devices, ATM machines, dial-up modems, location and

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78 OPC Reply Brief at 6, citing D.C. Code § 34-908 (2012 Supp.).

79 Verizon DC Brief at 3.

80 Verizon DC Brief at 3-4.

81 Verizon DC Brief at 4.

health information reported by E911 and Reverse E911 systems, and credit/debit card readers all work just as well on fiber facilities.[82]

40. Verizon DC asserts that fiber facilities have several advantages over copper networks. According to Verizon DC, fiber facilities are safe, durable, reliable, and proven. Verizon DC contends that fiber facilities are immune to many environmental factors such as electric and radio frequency interference that affect copper. Verizon DC further contends that fiber facilities are much more resistant than copper facilities to lightning, moisture, rain, snow, sleet, hail, wind, temperature fluctuations, and inclement weather in general. According to Verizon DC fiber facilities can be submerged in water. Verizon DC represents that fiber lines do not corrode, have a longer lifespan, and require fewer repairs than copper lines. With fiber facilities, communities often experience fewer outages during storms and weather events, homeland security incidents, or other public safety emergencies, Verizon DC maintains. And even if fiber facilities are damaged during these events, Verizon DC argues that repairs to fiber facilities take less time than repairs to copper facilities, decreasing service restoration time.[83]

41. Verizon DC represents that fiber facilities require less power to operate because fiber facilities use light, not an electrical signal.[84] Thus, Verizon DC asserts, fiber facilities are more environmentally friendly, which Verizon DC argues is consistent with the Commission's obligation to consider conservation of natural resources and the preservation of environmental quality in its proceedings.[85]

42. Fiber facilities are not as susceptible to theft, unlike copper facilities, Verizon DC argues. Thus, fiber facilities reduce the incidence of outages due to facilities theft.[86]

43. Additionally, Verizon DC contends that customers with service provided over fiber facilities have access to more services, including higher speed broadband and video services.[87] Because a fiber facility signal is light, not electricity, Verizon DC explains that there is very little signal loss during transmission, so data can move at higher speeds and for longer distances. Once fiber facilities are in place, Verizon DC contends that future upgrades only require a change in terminal equipment at either the central office or the customer premises, instead of expensive upgrades to the distribution network. Verizon DC argues that fiber facilities are future-proof, as speeds for broadband and video services can be changed merely by changing the electronics at either end of the existing fiber cable.[88]

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82 Verizon DC Brief at 4, 19.

83 Verizon DC Brief at 4, 9.

84 Verizon DC Brief at 4, 9.

85 Verizon DC Brief at 9.

86 Verizon DC Brief at 4, 9.

87 Verizon DC Brief at 4, 9.

88 Verizon DC Brief at 10.

44. Verizon DC identifies another difference between voice services over copper facilities and voice services over fiber facilities: voice services over fiber facilities require commercial power at the customer's premises to function.[89] Verizon DC contends that it discloses this fact orally and in writing to customers prior to migrating existing voice service to or installing new voice services on fiber facilities, along with information on the customer's options for backup power during a commercial power outage, the expected duration of such backup, and how to purchase a replacement.[90] For TDM-based voice service over fiber facilities, Verizon DC claims that it provides the BBU and initial battery as part of the installation at no charge. Verizon DC argues that its BBU options are reasonable, effective, and similar to or better than those offered by Verizon DC's competitors in the District of Columbia.[91]

45. The only difference in TDM-based services provided over copper or fiber facilities is the facility over which the service is provided, Verizon DC claims. In Verizon DC's view, because the fiber network is a more reliable network than the copper network, TDM-based service over fiber facilities is less likely to experience troubles and outages due to moisture or heat, extreme weather, or national security events. Verizon DC represents that if a fiber cable is cut or damaged, fiber cables are typically restored more quickly and easily than copper cables, since faults or damages in fiber cables are easily located based on tests conducted to determine how far the light signals are traveling in the cable. Verizon DC contends that when fiber cables need splicing, the process to identify and rejoin the appropriate fibers through splicing is straightforward, unlike in copper cable, where locating a fault and repairing it can take multiple testing and locating steps.[92] Verizon DC also represents that splicing a copper cable is labor intensive, since each individual pair of copper cables must be identified and rejoined. If the copper cable damaged is in paper insulated pairs, each working pair needs to be identified at a terminal location and toned to the damage location individually. Verizon DC claims that copper cable repair is a painstaking process that can take days to completely restore a damaged copper cable, depending on its size.[93]

46. Verizon DC represents that in 2012, it began offering a new voice service, FDV service, in the District of Columbia. Verizon DC contends that this new voice service uses IP technology to offer customers an integrated suite of functions that are more varied and advanced than TDM-based voice service. Verizon DC claims that while FDV service uses a different technology to deliver voice calls, the call and response capabilities for emergency services are the same as for the TDM-based service provided over copper or fiber facilities. According to Verizon DC, calls from FDV customers to E911 work the same as calls from TDM-based voice service customers. Verizon DC also represents that home alarms, medical monitoring devices, and fax machines all work on FDV service. However, Verizon DC contends that there are

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89 Verizon DC Brief at 4.

90 Verizon DC Brief at 4-5.

91 Verizon DC Brief at 5.

92 Verizon DC Brief at 19.

93 Verizon DC Brief at 20.

different features, functionalities, and capabilities between TDM-based voice service and FDV service.[94]

47. Verizon DC distinguishes its FDV service from its TDM-based services in several ways, particularly in the services provided by these two types of services. Since FDV service relies on IP technology, Verizon DC asserts that FDV service offers consumers an integrated suite of functions, combining voice communications with capabilities like online account configuration and management, voice mail with email notification and call screening, call scheduling, simultaneous ring, phone numbers that are not associated with a customer's geographic location, and many others. Verizon DC argues that FDV service integrates voice communications with other widely used communications platforms, including the Internet, wireless devices, and television.[95]

48. However, some features of TDM-based service are not available with FDV service.[96] Verizon DC identifies these features as 7-digit dialing, 500, 700, 900, 950, 976, 00, 01, 0+, calling card calls, or dial around calls (10-10-XXXX), acceptance of collect calls or third number billed calls.[97] Verizon DC asserts that these differences are disclosed to customers when FDV service is ordered and installed.[98]

49. **OPC Brief.** OPC believes that there are services, capabilities, and functionalities of voice telecommunications service that can be provided by switched copper voice service that cannot be provided by switched fiber voice service or FDV service. To OPC, the most important difference is that switched copper voice service can remain powered during an electrical power outage at the customer location, which switched fiber voice service and FDV service cannot do. OPC believes that this distinction has direct impacts on service reliability and is important to all customers. OPC asserts that the significance of the several other differences between the services varies depending on individual customer interests and needs.[99] Without adequate disclosures by Verizon DC, however, OPC contends that customers will not have a fair and informed opportunity to assess the implications of switching their telecommunications service.[100]

50. OPC objects to Verizon DC's characterization of switched copper voice service and switched fiber voice service as the "same." OPC argues that switched fiber voice service (and FDV service) differs from switched copper voice service in at least one fundamental respect

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94 Verizon DC Brief at 5.

95 Verizon DC Brief at 20.

96 Verizon DC Brief at 20.

97 Verizon DC Brief at 20-21.

98 Verizon DC Brief at 21.

99 OPC Brief at 13.

100 OPC Brief at 13-14.

– "service continuity during power outages."[101] OPC asserts that copper lines generally receive power from Verizon DC's central offices, so during a commercial power outage at the customer premises, a switched copper voice service customer's corded telephone will continue to work as long as Verizon DC's central office generators are working.[102]

51. In contrast, OPC argues, Verizon DC's switched fiber voice service and FDV service use an optical network terminal ("ONT"), which uses electrical power from the customer premises.[103] OPC contends that switched fiber voice service and FDV service will fail during a power outage at the customer premises unless the customer has a backup power source at the customer premises. OPC represents that Verizon DC's Witness MacNabb admitted this difference at the evidentiary hearing.[104]

52. OPC also represents that the costs to maintain the BBU are costs that fiber facility-based customers face, unlike switched copper voice service customers. OPC identifies the two types of BBU used by Verizon DC: the 12-volt BBU and the PowerReserve.[105] OPC notes that Verizon DC provides the first set of batteries to a switched fiber voice service customer for free, but a FDV service customer must pay for the batteries.[106] Even for the switched fiber voice service customer, replacement batteries are the customer's responsibility. In OPC's view, the costs of battery backup power during a power outage are borne by the customer, who may not be able to afford new batteries.[107]

53. OPC claims that reliable telecommunications service is important to all customers. OPC argues that Verizon DC's witnesses' statement that "[r]eliability should be defined in terms of experiences that customers have most of the time, not in terms of rare events," is contradictory to sound utility practice.[108] OPC posits that telecommunications services are essential to modern life, so service providers should plan for both everyday and rare occurrences.[109] OPC argues that the Federal Communications Commission ("FCC") has recognized that landline customers have become accustomed to having telecommunications

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101 OPC Brief at 18, citing Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 5.

102 OPC Brief at 18.

103 OPC Brief at 18.

104 OPC Brief at 18-19.

105 OPC Brief at 20.

106 OPC Brief at 20-21.

107 OPC Brief at 21.

108 OPC Brief at 21, citing Exhibit VZ (2A), Rebuttal Testimony of Vasington and MacNabb at 12.

109 OPC Brief at 21.

services during power outages. OPC argues that consumers deserve continuity in their communications services and just and reasonable service rates.[110]

54. OPC identifies several differences between switched voice service, whether provided over copper facilities or fiber facilities, and FDV service. OPC asserts that Verizon DC's witnesses conceded that FDV requires the use of 10-digit dialing, does not permit 500, 700, 900, 950, 976, 00, 01, 0+, calling card calls, and dial-around calls, and does not allow the acceptance of collect calls or third number billed calls. OPC contends that its witnesses explained that FDV service does not permit a competitive long distance service provider to provide service to the customer and that Verizon DC will not bill charges on behalf of other competitive carriers to FDV service customers. OPC alleges that FDV service could present potential compatibility issues with alarms, faxes, and modems. Further, OPC represents that Verizon DC "reserves the right to block [FDV service] calls to certain countries 'in the event [that it] determine[s] that such calls may be linked to fraudulent or illegal activities or in the event a country places any other restrictions on Internet traffic.'"[111] OPC argues that while Verizon DC dismisses the significance of these distinctions, it did not present evidence to show that they do not exist.[112]

55. OPC argues that many of the dialing and calling feature differences between switched voice services and FDV service prevent a customer's access to competitive long distance service providers. OPC also contends that many customers rely on their local telecommunications service to support their alarms, faxes, and modems. OPC claims that these customers have a right to know about the adverse impact that subscribing to FDV service might have on the continued availability and/or use of these services and functionalities.[113]

56. OPC argues that Verizon DC spends little time discussing these differences, focusing instead on "supposed" differences between switched copper voice service and IP-enabled and VoIP services that are either inapplicable to Verizon DC's network or are not actually differences between the FDV and switched voice networks.[114] OPC cites as an example Verizon DC's statement in its Direct Testimony reading "routers on an IP network will direct the data packets carrying a voice call along multiple pathways that may be constantly changing."[115] However, at the hearing, OPC claims that Verizon DC Witness MacNabb admitted that this description of IP-enabled and VoIP service was a **[BEGIN CONFIDENTIAL INFORMATION]**

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110 OPC Brief at 22.

111 OPC Brief at 22, citing Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 49.

112 OPC Brief at 23.

113 OPC Brief at 23.

114 OPC Brief at 23.

115 OPC Brief at 23-24, citing Exhibit VZ (A), Direct Testimony of Vasington and MacNabb at 17.

[END CONFIDENTIAL INFORMATION]

57. **Verizon DC Reply Brief.** Contrary to OPC's contentions, Verizon DC argues that there is no distinct and separate "fiber-switched" and "copper-switched" voice service.[117] Verizon DC argues that there is no such service as "fiber-switched" service or "copper-switched" service. Verizon DC claims that nothing in its Price Cap Plan 2008 or its tariffs defines or distinguishes its District-regulated voice services based on the facilities used to provide them. Verizon DC also argues that neither District of Columbia law, nor the Commission's rules and orders make such a distinction.[118]

58. Verizon DC represents that its Price Cap Plan 2008 divides its regulated services into four baskets. None of the services identified in the baskets is separated based on facility type, Verizon DC maintains. Verizon DC asserts that it did not begin deploying fiber facilities in the District of Columbia until 2009, after the effective date of Price Cap Plan 2008. Verizon DC posits that, if OPC were correct that "fiber-switched service" is different from "copper-switched service," then all TDM-based voice services provided over fiber facilities must be classified in the Competitive Services Basket under Price Cap Plan 2008 § 3(a)(4).[119]

59. Verizon DC asserts that OPC exaggerates aspects of FDV service in an attempt to expand jurisdiction to a service that the Commission does not regulate. Verizon DC acknowledges that TDM-based service and FDV service are different services with different features, functionalities, and capabilities.[120] Verizon DC contends that these differences are disclosed to customers when an FDV service order is placed and the service is installed.[121] Verizon DC claims that OPC's criticisms of FDV service regarding such items as dialing codes, third-party-billed-number calls, calling card calls, receipt of collect calls, and long distance presubscription show "how out of touch [OPC] is."[122] Verizon DC alleges that competition today does not depend on dialing codes, antiquated types of calls, or presubscription, so OPC's concerns are anachronistic.[123]

60. In today's environment, Verizon DC claims, most long distance calls are made over wireless networks. Verizon DC represents that as of the most current data, as of 2012, at

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116 OPC Brief at 24, citing Tr. at 111.

117 Verizon DC Reply Brief at 5, citing OPC Brief at 17-21.

118 Verizon DC Reply Brief at 5.

119 Verizon DC Reply Brief at 5-6.

120 Verizon DC Reply Brief at 6.

121 Verizon DC Reply Brief at 6-7.

122 Verizon DC Reply Brief at 7.

123 Verizon DC Reply Brief at 7.

least 46% of District of Columbia households used wireless phones exclusively, and another 18.3% of District households mostly used wireless phones, while only 6.6% of households exclusively used landline telephones. Verizon DC asserts that the remaining calls on wireline networks are primarily offered via flat-rate offerings tied to local exchange service. Verizon DC contends that only **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent of Verizon DC lines presubscribed their long distance service as of December 31, 2013.[124] Further, Verizon DC argues, **]BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** of District of Columbia households even obtain service from Verizon DC, as many District of Columbia landline customers have already shifted to other providers.[125] Finally, Verizon DC contends that 46% of all residential landline connections in the District of Columbia that are subject to the FCC's reporting rules subscribe to one of 88 VoIP service providers offering service in the District of Columbia.[126]

61. Verizon DC also argues that OPC overstates the potential compatibility issues between FDV service and alarms, faxes, and modems. Verizon DC asserts that OPC provides nothing more than unsubstantiated speculation about potential compatibility issues. Verizon DC states that each service works with FDV service. Verizon DC acknowledges that it provides a catch-all disclosure during the FDV service ordering process that it is possible that an alarm system may not be supported, Verizon DC claims that its actual experience demonstrates that non-functioning alarm systems are rare. Verizon DC contends that it has been able to resolve all such situations as they have occurred.[127]

62. **OPC Reply Brief.** While OPC concedes that using fiber facilities for telecommunications can be beneficial, OPC contends that Verizon DC exaggerates the advantages of fiber facilities over copper facilities and in some cases ignores the shortcomings of fiber facilities. OPC claims that these shortcomings must be addressed and explained fully to customers who are considering fiber migrations to ensure that the core values of the telecommunications network are preserved during and after the transition.[128]

63. OPC contests Verizon DC's assertion that switched copper voice service and switched fiber voice service are the same, differing only in the facilities used to provide the services.[129] OPC contends that Verizon DC concedes a fundamental difference by stating that "fiber facilities rely on commercial power at the customer's premises to function."[130] OPC

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124 Verizon DC Reply Brief at 7.

125 Verizon DC Reply Brief at 7-8.

126 Verizon DC Reply Brief at 8.

127 Verizon DC Reply Brief at 8.

128 OPC Reply Brief at 8.

129 OPC Reply Brief at 8.

130 OPC Reply Brief at 8-9, citing Verizon DC Brief at 4.

contends that these power needs impact both service reliability and service rates. OPC claims that while Verizon DC asserts that use of fiber facilities reduces energy consumption, that is true only for Verizon DC, but not for switched fiber voice service or FDV service customers who must pay to power ONTs.[131]

64. While Verizon DC claims that fiber facilities are more easily and quickly repaired than copper facilities, OPC argues that Verizon DC does not address the concerns raised by OPC's witnesses that "[j]ust as with copper distribution networks, fiber distribution networks have many points that 'can become disconnected or damaged, causing interference or outages.'"[132] OPC also argues that its witnesses showed that in a fiber network, multiple customers are served over a single strand of feeder or distribution fiber, so that these customers will be out of service until a technician can repair the damaged facility. In contrast, OPC argues, the redundancy of the switched network creates alternative paths for signals to follow when there is a cable cut. OPC argues that this important distinction was not addressed by Verizon DC in its Brief.[133]

65. Contrary to Verizon DC's contentions, OPC claims that many of the services that Verizon DC touts as new services with FDV service have been provided over copper facilities for years. OPC claims that the Internet has long been integrated with copper facilities, most recently in the form of digital subscriber line ("DSL") service.[134] OPC cites approvingly FCC Chairman Wheeler's comment that "[t]echnological advances are making DSL a powerful means of supplying broadband ... at a fraction of the cost, and the ubiquity of copper creates competitive opportunity."[135] OPC asserts that its witnesses testified that the alleged feature and functionality benefits of FDV service are not components of an integrated voice service but adjuncts to voice service. Further, OPC represents that a nearly identical suite of capabilities to FDV service were available nearly 15 years ago from a competitive local exchange carrier ("CLEC") over copper facilities. OPC claims that the record makes it clear that the benefits which fiber facilities offer do not render copper facilities obsolete.[136]

2. Decision

66. The parties disagree on the number of voice services that Verizon DC provides. Verizon DC argues that there are only two voice services that it offers: (1) TDM-based voice service provided over either copper or fiber facilities and (2) FDV service. In support of its argument that it offers only two types of voice services, Verizon DC argues that the TDM

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131 OPC Reply Brief at 9.

132 OPC Reply Brief at 9-10, citing Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 10-11.

133 OPC Reply Brief at 10.

134 OPC Reply Brief at 10.

135 OPC Reply Brief at 10-11, citing Exhibit OPC (2A)-8 at 3.

136 OPC Reply Brief at 11.

circuit-switched voice service offered over fiber facilities is the same as the voice service offered over copper facilities. OPC argues that Verizon DC offers three types of voice services: (1) switched copper voice service, (2) switched fiber voice service, and (3) FDV service. OPC claims that there are sufficient differences between switched copper voice service and switched fiber voice service to consider them to be different services. To resolve this threshold question underlying Issue 1, we start by examining the network architecture of each of the three forms of voice telecommunications services identified by the parties and then compare the services, functionalities, and capabilities included in each identified form.

a. Network Architecture

i. Switched Copper Voice Service

67. In the switched copper voice service architecture, voice messages are transported end-to-end from the customer's premises to and from the Verizon DC central office in an analog electronic format, except in the very small number of lines in the District of Columbia that are served by remote terminals ("RTs").[137] The customer's analog phone is connected to the premises' inside wiring by a standard (RJ-11) telephone jack. The inside wiring is connected to Verizon DC's network at the network interconnection device ("NID") located on or in the customer premises. From the NID, the customer's line runs over a twisted pair of wires which are connected at the neighborhood serving terminal to a pair of wires in a larger cable in Verizon DC's copper distribution network. This distribution cable is connected to a larger feeder cable at the Serving Area Interface. The copper feeder cable then runs through a manhole and into Verizon DC's central office. In the central office, each pair of wires in the feeder cables coming into the office has an appearance on the main distribution frame ("MDF"). At the MDF, a Verizon DC technician will run cross-connection wires to connect the feeder pair that is serving a specific customer to the PSTN switch port that has been assigned to the customer.[138] The PSTN switch is programmed with the customer's telephone number and provides the customer with the features and functionality requested by the customer (e.g., caller ID or call waiting). The switch also provides the supervision functions needed for the establishment of a voice call. Some of these functions include digit translation, call routing, call set-up, billing, and call statistics.[139] This service is powered end-to-end over the copper facilities by the Verizon DC's central office unless the loop contains an RT; in any case the customer does not supply any power to make this service operational, as long as the customer uses corded telephones.[140]

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137 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 8-9.

138 OPC Cross Examination Exhibit No. 1 at 7, 21; OPC Cross Examination Exhibit No. 3 at 20.

139 OPC Cross Examination Exhibit No. 1 at 8.

140 OPC Cross Examination Exhibit No. 1 at 21, 49; OPC Cross Examination Exhibit No. 3 at 20, 21, 24, and 25.

ii. Switched Fiber Voice Service

68. The switched fiber voice service architecture is the same as that for switched copper voice service once the voice messages reach the TDM-based PSTN switch in Verizon DC's central office. The transport of the messages between the customer's premises and the central office switch comprises the principal difference between the two architectures, although this difference affects the equipment used at the customer premises and the form the messages take in the transport to and from the central office. In the switched fiber voice service architecture, Verizon DC installs, in lieu of a NID, an ONT either on the outside or inside of the customer's premises. Thereby, the ONT, rather than the NID, serves as Verizon DC's network demarcation point between Verizon DC's network facilities and the inside wiring of the customers' premises. The ONT converts the customer's analog electronic signal from the phone into a digital packet format to be transmitted to the central office using a light wave through the fiber lines.[141] When Verizon DC installs the ONT the service technician connects it to a standard 120VAC power outlet at or in the customer's premises. The same inside wiring at the customer's premises that transports the messages from the customer's phone to the NID in the switched copper voice service architecture is used to transport messages in analog format from the customer's analog phone to the ONT.[142]

69. The customer's fiber drop line is connected to a fiber distribution cable, which is joined to a fiber feeder cable at a Fiber Distribution Hub. The fiber feeder cable enters the central office and is terminated on the fiber distribution frame where it is connected to a Wave Division Multiplexer ("WDM"). For switched fiber voice service, the WDM simply passes the call to an Optical Line Terminal ("OLT"), which identifies the lines as switched fiber voice and delivers these voice messages to the PSTN switch in the central office. This is the same TDM switch that is used for switched copper voice. As with switched copper voice, the switch is programmed with the customer's telephone number, provides the customer with the features and functionality requested by the customer, and provides the supervisory functions necessary for call establishment.[143]

70. Verizon DC's existing local exchange service tariffs generally apply in the same manner and detail to both switched copper voice service and switched fiber voice service. All tariffed services available on copper facilities are available on fiber facilities, with one slight exception.[144]

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[141] Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 13-14; OPC Cross Examination Exhibit No. 1 at 7, 36, and 38; OPC Cross Examination Exhibit No. 3 at 21, 22, 25, and 26.

[142] Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 25-26.

[143] OPC Cross Examination Exhibit No. 1 at 33, 38.

[144] OPC Cross Examination Exhibit No. 48 at 1. The Commission notes that several of Verizon DC's documents on the record indicate that Verizon DC is not providing Foreign Exchange ("FX") service over fiber facilities. Verizon DC Cross Examination Exhibit No. 49 at 12, 23; Verizon DC Cross Examination Exhibit No. 51 at 2; OPC Cross Examination Exhibit No. 7 at 9, 18, 28; OPC Cross Examination Exhibit No. 8 at 10. FX service includes two offerings, Foreign Central Office Service, in which a customer chooses a telephone number that is served by a different central office than the central office that is closest to the customer, and Foreign Zone Service,

iii. FiOS Digital Voice (FDV) Service

71. Verizon DC's FDV service architecture is similar to that for switched fiber voice service at the customer premises and in the transport between the customer and the central office. FDV service requires an analog phone at the customer premises, just as with switched copper and fiber voice services. Inside wiring connects the customer's phone in analog format to the ONT. As is the case for switched fiber voice service, the ONT converts the analog signal to a digital signal in packet format. For FDV service, the ONT also provides the Session Initiation Protocol ("SIP") functionality needed for call set up and provides some support for the FDV features.[145] The SIP signals travel over the customer's broadband service connection to Verizon DC's IP network through the fiber lines that are also used to provide switched fiber voice service to reach the FDV application server in Verizon DC's central office. The FDV application server authenticates and sets up the call with the carrier that serves the called party, who may be on the PSTN, or be a VoIP or a wireless service customer. After the call is set up and answered by the called party, the software in the ONT converts the customer's speech into digital IP packets using the IP protocol called Real Time Protocol ("RTP"). The packets containing the actual conversation are routed from the customer's premises over the broadband service connection and the Verizon IP network, which routes the call for delivery to the called party **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** through Verizon DC's fiber lines.[146] Once the packets leave the ONT, the Passive Optical Network ("PON") network architecture used to get the packets to the central office is identical to that described above for switched fiber voice service. For FDV service, the WDM separates the video, data and voice signals on the fiber lines and then sends the voice and data signals to an OLT.[147] Video signals are transmitted independently through the WDM.[148] However, within the central office, the OLT sends the FDV service traffic to Verizon's FiOS IP voice network as opposed to the PSTN, as for the switched fiber voice service traffic. Verizon's FDV service runs on a public IP network; however, the service uses Virtual Private Networks ("VPN") for security.[149] The FDV service IP network uses trunk media gateways to connect to Verizon DC's PSTN network, allowing FDV service to be fully interconnected with the PSTN.

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in which a customer chooses an exchange service that is located in another zone in the same multi-zone exchange. Local Exchange Services Tariff, P.S.C.-D.C. No. 202 § B.3. The reason for this exclusion of FX service from being provisioned by switched fiber voice service appears to be because as of July 15, 2012, Verizon DC discontinued FX service to residential customers, although existing FX service customers had their FX service grandfathered.

145 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 26; OPC Cross Examination Exhibit No. 1 at 39. SIP is an application layer signaling protocol used for the establishment, modification and termination of telephony sessions over IP-based networks. It provides functionality similar to the supervisory functions provided by the PSTN switch for switched copper and switched fiber voice services.

146 *Formal Case No.* 1102, Evidentiary Hearing Transcript ("Tr.") at 114.

147 OPC Cross Examination Exhibit No. 1 at 33.

148 OPC Cross Examination Exhibit No. 1 at 35; OPC Cross Examination Exhibit No. 2 at 5.

149 OPC Cross Examination Exhibit No. 3 at 10.

72. Both switched fiber voice service and FDV service require the use of the ONT at the customer premises. The ONT is placed at the customer's premises and converts incoming optical signals into electrical signals and separates these signals into voice, data, and video components. The ONT is connected to the fiber distribution network by one single fiber line terminating at the customer premises. On the customer side, there are several possible connections, depending on the services ordered: a video connection via coaxial cable; a data connection via coaxial cable; a data connection via Ethernet; and voice via two RJ-11 modular connections. The ONT is programmed for switched fiber voice service or FDV service depending on the customer's choice.[150] ONTs operate either in switched fiber voice mode or FDV mode, but not both simultaneously.[151]

73. Both switched fiber voice service or FDV service require the use of standard telephones. The inside wiring from the telephone to the ONT is connected via an RJ-11 jack, just as it would be to the NID. The ONT samples the analog signal and converts it to a digital signal in packet format. The ONT then combines the voice signal with any data and video signals and converts these signals to optical signals, transmitting these signals to the OLT in the central office. Once the OLT receives the signal from the ONT, it separates that signal into customer streams. Then the OLT converts the customer streams into the component parts (data, voice). For switched fiber voice service, the OLT converts the packet signal into TDM format and then passes the voice portion to the PSTN.[152] For FDV service, once the customer stream is broken down into its component parts, the OLT converts the voice signal from packet to IP format, and hands the IP voice to Verizon DC's FiOS Digital Voice Network.[153]

74. The packets sent from the ONT to the OLT can be in either IP or non-IP PON format depending on the technology deployed at the ONT, not the switched fiber voice or FDV service ordered by the customer. The ONT sends IP packets in cases where the PON uses gigabit PON ("GPON") regardless of whether the customer orders switched fiber voice service or FDV service. The ONT sends non-IP packets in cases where the PON at the ONT uses broadband PON ("BPON") technology, regardless of whether the customer orders switched fiber voice service or FDV service.[154] At the central office, the OLT converts the packet signal to the appropriate format based on the type of voice service used by the end user: TDM format for handoff to the PSTN for switched fiber voice service customers and IP format for handoff to Verizon's Digital Voice Network for FDV service customers.[155] Verizon DC is no longer deploying BPON ONTs in the District,[156] but the BPON ONT can support a change in services

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150 OPC Cross Examination Exhibit No. 1 at 36.

151 OPC Cross Examination Exhibit No. 1 at 9.

152 OPC Cross Examination Exhibit No. 1 at 38.

153 OPC Cross Examination Exhibit No. 1 at 39.

154 OPC Cross Examination Exhibit No. 2 at 5.

155 OPC Cross Examination Exhibit No. 1 at 8; Verizon DC Brief at 8.

ordered by the customer; no new ONT is needed.[157] All new ONTs installed by Verizon DC support GPON technology.[158]

75. A standard residential ONT can support two voice lines. A small-office/home-office ONT supports 8 voice lines. A multi-customer ONT supports up to 12 lines.[159]

76. The following table illustrates the similarities and differences in functionality and routing for the three different voice services. Verizon DC's ONTs can support both switched fiber voice service and FDV service.[160]

Switched Copper Voice Service	**Switched Fiber Voice Service**	**FiOS Digital Voice (FDV) Service**
Functions at the Customer's Premises		
Uses a standard analog phone	Uses a standard analog phone	Uses a standard analog phone
A NID is the interface between the customer's inside wire and the Verizon DC network.	An ONT is the interface between the customer's inside wire and the Verizon DC network.	An ONT is the interface between the customer's inside wire and the Verizon DC network.
The signal from customer's phone to the NID is analog.	The signal from customer's phone to the ONT is analog. The ONT samples the analog signal and converts it to a digital packet signal in IP format for ONTs using GPON technology. The ONT samples the analog signal and converts it to a digital packet signal in Asynchronous Transfer Mode ("ATM") format for ONTs	The signal from customer's phone to the ONT is analog. The ONT samples the analog signal and converts it to a digital packet signal in IP format for ONTs using GPON technology. The ONT samples the analog signal and converts it to a digital packet signal in ATM format for ONTs using BPON technology. The ONT

156 OPC Cross Examination Exhibit No. 2 at 5; OPC Cross Examination Exhibit No. 81 at 2. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

157 OPC Cross Examination Exhibit No. 81 at 2.

158 OPC Cross Examination Exhibit No. 3 at 25-26.

159 OPC Cross Examination Exhibit No. 1 at 6.

160 OPC Cross Examination Exhibit No. 1 at 4, 36, 38, and 39.

	using BPON technology.	combines voice with video and data for transmission to the central office. ONTs also contain SIP functionality for call setup and signaling.
The customer's copper line is powered by Verizon DC from the central office all the way to the customer's customer premises equipment ("CPE") (except for the very small percentage of loops in the District that are connected to RTs).	ONT is powered by the customer. The ONT has a BBU on the customer's premises. The initial BBU is supplied by Verizon DC.	ONT is powered by the customer. The ONT may have a BBU on the customer's premises should the customer choose to purchase one.
Functions in the Line between the Customer's Premises and the Central Office		
The copper line transmits the analog electrical signals to the central office (except in the very small percentage of loops in the District that have Remote Terminals).	The fiber line transmits light signal to the OLT in the central office.	The fiber line transmits light signal to the OLT in the central office
Cooper distribution cable is connected to copper feeder cable at the serving area interface (except in the very small percentage of lines in the District that are connected to RTs).	Fiber distribution cable is connected to fiber feeder facilities at the Fiber Distribution Hub.	Fiber distribution cable is connected to fiber feeder facilities at the Fiber Distribution Hub.
Functions at the Central Office		
The analog line is connected to a PSTN switch port at the MDF (except in the small number of cases when RTs are used).	Fiber feeder cables terminate at the Fiber Distribution Frame which sends the signal to the WDM. WDM sends the voice signal to the OLT.	Fiber feeder cables terminate at the Fiber Distribution Frame which sends the signal to the WDM. WDM sends the voice signal to the OLT.
The switch port converts the analog signal to a digital TDM format.	The OLT separates the signal into customer streams and converts the voice signal from packet (ATM for BPON and IP	The OLT separates the signal into customer streams and separates customer stream into component parts (i.e. voice,

	for GPON) to TDM format.	data). The OLT converts voice signal from packet to IP format. The OLT converts the ATM signal to IP format for traffic received from BPON ONTs. No conversion is necessary for traffic received from GPON ONTs.
The MDF hands off the call to the PSTN switch.	The OLT hands off the voice signal to the PSTN switch.	The OLT hands the IP voice signal over to Verizon's FiOS Digital Voice Network.
Services		
All features and functions are provided by the PSTN	All features and functions are provided by the PSTN	Features and functions are provided through various elements in the FiOS network.

77. Verizon DC initially described its IP network as not needing a dedicated pathway to carry a call all the way from the caller to the called party. Verizon DC stated that :

> routers on an IP network will direct the data packets carrying voice calls along multiple pathways that may be constantly changing. The first router receiving the data packets will decide how best to forward them based on a number of network considerations, such as pathway availability. The router may send some packets to one router and other packets to one or more different routers. Each of those routers in turn decides how best to forward the packets it receives the next step of the way, and so on until all of the packets are reassembled at their destination.[161]

78. OPC took exception to this description, stating that, based on the data it has received from Verizon DC, "the voice 'path' for each call made using Verizon's FiOS Voice service is, much as in a circuit-switched network, singular and predetermined, and it does not use 'multiple pathways that may be constantly changing.'"[162] Subsequently, Verizon DC explained that **[BEGIN CONFIDENTIAL INFORMATION]**

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161 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 17.

162 Exhibit OPC (2B), Rebuttal Testimony of Bluhm, Loube, and Malfara at 12, citing Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 17.

163 Tr. at 112-113.

[END CONFIDENTIAL INFORMATION] Thus, from a review of the record, it appears that while Verizon DC describes generally how VoIP networks operate, OPC's description of the Verizon FDV service network is more accurate.

79. The Commission's Issues List separates the way Verizon DC offers its services into three forms: voice telecommunications services provided within a wire center service area that utilize copper lines connected to TDM-based circuit switch equipment; voice telecommunications services provided within a wire center service area that utilize fiber lines connected to TDM-based circuit switch equipment and voice telecommunications services provided within a wire center service area that utilizes fiber lines connected to IP softswitch equipment. The evidence explaining the network architecture of the three formats shows that there are indeed differences between them. Therefore, for purposes of this Order, the Commission will use the following three terms to distinguish between voice telecommunications services provided within a wire center service area that utilize copper lines ("switched copper voice service"); voice telecommunications services provided within a wire center service area that utilize fiber lines connected to TDM-based circuit switch equipment ("switched fiber voice service"); and fiber lines connected to IP softswitch equipment ("FDV service").

b. Comparison of Local Exchange Services provided over the Different Network Architectures

i. Comparison of Switched Copper and Switched Fiber Voice Services

80. OPC asserts that switched fiber voice service is not the same as switched copper voice service, primarily because of the need for commercial power with the ONT. While OPC is correct about the need for commercial power with switched fiber voice service, the actual local exchange services Verizon DC provides with switched fiber voice service are identical to the local exchange services provided with switched copper voice service, regulated by the same tariffs, with the one slight exception discussed above. The same Verizon DC bill is used for switched copper voice service and switched fiber voice service.[166] As noted below, the main differences between the two methods of providing voice services are related to the capabilities and functionalities of each service, particularly in the provision of power and the behavior of each type of service during commercial power outage conditions, and not in the voice services that are being provided. Thus, the Commission finds that switched copper voice service and

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164 Tr. at 113.

165 Tr. at 114.

166 Verizon DC Cross Examination Exhibit No. 21 at 6.

switched fiber voice service (collectively "switched voice service") provide the same local exchange services even though they do not operate in an identical manner.[167]

ii. Comparison of Switched Voice Service and FDV Service

81. Verizon DC asserts that FDV service relies on the benefits of IP technology to offer customers an integrated suite of functions, combining voice communications with capabilities like online account configuration and management, voice mail with email notification and call screening, call scheduling, simultaneous ring, and phone numbers that are not associated with a customer's geographic location. Verizon DC claims that FDV service combines voice communications with widely used communications platforms, including the Internet, wireless devices, and television.

82. FDV service provides some of the same services as switched voice services. These services include: Caller ID; Call waiting, voice mail; three-way calling; call return (*69); call forwarding; speed dial 100; anonymous call rejection; outgoing call restriction; incoming call block; cancel call waiting; and simultaneous ring.[168] In response to OPC's claims that FDV service customers do not have access to certain dialing and calling features including codes 500, 700, 900, 950, 976, 00, 01, 0+, calling cards, dial-around calls for alternate long distance service carriers, and acceptance of collect calls or third-party billed calls, Verizon DC agrees that FDV service does not allow for all the dialing patterns available with switched voice service.[169] Verizon DC argues that OPC's concerns about the unavailability of these particular services are overstated. Verizon DC indicates that it is the customer's choice to accept the FDV service without these "outdated options."[170]

83. In describing the new services available with FDV service, Verizon DC showcases the online Account Manager FDV service feature, which permits a customer to configure and manage services using a computer, wireless device, or television.[171] The Account Manager permits a customer to review a call log, access and play back voice mail, place a call directly from the call log or the FDV phone book, and set up and customize other functions.

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167 The Commission notes that one difference between copper facilities and fiber facilities is that copper facilities can support DSL service, but fiber facilities cannot. However, since Issue 1 addresses only voice service, the Commission finds discussion of DSL service irrelevant to this Issue.

168 Verizon DC Cross Examination Exhibit No. 4 at 9-20; OPC Cross Examination Exhibit No. 54 at 32.

169 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 20; OPC Cross Examination Exhibit No. 4 at 10. Verizon DC Cross Examination Exhibit No. 4 at 8 provides a bit more detail about these features. The FiOS Digital Voice Guide states that an FDV service customer can make collect and third party billed calls, but cannot receive them. Also, an FDV service customer cannot make 0+, 00, 01, 500, 10-10-xxxx, 700, 900, 950, and 976 calls, but can receive them.

170 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 20; Exhibit VZ (2A), Rebuttal Testimony of MacNabb and Vasington at 9; Verizon DC Brief at 20-21; Verizon DC Reply Brief at 6-8.

171 Verizon DC Cross Examination Exhibit No. 4 at 5.

Verizon DC claims that the customer can access the Account Manager from a computer, tablet, smartphone, or other device with Internet access, from anywhere.[172]

84. Verizon DC describes several other features of FDV service that Verizon DC did not offer with its switched voice service. Call scheduling permits a customer to place calls automatically to a given telephone number at a time and date pre-set by the user.[173] Reminder messages permit a customer to record a message to himself or herself and have FDV service deliver the call at a pre-selected time or date.[174] The "Do Not Disturb" function permits the customer to send all calls to voice mail or a pre-recorded message, or to send only select calls through.[175] Voice Mail Screening permits a customer to listen as a caller receives a message (permitting call completion to two different locations – the customer's phone and the Verizon server that support voice mail). Voice Mail Screening permits the customer to interrupt and take the call during the recording of the voice mail.[176] Verizon DC asserts that these capabilities are possible because application software supports interfaces among and across various platforms.[177]

85. Verizon DC asserts that another feature of FDV service is the ability to be untied to the geographic location of the customer's service address and eliminate the geographic limitations that restrict switched copper voice service and switched fiber voice service on the PSTN. As examples, Verizon DC indicates that a customer can listen to voice mails online on the Account Manager using any device with Internet capability, from any location. Additionally, FDV service can be programmed so that the customer can send an email to a specified address with a notification of a voice mail message. The email can attach the voice mail message to permit it to be permanently saved. FDV service can also be used to alert a customer of a voice mail by text to a smartphone. The "Simultaneous Ring" feature allows a call to ring up to three different phone numbers at the same time; the call will be completed to the first phone that is answered.[178] Verizon DC also claims that a FDV service customer can choose any number from any area code and exchange, not just those that serve the customer's geographic location. Verizon DC's Virtual Telephone Number service permits the purchase of up to five additional phone numbers from any area code. All of these numbers can be programmed to ring into the FDV service line.[179]

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172 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 18.

173 Verizon DC Cross Examination Exhibit No. 7 at 19; Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 19.

174 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 18-19.

175 Verizon DC Cross Examination Exhibit No. 4 at 16; Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 19.

176 Verizon DC Cross Examination Exhibit 5 at 30; Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 19.

177 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 19.

178 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 19.

179 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 20.

86. Verizon DC also claims that many of the features available from FDV service are available on customers' smartphones, tablets, computers, and televisions. For example, if a customer is watching FiOS television when a FDV phone call comes in, the FDV service will provide caller ID information on the television. Additionally, a customer can use the television to review the call log, place a phone call, look up a directory listing, listen to voice mails while pausing the action on the television, and turn on and off other FDV functions. Verizon DC claims that the seamless integration of voice service with a television and other devices is possible because the hardware/software platform that supports FDV functionality uses IP technology. All of these functions are available in addition to two-way, real-time voice communications.[180]

87. In response to in-hearing inquiries from the Commission, Verizon DC indicates that FDV service does not track the customer's location to route calls to locations outside the home. Verizon DC also represents that FDV service does not include high-definition voice, distributed call attendance, and external video management.[181] A customer cannot use an IP phone with FDV service; the only compatible phone is an analog phone.[182]

88. Verizon DC does not tariff its FDV service with the Commission. Nor is FDV service included in Price Cap Plan 2008.[183] Additionally, Verizon DC's bill for FDV service is very different than the bill for switched voice service.[184] OPC claims that many of these new services provided by FDV service have been previously provided over copper facilities by CLECs. However, it does not appear from the record that Verizon DC has offered these services over copper facilities.

89. It is clear from the record evidence that there are several differences in the services of TDM-based switched voice service, whether provided over copper or fiber facilities, and FDV service. The Commission finds that FDV service offers several services in addition to local exchange service that Verizon DC's TDM-based switched voice service cannot perform. For instance, FDV service permits a customer to access many of the functions that comprise FDV service from a number of different devices, including Internet-capable devices. FDV service includes an Account Manager function that permits configuration of voice services in a variety of ways over a variety of devices. Additionally, the Commission determines that there are several services that are available with TDM-based switched voice service that are not available with FDV service: seven-digit dialing; access to 500, 700, 900, 950, 976, 00, 01, and 0+ numbers; Lifeline service; and the inability to use calling cards, third-party billing, collect calling, and dial around services. Verizon DC describes most of these services as obsolete and very few customers use these services; OPC disagrees in the case of dial around capabilities,

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180 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 20.

181 *Formal Case No. 1102*, Verizon's Confidential Responses to In-Hearing Data Requests ("Verizon DC In-Hearing Response") at 9, filed February 13, 2015.

182 OPC Cross Examination Exhibit No. 37 at 1.

183 OPC Cross Examination Exhibit No. 3 at 8.

184 Verizon DC Cross Examination Exhibit No. 21 at 6.

which OPC indicates is important for interexchange service competition. The Commission finds that residential and business customers will lose these features if they choose FDV service, although the record is unclear as to the importance to customers of the loss of many of these features. As with switched fiber voice service, FDV service customers would also be required to supply commercial power to their ONTs, a distinguishing feature which is important to business and residential customers.

c. Comparison of Capabilities

90. Verizon DC asserts that its fiber facilities network is more reliable and durable than a copper-based network. Verizon DC provides the following support for this assertion:

1. Copper facilities running from the central office to the customer's premises consist of multiple connection points, which over time, can become disconnected or damaged causing interferences or outages.[185]

2. Fiber cables are immune to many environmental factors such as moisture and lightning that affect copper cables. Fiber has a longer lifespan than copper and once it is in place future upgrades only require a change in the terminal equipment located in the central office.[186]

3. Fiber cables are typically easier to repair and restore in the event of a cable cut.[187]

4. The District of Columbia is located in a humid subtropical climate and in the Chesapeake Bay drainage basin which is susceptible to moisture and flooding. Given fiber's resilience to heat, humidity and moisture it is less likely to experience trouble or require repair and replacement in these environmental conditions.[188]

5. Fiber is much less sensitive to distance limitations than copper and is not affected by magnetic radiation, electrical interference, noise, crosstalk, and signal loss.[189]

6. Fiber facilities are not as susceptible to theft as copper facilities, reducing service outages for customers.[190]

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185 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 9.

186 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 10-15, Exhibit VZ (2A), Rebuttal Testimony of MacNabb and Vasington at 12; Verizon DC Brief at 4, 9, and 19.

187 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 15; OPC Cross Examination Exhibit No. 1 at 22 and 46; Verizon DC Brief at 4, 9, and 19-20.

188 Exhibit VZ (B), Direct Testimony of Campbell at 8 and 9.

189 Verizon DC Brief at 9-10.

91. OPC states that it has several disagreements with how Verizon DC characterizes its network and that Verizon DC's characterization of the equipment and capabilities of its fiber and copper networks is inaccurate and incomplete.[191] In its Rebuttal Testimony, OPC states that:

> for feeder and distribution under Switched Fiber Voice and FiOS Voice, dozens of customers may be supported over a single strand of feeder or distribution fiber. In the event of a fiber cut of any of these facilities, multiple customers will be out of service until a repair technician can splice or replace the damaged facility. This reduces the reliability of the fiber feeder system transport layer.[192]

OPC arrives at this conclusion by stating, "In contrast, in a traditional circuit-switching transport layer environment, Synchronous Optical Network ("SONET") protocols use redundant paths to remote terminals thereby creating an alternate path for signals to follow when there is a cable cut."[193] While OPC's statement is correct that SONET technology does operate in a self-healing mode in the event of a cable cut, for customers in the District, this is largely a moot point. Verizon DC has indicated that only **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** of its working copper lines in the District of Columbia are served through an RT,[194] thereby making the advantages of SONET technology in the fiber feeder transport layer negligible for customers in the District of Columbia. OPC's own testimony reinforces this, stating that "it is clear that the vast majority of Copper Voice access lines in the District do not rely on mid-span electronics."[195] The mid-span electronics OPC refers to here are those provided by an RT. OPC also notes that there are significant differences in the technology platforms for each service which create different risks and tradeoffs in key areas such as public safety, network reliability and service quality.[196] OPC also states that the introduction of new, non-local, devices and transport links on Verizon DC's packet network may create new potential points of failure.[197]

92. It is clear from the record that there are differences between the switched copper voice network, switched fiber voice network, and FDV service network that impact reliability. Verizon DC's description of the geographic and high availability pair redundancy employed for the equipment used to serve its FiOS Digital Network demonstrates that it provides a reasonable

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190 Verizon DC Brief at 9-10.

191 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 6 and 9.

192 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 18.

193 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 18.

194 OPC Cross Examination Exhibit No. 1 at 5.

195 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 10.

196 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 7.

197 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 15-18.

level of reliability.[198] This is the same type of redundancy that has been used for years by the telecommunications industry for critical applications such as the SS7 (out of band) signaling. The Commission also believes OPC is correct that there are splices and optical splitters in Verizon DC's fiber network.[199] However, unlike the copper network, these connections are not metallic connections, which are more prone to failure over time. The record established that a single feeder or distribution fiber may support several dozen customers, increasing the scope of any outage affecting those fiber cables;[200] that copper feeders and distribution cables serve multiple customers; and that an outage on these copper cables typically takes much longer to troubleshoot to locate the point of failure and to repair the cable once it is found. Based on the record, the Commission concludes that because fiber facilities are more resistant to environmental factors, these facilities may be less prone to service outages, which would benefit business and residential customers. On the other hand, the Commission recognizes that the reliance of fiber facilities on commercial power at the customer premises makes the fiber network less reliable in the event of a commercial power outage. Both of these differences are important to business and residential customers in that they impact reliability, and they can have an impact on public safety and the delivery of emergency services during times of commercial power outages.

93. Based on the record in this proceeding, the Commission finds that there are differences in the capabilities of switched copper voice services, switched fiber voice services and FDV service. Verizon DC's newly installed fiber network is more reliable, durable, and easier to repair than its copper network, which has been in place for many decades. All large telecommunications companies have migrated to fiber facilities for most, if not all, of their long-haul transport. The Commission concludes that this mode of voice transport will serve the "last mile" of transport equally well from a reliability perspective.

d. Comparison of Functionalities

94. As previously noted, switched copper voice service and switched fiber voice service are powered differently. Switched copper voice service is powered from the central office; the customer is not responsible for providing power. With switched fiber voice service, Verizon DC does not supply end-to-end power; the ONT at the customer premises is powered by the customer's commercial power source. Thus, in the case of a commercial power outage, the ONT will not function without battery backup power. Consequently, the customer loses voice service if there is no battery backup or the BBU is depleted. This power difference means that the two switched voice service architectures function differently. This difference is significant, since residential and business customers subscribing to switched fiber voice service are now required by Verizon DC to provide their own power, not relying on Verizon DC's provision of power from the central office. Due to this difference in functionality, the parties in this proceeding focused much of their testimony on methods of providing backup power to the ONT in the case of a commercial power outage.

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198 OPC Cross Examination Exhibit No. 1 at 8.

199 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 18-19; OPC Reply Brief at 10.

200 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 10.

i. Power and Backup Batteries for the ONT

95. When there is a commercial power outage at the customer premises, the ONT needs an operating BBU in order to continue to function during the power outage. Verizon DC claims that the original 12-volt BBU provides eight hours of standby and two hours of talk-time power. This unit automatically activates when commercial power is lost. Once the battery reaches the **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** capacity point during operation, the BBU automatically turns off the ONT to preserve power. The customer then has approximately one hour of reserve time in the battery, which the customer can access by pressing an "emergency use button" on the BBU.[201] The BBU has an audible alarm, which is triggered when commercial power is lost.[202] When the battery begins to reach the end of its life, an audible alarm will sound periodically every 15 minutes until the battery is replaced. The ONT and the BBU also provide a status light indicating the presence of a functioning BBU.

96. The 12-volt battery recharges within approximately 24 hours when power is restored. Battery life depends on several factors, including the temperature of its surrounding environment and age of the battery.[203] In warmer environments, the battery will last two to three years; in cooler conditions it may last up to seven years.[204] The customer is responsible for replacing the battery after the expiration of the **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] The customer may also purchase a replacement battery from another vendor and install the battery on his or her own or have another vendor complete the installation.

97. **[BEGIN CONFIDENTIAL INFORMATION]**

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201 OPC Cross Examination Exhibit No. 1 at 5, 9, and 40; Verizon DC Brief at 16.

202 OPC Cross Examination Exhibit No. 1 at 6, 40.

203 OPC Cross Examination Exhibit No. 1 at 9, 40; OPC Cross Examination Exhibit No. 42 at 1; OPC Cross Examination Exhibit No. 80 at 1.

204 OPC Cross Examination Exhibit No. 1 at 9, 40; OPC Cross Examination Exhibit No. 42 at 1; OPC Cross Examination Exhibit No. 80 at 1; Verizon DC Cross Examination Exhibit 9 at 3.

205 Tr. at 418; OPC Cross Examination Exhibit No. 44 at 1.

206 OPC Cross Examination Exhibit No. 44 at 60-62; OPC Cross Examination Exhibit No. 54 at 97.

207 Verizon DC Cross Examination Exhibit No. 9 at 4.

[END CONFIDENTIAL INFORMATION]

98. While the ONT can be designed for outdoor or indoor installation,[210] **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

99. In response to an OPC data request regarding the technical feasibility of using the copper network to charge the BBU, Verizon DC indicates that **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

100. Verizon DC represents that both Verizon DC and the ONT manufacturer have performed testing to support Verizon DC's stated operating times for the 12-volt backup battery.[213] However, Verizon DC indicates that there has been no third party verification of these operating times.[214]

101. Beginning in November 2014, Verizon DC began deploying PowerReserve BBUs in new ONT installations throughout the District of Columbia.[215] Verizon DC's new PowerReserve BBU operates using twelve standard D-cell batteries. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] Verizon DC claims that this unit provides up to 25 hours of standby time or 20 hours of talk time. The PowerReserve

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208 OPC Cross Examination Exhibit No. 3 at 17; OPC Cross Examination Exhibit No. 43 at 1; Verizon DC Cross Examination Exhibit No. 9 at 3.

209 Verizon DC Cross Examination Exhibit No. 9 at 3-4.

210 Tr. at 134.

211 Verizon DC Cross Examination Exhibit No. 9 at 4; Tr. at 134.

212 Verizon DC Cross Examination Exhibit No. 9 at 5.

213 OPC Cross Examination Exhibit No. 79 at 4-18.

214 Verizon DC In-Hearing Response at 1.

215 OPC Cross Examination Exhibit No. 3 at 17.

216 Verizon DC Cross Examination Exhibit No. 27 at 6.

BBU operating times have been tested by Verizon and the ONT manufacturers; however the operating times have not been validated by a third party tester.[217] The initial deployment of this unit was for new customers with equipment from specific ONT manufacturers. Verizon DC indicates that all migration customers and customers who order switched fiber voice service going forward will be provided with the PowerReserve BBU at no charge. Existing customers who receive the new power supply unit for the ONT, which is a power adapter (similar to a laptop power cord), will also receive the PowerReserve BBU and the first set of batteries at no charge. New FDV customers will be offered the PowerReserve BBU for a charge of[218] **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]**

102. If a switched fiber voice service customer upgrades to FDV service, the BBU at the premises will still work; no upgrade to the BBU is needed.[220] Verizon DC intends to replace the 12-volt BBU only if the existing 12-volt BBU fails or if the customer requests a replacement.[221] **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

Verizon DC has no plans to inform customers who currently have the 12-volt BBUs of the availability of the PowerReserve BBU.[223]

103. The PowerReserve BBU has an on/off switch. If left in the "on" position, the unit will automatically power the ONT in the event of a power failure. The customer has the ability to control the backup time by turning the unit off and only turning it on when needed to make or receive a phone call.[224] As a result, this option requires more customer involvement than the existing 12-volt BBU, which automatically turns the ONT off to preserve a small amount of emergency power. If the customer forgets to turn the PowerReserve unit off, the ONT will exhaust the batteries[225] and the ONT will shut down until commercial power is restored or the

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217 Verizon DC Response to In-Hearing Data Request No. 2.

218 OPC Cross Examination Exhibit No. 1 at 6.

219 OPC Cross Examination Exhibit No. 78 at 5.

220 Verizon DC In-Hearing Response at 6.

221 Tr. at 90.

222 Tr. at 119-120.

223 Tr. at 94.

224 OPC Cross Examination Exhibit No. 1 at 6; OPC Cross Examination Exhibit No. 78 at 6. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

225 Verizon DC represents that the minimum voltage needed for the PowerReserve BBU to work is 11 volts. One D-cell battery has 1.5 volts. Verizon DC In-Hearing Response at 1.

customer replaces the D-cell batteries. The PowerReserve unit does not have a low battery alarm. The kit Verizon DC provides with PowerReserve BBUs contains a D-cell battery test strip[226] that customers are advised to use after every event of the loss of commercial power. The PowerReserve unit cannot use Lithium batteries or rechargeable batteries.[227] Verizon DC asserts that it has performed testing that supports the stated operating times for the PowerReserve BBU.[228]

104. For the initial PowerReserve BBU deployment, **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** During the hearing, Verizon DC indicated that by the end of the first quarter of 2015, the PowerReserve BBU would be approved for all single-family[230] ONTs used by Verizon DC.[231] The PowerReserve unit that Verizon DC is now deploying in the District of Columbia has several advantages when compared to the 12-volt BBU. In particular, the PowerReserve BBU: 1) uses standard D-cell batteries, which are readily available and easy to replace; 2) allows the customer to turn the unit on and off, thereby, conserving backup battery life; and 3) provides a much improved standby time of up to 25 hours versus eight hours and conversation time of 20 hours versus two hours when compared to the current 12-volt BBUs. The PowerReserve BBU does have the drawbacks of requiring more customer involvement in turning the BBU off and on, and in not having an emergency reserve, however. **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** On the whole, however, the Commission finds that the PowerReserve BBU has more benefits than the current 12-volt BBU.

105. The record establishes that the customer must power the ONT for both switched fiber voice service and FDV service. As such, during prolonged power outages, the Commission finds that residential and business customers using either switched fiber voice service or FDV service may lose their ability to make and receive phone calls, including emergency calls to E911 operators unless they have a functional BBU. OPC expresses concern about the power reserves of the current backup batteries used for Verizon's ONT and recommends that the Commission require Verizon DC to use certain longer-life batteries as an alternative. Verizon DC states that it currently offers BBUs that are more robust than their competitors and the battery option recommended by OPC that could supply 24 hours of backup time is not compatible with Verizon

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226 Tr. at 202.

227 OPC Cross Examination Exhibit No. 1 at 10; OPC Cross Examination Exhibit No. 78 at 8.

228 OPC Cross Examination Exhibit No. 77 at 4.

229 Verizon DC Cross Examination Exhibit No. 27 at 3.

230 Tr. at 198.

231 Tr. at 91.

232 Tr. at 418.

DC's ONT power unit design **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** The Commission finds that this difference between switched copper voice service and both voice services provided over fiber facilities is significant, especially in the case of commercial power outages. The parties also recognize the significance of this difference, as evidenced by the lengthy discussions of BBUs in their testimony and exhibits.

106. It is important to note that the BBU that is connected to the ONT is Verizon DC's property.[234] However, Verizon DC claims that the FCC now defines the ONT as CPE,[235] placing the responsibility for replacing the battery in the BBU on the customer, which is another difference in functionality between switched copper voice service and both fiber voice services. This difference also means that while Verizon DC includes the cost of powering the copper network in the rates for local exchange service, the switched fiber voice service customer is now responsible for paying for the commercial power to operate the ONT. There is no information on the record, however, for the Commission to determine the amount of this cost difference or how important this cost difference is to residential and business customers.

ii. Compatibility of Home Alarm Systems, Faxes, and Modems

107. OPC claims that it is unclear whether home alarm systems will work with fiber facilities and further claims that they may require a separate copper line to support the alarm service,[236] quoting a statement in Verizon's FiOS Ordering and Service Guidelines indicating that **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]**.

108. Verizon DC indicates that home alarm systems work on both switched fiber voice service and on FDV service. Verizon DC states that its technicians are trained to install the fiber facilities to properly permit the alarm line seizure function, and Verizon DC's methods and procedures for fiber migrations make it clear that the technician is not to complete the

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233 Verizon DC Cross Examination Exhibit No. 9 at 6.

234 Customers are not charged to lease the ONT. Tr. at 45.

235 OPC Cross Examination Exhibit No. 78 at 3, 6. Verizon DC argues that the FCC has defined the ONT as CPE. Tr. at 95-96. In reviewing the *USF/ICC Order*, the FCC included in its definition of "modem" "customer premises equipment (CPE) typically managed by a broadband [service] provider as the last connection point to the managed network (e.g., DSL modem, cable modem, satellite modem, optical networking terminal (ONT), etc.)". *Connect America Fund; A National Broadband Plan for our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Board on Universal Service; Lifeline and Link Up; Universal Service Reform – Mobility Fund*, WC Dockets No. 10-90, 07-135, 05-337, 03-109, CC Dockets No. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking ("USF/ICC Order") at ¶ 111, figure 3, rel. November 18, 2011.

236 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 49-50; OPC Brief at 22.

237 Verizon DC Cross Examination Exhibit No. 5 at 1.

installation until he or she verifies that the alarm system functions on the fiber network. Verizon DC indicates that its Tier 2 technical support organization has encountered very few CPE/home alarm problems and it has been able to address all problems that they have encountered. Verizon DC replies to OPC's quotation of Verizon DC's FiOS Ordering and Service Guidelines regarding **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] by stating that it is a "catch-all" statement in case there are any particular situations where an alarm system may not be supported. Verizon DC affirms that finding a non-functioning alarm system is rare and these instances have all been fixed with simple changes such as updating dialing patterns from seven to ten digits.[239] However, no independent testing has been conducted to certify that home alarm systems operate with Verizon DC's switched fiber voice service or FDV service.[240]

109. The Commission finds that in at least some circumstances, Verizon DC must make adjustments in its fiber migration activities to accommodate home alarm systems. The fact that Verizon DC must make these adjustments is an indication of a difference in functionality between switched copper voice service and voice services provided over fiber facilities. The question of whether home alarms are compatible with switched fiber voice service or FDV service is important to those business and residential customers with alarm systems.

110. OPC does not discuss compatibility of switched fiber voice service with faxes and modems, but OPC questions whether modem and fax service will be operational with FDV service.[241] However, in the same testimony, OPC mentions that "VoIP, as a technology can be relatively supportive of [faxes and modems]."[242] In response, Verizon DC argues that fax and modem services are compatible with FDV service and that it has never encountered a problem with signal degradation with transcoding a fax or modem signal from IP to TDM.[243] The Commission finds that OPC has not provided any specific evidence demonstrating that faxes and/or modems are not operational with FDV service. If such evidence did exist, this difference might be important to business and residential customers who use these services.

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238 Verizon DC Cross Examination Exhibit No. 5 at 1.

239 OPC Cross Examination Exhibit No. 11 at 6.

240 Tr. at 140.

241 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 51-53.

242 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 51.

243 Exhibit VZ (2A), Rebuttal Testimony of MacNabb and Vasington at 13; Verizon DC Brief at 20; OPC Cross Examination Exhibit No. 3 at 10.

C. **ISSUE 2: Do voice telecommunications services provided within a wire center service area that utilize fiber lines connected to either TDM-based circuit switch equipment or to IP softswitch equipment provide the same or better call and response capabilities for emergency services (including: fire, police and medical emergency response services and Personal Emergency Response System services), crisis management, priority access and security services (including law enforcement call monitoring services) as are provided when copper lines connected to TDM circuit switches are utilized to provide such services? If the answer is no, what additional equipment or services are needed to achieve the same level of response capabilities as exist with copper facilities?**

1. Positions of the Parties

111. **Verizon DC Brief.** Verizon DC represents that the call and response capabilities for emergency services are the same for TDM-based services and FDV service. Verizon DC argues that the primary differences of having fiber in the local loop (as opposed to copper) are reliability and capacity. Verizon DC reiterates its argument that fiber facilities are less likely to fail and when they do fail, they are easier to repair than copper facilities. Verizon DC asserts that its fiber facilities meet the standards in National Fire Protection Association 72.[244]

112. From a customer's perspective, Verizon DC asserts that the following functions all work on TDM-based services provided over copper and fiber facilities and with FDV service: E911 call location; home alarm; personal emergency response system services; crisis management services; priority access services; medical monitoring devices; reverse 911; electronic surveillance; location and health information reported and used by E911 and reverse 911 systems; and Telecommunications Service Priority ("TSP"). Verizon DC also represents that Government Emergency Telecommunications Service ("GETS") calls from FDV service customers work without issues.[245]

113. In some respects, Verizon DC argues, FDV service was designed to provide improvements to E911 service reliability. In designing the FDV service network, Verizon DC claims that it learned from network failures that had occurred in the PSTN, and deployed enhanced controls to avoid these problems in the FDV service network. Additionally, Verizon DC contends that it has built a high level of redundancy into the FDV service network. Verizon DC maintains that Verizon has operated its FDV service network for years and partnered with Public Safety Answering Points ("PSAP") across the country on a regular basis. Verizon DC asserts that no issues have arisen from the PSAPs or customers in the performance of the FDV service network in delivering 911 calls to the PSAP. In the District of Columbia, Verizon DC claims that it routinely coordinates with the District of Columbia Office of Unified Communications ("OUC") on maintenance and performance activities for all of its voice service customers, correcting any issues identified by the PSAP. Additionally, Verizon DC and OUC tested 911 calls originating on the FDV service network and completed to the District of

244 Verizon DC Brief at 21.

245 Verizon DC Brief at 21.

Columbia's PSAP multiple times. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] According to Verizon DC, there is no record of any failures in Verizon DC's portion of the E911 system that incorporate IP facilities or any problems with reverse 911 service working with FDV service.[246]

114. Verizon DC asserts that it does not prioritize 911 calls from TDM-based voice customers over other voice calls on the PSTN. Under normal network circumstances, Verizon DC contends that it does not prioritize 911 traffic within the FDV service network, although it does prioritize voice traffic ahead of FiOS Internet and video service on the network. However, during times of high traffic, Verizon DC represents that it has implemented traffic control mechanisms to limit or shed traffic from the FDV service network in times of emergency to keep the network up and running and to prioritize 911 calls over other voice traffic.[247]

115. **OPC Brief.** OPC argues that the on-site power demands of Verizon DC's fiber-based voice services reduce emergency call and response capabilities relative to switched copper voice service.[248] Later in its Brief, OPC recommends on-site power solutions. OPC also argues that the complexity of the FDV service network creates new potential failure points that could adversely affect the emergency call and response capabilities of FDV service. Because Verizon DC has not provided (and may not possess) adequate information about emergency call and response capabilities of the FDV service network in stress situations, OPC asserts that it cannot provide recommendations on the additional equipment or services needed to achieve the same level of emergency response capabilities that exist within the switched copper network.[249]

116. OPC asserts that the emergency-response capabilities of any telecommunications network are dependent on the overall reliability of the network. OPC contests Verizon DC's witnesses' statements that the "call and response capabilities, are in essence, the same for [switched] copper and fiber, as well as for [FDV service]"[250] OPC argues that its witnesses testified that "when...fiber lines are connected to IP softswitch equipment, virtually every aspect of such services for call and response capabilities for emergency response...is modified. In a softswitch-IP environment, these emergency services use completely different call processing technology and interfaces."[251] OPC argues that its witnesses also testified that "Verizon [DC] fails to consider the additional call processing steps, routing links, and facilities necessary to

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246 Verizon DC Brief at 22.

247 Verizon DC Brief at 23.

248 OPC Brief at 14, 27.

249 OPC Brief at 14.

250 OPC Brief at 27, citing Exhibit VZ (A), Direct Testimony of Vasington and MacNabb at 21.

251 OPC Brief at 28, citing Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 63.

accommodate the 'IP softswitch equipment' addressed in the question."[252] OPC alleges that the record supports its position.[253]

117. OPC asserts that the capability and reliability of Verizon DC's FDV service network to process emergency calls has been of concern to both the Commission and OPC. Although both the Commission and OPC have questioned Verizon DC repeatedly about the FDV network's technical details and call flows, OPC asserts that Verizon DC's responses have been generic. For example, OPC contends that Verizon DC provided **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

118. OPC claims that Verizon DC identifies five steps in a FDV service emergency call. First, the customer dials 911. Second, the call is sent from the ONT to the central office OLT. Third, the OLT hands the call off to Verizon's Digital Voice Platform.[255] Fourth, the Digital Voice Platform routes the call to the E911 Tandem. Finally, the E911 Tandem routes the call to the PSAP. OPC argues that Verizon DC describes its call flow over its switched fiber voice network as nearly identical, except that the OLT hands off the call to a TDM-based Class 5 switch, with the Class 5 switch routing the call to the E911 Tandem. OPC maintains that Verizon DC argues that the FDV Digital Voice Platform is analogous to the switched network system. OPC contends that these two systems are not analogous.[256]

119. OPC claims that after the filing of Rebuttal Testimony, Verizon DC produced documents which show that inside the Digital Voice Platform **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] In OPC's view, the process by which a FDV emergency call is completed is not at all "the same" as the process for switched copper or switched fiber voice service emergency 911 calls.[257]

120. Based on this new information, OPC asserts that at the hearing, its Witness Malfara identified several specific **[BEGIN CRITICAL INFRASTRUCTURE INFORMATION]**

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252 OPC Brief at 28, citing Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 26.

253 OPC Brief at 28.

254 OPC Brief at 28, citing Tr. at 71.

255 OPC Brief at 28.

256 OPC Brief at 29.

257 OPC Brief at 29.

258 OPC Brief at 29.

121.

122.

259 OPC Brief at 30, citing Tr. at 271.

260 OPC Brief at 30-31.

261 OPC Brief at 31.

262 OPC Brief at 31.

123.

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263 OPC Brief at 32, citing Tr. at 364-365.

264 OPC Brief at 32.

265 OPC Brief at 32.

266 OPC Brief at 32.

267 OPC Brief at 33, citing OPC Cross Examination Exhibit No. 6 at 8.

268 OPC Brief at 33, citing OPC Cross Examination Exhibit No. 6 at 8.

269 OPC Brief at 33.

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128.

129.

[END CRITICAL INFRASTRUCTURE INFORMATION]

130. **Verizon DC Reply Brief.** Verizon DC argues that OPC is trying to "manufacture an issue regarding emergency capabilities of FDV" service in another attempt to extend the Commission's jurisdiction. Verizon DC reiterates its position that from a customer perspective, call and response capabilities for emergency services are the same for switched copper voice service, switched fiber voice service, and FDV service. In each situation, Verizon DC maintains, when a customer places a 911 call, the call is routed to the District's PSAP over Verizon DC's TDM-based E911 facilities with the customer's location information. Verizon DC claims that

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270 OPC Brief at 33.

271 OPC Brief at 33-34.

272 OPC Brief at 34.

273 OPC Brief at 34, citing Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 26.

274 OPC Brief at 34-35.

275 OPC Brief at 35.

home alarm, personal emergency response system services, crisis management services, priority access services, medical monitoring devices, reverse 911 service, electronic surveillance, TSP functions, and GETS all work on switched copper voice service, switched fiber voice service, and FDV service.[276]

131. Verizon DC contends that OPC speculates that because the network used to route calls from a FDV service customer to the E911 network serving the District of Columbia PSAP is more advanced than the network used to route calls from a switched copper voice service customer or a switched fiber voice service customer, the FDV service customer has a higher risk of calls failing to reach the PSAP. Verizon DC claims that this speculation is unfounded and without supporting evidence. To the contrary, Verizon DC argues that E911 calls from FDV service customers are more reliable than 911 calls from a switched copper voice service customer or a switched fiber voice service customer, in part because the network over which FDV calls travel is more resilient in bad weather.[277]

132. Having learned from experiences with the PSTN, Verizon DC claims that it deployed enhanced controls to minimize failures in the FDV service network. Verizon contends that there is a high level of redundancy in the FDV service network. Verizon DC asserts that it has operated the FDV service network for years and partners with PSAPs around the country on a regular basis, and there is no evidence that the District of Columbia PSAP or customers have had an issue with the performance of the FDV service network in delivering 911 calls. Verizon DC represents that it routinely coordinates with the OUC on maintenance and performance activities for all of its voice service customers, correcting any issues identified by the OUC (the District's PSAP operator). Verizon DC argues that Verizon DC and the OUC also tested 911 calls originating on the FDV service network and ending at the District of Columbia PSAP multiple times.[278] **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] Verizon DC represents that there is no evidence of any FDV 911 and reverse 911 service problems.[280]

133. Verizon DC contends that OPC's reference to a "sunny day outage" in 2014 that was investigated by the FCC is irrelevant to this proceeding and the provision of 911 service in the District of Columbia. According to Verizon DC, the Intrado services and facilities at issue in the FCC investigation were Next Generation 911 ("NG911") networks providing 911 service to PSAPs in several states; the outage had nothing to do with originating networks such as those used to deliver FDV service calls. Verizon DC also represents that the Intrado NG911

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276 Verizon DC Reply Brief at 10.

277 Verizon DC Reply Brief at 11.

278 Verizon DC Reply Brief at 11.

279 Verizon DC Reply Brief at 11-12.

280 Verizon DC Reply Brief at 12.

architecture is completely different from the conventional TDM-based E911 service architecture used in the District of Columbia. Verizon DC represents that the District of Columbia PSAP is served exclusively through a combination of TDM-based circuit switched facilities deployed by the District of Columbia government and purchased through Verizon DC's E911 service tariff connecting its end offices to a tandem router, trunking, and the PSAP, not through the same kind of NG911 services provided by Intrado that were the subject of the "sunny day outage."[281]

134. **OPC Reply Brief.** OPC contends that in response to concerns raised by the Commission and OPC regarding the FDV service network's emergency response capabilities, Verizon DC has provided only generalized, high-level information.[282] In contrast, OPC contends that it demonstrated at the hearing and in its Brief that functionally, FDV service 911 calls are not the same as calls from switched voice service. OPC asserts that FDV emergency 911 calls must be processed through Verizon's FDV platform before they reach the PSAP, unlike switched voice emergency 911 calls. OPC argues that the complexity of the FDV platform poses specific and unique reliability concerns not present in the switched voice service networks.[283]

135. OPC alleges that Verizon DC does not address these concerns, attempting instead to deflect attention away from the unique reliability risks facing emergency 911 calls passing through the FDV service network by stating that it "does not prioritize 911 calls from TDM-based voice [service] customer[s] over other voice traffic on the [PSTN]."[284] OPC claims that this comparison is inaccurate. In the PSTN environment, OPC claims, emergency calls are routed over a dedicated path from the customer to the central office switch, at which point the Class 5 switch routes the call immediately to selective routers that are dedicated to the District of Columbia's PSAPs.[285] OPC represents that each switch in the PSTN serves only a particular wire exchange, so the call volume that is handled by each switch in the PSTN is a fraction of the entire District of Columbia.[286] OPC contrasts this call delivery with FDV emergency call delivery. OPC asserts that an FDV E911 call does not reach the selective router for the District of Columbia PSAPs until **[BEGIN CRITICAL INFRASTRUCTURE INFORMATION]**

[END CRITICAL INFRASTRUCTURE INFORMATION] According to OPC, the steps and links involved with emergency call prioritization over Verizon's FDV

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281 Verizon DC Reply Brief at 12.

282 OPC Reply Brief at 11.

283 OPC Reply Brief at 12.

284 OPC Reply Brief at 12, citing Verizon DC Brief at 23.

285 OPC Reply Brief at 12.

286 OPC Reply Brief at 12-13.

platform are entirely different than the PSTN. OPC contends that Verizon DC is wrong in suggesting otherwise.[287]

136. OPC also takes issue with Verizon DC's conclusory statements that "Verizon and OUC also tested 911 calls originating on the FDV service network and completed to the District PSAP multiple times" and "[GETS] calls originating from FDV customers work without issue."[288] OPC argues that Verizon DC did not make these statements until after the hearing, denying the Commission and OPC the right to cross-examine Verizon DC on these claims.[289] Additionally, OPC contends, Verizon DC did not explain the testing conditions or parameters under which it tested its FDV-originated 911 or GETS calls. OPC contends that the distinction is important because Verizon DC concedes that FDV call completion during a stress event may require more engineering fixes than calls during "normal network circumstances."[290]

137. OPC objects to Verizon DC's statement that it has "operated the FDV service network for years...and no issue has arisen from those PSAPs or customers with regard to the performance of the FDV service network in delivering calls."[291] OPC contends that it discussed in its Rebuttal Testimony the April 2014 "sunny day" outage, in which more than 11 million customers in seven states lost 911service for up to six hours due to an IP-related 911 failure. OPC represents that although this failure was on Intrado's system, not Verizon's, OPC argues that **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] OPC also claims that the FCC recently found that Verizon failed to comply with reporting obligations as the 911 provider for certain locations affected by the "sunny day" outage.[293] As a result of this failure, OPC reports that Verizon agreed to pay a $3.4 million fine and to develop and implement a process to:

> (1) Identify risks that could result in disruptions to 911 service, (2) Protect against such risks, (3) Detect future 911 outages, (4) Respond to such outages with remedial actions, including notification to affected PSAPs, and (5) Recover from such outages on a timely basis in cooperation with any affected subcontractors.[294]

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287 OPC Reply Brief at 13.

288 OPC Reply Brief at 13, citing Verizon DC Brief at 21-22.

289 OPC Reply Brief at 13-14.

290 OPC Reply Brief at 14, citing Verizon DC Brief at 23.

291 OPC Reply Brief at 14, citing Verizon DC Brief at 22.

292 OPC Reply Brief at 14.

293 OPC Reply Brief at 14-15.

294 OPC Reply Brief at 15, citing FCC Order No. DA 15-308 at 4.

138. OPC uses this example to point out that there are weak links in Verizon's FDV platform that can impact emergency call reliability in the District of Columbia. OPC claims that Verizon DC has not demonstrated that it has adequately tested or addressed these vulnerabilities. OPC recommends that the Commission direct Verizon DC to file an FDV emergency response capability plan. As part of this plan, OPC advises that Verizon DC should be required to meet the same level of 911reliability over FDV service as it attains for 911 calls over its switched voice service.[295] Given that Verizon DC claims that it "meets **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] OPC believes that Verizon DC has the ability to monitor and report its compliance with this performance measure on an ongoing basis.[296]

2. Decision

139. After examining the testimony and Verizon DC's additional responses, the Commission finds that the evidence presented discusses the effect of the copper-to-fiber network transition on the following issues involved with emergency services: E911; law enforcement activities, i.e., Communications Assistance for Law Enforcement Act ("CALEA"); Telecommunications Relay Service ("TRS"); GETS; TSP; and Reverse E911 Service Emergency Broadcast Calling. The Commission addresses each in turn.

a. E911 Response Services

i. Switched Fiber Voice Service

140. The emergency "911" call service is defined as a three-digit dialing code used for summoning help in emergencies. Calls made to 911 are routed to PSAPs in order to obtain police, fire, or medical emergency assistance. In short, "911 service" is the system connecting callers with the PSAPs. In the "enhanced" version, ("E911"), the PSAP has electronic access to important information such as the location address of the telephone number from which the call originated. In the District of Columbia, when an E911 call is originated over the PSTN, the local switch is designed to recognize the call as a 911 call, and through an automated process, route the call and associated Automatic Number Identification ("ANI") over the 911 Direct Connect network to the District of Columbia Government-owned selective routers. Once the 911 call is received by the OUC at one of the selective routers, the OUC then simultaneously routes the 911 call with associated ANI to the PSAP operator's terminal and also steers the call with the ANI, to the appropriate Automatic Location Identification ("ALI") database service provider[297] to obtain the caller's location information. Once the ALI information returns to the OUC, it is presented along with the voice call at the PSAP operator's terminal.

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295 OPC Reply Brief at 15.

296 OPC Reply Brief at 15-16, citing Verizon DC Brief at 22.

297 Verizon DC is the ALI database provider for wireline service.

141. OPC notes that both switched copper voice and switched fiber voice services have similar operating characteristics once the 911 call messages reach the central office, since both are routed thereafter through a TDM-based switch.[298] OPC notes that fiber facilities have an advantage in that they are more durable in a wet operating environment, but switched copper voice service has an advantage in that it does not require external commercial power from the customer's location to keep it operating.[299] The loss of commercial power, such as during a storm, would require a switched fiber voice service customer to rely on a BBU. Because of the power issue, OPC concludes that switched copper voice service offers superior performance to that of switched fiber voice service when considering call and response capabilities for emergency services.

142. Verizon DC states that call and response capabilities "...are, in essence, the same for POTS [plain old telephone service] provided over copper and fiber, as well as for FiOS Digital Voice [service] ..."[300] Verizon DC also asserts, "From the customer's perspective, E911 call location; home alarm; personal emergency response system services; crisis management services; priority access services; medical monitoring devices; reverse 911; electronic surveillance; location and health information reported and used by E911 and reverse 911 systems; and Telecommunications Service Priority functions all work on TDM-based circuit switched voice service on both copper and fiber, and on FDV."[301] Regarding E911 service testing, Verizon DC represents that it did not perform testing for switched fiber voice service with the OUC because Verizon DC uses the same facilities to reach the PSAP for both switched fiber services.[302]

143. In Rebuttal Testimony, OPC raises the issue that emergency services are at risk when provided over fiber since "...there are no smart electronics or backup circuits that can bypass a sudden failure in the feeder network..." and "...present a new risk of failure that is not encountered where there are redundant feeder facilities in the copper network."[303] OPC's reference to redundant feeder facilities in the copper network would only apply to lines provided over the fiber feeder and copper distribution network facilities and employing RTs, which constitute a very small percentage of total lines.[304] Thus, the vast majority of the copper lines in the District have no smart electronics that would dynamically restore the line. All restorations would require a dispatch by Verizon DC, both in the central office and in the field, to assign the customer's line to a spare pair. Also in Rebuttal Testimony, OPC points to the lack of detail available on Verizon's IP facilities and that some of its facilities and equipment are located

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298 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 61.

299 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 62.

300 Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 21.

301 Verizon DC Brief at 21.

302 Verizon DC In-Hearing Response at 2-3.

303 Exhibit OPC (2B), Rebuttal Testimony of Bluhm, Loube, and Malfara at 21.

304 The fraction of copper lines using RTs is only **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]**.

outside the District and, therefore, it is not known how reliable they are and whether or not they would perform adequately in an emergency.[305]

144. The Commission finds that E911 service over switched fiber voice service operates and performs similarly to E911 service provided over switched copper voice service with only one notable exception – the inability of the switched fiber voice service to remain operational during long periods of lost commercial power. Because of this power issue, the Commission finds that fiber lines connected to TDM-based circuit switch equipment do not provide the same or better call and response capabilities for emergency services. To remedy this deficiency, the Commission finds that battery backup at the ONT is required to ensure continued available of E911 service during commercial power outages.

ii. FDV Service

145. The record evidence shows that when E911 calls are initiated by a FDV service customer, the customer first dials "911." When the call reaches the OLT, the OLT hands the call off to the Verizon DC IP Voice network. The IP Network converts the 911 call to TDM format and then routes the call to the District's selective routers over the TDM Direct Connect network. From the District of Columbia selective routers, the OUC routes the 911 call and then terminates the call at the 911 operator's terminal in the OUC's PSAP, sending the ANI with the call. The PSAP receives the call and the ANI, and then automatically forwards the call to the appropriate ALI database service provider[306] to obtain the caller's address location information.[307] Verizon DC represents that both switched voice service and FDV service connect to the same TDM trunked network to connect to the PSAP.[308] This is the same process used for switched fiber voice service.

146. OPC contends that the backup power issue also affects emergency call and response services over FDV service. Additionally, OPC claims that FDV service employs IP technology, which requires these services to use a completely different call processing technology and interfaces. OPC cites Verizon's FiOS Digital Voice Terms of Service, which states potential limitations on emergency 911 calls caused by network congestion and/or reduced routing or processing speed. This document also mentions that having certain FiOS features in use at the time a 911 call is made might not allow the emergency PSAP dispatcher to call back the caller if the caller were disconnected. In addition, OPC states that according to Verizon's VoIP 9-1-1 Guide, Verizon DC must use TDM-based trunks for interconnection to its selective 911 service routers. OPC claims that VoIP providers, such as Verizon DC for FDV service, are responsible for transcoding VoIP traffic to TDM formats for 911 calls, via a Media Gateway. To OPC, this means that necessary prioritization techniques built into the TDM–based side of 911 call processing are not in place. OPC concludes that in the absence of such prioritization

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305 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 22.

306 Verizon DC is the ALI database provider for wireline service.

307 OPC Cross Examination Exhibit No. 1 at 44.

308 OPC Cross Examination Exhibit No. 4 at 1.

capability on the IP side of the Media Gateway, problems such as network congestion and reduced speed, are more likely, implying that E911 call processing might not operate as efficiently as should be expected.[309]

147. Verizon DC contends that the IP network and the TDM-based network are connected via a trunk media gateway. The connection is controlled by the IP softswitch via redundant connections between the IP softswitch and the trunk media gateway. Verizon DC represents that this connection is analogous to how the TDM-based access network is connected to the TDM-based trunk network in a trunk peripheral to initiate and complete a TDM-based 911 call. Verizon DC contends that the TDM-TDM connection is similarly controlled by connections between the TDM switch and the trunk peripheral.[310]

148. **[BEGIN CRITICAL INFRASTRUCTURE INFORMATION]**

[END CRITICAL INFRASTRUCTURE INFORMATION]

149. OPC raises concerns over how the IP network introduces components and network complexity which do not exist for switched copper and switched fiber service networks, thereby creating the potential for failure.[312] OPC specifically voiced its concerns over certain hardware elements within the Verizon IP network, notably the SBCs, which could result in failure in the network for FDV service customers to complete E911 calls. The SBC interfaces with the customer's ONT and provides access (a gateway) to the voice network.[313] SBCs are deployed in redundant pairs. OPC posits that SBCs could suffer a cascading failure in times of heavy traffic load such as during a widespread emergency or natural disaster. Verizon DC agrees that the redundant SBC pairs by themselves might not suffice in such a situation, but that as a part of day-to-day operations it manages its inventory of customers and equipment assigned to an SBC as primary access to make sure that this condition never occurs.[314] Further, Verizon DC offers that blocking could also occur in a TDM-based switch environment (for switched copper and fiber voice service calls) in times of heavy traffic.

150. OPC also expresses a concern over the fact that District of Columbia FDV service subscribers who pick their own area code will have their E911 calls passed through Intrado, a

309 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 66.

310 OPC Cross Examination Exhibit No. 4 at 1.

311 OPC Cross Examination Exhibit No. 5 at 11.

312 OPC Brief at 27-31.

313 Tr. at 495.

314 Tr. at 495-498.

third-party service provider recently fined by the FCC in a rulemaking involving failure of its E911 network. Verizon DC offers a Pick Your Own Area Code ("PYOAC") option to its FDV customers. This feature allows a subscriber to select an area code for their service other than the one where they are physically located. For example, a FDV service subscriber located in the District might desire a number with a Manhattan (212) area code. For a FDV service customer who desires a telephone number with an area code other than the one they are located in, E911 calling will be routed through a third–party service provider such as Intrado. OPC points to the concerns over E911 calls passed through Intrado whose network caused a major multi-state E911 service failure in April 2014.[315] **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

151. Verizon DC states that its IP platform prioritizes 911 calls to the Media Gateway and that switched voice service lines do not have any better access to a trunk to complete a 911 call than FDV service lines do. When there is a spike in traffic, calls to the E911 Selective Router could be blocked on the trunk side of the TDM-based switch, just as they could be blocked at the Media Gateway for FDV service – or simply in a major traffic spike, blocking may occur regardless of which technology the services are provided over.[317]

152. Regarding prioritization of E911 calls, Verizon DC testified that **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] In later filings, Verizon DC asserts that **[BEGIN CRITICAL INFRASTRUCTURE INFORMATION]**

[END CRITICAL INFRASTRUCTURE INFORMATION] Verizon DC clarifies that it does not prioritize FDV service calls to E911 in normal circumstances. However, in times of high demand, Verizon DC has implemented two congestion control mechanisms to maintain network and equipment element functionality in order to keep the FDV service network running. **[BEGIN CRITICAL INFRASTRUCTURE INFORMATION]**

[END CRITICAL INFRASTRUCTURE INFORMATION] Verizon DC asserts that the FDV service network prioritizes 911 calls in times of emergency, which the PSTN does not do.[320] This is another way in which access to E911 service is provisioned differently by switched copper and fiber voice services and FDV service. The Commission finds that in these

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315 OPC Brief at 31.

316 OPC Cross Examination Exhibit No. 3 at 31.

317 Exhibit VZ (2A), Rebuttal Testimony of MacNabb and Vasington at 13-14.

318 Tr. at 544.

319 OPC Cross Examination Exhibit No. 5 at 33; OPC Cross Examination Exhibit No. 6 at 9, 10.

320 OPC Cross Examination Exhibit No. 5 at 5-6.

circumstances, the FDV service network provides more reliability in reaching E911 service than switched copper and fiber voice service calls.

153. When introducing FDV service, Verizon DC asserts that it tested 911 calls originating on the FDV service network and terminating at the PSAP multiple times. Verizon DC also indicated that it performed multiple end-to-end tests from a FDV test line on the FDV service network to the District of Columbia PSAP.[321] Verizon DC represents that it has no record that there have been any call latency jitter or dropping of voice packets. Verizon DC represents that the test calls included the sending of address information that is not sent over the same path as the voice call, and no packets were dropped during testing.[322]

154. Relating to the provision of ALI, Verizon DC's current practice is to provide ALI to the District of Columbia PSAPs through its own ALI database. Verizon DC indicates that it has no plans to change this provisioning for FDV service customers, with the exception of **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

155. The Commission finds that FDV E911 service is provisioned in a different arrangement than over switched copper and fiber voice services. While transiting the FDV service network in route to the PSAP, the call is routed, in part, in IP format to equipment not required for switched voice E911 service and before reaching its final destination is converted to TDM format, which the PSAP is designed to receive. Relative to connectivity to E911 service, the same backup power concern applies to FDV service as to switched fiber voice service. While OPC raises some concerns that a portion of the facilities and equipment used to provide the call routing are **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] and that the design of the FiOS network may introduce new potential points of failure, the Commission finds that Verizon DC presented evidence indicating that a FDV service E911 call is essentially the same as a switched fiber voice service E911 call with the exception that the conversion from IP to TDM takes place at the OLT for switched fiber voice service and at the IP softswitch for FDV service.[324] As noted above, in certain limited circumstances, the FDV service network provides more reliability in reaching the E911 network than the TDM-based switched voice services networks. However, because of the backup power issue, the Commission finds that fiber lines connected to IP softswitch equipment do not provide the same or better call and response capabilities for emergency services. The Commission's ability to require additional equipment or services for FDV service is dependent on the Commission's findings regarding Issue 6.

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321 Verizon DC In-Hearing Response at 3.

322 Verizon DC In-Hearing Response at 4.

323 Tr. at 487-488; OPC Cross Examination Exhibit No. 3 at 10; OPC Cross Examination Exhibit No. 83 at 1.

324 OPC Cross Examination Exhibit No. 1 at 11.

b. CALEA COMPLIANCE

156. Relative to security and law enforcement services, the only comment in testimony is OPC's note in its Direct Testimony that security services for VoIP service are conducted using completely different systems than for switched voice services; they are more complex, incorporate more elements and, therefore, have more opportunity for failure. As opposed to a simple wiretap, FDV service uses methods which incorporate specialized servers to intercept, record, and collect information.[325]

157. Verizon DC has provided documentation describing how its **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] This high-level information shows that CALEA compliance is different for the switched voice networks and the FDV service network. There is insufficient information on the record to determine whether Verizon DC's ability to comply with CALEA is better or the same if FDV service is involved. Thus, the Commission cannot find that additional equipment or services are needed to achieve the same level of response capabilities as exist with copper facilities.

b. Telecommunications Relay Service

158. OPC also asserts that TRS may not work properly with FDV service, claiming that there is a TTY user deficiency noted in the FiOS Digital Voice Terms of Service that could prevent a FDV service customer that uses a TTY from dialing 711 to contact the TRS communications assistant to reach a 911 service operator if they are using the FDV service PYOAC function. In the FiOS Terms of Service document, this situation is noted and recommends that in such a scenario the TTY user should dial 911 to reach emergency assistance.[327] It is not clear how a 911 service operator actually handles such a call, but the *FCC Consumer Guide – 711 for Telecommunications Relay Service* comments as follows regarding emergency calling from TTYs:

> 911 and 711:
>
> Dialing 911 is the most familiar and effective way Americans have to find help in an emergency. The Americans with Disabilities Act (ADA) requires all Public Safety Answering Points (PSAPs) to provide direct, equal access to their emergency response services for people with disabilities who use TTYs or other devices. Therefore, in the event of an

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325 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 68.

326 OPC Cross Examination Exhibit No. 4 at 8.

327 OPC Cross Examination Exhibit No. 11 at 7. This language is also included in the FiOS Digital Voice User Guide, Verizon DC Cross Examination Exhibit No. 4 at 3.

> emergency, TTY users should call 911 directly and not make a TRS call via 711.[328]

159. The Verizon DC recommendation that a FDV service PYOAC TTY user dial 911 instead of 711 in the event of an emergency is supported by and consistent with FCC guidance. The same guidance that is provided to all TRS users is provided to FDV service TTY users. Thus, the Commission finds that access to emergency service for FDV service TRS users is the same as that provided to switched voice service TRS users. The Commission finds that no additional equipment or services are needed for the FDV service network to achieve the same level of response capabilities as exist with copper facilities.

c. Government Emergency Telecommunications Service

160. GETS supports federal, state, local, tribal, and territorial governments and is designed to aid in calling in an emergency or crisis situation when the landline network is congested. The service is generally available to key personnel with leadership responsibilities at various levels of government and also in industry involving critical functions such as communications, power, banking, and other vital infrastructure. Neither OPC nor Verizon DC address GETS specifically in Direct Testimony. On rebuttal, OPC argues that Verizon DC's Direct Testimony does not address emergency call prioritization over its fiber network.[329] OPC mentions that certainly many of such personnel reside in the District of Columbia and therefore this issue is of concern.[330] Expressing its general concerns over Verizon DC's IP reliability, OPC offers that while GETS is well documented for the circuit switched network, Verizon DC failed to explain how GETS calls placed on FDV service are prioritized or whether or not such capabilities even exist. OPC believes that catastrophic consequences may result when emergencies extend beyond the 8-hour exhaust limit of the BBU used to power the ONT once commercial power is lost.[331]

161. An OPC technical conference question asked how GETS call traffic is prioritized in the Verizon IP network. Verizon DC responded by referring to the answer to a different question that asked it to provide a detailed explanation of the network and component, and traffic flows for E911 calls over its IP network.[332] In response to a Staff technical conference question relative to GETS traffic over the Verizon DC FDV platform, it appears that Verizon DC's position is that voice traffic receives higher priority than other IP traffic, that network routers priority queue voice packets to assure transmission during periods of high utilization, that voice

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328 FCC Consumer Guide - 711 for Telecommunications Relay Service.

329 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 24.

330 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 25.

331 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 26.

332 OPC Cross Examination Exhibit No. 1 at 9.

traffic is a very small portion of overall IP network usage, and, therefore, concluding that the likelihood of voice call traffic being blocked during periods of high utilization is negligible.[333]

162. In response to questions at the evidentiary hearing, Verizon DC indicates that it has not performed a test for GETS users with FDV service,[334] arguing that no such trial was necessary. However, Verizon DC asserts that it has confirmed that GETS calls work without issue when originated on FDV service. According to Verizon DC, several of its and U.S. DHS-OEC's employees have FDV service and have successfully placed calls on the platform. Verizon DC contends that GETS calls originating on FDV service are handled as any other call until they reach the GETS platform and are authenticated, at which time and at the point of authentication, the call will receive priority. Thus, to Verizon DC, GETS calls work differently until they reach the GETS platform but without issue.[335] Based on the record, the Commission finds that these calls work differently on the FDV service network than in the switched voice network until they reach the GETA platform, but that FDV service customers are still able to reach GETS. No additional equipment or services are needed to achieve the same level of response capabilities as exist with copper facilities.

d. Telecommunications Service Priority

163. Telecommunications Service Priority is a program administered by the OEC whereby critical, high-priority voice and data circuits are provided restoration priority in the event of a significant network outage as a result of storms, flooding, and natural or man-made disasters. The FCC mandates that telecommunications service providers maintain a database of TSP circuits. Parties desiring priority restoration of critical circuits submit a request with a justification through their service provider to the appropriate agency. Once approved, a TSP assignment insures that the designated circuit/facility will receive priority attention over non-TSP facilities. In Direct Testimony, both Verizon DC and OPC are silent on TSP. In rebuttal, OPC describes TSP and notes that Verizon DC did not address it in Direct Testimony.[336] Verizon DC also does not mention TSP in its Rebuttal Testimony. However, in response to questions from the technical conference, Verizon DC answered that "Verizon prioritizes all of its work in accordance with TSP requirements. If a circuit or service carries a TSP designation, it is assigned the appropriate priority."[337]

164. The TSP program has been in place for decades. Based on past experience, including in the aftermath of the 9/11 events, local exchange carriers ("LECs") maintain TSP databases as mandated by the FCC to prioritize automatic restoration. In cases where automatic restoration fails, the LECs must rely upon the expertise of their operational and engineering

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333 OPC Cross Examination Exhibit No. 5 at 5.

334 Tr. at 494.

335 Verizon DC In-Hearing Response at 6.

336 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 27.

337 OPC Cross Examination Exhibit No. 1 at 12.

staffs, who monitor network operations and prioritize and deploy their respective repair personnel to ensure maximum effectiveness and expedient restoration of critical service. With the almost ubiquitous deployment of fiber facilities, especially in interoffice networks, dedicated facilities, and special access, restoring individual circuits is a less used approach. If fiber lines are cut, or circuit equipment cards fail, one repair could likely restore hundreds of circuits. However, failures can also occur at the individual circuit level for a variety of reasons, including defective circuit cards, faulty tie cables, or bad cross connection cards, requiring repair in the individual circuits. For that reason, TSP remains relevant at the individual circuit level. TSP provides an indication as to what cables contain the most priority circuits, and LECs will usually restore entire cables as opposed to individual circuits in the event of a major network outage, such as from a cable cut. Relative specifically to TSP cable restoration of FDV service, FDV service is primarily designed for residential and small business applications and the likelihood of an FDV service customer being assigned a TSP priority is low. Further, there is no information on the record that specifically addresses how fiber circuits are restored as compared to copper circuits for TSP purposes. However, past experience indicates that once Verizon DC issues a service order, completes the provisioning, and issues the circuit design, the circuit should automatically have the TSP code assignment on all automated systems, including all operations support services used for automatic restoration. At that point the TSP numeric hierarchy drives the restoration priority. Verizon DC argues that it "... prioritizes all of its work in accordance with TSP requirements. If a circuit or service carries a TSP designation, it is assigned the appropriate priority."[338] There is no evidence that Verizon DC applies existing TSP restoration practices for fiber voice circuits differently than it does for copper voice circuits and there is no information on the record to support a conclusion that prioritization of TSP circuits is different for switched fiber voice service or FDV service as compared to switched copper voice service. Thus, the Commission cannot find that additional equipment or services are needed to achieve the same level of response capabilities on fiber facilities as exist with copper facilities.

e. Reverse 911

165. Verizon DC indicates that Reverse 911 is a customer[339] purchased database product, not a service provided by Verizon DC. Verizon DC describes Reverse 911 as a mass outbound notification system utilized for communication and announcements. Verizon DC asserts that it is widely used throughout the Verizon footprint, including for switched voice services and FDV service. Verizon DC asserts that there is no difference in the way it routes Reverse 911 calls compared to other calls to the same customer. Verizon DC indicates that testing of Reverse 911 systems is the responsibility of the customer purchasing the Reverse 911

338 OPC Cross Examination Exhibit No. 1 at 12.

339 The customer for a Reverse 911 system is typically a government agency, not an individual residential or business customer. It is used by public safety organizations to communicate with groups of residents and businesses in a defined geographic area. The system uses a database of telephone numbers and associated addresses, which, when tied into geographic information systems ("GIS"), can be used to deliver recorded emergency notifications to a selected set of telephone service subscribers.

system and the vendor Verizon DC is unaware of any problems with Reverse 911 systems working with FDV service.[340]

166. Based on Verizon DC's response to the Commission's in-hearing data request, it appears that a Reverse 911 service provided to the OUC by a third-party vendor would be the responsibility of OUC and the vendor. Since the connection to the PSAP is in TDM format, all of the outbound calls using the Reverse 911 system would appear in TDM format until they reach the Verizon DC network. After reaching the Verizon DC network, these calls to FDV service customers would most likely be rerouted to the FDV service network for termination. While the record is not clear at which point in the call flow the Reverse 911 call would be converted from TDM format to IP format, it appears that this conversion would not be any different from the conversion of any other TDM-based call. Based on this record, the Commission concludes that the same emergency services that are currently provided by switched voice service over copper facilities are provided by voice service connected to IP softswitch equipment. Although it appears that there is a difference between the routing of Reverse 911 calls to switched voice service customers and FDV service customers, the Commission determines that there is no information on the record to suggest that additional equipment or services are needed to achieve the same level of response capabilities for switched fiber service or FDV service as exists with switched voice service over copper facilities.

D. ISSUE 3: Are there significant differences between voice telecommunications services provided over: copper lines connected to TDM-based circuit switch equipment; fiber lines connected to TDM-based circuit switched equipment; fiber lines connected to IP softswitch equipment; and VoIP service utilizing fiber lines connected to the public Internet or to private Internet networks? If so, should each of these voice telecommunications services be classified as separate types of voice telecommunications service and treated differently for regulatory purposes? If so, why?

1. Positions of the Parties

167. **Verizon DC Brief.** Verizon DC asserts that TDM-based service, whether provided over copper or fiber facilities, is the same service, and should be treated the same for regulatory purposes. In Verizon DC's view, there are no feature or functionality differences for TDM-based services provided over copper or fiber facilities. These services are the same regulated, tariffed voice service; the only difference is the transport medium from Verizon DC's local central office to the customer's premises.[341]

168. Verizon DC classifies FDV service as a different service from TDM-based voice service. In addition to the different technologies used for the services, Verizon DC argues that FDV service is part of an integrated suite of services, of which voice is only one component. In Verizon DC's opinion, FDV service is an IP-based/VoIP service that is exempt from the

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340 Verizon DC In-Hearing Response at 5.

341 Verizon DC Brief at 23.

Commission's jurisdiction and treated differently than TDM-based voice service under District of Columbia law.[342]

169. **OPC Brief.** OPC contends that although Verizon DC's three voice services (switched copper voice service, switched fiber voice service, and FDV service) deliver the same product – fixed voice telecommunications service over the same customer analog telephone and inside wires – there are significant differences between these services. In OPC's view, the Commission's regulations should be tailored to the differences of each service to ensure that all three voice services are safe, adequate, just, and reasonable. Contrary to Verizon DC's contention, OPC believes that all three voice services should be classified as voice telecommunications services subject to the Commission's jurisdiction.[343]

170. OPC represents that all parties agree that all three of Verizon DC's voice services share many characteristics. OPC maintains that its witnesses testified that all three voice services are telecommunications services because each provides "transmission, between or among points specified by the user's choosing," "rel[ying] on the North American Numbering Plan," and "mak[ing] no change in the form or content of the information as sent or received."[344] Additionally, OPC asserts, with all three services, "a voice exchange begins with a caller or called party speaking, and it ends with a reproduction of that sound at the other end of the call."[345] OPC represents that at a high level, Verizon DC's three voice services also provide the "same" voice telecommunications service to consumers: fixed voice telecommunications service to the customer's home using the customer's traditional analog phone and over the customer's traditional analog indoor wiring. OPC believes that the goal of Commission regulation should be the same for all three services: to ensure that Verizon DC is abiding by the core telecommunications service values and is providing safe, reliable, and adequate voice service.[346]

171. Notwithstanding the high level similarities, OPC contends that there are significant technical differences between the three voice services. OPC also argues that Verizon DC's belief that fiber facilities are always better has affected its treatment of copper facilities and switched copper voice service customers. OPC recommends that the Commission clarify the existing terminology to recognize the three separate services, tailor its regulations to address the individual attributes of each technology, and ensure that consumers are protected regardless of the type of voice service or facility to which they choose to subscribe.[347]

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342 Verizon DC Brief at 23.

343 OPC Brief at 15.

344 OPC Brief at 35-36, citing OPC Exhibit (A), Direct Testimony of Bluhm, Loube, and Malfara at 77.

345 OPC Brief at 36, citing OPC Exhibit (A), Direct Testimony of Bluhm, Loube, and Malfara at 77.

346 OPC Brief at 36.

347 OPC Brief at 36.

172. **Verizon DC Reply Brief.** Verizon DC argues that OPC's proposals are attempts to "create new regulation for regulation's sake" and should be rejected.[348] Verizon DC argues that the same regulations apply to switched copper voice service and switched fiber voice service, regardless of the underlying facility, just as they apply to CLECs offering TDM-based voice service over both copper and fiber facilities. Verizon DC distinguishes these services from FDV service, which Verizon DC characterizes as a different service that uses IP technology to offer customers an integrated suite of functions that are more advanced and varied than TDM-based voice service. As a VoIP and IP-enabled service, FDV service may not be regulated by the Commission, Verizon DC asserts.[349]

1. Decision

173. As determined in Issue 1, there are no differences in the voice services provided by switched copper voice service and switched fiber voice service (although there are some significant differences in functionalities and capabilities). Since there are no differences between the services offered by the two switched services, the Commission finds for the purpose of this Issue that the services should be treated the same for regulatory purposes. There are, however, differences between switched voice services and FDV service, as found in Issue 1 and the Commission's regulatory authority over FDV service is different as discussed in greater detail in Issue 6. We find further, for the reasons set out in detail in Issue 6, that the Commission has no regulatory authority over FDV service.

E. ISSUE 4: Are there services, capabilities and functionalities of voice telecommunications service provided within a wire center service area that telecommunications service providers should be required to provide to customers irrespective of whether the carrier utilizes copper lines connected to TDM-based circuit switch equipment or fiber lines connected to TDM-based circuit switched equipment? If so, what are those services, capabilities and functionalities?

1. Positions of the Parties

174. **Verizon DC Brief.** Considering the amount of consumer choice in the current telecommunications marketplace, Verizon DC believes that no telecommunications service provider should be required to offer any particular type of service using any particular type of technology. Verizon DC asserts that these types of requirements are remnants of the legacy network and are unnecessary in the current marketplace. To the extent that any regulation remains, TDM-based service should be, according to Verizon DC, subject to the same regulatory requirements, regardless of whether it is provided over copper or fiber facilities.[350]

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348 Verizon DC Reply Brief at 13.

349 Verizon DC Reply Brief at 13.

350 Verizon DC Brief at 24.

175. Verizon DC contends that most of the feature and functionality enhancements over the past 15 years have occurred outside of the regulatory environment, as telecommunications service providers seek to meet consumer demands in terms of price, value, reliability, features, and other aspects of service. Verizon DC maintains that innovation has been spurred by consumer demand, investment, technology advancement, and the creativity of individuals and organizations. According to Verizon DC, customers are using these new services today because they have chosen to do so and find value in the services. Except for basic calling and access to emergency services, Verizon DC contends that all other features and functionalities available should be determined by the marketplace.[351]

176. **OPC Brief.** OPC contends that irrespective of the medium used to provide landline telecommunications service in the District of Columbia, Verizon DC should be required to provide three broad capabilities: local exchange service, interexchange service, and interconnection service.[352] To OPC, these services form the backbone of a just, reasonable, and competitive telecommunications market. OPC believes that these services should not suffer any degradation as a result of the copper-to-fiber technology transition.[353]

177. In OPC's opinion, local service includes: the ability to place a voice call to any working telephone number within the local calling area, as defined by the Commission and the FCC, including CLEC numbers; the ability to receive voice calls initiated anywhere in the local calling area, including CLEC numbers; single party service, so that calls are private and cannot be heard by other subscribers not called by the subscriber; acceptable voice quality; no blocking or degrading local calls to or from any CLEC in the District of Columbia; protection of CPNI, as required by federal law; a reliable working line, including supplying backup power for fiber service carrier-owned equipment at the customer premises; and assurance that 911 and GETS calls will be prioritized and completed.[354]

178. OPC believes that interexchange service includes interconnection with other carriers so that a subscriber can place and receive calls to or from any location in North America accessible by the North American Numbering System. To achieve this functionality, OPC believes that carriers must, among other things: participate in public registries of information about the network, such as the Local Exchange Routing Guide ("LERG") and telephone number databases; refrain from blocking or degrading calls to or from any interexchange carrier; provide access to operator services, including TRS; and provide access to 911 and other emergency services.[355]

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351 Verizon DC Brief at 24.

352 OPC Brief at 15, 37.

353 OPC Brief at 37.

354 OPC Brief at 37-38.

355 OPC Brief at 38.

179. OPC asserts that interconnection services are what allows the telephone network to be the single public telecommunications network and is the principal means to implement both federal and District of Columbia policies favoring competition in the provision of telecommunications services.[356] In OPC's view, interconnection includes: making physical interconnections within the District of Columbia at all wire centers and at other meet points reasonably requested by competing carriers; complying with common switching and signaling protocol in both TDM-based and IP softswitch networks; and participating in network databases such as the LERG.[357]

180. OPC claims that Verizon DC believes that these requirements are unnecessary because "any carrier that does not supply the minimum set of services, capabilities, and functionalities that consumers demand will see that consumers continue to take their business elsewhere."[358] OPC claims that this statement misses the point. OPC believes that the minimum standards are what consumers should expect to receive regardless of the provider of the service. These minimum standards and functionalities are necessary to maintain a functioning District of Columbia-wide and national public telecommunications system, OPC asserts. Thus, to OPC, the question of whether a service satisfies these standards should not be left to the market. OPC notes the observation of its witnesses that the presence of competition did not prevent Verizon DC from allowing its wire centers to fail during the Derecho storm.[359]

181. OPC objects to Verizon DC's contention that issues regarding access to 911 and other emergency services are already addressed under federal law. To the contrary, OPC claims that even with fiber facilities and IP-dependent services, 911 responsibilities remain a joint responsibility between the FCC and state and local regulators.[360]

182. In addition to abiding by the three categories, OPC also argues that ILECs should be prohibited from using tying (or service bundling) sales practices that limit customer choice and competition. OPC alleges that Verizon DC's sales practices limiting customer access to FDV service and other FiOS services erect competitive barriers that prevent customers from accessing the combinations of voice and advanced services and providers that meet their needs.[361]

183. OPC also asserts that Verizon DC must ensure service and rate equivalency between switched copper voice service and fiber-based services during power outages. OPC reiterates its position that fiber-based voice services differ fundamentally from switched copper voice service in that fiber-based services require a BBU onsite in case of a power outage onsite.

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356 OPC Brief at 38-39.

357 OPC Brief at 39.

358 OPC Brief at 39, citing Exhibit VZ (2A), Rebuttal Testimony of Vasington and MacNabb at 17.

359 OPC Brief at 39.

360 OPC Brief at 40.

361 OPC Brief at 40.

OPC contends that this difference is an inherent service reliability disparity. To cure this disparity, OPC recommends that Verizon DC be required to provide free BBU for all customers on fiber facilities, whether switched fiber voice customers or FDV service customers. OPC recommends the following minimum BBU requirements: 24 hours of talk time; the ability to turn on automatically during a power grid failure; a means to inform the customer when the BBU needs to be replaced; readily obtainable, replaceable, and affordable batteries; and free batteries for low-income and GETS customers.[362] When Verizon DC employs new battery technology that extends talk time, OPC believes that Verizon DC should be required to make this technology available first to emergency responders and critical personnel.[363] Verizon DC should also be required to inform the Commission and OPC of any new BBU deployment, so that they have information to respond to customer inquiries.[364]

184. OPC objects to a provision of Verizon DC's tariff that reads: "[a]ny power and power outlets required for the operation" of Verizon DC-owned communications facilities on the customer premises provided in connection with Verizon DC services "shall be provided by and at the expense of the customer."[365] OPC represents that when questioned at the hearing about the equipment "that would need to have power supplied to it in the early 2001 time frame" when "the tariff initially was put into effect," Verizon DC's witnesses responded that "at that time, for most or the vast majority of customers, probably no equipment would require power for individual residential customers."[366] OPC argues that although Verizon DC's witnesses conceded that the "situation has now changed" in that "power of some type is now needed by a residential customer who elects to do [subscribe to] switched fiber voice service," Verizon DC's tariff has not changed.[367]

185. OPC identifies three consequences of this tariff provision. First, switched fiber voice service customers and FDV service customers have additional power costs. Second, by shifting power costs for its fiber facility-based customers, Verizon DC reduces its costs. Third, in the case of a power outage, Verizon DC can disclaim responsibility for a service outage due to a power failure, disqualifying the customers from a bill credit while requiring them to pay for services that they do not receive.[368]

186. OPC also recommends that the Commission require Verizon DC to amend its General Regulations Tariff §201 to clarify that Verizon DC will bear the costs of providing the

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362 OPC Brief at 41.

363 OPC Brief at 41-42.

364 OPC Brief at 42.

365 OPC Brief at 19, citing General Regulations Tariff, P.S.C.-D.C., No. 201, Section 1.C.5 (September 25, 2009).

366 OPC Brief at 19, citing Tr. at 595.

367 OPC Brief at 19, citing Tr. at 596.

368 OPC Brief at 20.

BBU and the initial set of batteries to all customers served by fiber facilities. OPC asserts that Verizon DC should also make it clear that the failure of the ONT due to a power outage will not preclude customers served by fiber facilities from receiving bill credits for service outages.[369]

187. **Verizon DC Reply Brief.** Verizon DC reiterates its argument that OPC is attempting to expand the scope of this investigation. Verizon DC argues that this proceeding involves copper and fiber "lines connected to TDM-based [enabled] circuit switched equipment," not FDV service lines connected to IP equipment to provide IP-enabled services.[370] Verizon DC cites the Commission's proposition that its cases "proceed in the context of specifically worded issues that have been identified to make the outer boundaries of the case before the Commission."[371] Verizon DC argues that the Commission's limitation removes discussion of FDV service from this issue.

188. Verizon DC contends that OPC's request for BBU requirements ignores the plain language of Verizon DC's tariff regarding customer-supplied power. Verizon DC contends that its tariff language indicating that providing any necessary power is not part of the services that Verizon DC offers and that providing necessary power is the responsibility of the customer is similar to the terms and conditions under which RCN Telecom Services, LLC. ("RCN") provides service to its customers. Notwithstanding these provisions, Verizon DC argues that it provides its switched fiber voice customers with free backup power options that are reasonable, effective, and similar to or superior than the options offered by competitors in the District of Columbia. For example, Verizon DC represents that RCN offers District of Columbia customers a BBU sustainable for five hours, while Comcast Corporation ("Comcast") offers an eight-hour BBU for sale.[372] Until recently, Verizon DC contends that it has offered an eight-hour BBU to its switched fiber voice customers, while in November 2014 Verizon DC began to offer a new BBU that offers up to 25 hours of standby time.[373]

189. Verizon DC argues that the record does not establish that customers are not satisfied with Verizon DC's BBU options, nor does the record suggest that customers want or need the requirements that OPC seeks. Verizon DC asserts that OPC provides no support for its statement that an eight-hour BBU is unacceptable. In contrast, Verizon DC asserts that the FCC is proposing an eight hour supply of standby power. Verizon DC also notes that the only consumer complaint that OPC received on this issue is three years old.[374]

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369 OPC Brief at 42.

370 Verizon DC Reply Brief at 13, citing Order No. 17563, ¶ 42, 43, 45.

371 Verizon DC Reply Brief at 13, citing Order No. 17716, ¶ 19 and *Washington Gas Light Co. v. Pub Service Commission*, 450 A.2d 1187, 1196, n's (D.C. 1982) (emphasis in Verizon DC's Reply Brief omitted).

372 Verizon DC Reply Brief at 15.

373 Verizon DC Reply Brief at 15-16.

374 Verizon DC Reply Brief at 16.

190. Verizon DC contends that OPC has not demonstrated how its BBU proposals would be feasible. Verizon DC argues that OPC has failed to provide examples of batteries that are compatible with existing ONTs and can provide 24 hours of talk time. Verizon DC asserts that those BBUs that could theoretically provide such power for some other terminal unit are prohibitively expensive and large for use at the customer premises. Verizon DC notes that even OPC admits that batteries that meet its proposed standard may not be available at this time. When choosing a battery for emergency power, Verizon DC represents that its engineers balanced all design and customer requirements to determine the best all-around solution, including performance, size, and cost. Verizon DC argues that the Commission should not micromanage these decisions based on OPC's "unrealistic desires."[375]

191. Verizon DC represents that its tariffs do not distinguish between voice services provided over copper facilities or fiber facilities. Contrary to OPC's claim, Verizon DC maintains that the power-related terms and conditions in Verizon DC's tariff are not different for TDM-based service on copper facilities. Verizon DC argues that its General Regulations Tariff clearly applies to all intrastate communications services provided by Verizon DC in the District of Columbia that are under the Commission's jurisdiction. Verizon DC asserts that the General Regulations Tariff does not distinguish between the facilities used to provide the service. Verizon DC recognizes that the circumstances under which power may be required for equipment at the customer premises may be different depending on the facility used. However, in Verizon DC's view, the tariff provision is the same – the customer is responsible for providing any power necessary to operate communications equipment provided by Verizon DC at the customer premises.[376]

192. **OPC Reply Brief.** OPC claims that Verizon DC's arguments on this issue vacillate. OPC asserts that in its pre-filed testimony, Verizon DC's witnesses declared that "basic calling and access to emergency service" should not be determined by the marketplace.[377] However, at the hearing, OPC asserts, Verizon DC Witness Vasington stated that even emergency services are "absolutely also a market issue."[378] OPC then argues that in its Brief, Verizon DC changes its position conceding that the adequacy of basic calling functions and access to emergency services should not be left to the marketplace. Notwithstanding Verizon DC's changes in position, OPC argues that all service providers, regardless of the facility or technology used to provide the service, should be required at a minimum to provide reliable basic calling and emergency services. OPC refers to its Brief for details on those minimum standards.[379]

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375 Verizon DC Reply Brief at 16.

376 Verizon DC Reply Brief at 6.

377 OPC Reply Brief at 16, citing Exhibit VZ (A), Direct Testimony of MacNabb and Vasington at 26.

378 OPC Reply Brief at 16, citing Tr. at 87.

379 OPC Reply Brief at 16.

2. Decision

193. The parties agree that the provision of basic service and access to emergency services should be required services of any telecommunications service, regardless of the facilities over which it is provided. After that agreement, OPC seeks the inclusion of many other services, while Verizon DC's list is limited to these two services. CWA expresses no opinion.

194. In approving CLEC applications to provide telecommunications service in the District of Columbia, the Commission requires these providers to offer access, by themselves or through arrangement with other service providers, to 911 and E911 service, access to TRS, access to directory assistance, access to operator services, and interconnection with other local exchange carriers.[380] Since these rules apply to all CLECs regardless of the facilities over which the services are provided, the Commission finds that these services must be provided over fiber as well as copper facilities.

195. Additionally, since 1993, the provision of Verizon DC's regulated services has been through a price cap plan, which categorizes the types of regulated services that Verizon DC offers into baskets, which have different pricing rules. These baskets are the Residential Basic Services Basket, Business Basic Services Basket, Discretionary Services Basket, and Competitive Services Basket. The services in the Basic Baskets are subject to the greatest amount of rate regulation under the most recent version of the price cap plan, Price Cap Plan 2008.[381] While Verizon DC may withdraw services in the Discretionary and Competitive Baskets upon 30 days' notice, withdrawal of any Basic Service must be approved by the Commission.[382] The Residential Basic Services in Price Cap Plan 2008 are as follows: Dial Tone Line & Usage, which includes Economy II, Metropolitan Area Wide, and Private Branch Exchange ("PBX") trunk flat rate service and Economy I, flat/message rate, and message rate services, message units, 700/900 blocking, and basic referral Operator Services. The Business Basic Services include dial tone line & usage, including message rate services for individual line and additional line, message units, and E911.[383] The Price Cap Plan 2008 was approved by the Commission based on terms and conditions set out in a Settlement Agreement between Verizon DC and OPC. These services have been provided on Verizon DC's network with copper facilities, and the Commission requires that they continue to be provided with switched fiber voice service.[384]

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380 15 DCMR § 2505.4(c) (2000).

381 *Formal Case No. 1057, In the Matter of Verizon Washington, DC Inc.'s Price Cap Plan 2007 for the Provision of Local Telecommunications Services in the District of Columbia, ("Formal Case No. 1057")*, Joint Response to the Public Service Commission of the District of Columbia Order No. 15056 ("Price Cap Plan 2008"), § 3(a)(1) and (2), filed September 19, 2008. Price Cap Plan 2008 was approved in Order No. 15071. See, *Formal Case No. 1057*, Order No. 15071, rel. September 26, 2008.

382 Price Cap Plan 2008, § 5(b).

383 Price Cap Plan 2008, Attachment 1 at 1.

384 The Commission notes that Verizon DC has already stated that its fiber facilities can provide all of the Verizon DC tariffed services provided over copper facilities.

196. As the Commission has found in its discussion of Issues 1 and 2, the requirement for a customer to supply the commercial power to the ONT is a difference in the functionality of copper and fiber facilities. Since the lack of power during a commercial power outage could impair customers' abilities to reach E911 service, the Commission found in response to Issue 2 that battery backup would be required to ensure the same call and response capabilities for emergency services. Thus, the Commission finds that the availability of power should be a functionality of both switched copper voice service and switched fiber voice service.

197. The Commission also notes that Verizon DC argues that section C.5 of its General Regulations Tariff No. 201 limits Verizon DC's responsibility for providing power to the ONT. Verizon DC cites the following language:

> [t]he customer is responsible for the provision and maintenance, at the customer's expense, of all space and floor arrangements including such factors as heating and cooling, air conditioning, ventilation, humidity control. dust control, etc., required on the customer's premises for communication facilities provided by the Telephone Company in connection with services furnished the customer by the Telephone Company. Any power and power outlets required for the operation of such facilities shall be provided by, and at the expense of the customer, except as otherwise specified in the Telephone Company's applicable tariffs.[385]

Verizon DC is correct that the current language of this tariff places the responsibility for powering the ONT on the customer. This tariff was adopted in 2001, before Verizon DC's deployment of fiber facilities.[386] At the hearing, when questioned about whether a residential customer would have had equipment that would have been covered by this tariff provision when it was adopted, Verizon DC Witness MacNabb asserted that at the time of adoption, the vast majority of residential customers would have had no equipment that would have required commercial power.[387] Witness MacNabb also agreed that the situation had now changed in that residential customers now need to provide commercial power in the case of fiber facilities.[388] The Commission finds that with the deployment of fiber facilities, which require the use of the customer's commercial power, Verizon DC has used this tariff for purposes beyond Verizon DC's original justification to the Commission for the tariff. To ensure that the tariff is used for the purpose for which it was intended and that it is consistent with the terms of the Price Cap Plan 2008, the Commission directs Verizon DC to amend its tariff to exclude residential and small business customers from the purview of this tariff. Verizon DC is directed to file a new tariff with the Commission with this change within 30 days of the date of this Order.

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385 General Regulations Tariff, P.S.C.-D.C.-No. 201, § 1.C.5.

386 General Regulations Tariff, P.S.C.-D.C.-No. 201, § 1.C.5. The original page of this tariff is dated April 18, 2001. It has not been changed.

387 Tr. at 595.

388 Tr. at 596.

F. ISSUE 5: What network reliability, public safety, and service quality standards should be applied to voice telecommunications services provided within an exchange area that utilize fiber lines connected to TDM-based circuit switched equipment?

1. Positions of the Parties

198. **Verizon DC Brief.** Verizon DC believes that the Commission's network reliability, public safety, and quality of service standards for TDM-based voice services should apply equally whether those services are provided over copper or fiber facilities. Verizon DC argues that amendments to any of the current RQS standards can only be adopted through a rulemaking proceeding, not a contested case such as this proceeding.[389] Additionally, Verizon DC argues, the Commission cannot impose any regulations on FDV service because it is an IP-enabled/VoIP service beyond the Commission's jurisdiction.[390]

199. **OPC Brief.** OPC argues that the same network reliability, public safety, and service quality standards should be applied to all three of Verizon DC's landline voice services.[391] OPC recommends tailored regulations, including those regarding backup power and network reliability planning to achieve equivalency.[392]

200. OPC argues that any standards should ensure that each of Verizon DC's service offerings is consistent with the core telecommunications values and that Verizon DC's transition to fiber-based services does not sacrifice essential safety and reliability attributes of switched copper voice service.[393]

201. To ensure that Verizon DC's FDV service emergency response capabilities are both equivalent to and as reliable as its switched copper and switched fiber voice service emergency response capabilities, OPC believes that Verizon DC should be required to file an FDV service emergency-response capability plan. OPC believes that this plan should describe the parameters of, and share the results from, tests that determine FDV emergency call reliability and system resiliency under various stress conditions. OPC argues that Verizon DC should test: each individual component in its FDV service network; the FDV system as a whole; and whether the concatenation of the PSTN and Verizon DC's FDV service network leads to degradation or lost calls; and whether the FDV system will compensate for a failure in **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]**[394] OPC asserts that proposals to cure any weaknesses that are identified

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389 Verizon DC Brief at 24.

390 Verizon DC Brief at 25.

391 OPC Brief at 16, 40.

392 OPC Brief at 16.

393 OPC Brief at 40-41.

394 OPC Brief at 42-43.

during stress testing as well as procedures to prioritize both 911 and GETS calls on the FDV service network as part of the plan.[395]

202. OPC alleges that the record shows that Verizon DC has adopted practices and procedures designed to exert pressure on customers to convince them to migrate to fiber-based services. OPC recommends that the Commission amend § 328 of the CBOR to apply this section to Verizon DC. OPC claims that the CBOR was designed to protect consumers from unjust utility actions. OPC argues that while in Order No. 17528, the Commission determined that the Utility Consumer Bill of Rights Working Group concluded that Verizon DC was to be excluded from 15 DCMR § 328 because it was the successor ILEC, times have changed since 2006, when Verizon DC was providing only switched copper voice service.[396] OPC submits that the complaints against Verizon DC that prompted this proceeding relate to Verizon DC's practices to migrate its customers from switched copper voice service to switched fiber voice service or FDV service, neither of which existed in 2006.[397] Also unlike 2006, OPC claims that Verizon DC is seeking to persuade customers to abandon switched copper voice service in favor of one of two fiber-based services, one of which, FDV service, Verizon DC asserts is outside of the Commission's jurisdiction. Because Verizon DC claims that its voice services are subject to competition, OPC argues that there is no reason to exempt Verizon DC from § 328, which applies to Verizon DC's competitors.[398]

203. **Verizon DC Reply Brief.** Verizon DC reiterates its argument that OPC is attempting to expand the scope of this investigation. Verizon DC argues that this proceeding involves copper and fiber "lines connected to TDM-based circuit switched equipment," not FDV lines connected to IP services or equipment.[399] Verizon DC cites the Commission's proposition that its cases "proceed in the context of specifically worded issues that have been identified to make the outer boundaries of the case before the Commission."[400] Verizon DC argues that the Commission's limitation removes discussion of FDV service from this issue.[401]

204. Verizon DC argues that the standards that the Commission adopts for voice telecommunications services should apply equally to switched copper voice service and switched fiber voice service.[402] Verizon DC represents that these requirements are reflected in the rules

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395 OPC Brief at 43.

396 OPC Brief at 43.

397 OPC Brief at 43-44.

398 OPC Brief at 44.

399 Verizon DC Reply Brief at 13, citing Order No. 17563, ¶ 42, 43, 45.

400 Verizon DC Reply Brief at 13, citing Order No. 17716, ¶ 19 and *Washington Gas Light Co. v. Pub Service Commission*, 450 A.2d 1187, 1196, n. 8 (D.C. 1982) (emphasis in Verizon DC's Reply Brief omitted).

401 Verizon DC Reply Brief at 13.

402 Verizon DC Reply Brief at 13.

contained in 15 DCMR.[403] Verizon DC asserts that OPC provides no reason to change these requirements based on the facility used. To the extent that the Commission chooses to amend its rules, it must do so in a rulemaking proceeding.[404]

205. Verizon DC objects to OPC and CWA's proposals to add BBU requirements. Verizon DC argues that as the proponents of these proposals, OPC and CWA bear the burden of proving that these new requirements are feasible and necessary. Verizon DC argues that they fail to meet this burden.[405]

206. Verizon DC argues that OPC and CWA fail to establish why Verizon DC alone needs BBU requirements. Verizon DC asserts that a significant majority of District of Columbia residents have already chosen voice services provided by other companies that rely on commercial power or batteries.[406] Verizon DC asserts that in considering RCN's recent request to abandon provision of legacy local exchange services, the Commission did not address RCN's BBU practices.[407] Verizon DC also notes that neither OPC nor CWA participated in the RCN proceeding. Verizon DC indicates that the FCC is currently addressing the issue of battery backup power requirements. Verizon DC argues any FCC requirement would apply to all providers equally.[408]

207. Verizon DC opposes OPC's proposed new emergency mandates that would "ensure" that FDV service's emergency response capabilities are "equivalent to and as reliable" as Verizon DC's switched voice services' emergency response capabilities.[409] Verizon DC contends that the Commission cannot impose any mandates on this VoIP/IP-enabled service. Verizon DC also contends that the record establishes that FDV service's emergency response capabilities are more reliable than those of the switched voice services.[410]

208. Verizon DC argues that OPC's proposed mandate to prioritize 911 calls over FDV service ignores the fact that Verizon DC does not prioritize TDM-based 911 calls over other voice traffic on the PSTN. Verizon DC acknowledges that it does not typically prioritize 911 traffic over the FDV service network, however, it does prioritize voice traffic in the FDV service network over FiOS Internet and video traffic (which make up the majority of the traffic). Also, during times of high volume traffic, such as during an emergency, Verizon DC has implemented

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403 Verizon DC Reply Brief at 13-14.

404 Verizon DC Reply Brief at 14.

405 Verizon DC Reply Brief at 14.

406 Verizon DC Reply Brief at 14.

407 Verizon DC Reply Brief at 14-15.

408 Verizon DC Reply Brief at 15.

409 Verizon DC Reply Brief at 17, citing OPC Brief at 42-43.

410 Verizon DC Reply Brief at 17.

traffic control mechanisms that limit or shed voice traffic from the FDV service network in order to keep the network operational and to prioritize 911 calls over other voice traffic.[411]

209. In relation to OPC's concerns regarding the prioritization of GETS calls from FDV service customers, Verizon DC argues that criteria for GETS, a White House-directed emergency telephone service provided by the Department of Homeland Security Office of Emergency Communications ("DHS OEC") used by the President, the Executive Office of the President, and federal government agencies, should be developed by the federal government, not individual state utility commissions.[412] While the federal government has developed prioritization criteria for National Security and Emergency Preparedness voice communications using circuit switched equipment (including GETS) during a crisis or emergency, recovery, and reconstitution, Verizon DC asserts that the federal government has yet to do so for the local access portion of next generation packet-switched programs, such as FDV service. Verizon DC argues that there is no mandate for GETS subscribers to purchase FDV service.[413]

210. Finally, Verizon DC argues that the Commission cannot accept OPC's proposal to amend §328 of the CBOR so that it applies to Verizon DC. Verizon DC asserts that §328 plainly states that the section applies only to Telecommunications Service Providers, which are defined to exclude any provider that was an ILEC in the District of Columbia on January 31, 1996, which was Bell Atlantic-Washington, D.C., Inc. Verizon DC notes that in recommending amendments that are incorporated into the current version of the CBOR, the CBOR Working Group determined that Verizon DC was the ILEC.[414] Verizon DC argues that the Commission accepted this interpretation.[415] Verizon DC argues that this interpretation is consistent with how the Commission has treated Verizon DC pursuant to the District of Columbia Telecommunications Competition Act of 1996, codified at D.C. Code § 2001 *et seq.* and the Commission's telecommunications rules in 15 DCMR § 2700 *et seq.*. Verizon DC asserts that OPC repeatedly refers to Verizon DC as an ILEC in this and other proceedings. Verizon DC argues that OPC fails to provide any reasonable basis for treating Verizon DC any differently solely for the purpose of 15 DCMR § 328. Verizon DC also maintains that any amendments to 15 DCMR §328 would need to be made in a rulemaking proceeding, not this proceeding.[416]

211. **OPC Reply Brief.** OPC contests Verizon DC's arguments that the Commission can neither impose standards on FDV service nor change the network reliability, public safety, and service quality standards applicable to Verizon DC in this proceeding. OPC reiterates its position that FDV service is not VoIP or IP-enabled service, and so the Commission has the

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411 Verizon DC Reply Brief at 17.

412 Verizon DC Reply Brief at 17-18.

413 Verizon DC Reply Brief at 18.

414 Verizon DC Reply Brief at 18.

415 Verizon DC Reply Brief at 18-19.

416 Verizon DC Reply Brief at 19.

authority to impose the same network reliability, public safety, and quality of service standards on FDV service as it does for switched voice services.[417]

212. For rules that apply only to Verizon DC, OPC argues that the Commission has the authority to change its rules in a contested case. Contrary to Verizon DC's claims, OPC argues that the Commission is not confined to adopting standards or changing its rules exclusively through a rulemaking. Instead, OPC contends, the Commission may adopt new standards in a contested case if the Commission: is defining the "legal rights, duties, or privileges of specific parties;" and (2) is not issuing a rule of general applicability.[418] OPC argues that pursuant to D.C. Code §§2-509 and 34-908, the Commission held a formal hearing during which Verizon DC was provided the opportunity "to present...[its] case or defense by oral and documentary evidence, to submit rebuttal evidence, and to conduct such cross-examination as may be required for a full and true disclosure of the facts."[419] According to OPC, the Commission may now enter an "order affecting said rates, tolls, charges, schedules, regulations, or act complained of."[420] In OPC's view, the Commission is empowered in this contested case to issue an order that may "affect" its "regulations" through an adjudication because the District of Columbia Administrative Procedures Act ("DC APA") defines the term "order" as "the whole or any part of the final disposition (whether affirmative, negative, injunctive, or declaratory in form) ... of any agency in any matter other than rulemaking."[421] OPC argues that the U.S. Supreme Court has found that an "agency must retain power to deal with the problems on a case-by-case basis if the administrative process is to be effective...And the choice made between proceeding by general rule or by individual, *ad hoc* litigation is one that lies primarily in the informed discretion of the administrative agency."[422]

213. OPC argues that the cases cited by Verizon DC to support its proposition that the Commission may only adopt changes through a rulemaking are inapposite. OPC claims that the *Washington Gas Energy Services* case was about an administrative rulemaking that allowed the Commission "to issue assessments to public utilities, electricity suppliers, and others in order to recover the amount of its own budget and that of [OPC]" and the formula that the Commission used to make such assessments. In that case, OPC argues, "[n]obody in th[e] litigation argue[d] that the proposed formula is not a rule" as it applied generally to all utilities in the District of Columbia.[423] OPC also argues that the *Sprint* case cited by Verizon DC similarly involved a rule of general application. In that case, OPC asserts, the court considered whether the FCC violated

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417 OPC Reply Brief at 17.

418 OPC Reply Brief at 17, citing D.C. Code § 2-502(8) (2012 Supp.).

419 OPC Reply Brief at 17-18, citing D.C. Code § 2-509(b) (2012 Supp.).

420 OPC Reply Brief at 18, citing D.C. Code § 34-908 (2012 Supp.)

421 OPC Reply Brief at 18, citing D.C. Code § 2-502(11) (2012 Supp.) (emphasis by OPC omitted).

422 OPC Reply Brief at 18, citing *SEC v. Chenery Corp.*, 332 U.S. 194, 203 (1947) (emphasis by OPC omitted).

423 OPC Reply Brief at 19, citing *Wash. Gas Energy Servs.*, 893 A.2d 981, 984 (D.C. 2003).

the federal APA when it enacted changes to a rule governing "the means by which payphone service providers are compensated for certain calls made from their payphones" without publishing a notice in the *Federal Register*.[424]

214. In contrast to these cases, OPC claims that it is not proposing that the Commission adopt standards of general applicability, but standards applicable only to Verizon DC. OPC's proposed standards include requiring Verizon DC to: install and maintain adequate free BBU for all fiber customers and to amend the Verizon DC tariff to clarify that Verizon DC will provide the BBU batteries to all customers; develop an FDV service emergency-response capability plan; abide by §328 of the Consumer Bill of Rights; comply with wire center-specific service quality reporting and performance standards; and comply with 15 DCMR §2705 and provide notice to and obtain authorization from the Commission before discontinuing switched copper services or abandoning copper facilities within the District of Columbia or within a particular wire center.[425] According to OPC, these proposed standards would apply only to, and address shortcomings in, Verizon DC's services and tariff, so they relate to Verizon DC's legal rights, duties, and privileges, not those of other service providers that did not appear in this proceeding. OPC stresses that certain proposals (such as requiring Verizon DC to comply with 15 DCMR §§328 and 2705) cannot be applied to any party other than Verizon DC since Verizon DC is the only regulated telecommunications service provider that is not subject to these rules.[426]

215. Alternatively, should the Commission determines that a rulemaking is necessary to impose some of OPC's proposals on Verizon DC, that determination does not justify closing this docket.[427] If the Commission were to determine that a rulemaking is required, OPC requests that the particular issues meriting the rulemaking be consolidated into the existing *RM07-2014* rulemaking along with the corresponding evidence from this proceeding.[428] Any other action would further delay needed relief for District of Columbia consumers, OPC argues.[429]

2. Decision

216. As determined in Issue 1, the services provided by switched fiber copper service and switched fiber voice service are the same. Thus, the service quality standards should be the same for switched copper voice service and switched fiber voice service. This finding is consistent with current practice, in which Verizon DC reports results for copper and fiber lines under the Commission's RQS standards.

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424 OPC Reply Brief at 19, citing *Sprint Corp. v. Federal Communications Commission*, 315 F.3d 369, 370 (D.C. Cir. 2003).

425 OPC Reply Brief at 19-20.

426 OPC Reply Brief at 20.

427 OPC Reply Brief at 20.

428 OPC Reply Brief at 20-21.

429 OPC Reply Brief at 21.

217. As found in Issue 1 and 2, the fact that switched fiber voice service relies on commercial power at the customers' premise in order to operate is a functionality that makes switched copper voice service different. When there is a commercial power outage, switched fiber voice service will not operate without some sort of battery backup. The Commission finds that this lack of power, particularly when compared with the ability of switched copper voice service to remain functional during a commercial power outage, poses issues related to network reliability and public safety that need to be addressed for switched fiber voice service. In order to protect network reliability and public safety, particularly access to E911 service during commercial power outages, the Commission finds that battery backup is necessary when fiber facilities used to provide regulated voice service rely on commercial power in order to function. While Verizon DC and other providers have recognized a need for backup power by offering BBUs (either for free or for a fee), the Commission believes that it needs to establish requirements for BBUs for switched fiber voice service for all providers of regulated local exchange service. Thus the Commission will propose regulations through its rulemaking process regarding requirements for battery backup.[430]

218. OPC seeks to have the Commission impose several requirements on Verizon DC alone regarding BBUs. OPC also seeks to have 15 DCMR § 328 amended so that it removes the exemption for Verizon DC. Since its proposals refer to Verizon DC alone, OPC argues that a rulemaking proceeding is not required; the Commission can just establish these requirements by order. The Commission disagrees. As a matter of policy, there is no reason why Verizon DC should be the only provider of local exchange service, subject to BBU requirements; all regulated telecommunications service providers whose services rely on the customer's commercial power should be required to comply with the same standards. A rulemaking proceeding is the appropriate means for adopting such standards. Additionally, if the Commission were to decide to remove exemptions for Verizon DC contained in its current rules, a rulemaking proceeding would still be necessary to amend those existing rules.

G. ISSUE 6: Are Verizon DC's circuit-switched fiber or FiOS voice services, technically structured and provisioned at the customer's premises and within Verizon's network in the District to be classified as Internet Protocol-enabled Service or Voice Over Internet Protocol Service as defined in D.C. Code §§ 34-2001(7A) or 34-2001(23)?

1. Positions of the Parties

219. **Verizon DC Brief.** Verizon DC asserts that its TDM-based services provided over copper and fiber facilities are not IP-enabled or VoIP services. In contrast, FDV service is both IP-enabled and a VoIP service, in Verizon DC's view.[431] Verizon DC then provides the statutory definitions of IP-enabled service:

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[430] The Commission takes administrative notice that the FCC recently released a Report and Order in PS Docket No. 14-174, in which the FCC adopted new BBU and disclosure rules. *In the Matter of Ensuring Continuity of 911 Communications*, PS Docket No. 14-174, Report and Order, rel. August 6, 2015. The Commission will be taking the Report and Order into consideration when drafting its BBU rules.

[431] Verizon DC Brief at 25.

> any service, capability, functionality, or application provided using Internet protocol (or any successor protocol), that enables an end user to send or receive a communication in Internet protocol format (or any successor format), regardless of whether the communication is voice, data, or video.[432]

Verizon DC also includes the definition of VoIP service:

> (i) Enables real-time 2-way voice communications that originate or terminate from the user's location using Internet protocol or a successor protocol; and (ii) Uses a broadband connection from the user's location.[433]

Additionally, Verizon DC argues that D.C. Code § 34-2001(23)(B) expressly includes within the definition of VoIP "any service that permits users to receive calls that originate on the public-switched telephone network and to terminate calls on the public-switched telephone network."[434]

220. Verizon DC believes that its FDV service falls within these definitions because FDV service enables real-time 2-way voice communications that originate or terminate in Internet protocol at the customer premises using a broadband connection.[435] Verizon DC asserts that when a Verizon DC customer using fiber facilities makes a call using FDV service, the ONT that connects the fiber to the customer premises sets up the call using an IP signaling protocol called SIP.[436] The SIP signals travel over the customer's broadband connection to Verizon's IP network to reach the FDV service application. Then, Verizon DC contends, the application server authenticates and sets up the call with the carrier that serves the called party, regardless of whether the called party is on the PSTN, VoIP service, or wireless service. After the call is set up and answered by the called party, Verizon DC represents that the software in the GPON ONT converts the customer's speech into IP packets using the IP protocol called RTP. Verizon DC asserts that these packets containing the actual conversation are routed from the customer's premises over the broadband connection and the Verizon IP network, which routes the call for delivery to the called party. If the called party is not a VoIP service customer, Verizon DC maintains that equipment in the Verizon network will convert the IP packets into the TDM-based protocol used by the PSTN, enabling FDV service customers to make calls to and receive calls from the PSTN. In Verizon DC's view, FDV service uses IP technology and enables an end user to send or receive a voice call in IP format from the customer's premises to the Verizon central office, and from the Verizon central office to the FDV service network. Verizon DC argues that FDV service enables real time 2-way voice communications that originate and terminate from the user's location using IP via a broadband connection from the user's location.[437]

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[432] Verizon DC Brief at 25, citing D.C. Code § 34-2001(7A).

[433] Verizon DC Brief at 25, citing D.C. Code § 34-2001(23)(A).

[434] Verizon DC Brief at 25, citing D.C. Code § 34-2001(23)(B).

[435] Verizon DC Brief at 25.

[436] Verizon DC Brief at 25-26.

[437] Verizon DC Brief at 26.

221. **OPC Brief.** OPC represents that neither Verizon DC's switched fiber voice service nor Verizon DC's FDV service are VoIP service or IP-enabled service under the D.C. Code's definitions of these terms. To OPC, both services are subject to the Commission's jurisdiction.[438]

222. OPC argues that Verizon DC does not support its position that FDV service is IP-enabled or a VoIP service beyond citing the D.C. Code definitions of such services. To the contrary, OPC alleges that FDV service is neither technically structured nor provisioned at the customer premises and within Verizon DC's network in a manner that enables FDV service to be classified as an IP-enabled or a VoIP service pursuant to the D.C. Code.[439]

223. OPC contends that the relevant technical facts are undisputed; the provision of voice service for all three voice services is the same at the customer premises.[440] With all three voice services, the voice communication travels in an analog format over the customer's existing, in-house wires between the customer's telephone and the Verizon DC-owned interface device located at the customer premises. In the case of switched copper voice customers, OPC contends that the interface device is the NID. OPC represents that the NID is Verizon DC-owned and operated equipment that marks the network demarcation point between the Verizon DC network and the customer's inside wiring and telephone. OPC claims that the NID is typically installed on the outside or in the basement of the customer premises.[441]

224. With fiber facilities, OPC claims that the interface device is the ONT. OPC contends that the ONT, like the NID, is Verizon DC-owned and operated equipment marking the end of Verizon DC's network. OPC asserts that the ONT, like the NID, is also usually installed in the basement.[442] OPC maintains that the customer's inside wiring for voice communications service is connected to the ONT through an RJ-11 jack. OPC asserts that the FDV service customer's signal remains in analog format within the customer premises and format conversion only occurs at the ONT, which is part of the Verizon DC network, not the customer's wiring or equipment.[443]

225. OPC contends that once the communications signal reaches the ONT, the ONT packetizes the information to transport it over the fiber network to be decoded at the OLT in the central office. OPC claims that Verizon DC's Witnesses explained that the packetization occurs in the same format, regardless of whether the service is switched fiber voice service or FDV service; the protocol of the packet depends on the technology deployed. OPC maintains that in the District of Columbia, the vast majority of ONTs use **[BEGIN CONFIDENTIAL**

438 OPC Brief at 16.

439 OPC Brief at 45.

440 OPC Brief at 45.

441 OPC Brief at 46.

442 OPC Brief at 46.

443 OPC Brief at 46.

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[END CONFIDENTIAL INFORMATION] OPC represents that when the packet reaches the OLT, the OLT determines if the packet should be converted to a TDM signal and sent to the PSTN in the case of switched fiber voice calls or sent to Verizon DC's IP network to be acted upon by the switching fabric of the FDV platform, in the case of FDV service calls.[446]

226. OPC represents that for an FDV service call, the ONT inside Verizon DC's network invokes SIP to initiate the request for a communications path that the Media IP packets which constitute the call will follow once the path is established. When a FDV service customer receives a call, OPC argues that the SIP and Media IP packets terminate in Verizon DC's network at the ONT and the call is translated back into analog signals within the ONT before it enters the customer's home. OPC asserts that from initiation to termination, the IP signal of Verizon DC's FDV service remains entirely in Verizon DC's network.[447]

227. In arguing that FDV service is not IP-enabled service, OPC focuses on the language that "*enables an end user* to send or receive a communication" in IP format.[448] According to OPC, FDV service does not permit an end user to send or receive communication in IP format. Instead, OPC asserts, the FDV customer sends or receives signals only in analog format. OPC asserts that the record shows that all IP communications in FDV service occur solely within Verizon DC's network; the end user communicates solely in analog format. When a FDV service customer sends a call, OPC asserts that the SIP signal that initiates the IP protocol for the FDV service call is initiated in the Verizon DC-owned and operated ONT. Similarly, when a FDV service customer receives a call, the communications signal is translated back to analog format within Verizon DC's network at the ONT before it is transferred from the ONT to the customer's inside wiring. OPC contends that the end user has no control over the ONT or the IP signals in Verizon DC's network and FDV service does not enable the end user to send or receive any communication in IP format.[449]

228. To the extent that Verizon DC's position rests on the assertion that FDV service is non-jurisdictional because **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] OPC contends that Verizon DC is incorrect. OPC asserts that in that situation, the end user has no control over the packetization technology used by the ONT to

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444 OPC Brief at 47.

445 OPC Brief at 47-48.

446 OPC Brief at 48.

447 OPC Brief at 48.

448 OPC Brief at 48-49, citing D.C. Code § 34-2001(7A) (emphasis in OPC Brief).

449 OPC Brief at 49.

transport the communications signal.[450] OPC also asserts that in switched fiber voice service, transport is also in **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** packets between the ONT and OLT, yet Verizon DC concedes that switched fiber service is a regulated service, not a VoIP or IP-enabled service.[451]

229. OPC contrasts FDV service with services offered by Vonage Marketing, LLC. ("Vonage") and magicJack VocalTeck Ltd. ("magicJack"), which OPC characterizes as VoIP services. OPC argues that Vonage and magicJack's services are technically structured and provisioned to enable the customer to send or receive communications in an IP format. OPC represents that Vonage and magicJack customers purchase devices that connect a customer's telephone to the customer's Internet connection or to the customer's computer, which in turn is connected to a wired or wireless Internet connection. OPC cites Verizon DC's Witness MacNabb's testimony during the hearing explaining that "those devices that are purchased by the customer for [m]agicJack or Vonage contain the software and the intelligence that take that phone conversation and put it into a voice-over IP format."[452] Thus, OPC argues, unlike FDV service, the end user owns and operates the device that sends the communications in IP format. OPC argues that Verizon DC Witness MacNabb confirmed the point that Vonage and magicJack devices perform the same functions as Verizon DC's ONT. OPC stresses that with FDV service, it is Verizon DC's ONT in its network, not the end user's device, that sends and receives communications in IP format.[453]

230. OPC contends that if a customer owns a SIP telephone, the customer's telephone initiates the SIP protocol that is similar to the SIP protocol initiated by the Verizon DC-owned and operated ONT for FDV service. In OPC's view, it is the SIP telephone that enables the customer to send or receive the communication in an IP-enabled format. In contrast, OPC argues that FDV service is not compatible with a SIP telephone.[454]

231. OPC contends that the D.C. Code definition of VoIP has two prongs, neither of which is satisfied by FDV service.[455] OPC argues that from the customer's perspective, FDV service is no different than switched copper or switched fiber voice service, since the customer uses an analog telephone and existing analog inside wiring. Because the ONT is owned by Verizon DC and is part of Verizon DC's network, OPC claims that all of the signal conversions to IP in FDV service take place within Verizon DC's network. OPC argues that this conversion

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450 OPC Brief at 49.

451 OPC Brief at 49-50.

452 OPC Brief at 50, citing Tr. at 478-479.

453 OPC Brief at 50-51.

454 OPC Brief at 51.

455 OPC Brief at 51-52.

is the same conversion that takes place with switched fiber voice service, which Verizon DC has stated is not a VoIP service within the D.C. Code definition.[456]

232. Because the IP conversion occurs at the ONT, OPC contends that FDV service does not permit the voice communications to originate or terminate from the "user's location" as required by the D.C. Code. While OPC concedes that "user's location" is not defined in the D.C. Code, OPC believes that the most logical interpretation of this term in the context of the communications industry is that it means the area within which the customer controls and owns the wiring and premises equipment. Because the ONT is part of Verizon DC's network, OPC claims that the communications signal for both switched fiber voice service and FDV service "that originate[s] or terminate[s] from the user's location" is in analog, not IP, format.[457]

233. OPC provides three reasons to justify its interpretation of "user's location" in the context of D.C. Code § 34-2001(23)(B).[458] First, in the context of the switched copper voice network, the NID is typically located at/on a customer's dwelling, but the NID is owned and operated by Verizon DC and is part of Verizon DC's network. Unlike the Vonage or magicJack services, the device that makes the conversion to and from IP is not owned or leased by the customer. OPC claims that Verizon DC concedes that it owns the ONT and does not claim that the ONT is not part of its network.[459]

234. Second, OPC represents, Verizon DC's **[BEGIN CONFIDENTIAL INFORMATION]**

END CONFIDENTIAL INFORMATION] OPC reasons that if the ONT were to be considered part of the "user's location," then switched fiber voice service could also fall within the D.C. Code's VoIP definition, yet Verizon DC concedes that switched fiber voice service is not VoIP service under the D.C. Code.[460]

235. Third, OPC contends, FDV service is a "fixed" service, meaning that it can only be provisioned to telephone lines at a customer's house. In OPC's view, other services that clearly meet the VoIP definition are nomadic services.[461] OPC contends that true VoIP service

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456 OPC Brief at 52.

457 OPC Brief at 52, citing D.C. Code § 34-2001(23)(A)(i).

458 OPC cites to D.C. Code § 34-2001(23)(B) in its Brief, but that subsection does not contain any reference to "user's location," while D.C. Code § 34-2001(23)(A)(i) does contain this language and OPC discusses D.C. Code § 34-2001(23)(A)(ii) further on in its Brief.

459 OPC Brief at 53.

460 OPC Brief at 53.

461 OPC Brief at 53.

customers can move their location, take the VoIP service equipment with them, and still use the service.[462]

236. Even if the Commission were to find that the ONT were part of the "user's location," OPC argues that FDV service still is not a VoIP service because it does not "[u]se[] a broadband connection from the user's location." OPC claims that Verizon DC's statement in its Direct Testimony that "SIP signals travel over the customer's broadband connection to Verizon's IP network to reach the [FDV] application server" is belied by the record.[463] OPC claims that the SIP signal for FDV service is initiated in the Verizon DC-owned ONT and travels to the Verizon DC-owned OLT, where it is then directed to Verizon DC's IP network. OPC argues that the SIP signal travels only within Verizon DC's network.[464]

237. Further, OPC contends, even though a single ONT can be used to provide FDV service, FiOS Internet service, and FiOS video service, FDV service does not use the ONT's broadband connection. On the customer side of the ONT, the FDV service and FiOS Internet connections are separate: the ONT has an RJ-11 connection for FDV service and a separate Ethernet connection for FiOS broadband Internet access service. OPC stresses that the FDV service port is neither broadband nor IP-capable.[465] On the network side, OPC claims that the **[BEGIN CONFIDENTIAL INFORMATION]**

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238. In contrast to FDV service, OPC asserts that Vonage and magicJack do enable real-time 2-way voice communications to originate and terminate from the user's location using Internet Protocol or a successor protocol, and they do use a broadband connection from the user's location. OPC argues that these services require the customer to plug their telephone into a customer-owned IP-interface device. This device is connected directly to a broadband connection or to a computer with an Ethernet or wireless Internet connection, OPC contends. Also in contrast to FDV service, Vonage and magicJack services are portable, so that wherever the customer is located, the customer can access voice service from that location so long as there is an Internet connection at the location.[467]

239. Finally, OPC argues that a finding that FDV service is a jurisdictional service would be in the public interest. OPC enumerates several benefits in a classification of FDV service as a jurisdictional service: the ability of the Commission to monitor and correct deficiencies in FDV emergency 911 service capability and quality; protection of public safety and welfare; and safeguarding the rights of consumers. Additionally, consumers would be able

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462 OPC Brief at 53-54.

463 OPC Brief at 54, citing Exhibit VZ (A), Direct Testimony of Vasington and MacNabb at 28.

464 OPC Brief at 54.

465 OPC Brief at 54.

466 OPC Brief at 54-55.

467 OPC Brief at 55.

to seek recourse from the Commission if Verizon DC fails to comply with its FDV service obligations.[468]

240. OPC argues that when the D.C. Council enacted Bill 17-332, the "Telecommunications Competition Act of 2007" ("VoIP Act"),which included the exemptions for IP-enabled and VoIP services in the D.C. Code, the D.C. Council intended to "bar[] the Public Service Commission from regulating a service that is already outside of its purview."[469] At that time, OPC asserts, the only service outside of the Commission's purview was nomadic VoIP services such as those provided by Vonage and magicJack. OPC asserts that the D.C. Council's impetus to act was an FCC ruling and a federal appellate court decision upholding that ruling, preempting states from regulating Vonage's VoIP services "because it was impossible or impractical to separate the intrastate components of [Vonage's] VoIP service from its interstate components."[470] OPC represents that the court made a distinction between fixed and nomadic VoIP services, permitting preemption of state regulation of nomadic VoIP service. In the case of fixed VoIP services, OPC argues that the court declined to rule on that issue, ruling that state regulation of fixed VoIP services was an open issue.[471]

241. OPC claims that when adopting Bill No. 17-332, the D.C. Council considered the emergence of fixed VoIP services, but did not make a formal finding that the new exemptions would apply to fixed VoIP services. OPC recognizes that upon the plain reading of the language in Bill No. 17-332, an argument could be made that some fixed VoIP services may fit under the D.C. Code definition of VoIP services, but FDV is not one of those services. To the contrary, OPC argues, FDV service does not possess the "well-accepted traits of VoIP service."[472] OPC reiterates its testimony stating that FDV service "as perceived by the customer and as interconnected to the customer's equipment, is not functionally different from the regulated voice telecommunications service Verizon provides using circuit-switched technology."[473] OPC argues that FDV service, which originates and terminates in analog format at the user's location and which does not use a broadband connection at the user's location, is neither an IP-enabled nor a VoIP service within the meaning of the D.C. Code.[474]

242. **Verizon DC Reply Brief.** Contrary to OPC's assertions, Verizon DC contends that FDV service falls within the statutory definitions of VoIP and IP-enabled service. In Verizon DC's view, end users send and receive calls in IP format.[475] Verizon DC maintains that

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468 OPC Brief at 55.

469 OPC Brief at 56, citing Exhibit VZ (A)-3 at 4.

470 OPC Brief at 56, citing *Minn. Pub. Utils. Comm'n v. FCC*, 483 F.3d 570, 576 (8th Cir. 2007).

471 OPC Brief at 56-57, citing *Minn. Pub. Utils. Comm'n* at 583.

472 OPC Brief at 57, citing Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 43.

473 OPC Brief at 57, citing Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 44.

474 OPC Brief at 57.

475 Verizon DC Reply Brief at 19.

FDV service enables real-time 2-way voice communications that originates and terminates from the end user's location using Internet protocol and a broadband connection from the user's location.[476] Verizon DC notes that the definitions for VoIP and IP-enabled service in the D.C. Code are substantively identical to the definitions adopted in other states that have excluded these services from regulation by state commissions. Verizon DC proffers that FDV service is technically configured in the same way in those states as in the District of Columbia. Verizon DC argues that the state commissions in those states have recognized expressly that they do not regulate FDV service as a result of those statutes.[477]

243. Verizon DC argues that FDV service customers are served by an ONT using GPON technology.[478] According to Verizon DC, software in the GPON ONT converts the analog loop signaling to a digital SIP IP packet and sends the packet to an OLT in a central office, which in turn hands the IP packet to the FDV service network. The SIP signals travel over a broadband connection to Verizon DC's network to reach the FDV application server, which authenticates and sets up the call with the carrier that serves the called party. After the call is set up and answered by the called party, the software in the GPON ONT uses the RTP IP protocol to convert the customer's speech to IP packets, which are then routed from the customer premises over the broadband connection and the Verizon IP network, and then routed for delivery to the called party. Verizon DC represents that if the called party is not a VoIP customer, equipment in the Verizon network or the network serving the called party will convert the IP packets into the TDM-based protocol used by the PSTN, enabling FDV service customers to make calls to and receive calls from customers on the PSTN.[479]

244. While OPC contends that FDV service is not a VoIP service because the conversion from analog to IP signal occurs in the ONT, not in the end user's telephone or inside wiring, Verizon DC argues that the statutory definitions of VoIP and IP-enabled services do not depend on where at the premises the conversion occurs or who owns the device that performs the conversion.[480] Verizon DC also remarks that the FCC has categorized the ONT as CPE.[481]

245. In order to determine whether FDV service is either a VoIP or IP-enabled service, Verizon DC asserts that the first step is to "'look at the language of the statute by itself to see if the language is plain and admits of no more than one meaning' while construing their words in their 'ordinary sense and with the meaning commonly attributed to them.'"[482] To Verizon DC,

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476 Verizon DC Reply Brief at 19-20.

477 Verizon DC Reply Brief at 20.

478 Verizon DC Reply Brief at 20.

479 Verizon DC Reply Brief at 21.

480 Verizon DC Reply Brief at 21.

481 Verizon DC Reply Brief at 21, n. 86.

482 Verizon DC Reply Brief at 22, quoting *Dobyns v. United States* 30 A.3d 155, 159 (D.C. 2011) (citations omitted).

the definition of an IP-enabled service turns on whether an end user can "send or receive a communication in Internet protocol format (or any successor format)." Verizon DC argues that with FDV service, the customer can do both with the conversation taking place within equipment located at the customer's location used to transmit the call.[483]

246. In Verizon DC's view, the definition of a VoIP service turns on whether calls "can originate or terminate from the user's location using Internet protocol or a successor protocol." The plain meaning of "location" is "a place of settlement, activity, or residence," or "a place or situation occupied."[484] Verizon DC contends that in its ordinary sense, the user's location would be the customer's home or business where the service is physically located. Verizon DC believes that OPC's view that the "user's location" is the handset itself is not the ordinary meaning of the word "location."[485]

247. Verizon DC contends that FDV service meets these definitions under the plain meaning of the statute.[486] In opposition to OPC, Verizon DC claims that the D.C. Council intended to address both nomadic VoIP and IP expressly preempted by federal law and fixed IP services that were not.[487] In support of its position, Verizon DC quotes the D.C. Council Committee on Public Services and Consumer Affairs when it stated,"[a]t its essence, [the statute] bars the Public Service Commission from regulating a service that is already outside of its purview."[488] However, Verizon DC argues that the Committee made it clear that the scope of the statute did not end with nomadic VoIP. Verizon DC argues that by citing to both nomadic VoIP services offered by Vonage and Skype Communications SARL and fixed VoIP/IP services offered by Verizon DC and AT&T Communications Inc., the Committee's report makes it clear that it intended the bill to apply to both types of services.[489]

248. Further, Verizon DC contends, the Committee's rejection of the Commission's request to remove all references to IP-enabled services from the bill was a clear indication that the Committee did "not see a role for the Commission in regulating any such type of service." Verizon DC contends that the Committee's view was that "by leaving open the door to such regulation, the Council would stifle the introduction of new and innovative services to the marketplace."[490] Instead, Verizon DC represents, the D.C. Council found competition in the deployment of VoIP/IP services in the District of Columbia to be sufficient "to provide quality

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483 Verizon DC Reply Brief at 22.

484 Verizon DC Reply Brief at 22, citing Dictionary.com.

485 Verizon DC Reply Brief at 22.

486 Verizon DC Reply Brief at 22.

487 Verizon DC Reply Brief at 22-23.

488 Verizon DC Reply Brief at 23, citing Exhibit VZ (A)-3 at 3-6.

489 Verizon DC Reply Brief at 23.

490 Verizon DC Reply Brief at 23, citing Exhibit VZ (A)-3 at 5-6.

products and services" and to protect consumers.[491] Verizon DC also asserts that the Committee Report demonstrates that the D.C. Council's concern (and much of the discussion before the Committee) was not over the physical location where the conversion between traditional and IP signals occurred. Instead, Verizon DC contends, the focus of the Committee hearing was on whether VoIP/IP service providers would be encouraged to deploy these services in the District of Columbia by the certainty provided by the legislation.[492]

249. Verizon DC believes that as a policy matter, the D.C. Council reached the right result. Verizon DC argues that the lack of regulation has enabled technological innovation resulting in the enhancement of safety, reliability, and affordability of VoIP service.[493] Verizon DC contends that this fact is evidenced by customers' growing preference for unregulated VoIP services, which have thrived in the District of Columbia while demand for regulated service has declined.[494] Verizon DC contends that OPC's interpretations of the statutory definitions would stifle growth of VoIP and IP-enabled services in the District of Columbia, removing the certainty afforded to VoIP and IP-enabled service providers. To Verizon DC, such a result would make the Committee's fear a reality.

250. **OPC Reply Brief.** OPC argues that Verizon DC's arguments that FDV service is a VoIP and IP-enabled service ignores the undisputed record facts about FDV service. OPC claims first that the record shows that the ONT used to provide switched fiber voice service and FDV service is part of Verizon DC's network, neither owned nor leased by the customers, and for which there is not a separate charge.[495] Second, OPC asserts that FDV subscribers neither send nor receive calls in an IP-enabled format; they send and receive all FDV calls in an analog format just as switched voice customers do; all analog-to-IP and IP-to analog conversions occur within Verizon DC's network.[496] OPC argues that these facts "doom" Verizon DC's claims that FDV service is a VoIP or IP-enabled service. OPC claims that Verizon DC seeks to hide these facts.[497]

251. OPC takes issue with Verizon DC's statement that when a FDV call is made, the "ONT ... sets up the call using ...[SIP]" and "the software in the GPON ONT converts the speech into IP packets."[498] OPC asserts that Verizon DC does not address the fact that the customer's speech is first translated into analog format at the phone and delivered to the ONT in

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491 Verizon DC Reply Brief at 23, citing Exhibit VZ (A)-3 at 4.

492 Verizon DC Reply Brief at 23.

493 Verizon DC Reply Brief at 23.

494 Verizon DC Reply Brief at 23-24.

495 OPC Reply Brief at 21.

496 OPC Reply Brief at 21-22.

497 OPC Reply Brief at 22.

498 OPC Reply Brief at 22, citing Verizon DC Brief at 25-26.

analog, not IP-enabled, format or that the ONT that makes the conversion is part of Verizon DC's network. OPC also argues that Verizon DC's reference to SIP does not mention that FDV service is not compatible with customer-owned SIP equipment. According to OPC, FDV service does not allow customers to use SIP phones to send and receive calls in an IP-enabled format.[499] OPC contends that Verizon DC ignores the fact that in its switched fiber voice service, which Verizon DC concedes is not within the VoIP definition, the customer's analog signal is converted to IP packets at the ONT for transmission to the OLT.[500]

252. OPC contests Verizon DC's statement that FDV service uses "the customer's broadband connection."[501] OPC claims that the record makes it plain that the FDV voice and the FiOS broadband connections are separate on the customer's side of the ONT. OPC asserts that the ONT has an RJ-11 jack connection for FDV service and an Ethernet connection for FiOS broadband, with the FDV voice port being neither broadband nor IP-capable. To OPC, this difference distinguishes FDV service from services provided by Vonage or magicJack, which require their customers to obtain their own IP interface device, which is directly connected to the customer's broadband connection or the customer's computer with an Ethernet connection.[502]

253. OPC next argues that Verizon DC's reliance on the language of D.C. Code §34-2001(23)(B) is misplaced.[503] OPC asserts that this language, which includes within the definition of VoIP service "any service that permits users to receive calls that originate on the public-switched telephone network and to terminate calls on the public-switched telephone network" makes it clear that a service that otherwise meets the definition of VoIP service under D.C. Code § 34-2001(23)(A) is not disqualified from being a VoIP service merely because it interconnects with the PSTN.[504] OPC asserts that it is uncontested that FDV service is consistent with the PSTN interconnection provision in D.C. Code § 34-2001(23)(B). However, OPC claims that in order to be classified as a VoIP service under the D.C. Code, it must also satisfy the requirements of D.C. Code § 34-2001(23)(A). OPC submits that FDV service does not.[505]

254. OPC argues that Verizon DC's claim that "the FCC treats FDV [service] as an IP-based service" does not negate the fact that FDV service does not qualify as a VoIP or IP-enabled service under the D.C. Code.[506] OPC contends that this claim is merely an admission that it reports FDV service as "ILEC interconnected VoIP" service to the FCC. In OPC's view,

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499 OPC Reply Brief at 22.

500 OPC Reply Brief at 23.

501 OPC Reply Brief at 23, citing Verizon DC Brief at 26.

502 OPC Reply Brief at 23.

503 OPC Reply Brief at 23.

504 OPC Reply Brief at 23-24.

505 OPC Reply Brief at 24.

506 OPC Reply Brief at 24, citing Verizon DC Brief at 26, n. 80.

the FCC categorization of FDV service for reporting purposes "says nothing" about what the D.C. Code sections mean.[507]

255. In sum, OPC contends that, from the user's perspective, FDV service is a service that like switched voice services, in which the user sends or receives calls in analog, not IP, format.[508] OPC contends that FDV service does not even permit users to use their own IP devices to make calls.[509] OPC represents that all conversions to and from IP and all IP-signal transport take place on the Verizon DC side of the network. OPC contends that the reference to "user's location" in D.C. Code § 34-2001(23(A)(i) is most logically construed to include only an area within a user's control, and not to include elements like the ONT that are in the carrier's network and thus outside the user's control. To OPC, FDV service cannot be a VoIP or IP-enabled service within the meaning of the D.C. Code.[510]

2. Decision

256. As a threshold matter, the Commission designated this issue as one of the three issues for which Verizon DC has the burden of proof.[511]

257. Regarding the authority of the Commission over VoIP-enabled Service and Internet Protocol-enabled Service, the D.C. Code states:

> Internet Protocol-enabled Service, as defined in § 34-2001(7A), or Voice Over Internet Protocol-enabled Service, as defined in § 34-2001(23), shall not be regulated by the Commission;
>
> and
>
> This chapter shall not: (1) Apply to the provision, rates, charges, or terms of service of Voice Over Internet Protocol Service or Internet Protocol-enabled Service.

258. The D.C. Code defines VoIP service as any service that:

> (A)(i) Enables real-time 2-way voice communications that originate or terminate from the user's location using Internet protocol or a successor protocol; and (ii) Uses a broadband connection from the user's location.

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507 OPC Reply Brief at 24.

508 OPC Reply Brief at 24.

509 OPC Reply Brief at 24-25.

510 OPC Reply Brief at 25.

511 Order No. 17653, ¶ 53.

> (B) The term "Voice over Internet Protocol" shall include any service that permits users to receive calls that originate on the public-switched telephone network and to terminate calls on the public-switched telephone network.

259. The D.C. Code defines Internet Protocol-enabled Service as:

> Any services, capability, functionality, or application provided using Internet protocol (or any successor protocol), that enables an end user to send or receive a communication in Internet protocol format (or any successor format), regardless of whether the communication is voice, data, or video.

260. To determine how the D.C. Code definition of VoIP service applies to FDV service, it is necessary to first examine the technical aspects of the network, especially at the user location. The record is clear that regardless of the voice service provided, the signal from the NID or ONT to the customer telephone is in analog format. Because switched copper voice service, switched fiber voice service, and FDV service all use analog phones, the calls are created as analog signals and transmitted either to the NID, for switched copper voice service, or to the ONT, for the two fiber voice services, as analog signals. The customer's inside wiring is connected to the NID or ONT by an RJ-11 jack.[512] IP telephones cannot be used with FDV service.[513]

261. FDV service calls are converted from analog signals to packets by the ONT and transmitted as packets over fiber from the customer's premises to the central office. As is the case for switched fiber voice service the packet transmission from the ONT at the customer's premises to the OLT in the central office can be in either IP format or non-IP format depending on the PON technology deployed by Verizon DC at the ONT. At least with GPON technology, the ONT sets these calls up for routing using SIP, an IP protocol. At the central office the OLT hands off the voice call traffic to Verizon's FDV service network. If the ONT uses BPON, the OLT also converts the signal to IP format.[514]

262. It is also clear from the record that the ONT used for switched fiber voice service and FDV service is located at the customer's premises. In most cases, the ONT is actually inside the customer's dwelling. The ONT is owned by Verizon DC and the customer does not have the option of using an ONT sold by a third-party supplier such as they do with the telephone

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512 OPC Cross Examination Exhibit No. 38 at 1-2.

513 OPC Cross Examination Exhibit No. 37 at 1. Verizon DC asserts that a customer can use an IP telephone on the Verizon DC network if the customer purchases FiOS Data from Verizon DC. OPC Cross Examination Exhibit No. 51 at 3.

514 OPC Cross Examination Exhibit No. 37 at 1.

CPE..[515] The network demarcation point between the Verizon DC network and the customer's inside wiring is the ONT.[516]

263. To be classified as a VoIP service, the service must "enable real-time 2-way voice communications that originate or terminate from the user's location using Internet protocol or a successor protocol " and use "a broadband connection from the user's location." OPC argues that in order for a service to be provided from the "user's location," the service must be provided in its totality in IP format from the telephone. Verizon DC argues that the language of the definition requires merely that the use of IP needs to be from the "user's location," which can include a conversion to and from IP protocol in places other than the customer's telephone at the "user's location." OPC argues that the VoIP service must occur in the telephone itself. That language is not in the statute. The statutory language requires that the VoIP service must originate or terminate the communication from the user's location. Since the term "location" is not defined in the D.C. Code, the Commission looks to common definitions. The definition of "location" includes "a place of settlement, activity, or residence," "a place or situation occupied,"[517] or "a place or position."[518] Using this more common definition of a user's "location", the Commission concludes that the placement of the ONT at the customer premises satisfies the statutory requirement that the conversion to IP must occur at the customer location.

264. The record is also clear that Verizon DC's FDV service permits users to connect to the PSTN, so that they can receive calls that originate on the PSTN and can place calls that terminate on the PSTN. This capability satisfies the requirement of D.C. Code §34-2001(23)(B).

265. From the record, the conversion at the ONT involves either BPON or GPON technology, both of which use broadband connections, satisfying the requirement of having a broadband connection in D.C. Code § 34-2001(23)(A)(ii).

266. The record establishes that depending on the type of ONT, the analog signals are converted into non-IP signals by BPON technology or IP signals using GPON technology. Thus, if a customer is served by an ONT using GPON technology, which uses SIP technology, then that service "enables real-time 2-way voice communications that originate or terminate from the user's location using" IP and fits under the definition of a VoIP service as defined in D.C. Code §34-2001(23)(A)(i).

267. ONTs with BPON technology, however, convert the analog signals into non-IP packets at the end user location. Thus, the use of IP format apparently does not occur until the packets reach the OLT. If so, while using broadband, these ONTs do not "enable[] real-time 2-

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515 Tr. at 95-97. In the *USF/ICC Order*, the FCC included in its definition of "modem" "customer premises equipment (CPE) typically managed by a broadband provider as the last connection point to the managed network (e.g., DSL modem, cable modem, satellite modem, optical networking terminal (ONT), etc.)." *USF/ICC Order* at ¶ 111.

516 OPC Cross Examination Exhibit No. 3 at 11.

517 Dictionary.com.

518 Merriam-webster.com.

way voice communications that originate or terminate from the user's location using [IP] or a successor protocol" as required by D.C. Code § 34-2001(23)(A)(i). Thus, the FDV service provided by these ONTs would not fit the definition of "VoIP" service.[519]

268. The definition of IP-enabled services provides that "[a]ny services, capability, functionality, or application provided using Internet protocol (or any successor protocol), that enables an end user to send or receive a communication in [IP] format (or any successor format), regardless of whether the communication is voice, data, or video," is an IP-enabled service. This definition lacks the language regarding the "user's location," so the IP conversion can be anywhere in the network. Thus, under this definition, Verizon DC's FDV service is an IP-enabled service, regardless of the PON technology used by the ONT, because there is a conversion to IP signals during the transmission of the voice message that permits the end user to send the voice message in IP format.

269. OPC argues that because the GPON ONTs convert analog signals to IP signals, all switched fiber voice service provided with GPON ONTs could be classified as a VoIP service under the D.C. Code provision. Verizon DC argues that switched fiber voice service is not a VoIP or an IP-enhanced service. While the GPON ONTs do convert all analog signals to IP signals regardless of whether switched fiber voice service or FDV service is ordered by the customer, when the signal reaches the OLT in the central office, the IP signals are treated differently for these two services. For switched fiber voice service, the IP signals are converted to TDM-based signals and sent to the TDM-based switch, while with FDV service, the IP signals are transmitted unchanged to the Verizon DC FDV service network.

270. While the Commission notes OPC's argument that switched fiber voice service shares qualities with FDV that could classify it as a VoIP service or an IP-enabled service, we will not make a finding on the applicability of the D.C. Code to switched fiber voice service. Verizon DC has not sought treatment of switched fiber voice service as VoIP or IP-enabled service. As we previously noted, Issue 6 is one where Verizon DC has the burden of proof. In this proceeding, Verizon DC has argued that switched fiber voice service is different from FDV service; has made no argument that switched fiber voice service is a VoIP service or an IP-enabled service and has not asked that the Commission make such a finding.

271. In further support of its argument that FDV service is a VoIP service, Verizon DC indicates that the FCC reports FDV service lines as interconnected VoIP lines in its Local Competition Reports. The Local Competition Reports provide annual snapshots of the number of subscribers that different communications market participants have. The total number of lines is reported by the FCC as broken into three categories of lines: switched access lines, standalone VoIP lines, and VoIP lines bundled with Internet service.[520] The FCC states that it uses its definition of interconnected VoIP to define VoIP services for reporting purposes.[521] The

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519 The record shows that there are a very small number of BPON ONTs in the District of Columbia, with no more to be deployed, so the distinction regarding BPON and GPON ONTs may have little practical effect.

520 2013 Local Competition Report at 20-22.

521 2013 Local Competition Report at 1.

information in these reports is taken from FCC Form 477. The instructions on the Form 477 provide the FCC definition for "interconnected VoIP" to be used in completing the Form 477. Since the FCC's definition of "interconnected VoIP" is different than the definition of "VoIP" and "IP-enabled services" in the D.C. Code, the Commission cannot automatically assume that services classified as "interconnected VoIP" in FCC reports are defined as VoIP or IP-enabled services under the D.C. Code.

272. OPC argues that the legislative history of the VoIP Act makes it clear that the VoIP Act was intended to prohibit the Commission from regulating "nomadic" VoIP service, not "fixed" VoIP service. In support of its argument that the VoIP Act only refers to nomadic VoIP, OPC cites the portion of the Committee report that states that "[the VoIP Act] bars the [Commission] from regulating a service that is already outside its purview."[522] OPC argues that since the FCC preemption only refers to nomadic VoIP, then the Committee only refers to nomadic VoIP in the VoIP Act.

273. This distinction between types of VoIP service arises from an attempt by the Minnesota Public Utilities Commission ("MN PUC") to require Vonage to comply with state certification and service tariffing requirements.[523] When Vonage appealed to the FCC for preemption of this attempt, the FCC agreed with Vonage, determining that the MN PUC's actions were preempted because it was "impossible" to separate the service Vonage offered into interstate and intrastate portions due to the ability of Vonage's service to be available from multiple locations.[524] The federal Court of Appeals for the 8th Circuit ("8th Circuit") upheld the FCC's preemption of the MN PUC.[525] At the end of the 8th Circuit's decision, however, the court noted that the FCC's preemption only applies to "nomadic" VoIP services, in which the geographic end points of a call cannot be determined. The court declined to find that the FCC's *Vonage* decision preempted state action on fixed VoIP service, in which the geographic end points of VoIP service calls can be determined, noting that the FCC itself had determined that fixed VoIP service providers did not qualify for the preemption afforded by the *Vonage* order.[526]

274. The Commission has considered OPC's analysis of the intent of the D.C. Council as expressed in its Committee Report but finds it to be incomplete. Just beyond the sentence that OPC quotes, the Committee goes on to state:

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522 Exhibit VZ (A)-3 at 4.

523 Vonage appealed this action to the FCC, seeking preemption of the MN PUC's action and in federal court, seeking a permanent injunction. After the MN PUC appealed the permanent injunction, the FCC issued an order regarding the Vonage petition. The 8th Circuit found that this FCC decision would be binding on the MN PUC appeal unless the FCC decision was appealed, which it was. *See, Minnesota Public Util. Comm'n v. Federal Communications Comm'n ("MN PUC v. FCC")*, 483 F.3d 570, 576-577 (8th Cir. 2007).

524 *In the Matter of Vonage Holdings Corp.* ("*Vonage*"), 19 FCC Rcd. 22404 (2004).

525 *MN PUC v. FCC* at 578-579.

526 *MN PUC v. FCC* at 581.

> This begs the question of why, given that the Commission is already prevented from regulating [VoIP] it is necessary to further prohibit the Commission from regulating [VoIP] in the future. The answer is two-fold. First, given the ongoing nature of FCC proceedings on topics related to [VoIP] and IP-enabled service, a certain amount of regulatory uncertainty exists in the marketplace, and this uncertainty can have the effect of deterring business from investing in new and innovative technology. By providing a measure of certainty in the District market with this bill, the Council can encourage more providers of [VoIP] services to enter the market. As noted by the Verizon witness at this hearing, while some [VoIP] providers will certainly enter the marketplace without such legislation, most providers nationwide have rolled out their new services first in those jurisdictions with similar legislation in place.
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> Second, the Committee has made the qualitative judgment that should the FCC leave [VoIP] and IP-enabled services open to state regulation in the future, the District would be better served if the [Commission] does not regulate [VoIP] and IP-enabled services. Given the vibrant competition that currently exists in the [VoIP] and IP-enabled service marketplace, the Committee fears that an additional layer of regulation would drive away competitors. This is especially true given the small size of the District market. Larger jurisdictions with more potential customers make service providers more likely to shoulder the additional costs imposed by local regulation. With fewer than 600,000 residents, the District does not present such an attractive option, and would more easily drive away competition by imposing additional costs.[527]

275. From this language, it appears that the D.C. Council made a deliberate decision to prevent the Commission from asserting jurisdiction over all types of VoIP and IP-enabled service, whether nomadic or fixed. It also appears that at the time of the passage of the VoIP Act, OPC understood that the VoIP Act was intended to prevent the Commission from regulating all VoIP, as evidenced in this statement "OPC submits if the Council were to enact [the VoIP Act], and completely preempt the [Commission's] authority, it may conflict with an FCC determination granting the states the authority to regulate fixed VoIP to protect the public interest."

276. Finally, OPC makes several policy arguments touting the benefits of finding that FDV service is not a VoIP service. However, the Issue concerns the legal interpretation of the D.C. Code's definition of VoIP service; policy considerations cannot override the intent of the legislature as expressed in the VoIP Act.

277. For the foregoing reasons, the Commission finds that all FDV service provided by GPON ONTs is a VoIP and IP-enabled service, while all FDV service is IP-enabled service

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[527] Exhibit VZ (A)-3 at 4.

pursuant to the definitions provided in the D.C. Code. Thus, the Commission has no jurisdiction over FDV service and cannot impose any requirements on FDV service.[528]

H. ISSUE 7: Are there areas in the District of Columbia where there are poorly performing copper-based facilities but no immediate plans to transition to fiber facilities? If so, what is the timeframe for Verizon DC's deployment of fiber-based facilities to these areas and what are the plans for maintaining adequate and safe voice service in these areas, including plans for deploying alternate facilities, if any?

1. Positions of the Parties

278. **Verizon DC Brief.** Verizon DC asserts that there are no areas in the District of Columbia with poorly performing copper facilities. Verizon DC contends that the record demonstrates that Verizon DC is maintaining its copper network that is in place and serving customers. Additionally, Verizon DC asserts that its copper facilities are performing well throughout the District of Columbia. Verizon DC argues that it typically uses trouble reports to evaluate the health of the network, although these metrics are not applied at a wire center level by either the Commission or Verizon DC. To measure the health of its copper facilities, Verizon DC indicates that it uses outside plant troubles to evaluate where there may be specific problems that need to be addressed to maintain network performance and reliability. If trouble report rates increase significantly at a specific location, Verizon DC represents that it analyzes these trouble reports to determine whether the increase is due to factors beyond Verizon DC's control (such as storms, flooding, or damage to Verizon DC cables due to third parties actions or animals, or whether there are network problems that need to be addressed.[529]

279. Verizon DC discusses its internal analysis of plant troubles per 100 access lines on a wire center basis for the past three years. Verizon DC maintains that its operations team advised that the standard for a trouble metric at the wire center level should be **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** outside plant troubles per 100 access lines.[530] Verizon DC asserts that this measure is consistent with states that have trouble report rates at a more granular level, including New York (5.5 troubles per 100 lines per central office); California (6 troubles per 100 lines for units with 3,000 or more lines, 8 troubles per 100 lines for units with 1,001 – 2,999 lines, and 10 troubles per 100 lines for units with less than 1,000 lines), Minnesota 6.5 troubles per 100 telephones by exchange, with a rate of 8 troubles per 100 telephones on a continuing basis indicating a need for investigation or corrective action), Nebraska (8 troubles per 100 lines in a particular exchange

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528 The Commission notes that OPC makes several recommendations in response to several issues regarding the regulation of FDV service. Since the Commission has determined that FDV service is VoIP and IP-enabled service, the Commission is without authority to consider these recommendations.

529 Verizon DC Brief at 27.

530 Verizon DC Brief at 27.

needing a service improvement plan), New Mexico (5 troubles per 100 lines per wire center), and Texas (6 troubles per 100 lines in exchanges under 10,000 lines).[531]

280. Verizon DC claims that its analysis shows that, over a three year period, there were only **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** instances in which one of Verizon DC's 14 wire centers exceeded this threshold for a given month. Verizon DC indicates that the threshold was exceeded for **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

Verizon DC claims that in each of these instances, the monthly threshold was exceeded due to factors beyond Verizon DC's control or abnormal events that have been addressed by Verizon DC's operations group. Additionally, Verizon DC contends, in each of these instances, the outside plant trouble rate fell back to within the standard the next month.[532]

281. Even though Verizon DC believes that its outside plant trouble rate is the most accurate way to measure the performance of network facilities, Verizon DC indicates that it also performed an analysis of total network troubles per 100 lines by wire center.[533] In Verizon DC's view, this second analysis shows that Verizon DC's copper network performs well throughout the District of Columbia. Over a three year period, Verizon DC contends that **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] As in Verizon DC's previous analysis, Verizon DC argues that the instances in which the monthly threshold was exceeded were due to factors beyond Verizon DC's control or were the result of abnormal events that have subsequently been addressed by Verizon DC's operations group. Verizon DC also represents that with the exception of one wire center during August and September 2011 (which experienced a combination of *Force Majeure* events), the performance at each wire center fell below the standard for the subsequent month.[534]

282. Verizon DC also discusses its performance under the Commission's RQS rules. Using the RQS standard of four troubles per 100 access lines, Verizon DC identifies an additional **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** misses were due to abnormal events.[535]

283. Because there are no poorly performing areas in the District of Columbia, Verizon DC argues that there is no need to address the remainder of this issue. Thus, Verizon DC

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531 Verizon DC Brief at 28.

532 Verizon DC Brief at 28.

533 Verizon DC Brief at 28-29.

534 Verizon DC Brief at 29.

535 Verizon DC Brief at 29.

indicates that it has no plans to address poorly performing copper facilities in certain areas. However, Verizon DC also notes that it is deploying fiber facilities in accordance with the Cable Franchise Agreement.[536] Pursuant to the Cable Franchise Agreement, Verizon DC asserts that it has already completed its deployment of fiber facilities in the Georgia, Southeast, and Woodley wire centers. Verizon DC contends that deployment in the Anacostia, Brookland, Congress Heights, Downtown, Georgetown, Metro, Midtown, and Lincoln wire centers is scheduled to be completed by 2019.[537]

284. Verizon DC asserts that it is maintaining adequate and safe voice services over copper facilities throughout the District of Columbia. Verizon DC asserts that it continues to maintain its copper facilities in place and serving customers both proactively and in response to customer reported troubles. Proactively, Verizon DC claims that through its Proactive Preventative Maintenance Program ("PPMP"), Verizon DC seeks to ensure that copper facilities do not degrade and become poorly performing.[538] Verizon DC's maintenance activities include maintenance of air pressure systems and digital loop carrier systems.[539] Verizon DC describes further its Proactive Cable Maintenance ("PCM") program, a component of the PPMP. The PCM is used to identify, track, monitor, and measure the repair and replacement of defective copper outside plant. Verizon DC asserts that PCM identifies the facilities with the highest potential for reduction of customer troubles and associated operating costs and rehabilitates these copper facilities through repair and replacement, which includes rebuilding splice points, and repairing or replacing damaged sections of cable based on field analysis, analysis of customer trouble reports, and testing. Verizon DC identifies an additional program, its "Quality Assurance and Operation Review Inspection" program to review recent installation, maintenance and routine network facility activities and identify any non-standard plant conditions that need correcting. Verizon DC also asserts that it monitors its trouble and repeat trouble reports, and if repeat troubles increase, Verizon DC will analyze the trend to determine whether the increase is due to factors beyond its control (such as cable cuts or weather), technician performance, or plant conditions, and take appropriate action.[540]

285. Verizon DC contends that it is providing and will continue to provide adequate and safe voice service across the District of Columbia, regardless of the facilities used. If Verizon DC's copper facilities exhibit poor performance in the future, then that performance can be addressed in *Formal Case No. 1090*, Verizon DC asserts.[541]

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536 Cable Franchise Agreement between the District of Columbia and Verizon Washington, DC Inc., dated April 30, 2009.

537 Verizon DC Brief at 30.

538 Verizon DC Brief at 30.

539 Verizon DC Brief at 30-31.

540 Verizon DC Brief at 31.

541 Verizon DC Brief at 31.

286. **OPC Brief.** OPC believes that there are areas in the District of Columbia where there are poorly performing copper facilities relative to other wire centers. OPC asserts that Verizon DC has no plan for corrective action for these areas. OPC maintains that Verizon DC should be required to develop a plan to improve performance in these areas.[542]

287. Contrary to Verizon DC's representation that "Verizon [DC']s copper network consistently has performed very well across the District," OPC claims that the data make plain that two of Verizon DC's 14 wire centers, **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** ("Identified Wire Centers"), have chronically and significantly higher copper network and copper outside plant trouble rates than the other twelve wire centers.[543] At the hearing, OPC contended that Verizon DC Witness Campbell did not dispute the following findings that between July 2011 and June 2014 **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] Additionally, 100% of the time, either the **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** wire center ranked in the top two District of Columbia wire centers with the highest copper network trouble rates. OPC argues that the fundamental point is that these two wire centers are afflicted with chronically higher copper network and copper outside plant trouble rates than the other 12 wire centers. OPC claims that Verizon DC has provided no credible explanation for the pattern, nor has Verizon DC provided any plan to ensure that service will remain safe and reliable in these wire centers.[544] OPC contends that in response to inquiries about this problem, Verizon DC Witness Campbell stated that except for a few "anomalies," these two wire centers have met Verizon DC's **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** trouble standard for outside copper plant troubles and the Commission's 4.0 Troubles Per 100 Lines standard for copper network troubles during the 36-month period.[545] OPC maintains that Verizon DC provides no reason why customers served out of these two wire centers should receive service reliability that is consistently worse than that provided to customers served out of other wire centers.[546]

288. Regarding the *Force Majeure* events of August and September 2011, OPC seeks an answer to the question of why the Identified Wire Centers still remained the top two wire

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542 OPC Brief at 16.

543 OPC Brief at 58.

544 OPC Brief at 59.

545 OPC Brief at 59-60.

546 OPC Brief at 60.

centers with the highest copper outside plant trouble rates during that period, even as trouble report rates increased throughout the District of Columbia for these two months.[547]

289. OPC claims that its testimony shows why the explanations for the "anomalies" cited by Verizon DC cannot be substantiated. First, OPC contests Verizon DC's claim that the Identified Wire Centers are located in the Anacostia water basin and are, therefore, more susceptible to moisture and flooding because several other wire centers are in the Anacostia watershed exhibit lower trouble rates. OPC also contends that the wire center buildings for these two wire centers are not located in the Anacostia flood plain. OPC also asserts that the Anacostia River has minor effects on flooding in the District of Columbia as compared to the Potomac River. According to OPC, the Identified Wire Centers have substantial amounts of aerial cable, which is less susceptible to flooding damage. OPC contends that even though aerial cable is more susceptible to tree damage, these two wire centers have higher trouble rates than the **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** wire center, which also contains a substantial number of tress and aerial cable.[548]

290. OPC also contests Verizon DC's explanation of excessively high trouble rates in the Identified Wire Centers in October 2011. OPC contends that the record shows that these rates were not caused by excessive rainfall in the middle of the month, since the trouble rates occur with no particular pattern throughout the month.[549] Additionally, OPC represents that there is no indication that rainfall in the Identified Wire Centers was any greater than elsewhere in the District of Columbia.[550]

291. For the rest of the "anomalies" affecting the Identified Wire Centers, OPC claims that its filed testimony shows the deficiencies in Verizon DC's claim that that all but one of Verizon DC's "anomalies" are due to apparently isolated network-facility failure incidents. OPC represents that these explanations also reveal a larger pattern: the seemingly isolated network failures always seem to occur in the Identified Wire Centers but not the other wire centers.[551]

292. Furthermore, OPC argues, the chronically high trouble rates in these two wire centers cannot be explained by the lack of fiber facilities in those wire centers relative to the other wire centers in the District of Columbia.[552] Instead, OPC asserts, more fiber facilities have been deployed in the **[BEGIN CONFIDENTIAL INFORMATION]**

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547 OPC Brief at 60.

548 OPC Brief at 61.

549 OPC Brief at 61-62.

550 OPC Brief at 62.

551 OPC Brief at 62.

552 OPC Brief at 62.

[END CONFIDENTIAL INFORMATION]

293. OPC contends that these results present the Commission with a fundamental policy choice: to be satisfied as long as Verizon DC meets the RQS measures on a District-wide basis, even though customers in two wire centers receive consistently less reliable service than District customers in other wire centers or to ensure that all District of Columbia consumers are entitled to a comparable level of service quality.[554] OPC states that the choice is clear: District of Columbia residents served by some wire centers should not receive consistently less reliable and more trouble-plagued service than others.[555]

294. OPC submits that it has presented a clear solution to this problem: Verizon DC should be required to report its performance data on a wire center and technology-centric basis and should devote more repair and maintenance resources to those wire centers that have consistently higher trouble rates. OPC contends that wire center-specific RQS metrics are needed for two reasons. First, they can show whether Verizon DC's fiber network produces tangible increases in reliability over the copper network. Second, wire center-specific data can provide evidence about whether certain wire centers are experiencing chronically higher trouble rates than other wire centers that cannot be explained by weather, flooding, or tree cover. Data showing chronically higher trouble rates in certain wire centers would suggest that Verizon DC is not maintaining copper facilities adequately in these wire centers. Additionally, OPC asserts, reporting on a wire center basis would prevent Verizon DC from masking chronically poorly performing individual wire centers behind ostensibly satisfactory District of Columbia-wide RQS results, enabling the Commission to readily identify poor performing wire centers in order to direct Verizon DC to improve its performance.[556]

295. OPC argues that the evidence presented in this proceeding shows that Verizon DC can report trouble rates to the Commission on a wire center basis.[557] In OPC's view, Verizon DC should also be subject to penalties if it fails to meet the RQS standards in any wire center. OPC proposes that the Commission should find Verizon DC in violation of the RQS standards if any wire center has a Troubles Per 100 Lines result of 4.0 or greater, measured over a two month period, for either copper or fiber lines. OPC believes that a two-month rolling average is likely to concentrate penalties, and thus Verizon DC's future investment, on the areas with trouble rates that are consistently above the District of Columbia average.[558]

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553 OPC Brief at 63.

554 OPC Brief at 63-64.

555 OPC Brief at 64.

556 OPC Brief at 64.

557 OPC Brief at 64-65.

558 OPC Brief at 65.

296. **CWA Brief.** CWA states that the expansion of fiber facilities by Verizon DC serves the public interest by enabling improvements in education, health care, economic development, environmental protection, government service delivery, civic engagement, and public safety plus a competitive alternative to cable's broadband and video service. CWA asserts that Article 3 of the Cable Franchise Agreement requires Verizon DC to build out its fiber network to an Initial Service Area by 2012, an Extended Service Area by 2015, and the entire District of Columbia by 2012. CWA asserts that it is critical to the understanding of the copper-to-fiber transition to know whether Verizon DC is meeting these commitments.[559]

297. CWA notes that Verizon DC Witness Campbell provided more detail on the fiber deployment pursuant to the Cable Franchise Agreement. According to Witness Campbell, fiber facilities were deployed in the Georgia, Southeast, and Woodley wire centers between 2009 and 2013; while fiber facilities will be deployed in the Benning, Dupont, and Southwest wire centers by the end of 2016, and in the Anacostia, Brookland, Congress Heights, Downtown, Georgetown, Metro, Midtown, and Lincoln wire centers by 2019.[560] CWA represents that Verizon DC also claimed that as of July 31, 2014, Verizon DC had deployed fiber facilities in portions of the Anacostia, Benning, Dupont, Lincoln, and Southwest wire centers as well as newly constructed developments across the District of Columbia. CWA indicates that Verizon DC also filed a confidential map showing the percentages of premises passed by fiber facilities in each wire center and a confidential list of neighborhoods by Ward and wire center where fiber has been deployed.[561]

298. During the hearing, CWA asserts, Witness Campbell testified that Verizon DC has **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

299. CWA notes that while it supports the copper-to-fiber transition and the deployment of fiber facilities to all areas of the District of Columbia as required by the Cable Franchise Agreement, CWA believes that the Commission must require Verizon DC to provide

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559 CWA Brief at 3, citing Exhibit CWA (A), Direct Testimony of Mooney at 4-5.

560 CWA Brief at 4.

561 CWA Brief at 4.

562 CWA Brief at 4.

563 CWA Brief at 4-5.

detailed, updated information on the deployment and utilization of fiber facilities in the areas where it is deployed through the end of 2019 and beyond.[564]

300. CWA believes that it is critically important for Verizon DC to maintain service quality during the copper-to-fiber transition. CWA cites its Witness Mooney's testimony disagreeing with OPC about the need for the continuation of both a copper network and a fiber network in the future but urging continued maintenance of copper facilities during the installation of fiber facilities. CWA also argues that it is critical that the District of Columbia does not "take a backwards step" through the introduction of inferior technology such as wireless Voice Link service.[565] While CWA acknowledges that the Commission has determined that issues relating to Voice Link service are outside of the scope of this proceeding, CWA states that the Commission has indicated that it is within its jurisdiction to determine the plans that are being made to provide adequate and safe regulated voice service to District of Columbia customers in areas where there are poorly performing copper facilities and no immediate plans to transition to fiber facilities.[566]

301. CWA asserts that Witness Campbell stated that Verizon DC has no poorly performing areas in the District of Columbia and no plans to address such a problem in the future. CWA submits that having such a plan for addressing poorly performing areas is critical to maintaining service quality in the District of Columbia during and after the transition to fiber facilities.[567]

302. CWA argues that Voice Link service is voice-only wireless service that Verizon uses to provide voice-only telephone services in lieu of switched copper voice service. CWA argues that customers using Voice Link service will not have access to DSL Internet, faxes, heart monitors that connect over telephone lines, or credit card processing connections. If Voice Link service is deployed in the District of Columbia, CWA contends that the quality of service will be undermined. CWA argues that although Witness Campbell testified that Verizon DC had neither deployed Voice Link service in the District of Columbia nor had any plans to do so in the future, CWA argues that the Commission should ensure that this inferior technology is not deployed now or in the future.[568]

303. **Verizon DC Reply Brief.** Verizon DC argues that in attempting to justify regulatory expansion, OPC argues that because the Identified Wire Centers had higher copper network and outside plant troubles than other wire centers or the District of Columbia average, those wire centers have poorly performing copper facilities. However, Verizon DC contends, the fact that a wire center had more troubles per 100 lines than the city-wide average does not prove

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564 CWA Brief at 5.

565 CWA Brief at 8, citing Exhibit CWA (A), Direct Testimony of Mooney at 5-6.

566 CWA Brief at 8.

567 CWA Brief at 9.

568 CWA Brief at 9.

that copper performance in that wire center is poor. Verizon DC asserts that OPC has not provided any rationale for such a conclusion. Verizon DC asserts that as a simple matter of mathematics, it would be extremely rare for all wire centers to have the same exact statistics, so there will always be some wire centers that have a higher than average trouble report rate, while there will always be other wire centers with a lower than average trouble report rate.[569]

304. Because there is no evidence of areas in the District of Columbia with poorly performing copper facilities, Verizon DC argues that it does not need to have a plan to improve performance at specific wire centers or parts of the District of Columbia.[570] However, Verizon DC represents, it takes proactive and reactive measures to ensure that it is providing safe and adequate voice service in the District of Columbia, regardless of the facilities used. Verizon DC claims that the Commission is monitoring Verizon DC's performance in *Formal Case No. 1090.* Verizon DC contends that the Remedial Plan adopted in that case to reduce repeat troubles as part of the Settlement Agreement is focusing Verizon DC's efforts on those areas of the District of Columbia with higher trouble rates than others.[571]

305. Verizon DC adds that it has immediate plans to deploy fiber facilities not only in the wire centers identified by OPC but also throughout the District of Columbia in accordance with the Cable Franchise Agreement. Verizon DC represents that as of September 30, 2014, Verizon DC had passed **[BEGIN CONFIDENTIAL INFORMATION]**

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306. Verizon DC also objects to OPC's calls for the Commission to change and expand the RQS rules solely for Verizon DC. Verizon DC argues that these calls ignore the Commission's prior decisions to impose symmetrical RQS rules. Verizon DC also contends that the Commission has consistently indicated that it will change its RQS rules in a rulemaking proceeding, not a contested case. Verizon DC notes that the Commission is currently considering RQS amendments in such a rulemaking proceeding. Verizon DC argues that the rulemaking proceeding is the correct proceeding in which to consider OPC's proposals, not this proceeding. Verizon DC represents that it has filed comments in that rulemaking proceeding opposing OPC's proposals and will not repeat them in this proceeding.[573]

307. **OPC Reply Brief.** OPC contends that Verizon DC's statement that "copper facilities are performing well throughout the District" is based almost entirely on Verizon DC's own internal standard of **[BEGIN CONFIDENTIAL INFORMATION]** **[END**

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569 Verizon DC Reply Brief at 24.

570 Verizon DC Reply Brief at 24-25.

571 Verizon DC Reply Brief at 25.

572 Verizon DC Reply Brief at 25.

573 Verizon DC Reply Brief at 26.

CONFIDENTIAL INFORMATION] outside plant troubles per 100 lines, not the Commission's standard of four troubles per 100 lines. OPC asserts that in all occasions when a District of Columbia wire center failed to meet Verizon DC's internal standard, Verizon DC attributes the failure to "abnormal events."[574]

308. OPC argues that there are multiple inconsistencies between Verizon DC's position on this issue and the record. In OPC's view, Verizon DC does not even recognize that its own wire center data reveal the chronically poor performance of the Identified Wire Centers relative to other District of Columbia wire centers. OPC also argues that Verizon DC does not appear to express any concern about, or desire to correct, the persistently less reliable service provided to District of Columbia residents served by these wire centers.[575]

309. OPC contests Verizon DC's claims that it "uses outside plant trouble[] [reports] to evaluate where there may be specific problems that need to be addressed to maintain network performance and reliability," and that it "analyzes these trouble reports" where "trouble report rates increase significantly in a specific location."[576] OPC contends that the record establishes, and Verizon DC concedes in its Brief, that it does not monitor for "specific problems" at a "specific location" such as a wire center, but only at the "regional" or "state" level. In support of this argument, OPC cites the following testimony from the hearing:

> Verizon does not have an outside plant metric that it tracks on a business as usual basis for our copper facilities. Verizon also does not have an internal metric to track troubles at the wire center level on a business as usual basis. Our operations team tracks troubles on a regional basis to determine those states that might have issues that need to be addressed.[577]

To OPC, this testimony directly contradicts Verizon DC's contention that it evaluates "specific problems" at "specific locations."[578]

310. In OPC's view, the record shows the result of Verizon DC's failure to regularly monitor the performance of its copper facilities in the District of Columbia at the wire center level. OPC contends that until it generated the monthly wire center data to respond to this issue in this proceeding, Verizon DC apparently did not have an internal process for even detecting that the Identified Wire Centers are chronically afflicted with significantly higher copper network and copper outside plant trouble rates than any of the other 12 wire centers.[579] Considering that Verizon DC was able to generate wire center-specific data for this proceeding,

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574 OPC Reply Brief at 25, citing Verizon DC Brief at 28-29.

575 OPC Reply Brief at 26.

576 OPC Reply Brief at 26, citing Verizon DC Brief at 27.

577 OPC Reply Brief at 27, citing Tr. at 600.

578 OPC Reply Brief at 27.

579 OPC Reply Brief at 27.

OPC claims that Verizon DC could monitor network reliability and performance at the wire center level, should it choose or be compelled to do so.[580]

311. OPC claims that Verizon DC is ignoring the troubling facts about the two Identified Wire Centers, asserting that because "there are no ...areas [in the District] with poorly performing copper facilities, Verizon DC does not have any additional or alternative plans to address such areas."[581] In OPC's opinion, Verizon DC's position is that residents serviced by the Identified Wire Centers must continue to endure persistently lower quality service than customers in the rest of the District of Columbia. While Verizon DC points to its fiber facilities deployment, OPC contends that this deployment is "little solace."[582] OPC argues that fiber facilities are not the answer. OPC asserts that Verizon DC has deployed more fiber facilities in the Identified Wire Centers than in several other wire centers that have had consistently lower trouble rates.[583] Additionally, OPC asserts that Verizon DC did not develop its fiber facilities deployment schedule to improve performance in those areas most afflicted with network problems. OPC cites the following testimony from the hearing regarding whether Verizon DC was deploying fiber facilities at a faster rate in the Identified Wire Centers to reduce their trouble rates:

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[END CONFIDENTIAL INFORMATION]

312. OPC asserts that Verizon DC identifies its PPMP as a means to ensure that its "copper facilities do not degrade and become poorly performing."[585] OPC argues that the PPMP has not prevented the customers in the Identified Wire Centers from suffering from chronically and significantly higher troubles than those located elsewhere in the District of Columbia.[586]

313. OPC contests Verizon DC's assertion that any future copper facility problems can be addressed by the Commission in *Formal Case No. 1090*. OPC argues that poor copper facility performance cannot be adequately detected or corrected unless the Commission has

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580 OPC Reply Brief at 28.

581 OPC Reply Brief at 28, citing Verizon DC Brief at 30.

582 OPC Reply Brief at 28.

583 OPC Reply Brief at 28.

584 OPC Reply Brief at 29, citing Tr. at 614.

585 OPC Reply Brief at 29, citing Verizon DC Brief at 30-31.

586 OPC Reply Brief at 29.

sufficient information.[587] OPC asserts that to assess whether parts of the District of Columbia received consistently more trouble-prone service than others, more granular, wire center-based data is needed.[588] To OPC, the solution is clear: the Commission should require Verizon DC to report network trouble rate performance on a wire center basis and to devote more repair and maintenance resources to those wire centers with consistently higher trouble rates.[589]

314. **CWA Reply Brief.** CWA notes that regarding its future plans for fiber facility build-out, Verizon DC states that it is "deploying fiber facilities in every wire center in the District in accordance with the schedule outlined in the cable franchise agreement that was negotiated with the DC Office of Cable Television and approved by City Council in 2009."[590] While CWA asserts that it supports the transition to fiber facilities and fiber facilities deployment throughout the District of Columbia as required by the Cable Franchise Agreement, CWA submits that the record in this proceeding is insufficient for the Commission to ensure that the copper-to-fiber transition in the District of Columbia is one that benefits all consumers. CWA urges the Commission to require Verizon DC to provide detailed, updated information on fiber facilities deployment and the fiber subscriber and penetration rate in the areas in which it is deployed every year through the end of 2019 and beyond.[591]

2. Decision

a. Performance of Copper Facilities

315. This is the second issue for which the Commission determined that Verizon DC has the burden of proof.[592]

316. Verizon DC's position is that there are no areas in the District with poorly performing copper-based facilities and that a wire center that is performing below average is not evidence that it is an area with poorly performing copper facilities as OPC asserts.[593] Verizon DC argues that the performance measure that the Commission should use in this proceeding is the RQS standard of Troubles Per 100 Lines measure which does not look at individual wire centers. To analyze its performance for this proceeding, Verizon DC also looked at its performance based on total network Troubles Per 100 Lines by wire center. Under both of these measures, Verizon DC argues that it has no poor performing copper facilities. Verizon DC

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587 OPC Reply Brief at 29.

588 OPC Reply Brief at 29-30.

589 OPC Reply Brief at 30.

590 CWA Brief at 4, citing Verizon DC Brief at 30.

591 CWA Brief at 4.

592 Order No. 17653, ¶ 53.

593 Exhibit VZ (B), Direct Testimony of Campbell at 3, 10, and 16; Exhibit VZ (2B), Rebuttal Testimony of Campbell at 2 and 3; Verizon DC Brief at 7 and 27-29; Verizon DC Reply Brief at 24.

states further that it routinely meets the District's RQS metrics on a District-wide basis.[594] Any failures of the RQS standards for a given month in a particular wire center are anomalies, Verizon DC contends.

317. OPC argues that the Identified Wire Centers regularly report poor performance.[595] OPC bases its assessment on the fact that these two wire centers are performing poorly compared to the rest of the District.[596] OPC also claims that a wire center reporting a result of 4.0 or greater in a given month for the Troubles Per 100 Lines measurement is an indication of that wire center having an unacceptable high trouble rate.[597] **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

318. Further, OPC asserts that in 2012, on average, the District of Columbia had **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** trouble reports per 100 access lines per month. In this data, OPC identifies several wire centers with considerably worse-than-average trouble reporting rates: Anacostia; Benning; Brookland; Georgia; and Southeast, each of which had a trouble rate more than **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** percent above the city-wide average. OPC asserts that the Identified Wire Centers report the highest trouble rates at **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** above the District average.[600]

319. Verizon DC asks the Commission to resolve Issue 7 by evaluating its performance using the existing RQS standards while OPC urges us to consider performance by wire center. The Commission recently considered a similar request by OPC in *Formal Case No. 1090.* In Order No. 17313, the Commission determined that all of the existing RQS metrics should be

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594 Exhibit VZ (B), Direct Testimony of Campbell at 10 and 14; Verizon DC Brief at 27.

595 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 48; OPC Brief at 58-63.

596 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 58; OPC Brief at 16 and 58-63; OPC Reply Brief at 26.

597 Exhibit OPC (2A), Rebuttal Testimony of Bluhm, Loube, and Malfara at 48; OPC Brief at 52 and 53.

598 Tr. at 306.

599 Verizon DC In-Hearing Response at 10.

600 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 112.

used to determine whether a service degradation exists in the copper network.[601] To be consistent with that finding, the Commission in this proceeding will again base its determination of whether there are poorly performing areas of the copper network on an analysis of results under the RQS measures, particularly the Troubles Per 100 Lines measure.[602] Using that measurement, the record supports Verizon DC's position that there is no record evidence that its performance does not satisfy the Commission's RQS standards.

320. However, the Commission has examined the record in this proceeding to determine whether there is any merit to the argument that the Identified Wire Centers, while being within the RQS standard, have performance that is consistently below the average performance of the other wire centers in the District of Columbia using the Troubles Per 100 Lines measure.[603] OPC argues that the Identified Wire Centers reported the highest trouble rates at **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** troubles per 100 access lines. After analyzing Table 6: Verizon DC's Troubles per 100 by Wire Center for 2012 included in Verizon DC's Reply Comments,[604] upon which OPC relied to make its assertions in its Direct Testimony,[605] it appears to the Commission that the rates calculated by OPC for the Identified Wire Centers are not always the actual monthly trouble rates, but are the average of the monthly trouble rates. Additionally, this analysis appears to be based on one year's worth of data, instead of all of the performance data filed in this proceeding.

321. The Commission finds that Verizon DC's failures to meet the Troubles Per 100 Lines standard on a monthly basis that occurred between July 2011 and June 2014 outside of the *Force Majeure* period of August and September 2011 occurred in the Identified Wire Centers only. While OPC argues that there were **[BEGIN CONFIDENTIAL INFORMATION]**

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601 Order No. 17313, ¶ 60.

602 The Commission has already determined that RQS results reported in August and September 2011 are excluded from evaluations of Verizon DC's overall quality of service, due to the occurrence of three anomalous events in August 2011 (the "*Force Majeure* events"). *See, Formal Case No. 990, In the Matter of Development of Local Exchange Carrier Quality of Service Standards for the District,* Order No. 16891 at ¶ 11, rel. September 7, 2012 (declining to investigate the RQS results because of the *Force Majeure* events occurring in August and September of 2011: a work stoppage, an earthquake, and a hurricane); *Formal Case No. 1090*, Order No. 17313 at ¶ 210-211, rel. December 9, 2013. Thus, the parties correctly exclude these events from consideration of whether Verizon DC has poorly performing copper facilities.

603 Exhibit VZ (B)-9.

604 Verizon DC Reply Comments at 28.

605 Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 112.

[END CONFIDENTIAL INFORMATION], Given that these incidents of performance below the RQS standard in the Identified Wire Centers occurred at relatively low percentages over a 34 month period, the Commission cannot find that the copper facilities in the Identified Wire Centers are poorly performing.

322. OPC also analyzed chronic repair and cluster lines which Verizon DC identifies as poorly performing for the purposes of customer migration. Verizon DC argues that evidence of chronic repair[606] and cluster copper facilities in a wire center does not indicate that the copper facilities in the wire center function poorly as a whole. Moreover, Verizon DC only identifies chronic repair and cluster line in areas that have been passed by fiber facilities in order to target migration efforts. While OPC argues that it is unable to determine exactly where these lines are in the District of Columbia in order to determine whether they are in areas in which there are poorly performing copper facilities, these copper facilities are in areas that have been passed by fiber facilities, so their location is peripherally relevant, if at all, to this Issue, since this Issue relates to areas in the District of Columbia in which fiber facilities have not been deployed.

323. Finally, the Commission notes that in *Formal Case No. 1090*, it required Verizon DC to file a remedial plan to improve its performance in clearing residential troubles on copper facilities and repeat troubles on copper facilities.[607] The Commission continues to monitor Verizon DC's performance under the Remedial Plan to ensure that Verizon DC continues to maintain the copper facilities that are in use and serving customers.

b. Deployment of Fiber Facilities

324. In her Direct Testimony, Verizon Witness Campbell provided a schedule of FTTP deployment outlined in the Cable Franchise Agreement. The wire centers that OPC identified as having the trouble rate higher than the average (Anacostia, Benning, Brookland, Georgia and Southeast) are a mix of locations where FTTP has already been deployed (Georgia and Southwest were deployed between 2009 and 2012); or is scheduled to be deployed (Benning is to be deployed by 2016 and Anacostia and Brookland are to be deployed by 2019). **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] Thus, it appears that the wire centers that have the Troubles Per 100 Lines rates that are higher than average include locations where fiber facilities have already been deployed. Thus, there are no areas in the District where there are poorly performing copper-based facilities but no immediate plans to transition to fiber facilities.

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606 OPC represents that Verizon DC identifies a "chronic" line a line that has had two troubles resulting in the dispatch of a technician within a 480-day period. A "cluster" line is one that shares copper facilities with lines that have had multiple repair issues. Exhibit OPC (A), Direct Testimony of Bluhm, Loube, and Malfara at 113.

607 *Formal Case No. 1090*, Order No. 17313, ¶ 350, 351; Order No. 17389, ¶ 46, 47.

608 Tr. at 614.

325. CWA urges the Commission to require Verizon DC to file updates of the status of its FTTP deployment on a continuing basis. Since the Commission finds that there are no areas in the District of Columbia in which there are poorly performing copper-based facilities but no immediate plans to transition to fiber facilities, there is no reason to establish such a reporting requirement. The Commission declines to adopt this CWA request. Many of OPC's remaining arguments regarding this Issue focus on proposals to change the RQS standards. Since the Commission has an open rulemaking proceeding regarding the RQS standards, *RM27-2014-01,* the Commission will address those arguments in that proceeding.

I. ISSUE 8: What information and disclosures should Verizon DC provide to District consumers about the features of voice service on fiber facilities before they switch from copper to fiber facilities, and what information and disclosures should Verizon DC provide to District consumers about the features of unregulated VoIP services before they may switch from regulated voice to unregulated VoIP services and why?

1. Positions of the Parties

326. **Verizon DC Brief.** Verizon DC contends that the Commission should not mandate any specific disclosures to customers migrating their TDM-based voice service from copper to fiber facilities. Such regulatory mandates are not necessary, Verizon DC contends, because market forces already provide the incentives for carriers to provide information necessary for customers to make informed decisions. Additionally, there is no need for the Commission to single out Verizon DC for mandatory disclosure requirements. Verizon DC argues that many of its customers have chosen to transition from Verizon DC's traditional services, making these decisions without mandated information disclosure requirements. Currently, Verizon DC asserts, only **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** households even subscribe to Verizon DC's TDM-based services, while **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** of households are not even Verizon DC wireline customers.[609] Verizon DC contends that publicly available data suggest that many customers have shifted to wireless or VoIP services, which are outside the Commission's jurisdiction; Verizon DC represents that 46% of households are using wireless service exclusively.[610] To Verizon DC, this data means that the vast majority of District consumers have chosen alternative platforms to Verizon DC's legacy copper and TDM-based voice service without Commission mandated disclosures. Verizon DC argues that if these customers were dissatisfied with their new services, they would return to regulated voice service, which publicly available data shows is not happening.[611]

327. Further, Verizon DC argues, Commission-mandated disclosures would impede Verizon DC's ability to adapt to a quickly evolving marketplace and technological advances in

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609 Verizon DC Brief at 32.

610 Verizon DC Brief at 32.

611 Verizon DC Brief at 32-33.

order to meet customer demands. In the meantime, Verizon DC's unregulated competitors – many of which started providing advanced services over fiber facilities years before Verizon DC – would be free to pursue these customers without such mandates, Verizon DC claims. For example, Verizon DC argues that any Commission-mandated disclosure form or pre-approved customer service script would require Verizon DC to undergo a regulatory proceeding and await a Commission order should changes occur. Verizon DC notes that at the beginning of this proceeding, it provided customers with a 12-volt battery for backup power, with disclosures pertaining to that BBU. In the midst of this proceeding, Verizon DC began deploying the PowerReserve BBU, using D-cell batteries. Verizon DC represents that had it been required to obtain Commission approval of its PowerReserve BBU disclosures, it would still not be able to deploy the PowerReserve BBU because this proceeding has not yet closed. In Verizon DC's view, delays arising from regulatory mandates only delay advancements that improve the customer experience.[612]

328. Further, Verizon DC argues that the Commission lacks authority to impose any disclosure requirements for customers migrating to FDV service.[613] To the extent that the Commission has concerns about the service and regulatory differences between POTS service and unregulated VoIP or IP-based services, Verizon DC contends that these concerns should apply to services applied to all providers, not just Verizon DC.[614] In Verizon DC's view, singling out Verizon DC to educate customers on the features of unregulated VoIP service makes no sense, particularly since cable companies serve many more District of Columbia customers with VoIP service than does Verizon DC. Verizon DC notes that the Commission recently approved unconditionally RCN's application to discontinue its "legacy" telecommunications services in the District of Columbia as of August 15, 2014. Verizon DC alleges that RCN is replacing its legacy service with VoIP service.[615]

329. Verizon DC argues that OPC discloses the advantages and disadvantages of VoIP service on its website, while the Commission states that it does not regulate VoIP service on its website. According to Verizon DC, the FCC is currently studying whether any disclosure requirements should be imposed on all IP providers. Verizon DC represents that any FCC disclosure requirements would apply equally to all providers in the District of Columbia.[616]

330. Verizon DC argues that it already educates its consumers about the differences in services provided over copper and fiber facilities, and between TDM-based services and FDV service in its commercial transactions with customers. Additionally, Verizon DC claims that it

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612 Verizon DC Brief at 33.

613 Verizon DC Brief at 33.

614 Verizon DC Brief at 33-34.

615 Verizon DC at 34.

616 Verizon DC Brief at 34.

educates its customers on these differences through community outreach, which Verizon DC plans to continue.[617]

331. When Verizon DC offers to migrate a customer from TDM-based voice service provided over copper facilities to TDM-based voice service offered over fiber facilities, Verizon DC contends that it discloses the need for commercial power and information about the BBU. For residential, voice-only service customers whose calls have been routed to the Enhanced Voice Repair Center ("EVRC"), Verizon DC asserts that this disclosure is made by their service technician. For business customers and customers with both voice and DSL services who are routed to the CSSC, the disclosure is made by both the Customer Sales and Service Center ("CSSC") representative and the service technician. Verizon DC also argues that the customer acknowledges the disclosure when the call is handled by the CSSC. Verizon DC claims that upon installation, the service technician walks the customer through the migration process, answers any questions, and provides a welcome kit with information regarding the migration to switched fiber voice service.[618]

332. When a customer chooses to order FDV service, Verizon DC asserts that the customer service representative discloses the need for commercial power, the availability of a BBU to make or receive calls (including 911 calls) in the case of a power outage, the expected duration of the BBU, and the option to purchase the BBU at a specified price. Verizon DC argues that it records that the customer received and understands this disclosure.[619] Verizon DC represents that the customer will also receive an email (or a letter if the customer does not have a valid email address) including this information. This correspondence also includes an Internet website link for more information about the battery.[620]

333. Additional disclosures made by Verizon DC customer service representatives to FDV service subscribers include: that 10-digit dialing is required; that collect calling and third party billed calls cannot be accepted; and that 900 area code calls cannot be made. The customer service representatives also provide information regarding voicemail access and setup; billing changes; the timing of the transition of voice services; and the potential impact of the transition on home alarm systems.[621]

334. Once the FDV service order is placed at the point of sale, Verizon DC represents that it sends the customer an order confirmation by email or mail that provides a detailed breakout of all services and equipment ordered, the associated charges, specials, and promotions, an itemized view of any changes and partial month charges, and a link to the terms and

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617 Verizon DC Brief at 34.

618 Verizon DC Brief at 35.

619 Verizon DC Brief at 35.

620 Verizon DC Brief at 5-6, 36.

621 Verizon DC Brief at 5-6, 36.

conditions of FDV service. Verizon DC claims that it retains a copy of the order confirmation in the event that the customer has a question about the email or letter.[622]

335. Upon installation, Verizon DC maintains that the service technician provides the customer with an FDV service welcome kit that includes a user guide, a pamphlet describing the fiber optic equipment, and the FDV terms of service.[623] Verizon DC contends that the terms of service document explains that FDV service is not regulated by the Commission. Verizon DC asserts that the FDV terms of service document also repeats the disclosures regarding loss of service due to a power failure, information about battery backup, the 10-digit dialing requirement; the inability to make 500, 700, 900, 950, 976, 00, 01, 0+, calling card, or dial-around calls, and the inability to accept collect, third-number, or third-party billed calls.[624]

336. **OPC Brief.** Although the three wireline services offered by Verizon DC provide essentially the same service, OPC claims that there are technical variations among these services that can affect each service's availability, quality, and capability. In OPC's view, it is the customer's right, not Verizon DC's right, to select the Verizon DC services to which to subscribe.[625] To make that choice, however, OPC maintains that the customer must have sufficient information to understand both the different attributes of all three service options and the implications of switching from one service to another.[626] In OPC's opinion, Verizon DC should be required to educate the consumer about the differences between Verizon DC's wireline voice services, and then to respect the customer's choice of a voice service.[627]

337. OPC asserts that its witnesses recommended informational disclosures that should be provided for each potential Verizon DC service offering migration (*i.e.* switched copper voice service to switched fiber voice service; switched copper voice service to FDV service; switched fiber voice service to FDV service). OPC recommends that Verizon DC be required to provide Commission-approved disclosures in a written format that is succinct – less than one page in length.[628] OPC contends that Verizon DC should, at a minimum, be required to provide all customers with information about on-site power maintenance for fiber-based services, impacts of a power outage on fiber-based services, BBU specifications, changes to calling capabilities, and potential limitations on compatibility with external services such as alarms and modems. Should the Commission find that FDV service is not-jurisdictional, OPC believes that Verizon DC

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622 Verizon DC Brief at 36.

623 Verizon DC Brief at 36.

624 Verizon DC Brief at 36-37.

625 OPC Brief at 65.

626 OPC Brief at 65-66.

627 OPC Brief at 66.

628 OPC Brief at 66.

should be required to inform customers that neither the Commission nor OPC will be able to assist in dispute resolution with respect to FDV service.[629]

338. OPC asserts that the disclosures should be made before a customer makes a decision to switch voice services.[630] Disclosures should also be readily available on Verizon DC's website.[631] If Verizon DC amends its disclosures, OPC recommends that Verizon DC be required to make a compliance filing 30 days in advance of the proposed effective date, with parties having the opportunity to comment on the proposed amendments.[632] OPC believes that Verizon DC should also be required to update the battery backup information when new BBUs are deployed in the District of Columbia. OPC offers sample disclosure forms in its testimony.[633]

339. Additionally, OPC contends that Verizon DC should not be able to convert a customer absent affirmative confirmation that a customer has been provided with the disclosures and consented to the conversion to another voice service.[634] While Verizon DC objects to disclosure requirements because competitors are not required to provide disclosures, the situation in which a Verizon DC customer chooses to terminate Verizon DC service in favor of a competitor's service is different than the situation in which Verizon DC seeks to transition an existing Verizon DC to a different Verizon DC voice service. When a customer terminates Verizon DC voice service in favor of a competitor's service, the customer is aware of (and in favor of) the change of provider and service, OPC contends. In contrast, when Verizon DC is seeking to transition a customer away from current Verizon DC voice service to another Verizon DC voice service (including a service that may not be regulated), it is Verizon DC, not the customer, who is initiating the change in service.[635]

340. OPC contends that the record is clear that despite the technical differences in Verizon DC's three wireline voice services, these differences are not readily apparent to the customer, since each service is a service in which the customer can continue to use the analog telephone and analog inside wiring.[636] As a result, OPC claims, it may not be clear to the customer what Verizon DC facilities or processes are being used to provision the customer's voice service. OPC contends that the same ONT is used for fiber-based voice service as well as FiOS Internet or video service. Additionally, OPC claims that **[BEGIN CONFIDENTIAL**

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629 OPC Brief at 17, 66.

630 OPC Brief at 17, 66.

631 OPC Brief at 66.

632 OPC Brief at 66-67.

633 OPC Brief at 67.

634 OPC Brief at 17.

635 OPC Brief at 67.

636 OPC Brief at 67-68.

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[END CONFIDENTIAL INFORMATION] According to OPC, a customer may order FiOS Internet and/or video service but not realize that the voice service is being transitioned to fiber facilities. OPC contends that this lack of clarity may be compounded by the fact that Verizon DC claims that no "change of service" occurs when there is a conversion from switched copper voice service to switched fiber voice service. In this instance, OPC argues that Verizon DC does not provide the customer with a service order confirmation.[637]

341. OPC also claims that even if customers are aware that their voice service is being provided by fiber facilities, they may not be aware of whether they are subscribed to switched fiber voice service or FDV service because the two services appear to be the same service.[638] OPC contends that the record shows that it is Verizon DC's strategy to upsell its customers to the FiOS Triple Play services bundle, so **[BEGIN CONFIDENTIAL INFORMATION**

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OPC contends that Verizon DC **[BEGIN CONFIDENTIAL INFORMATION]**

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342. Since customer complaints about Verizon DC's transition practices led the Commission to open this proceeding, OPC urges the Commission to take action to address these concerns.[641] To ensure that a customer understands the full implications of a fiber migration before the service is migrated, OPC recommends that Verizon DC be required to provide

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637 OPC Brief at 68.

638 OPC Brief at 70.

639 OPC Brief at 71, citing Verizon DC Cross Examinations Exhibit 5 sat 18 (emphasis by OPC omitted).

640 OPC Brief at 71.

641 OPC Brief at 71.

customers with adequate disclosures about the full implications of changing voice service and maintain records demonstrating that the customer agreed to the migration either through a written agreement or an oral recording of such agreement.[642] OPC contends that adequate disclosures and informed consent procedures help protect both consumers and Verizon DC because a written record of the service migration authorization will help avoid future misunderstandings and disputes.[643]

343. OPC contests Verizon DC's assertions that market forces will ensure that there are adequate disclosures. OPC argues that this belief in competition is unwarranted given the financial and other incentives that Verizon DC has provided to its employees to encourage customers to choose what Verizon DC believes are unregulated products.[644] OPC contends that the record is unclear as to the timing and format of Verizon DC disclosures. OPC argues that it is also unclear whether these disclosures are provided before, or even contemporaneously with, the time a customer is persuaded to migrate their services to switched fiber voice service or FDV service. OPC also contends that Verizon DC's current disclosures are inadequate, rendering Verizon DC's argument that the market compels adequate disclosures unwarranted.[645]

344. To the contrary, OPC asserts that the investors' market is forcing Verizon DC to push customers off of the copper network where fiber facilities are available. OPC argues that it is Verizon's corporate policy because it permits Verizon DC to reduce maintenance costs and increase revenues by upselling customers FiOS services. To implement that policy, OPC represents that Verizon DC has adopted sales and copper-repair request procedures designed to persuade customers to move to voice service that uses fiber facilities. OPC alleges that the receipt of complete and objective disclosures would not be helpful to achieving Verizon DC's objective to move as many customers off of the switched copper network and on to the fiber network.[646]

345. OPC identifies several specific failings with Verizon DC's disclosures. First, OPC contests Verizon DC's assertion that it is already making certain disclosures. OPC claims that nothing in Verizon DC's fiber service migration scripts indicates that Verizon DC's customer service representatives discuss the implications of converting from switched copper voice service to a fiber voice service over the phone; OPC claims that the message is that the services are the "same."[647]

346. Second, although Verizon DC's FDV Ordering Manuals contain some disclosures, it is unclear whether those disclosures are also provided to customers whose services

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642 OPC Brief at 71-72.

643 OPC Brief at 72.

644 OPC Brief at 72.

645 OPC Brief at 73.

646 OPC Brief at 73.

647 OPC Brief at 74.

are migrated to switched fiber voice service or FDV service during a service technician's copper facility repair visit.[648]

347. Third, while Verizon DC's terms of service and welcome kit provide certain details about FDV service and switched fiber voice service, these documents are not provided to the customer until after the installation is complete.[649] OPC also states that these documents are lengthy and onerous to review.[650] Although Verizon DC represents that a customer may cancel FDV or switched fiber voice service after reading the terms and conditions, OPC submits that this ability is not the same as fully informing the customer before the decision is made. OPC argues that some customers who have ordered fiber-based service would not have done so had they been fully informed about the consequences before migrating services.[651]

348. Fourth, OPC asserts that the terms and conditions may be incorrect. OPC alleges that a FDV service customer will not be eligible for 911 service if the bill is in arrears. While this is vital information, OPC contends that this information is not included in the list of disclosures in the FDV manual. OPC claims that Verizon DC backpedaled on this issue in responses to in-hearing data requests, so that Verizon DC now asserts for the first time that FDV customer who has not paid the bill is still eligible to access 911 services. In OPC's opinion, customers should be clear about Verizon DC's terms of service. OPC asserts that the Commission reviews Verizon DC's tariffs, but not FDV terms of service. OPC believes that disclosure requirements help to ensure that terms are reasonable and valid.[652]

349. Even assuming that Verizon DC's disclosures are timely, OPC submits that the information on the record shows that the disclosures are insufficient. OPC argues that during cross-examination, it became clear that several key components of switched fiber voice service and FDV service are not listed in Verizon DC's Ordering Manuals as subjects that customer service representatives are required to disclose to customers prior to new service installation. These subjects include BBU and battery replacement obligations. OPC also contends that Verizon DC's current disclosures do not inform customers that they will not be able to rely on the Commission or OPC to help resolve a billing or service issue (assuming that FDV service is found to be non-jurisdictional).[653]

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648 OPC Brief at 74.

649 OPC Brief at 74.

650 OPC Brief at 74-75.

651 OPC Brief at 75.

652 OPC Brief at 75.

653 OPC Brief at 76.

350. In these circumstances, OPC contends that the only option for the Commission is to prescribe full and objective disclosures and to direct Verizon DC to provide these disclosures in a timely fashion.[654]

351. Even if the Commission were to find that FDV service is non-jurisdictional, OPC claims this decision will not change the need for disclosures, only their content. Since migration to FDV service would constitute a discontinuation of regulated service pursuant to 15 DCMR §310, OPC argues that the Commission still has authority to regulate disclosures by Verizon DC before the service migration. OPC contends that the only applicable basis for discontinuance would be a customer-requested discontinuance. According to OPC, Verizon DC's desire or request for a customer to migrate from switched copper or fiber voice services to FDV service is not a permissible basis for Verizon DC to terminate regulated service under 15 DCMR §310.[655] Whether a customer's discontinuance of regulated switched copper or fiber voice service is truly requested by the customer is dependent on the information provided by Verizon DC and whether there is informed consent.[656] OPC asserts that the Commission has jurisdiction over the terms of such a service termination and the authority to "decide issues when it appears that the operations of Verizon DC's VoIP and IP-enabled services have an impact on the regulated services that remain clearly under the Commission's jurisdiction."[657]

352. **CWA Brief.** CWA attests to the importance of disclosures to customers. Before any migration, CWA argues that Verizon DC must provide information regarding cost, services that will be provided, and whether any service is unregulated.[658] Regarding the BBU, CWA states that the Commission should ensure that clear information is provided to customers. CWA also urges the Commission to require that Verizon DC undertake an annual BBU check-up system.[659]

353. CWA argues that Verizon DC does not believe that any disclosure requirements are necessary because Verizon DC discloses "information relevant to [the customer's] new service."[660] CWA cites Witness Vasington's testimony during the hearing regarding disclosures:

> [g]enerally speaking, our position is that we already provide sufficient disclosures. So there is no need for any additional mandates, particularly

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654 OPC Brief at 74.

655 OPC Brief at 76.

656 OPC Brief at 76-77.

657 OPC Brief at 77, citing Order No. 17291, ¶ 37.

658 CWA Brief at 5, citing Exhibit CWA (A), Direct Testimony at Mooney at 3-4.

659 CWA Brief at 6, citing Exhibit CWA (A), Direct Testimony at Mooney at 3-4.

660 CWA Brief at 6, citing Exhibit VZ (A), Direct Testimony of Vasington and MacNabb at 29.

> since they would only apply to Verizon alone and not to – our other competitors in the District.[661]

CWA notes that Verizon DC also opposes mandatory disclosures because they are hard to change and because market incentives provide sufficient incentive to provide adequate disclosures.[662] CWA asserts that Verizon DC believes that market incentives are sufficient even as Verizon DC has made changes to its disclosures in the past. CWA asserts that Verizon DC believes that voluntary disclosures are sufficient even for emergency 911 information.[663]

354. CWA disagrees with Verizon DC. CWA argues that disclosures regarding the loss of Commission jurisdiction and the impact of the loss of service due to depleted battery backup power are critical to customers during the transition. CWA contends that the Commission must ensure that clear, correct information about these issues is transmitted to customers.[664]

355. CWA expresses reservations about the BBU. For the existing 12-volt battery, CWA represents that there is a one-year warranty, after which the customer is responsible for purchasing the replacement battery. CWA also argues that while Verizon DC is deploying the new PowerReserve BBU, Verizon DC has no plans to proactively educate existing customers about the PowerReserve BBU or to retrofit customers who already have the 12-volt BBU with the PowerReserve BBU. CWA urges the Commission to ensure that District of Columbia customers receive the most advanced BBUs for fiber installations now and in the future.[665]

356. **Verizon DC Reply Brief.** Verizon DC characterizes OPC's proposed disclosure requirements for FDV service as extensive and unnecessary. Verizon DC argues that singling Verizon DC out for such standards when the large majority of District of Columbia households have migrated away from copper facilities and to providers not regulated by the Commission makes no sense.[666] In Verizon DC's view, Commission-mandated disclosure requirements would impede Verizon DC's ability to adapt to rapidly changing market dynamics and technological advances to meet its customers' demands. In the meantime, Verizon DC argues, its competitors – many of which started providing advanced services over fiber facilities and other technologies years before Verizon DC – would be free to pursue these customers unfettered. Verizon DC argues that OPC's proposed disclosures are also unnecessary, as Verizon DC already takes steps to educate its customers about the differences between copper and fiber facilities through mandatory disclosures in commercial transactions with customers, on the Verizon DC website, and community outreach. Verizon DC also argues that the Commission

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661 CWA Brief at 6, citing Tr. at 78.

662 CWA Brief at 6.

663 CWA Brief at 7.

664 CWA Brief at 7.

665 CWA Brief at 7.

666 Verizon DC Reply Brief at 26.

lacks authority to mandate disclosures to customers who purchase FDV service under D.C. Code §§ 34-403 and 34-2006(c).[667]

357. Verizon DC objects to OPC's argument that Verizon DC should be singled out for mandatory disclosures because "it is Verizon [DC] that is initiating the change in service."[668] Verizon DC argues that a migration from switched copper voice service to switched fiber voice service is not a change in service; it is a change in facilities. Verizon DC also contends that it is unclear what OPC means by its claim that FDV service orders are being "initiated" by Verizon DC. Verizon DC claims that it markets its services, including FDV services, like other providers, but a service is not provided unless a customer places an order for it. Verizon DC claims that a service order confirmation, including instructions on how to cancel the order, is provided to the customer.[669]

358. Verizon DC argues that OPC is wrong when it asserts that customers do not know the difference between FDV service and TDM-based voice services. Verizon DC asserts that customers migrating from switched copper voice service or switched fiber voice service to FDV service receive a new account number and must set up a new voice mailbox. Verizon DC contends that customers are told of these changes at the time of ordering. Additionally, Verizon DC asserts that customers receive a service order confirmation when they purchase a new service. The service order confirmations specify exactly what services have been ordered. Verizon DC asserts that the welcome kits provided to customers who migrate to switched fiber voice service are different than the welcome kits provided to customers who migrate to FDV service. According to Verizon DC, the switched fiber voice service welcome kit includes an explanation of the new underlying facilities. Verizon DC represents that the FDV service welcome kit focuses on the fact that a new service is being provided and includes a user guide, a quick start pamphlet, and new terms of service.[670]

359. **OPC Reply Brief.** OPC argues that the record belies Verizon DC's faith in the marketplace to provide an incentive for disclosures and the adequacy of Verizon DC's disclosures. OPC also contests Verizon DC's claim that residential customers are discontinuing Verizon DC's landline service. In particular, OPC takes issue with Verizon DC's pie chart in its Rebuttal Testimony regarding Verizon DC's share of residential households.[671] OPC argues that in the FCC's Local Competition Report as of December 31, 2013, Verizon DC had 58% of the residential end user switched access lines and VoIP subscriptions in the District of Columbia, and 54% of the total end user switched access lines and VoIP subscriptions.[672] OPC also asserts that Verizon DC's admission that more than half of its customers who were offered fiber

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667 Verizon DC Reply Brief at 27.

668 Verizon DC Reply Brief at 27, citing OPC Brief at 67.

669 Verizon DC Reply Brief at 27.

670 Verizon DC Reply Brief at 28.

671 OPC Reply Brief at 30, citing Exhibit VZ (2A), Rebuttal Testimony of MacNabb and Vasington at 4.

672 OPC Reply Brief at 30-31.

migration between January 2012 and August 2014 elected to retain service on copper facilities undermines Verizon DC's claims that marketplace alternatives are adequate. In OPC's view, these customers apparently perceive no adequate substitute for Verizon DC's switched copper voice service.[673]

360. OPC argues that Verizon DC's many positional changes at hearing and post-hearing regarding its fiber migration practices prove that Commission oversight, or the threat of such oversight, not the marketplace, prompts Verizon DC to revise its practices to be more customer-friendly. OPC contends that, in its Brief, Verizon DC improperly implies that it encourages only those customers "who have had multiple repair issues, or who share copper facilities with customers who have had multiple repair issues" and who call in with a trouble report to migrate to fiber facilities.[674] OPC represents that Verizon DC "proactively...encourage[s] a fiber transition" by cold-calling customers in areas with fiber facilities.[675] OPC also claims that at the hearing, Verizon DC Witness MacNabb claimed for the first time that Verizon DC **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

361. OPC also argues that Verizon DC's in-hearing and post-hearing positions shifted regarding Verizon DC's compliance with Order No. 17389's directive to add language to customer service manuals advising customers of their right to remain on copper facilities.[678] **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] OPC contends that Verizon DC's post-haring filings show that the M&Ps were not revised to reflect Order No. 17389's mandates until February 2015.[680]

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673 OPC Reply Brief at 31.

674 OPC Reply Brief at 31, citing Verizon DC Brief at 14.

675 OPC Reply Brief at 31-32, citing OPC Cross Examination Exhibit No. 10 at 2-3.

676 OPC Reply Brief at 32, citing Tr. at 411.

677 OPC Reply Brief at 32.

678 OPC Reply Brief at 32.

679 OPC Reply Brief at 32-33.

680 OPC Reply Brief at 33.

362. To OPC, the pattern is obvious: Verizon DC's fiber migration marketing and disclosure practices become more forthcoming to consumers in response to regulatory oversight, not the "marketplace." OPC claims that the reason for this pattern is equally clear: Verizon DC's objective is to persuade all of its customers in fiber-capable areas to migrate to voice services on fiber facilities and preferably, to FDV service.[681] OPC believes that this Verizon DC objective means that it will always be in Verizon DC's interest to emphasize the advantages of migrating to switched fiber voice service or FDV service and to downplay the disadvantages of this migration.[682] While this incentive is understandable from a Verizon DC marketing standpoint, OPC argues that consumers would be better served by a more complete and objective disclosure of those advantages and disadvantages. In OPC's view, that more complete disclosure can only be provided through Commission imposition of the disclosure and informed consent requirements recommended by OPC.[683]

363. **CWA Reply Brief.** CWA states that disclosure of information regarding issues such as the loss of Commission jurisdiction and the impact of the loss of service due to battery backup limitations is critical to customers during the transition. CWA contends that the Commission must ensure that clear, correct information is disclosed to customers. In CWA's view, ensuring that customers receive accurate information is particularly important given the clear differences between switched fiber voice service and FDV service. CWA asserts that the Commission must ensure full disclosure of all issues, including whether customer provided equipment such as security and health monitoring devices will continue to work.[684]

364. **OPC Exhibit 92 Comments.** In providing context for its Comments on Verizon DC's Corrected Cross Examination Exhibit No. 92, OPC argues that the technical differences between switched copper voice service, switched fiber voice service, and FDV service are not readily apparent to end-user customers because all three services are provided in the same fashion at the customer premises. OPC asserts that the record shows that all three services use analog telephones to place or receive calls and the customer's existing in-house wires to transmit voice communications in analog format between the customer's telephone and the Verizon DC-owned interface device. OPC asserts that without confirmation from Verizon DC, a customer may likely be confused as to which voice service Verizon DC actually provides to the customer.[685]

365. OPC argues that Verizon DC's corporate policies contribute to customer confusion about which voice service is being provided to the customer.[686] OPC represents that one of Verizon DC's **[BEGIN CONFIDENTIAL INFORMATION]**

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681 OPC Reply Brief at 33.

682 OPC Reply Brief at 33-34.

683 OPC Reply Brief at 34.

684 CWA Reply Brief at 3.

685 OPC Exhibit 92 Comments at 7.

686 OPC Exhibit 92 Comments at 7.

[END CONFIDENTIAL INFORMATION] OPC contends that a customer who orders FiOS Internet or Video services may believe that the ONT installed by Verizon DC is to provide the Internet access or video service but not be aware that the existing switched copper voice service has also been transitioned to switched fiber voice service or FDV service. In OPC's view, this lack of clarity is compounded by Verizon DC's position that no change in voice service occurs when service is transitioned from switched copper voice service to switched fiber voice service, so Verizon DC does not provide a switched fiber voice service customer with a service order confirmation.[688]

2. Decision

366. The Commission has on the record many Verizon DC internal instructions and M&P that provide instructions to two different customer service representative offices, the CSSC and the EVRC, and service technicians regarding customer disclosures for Verizon DC's switched fiber voice service and FDV service as well as user guides provided to customers. A review of the customer disclosures contained in these documents follows.

a. Customer Service Representative Disclosures

i. EVRC Disclosures

367. In response to a request from the Commissioners during the hearing, Verizon DC provided an updated copy of its **[BEGIN CONFIDENTIAL INFORMATION]**

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687 OPC Exhibit 92 Comments at 7-8, citing OPC Cross Examination Exhibit No. 34 at 4 and OPC Cross Examination Exhibit No. 47 at 4.

688 OPC Exhibit 92 Comments at 8.

689 HSI is Verizon DC's name for its DSL service.

690 Verizon DC Cross Examination Exhibit No. 51 at 2.

691 Verizon DC Cross Examination Exhibit No. 51 at 1. This exhibit is an updated version of OPC Cross Examination Exhibit No. 8. The Commission notes that this exhibit is unpaginated.

692 Verizon DC Cross Examination Exhibit No. 51 at 3.

368.

[END CONFIDENTIAL INFORMATION]

ii. CSSC Disclosures

369. **[BEGIN CONFIDENTIAL INFORMATION]**

693 Verizon DC Cross Examination Exhibit No. 51 at 3.

694 Verizon DC Cross Examination Exhibit No. 51 at 4.

695 Verizon DC Cross Examination Exhibit No. 51 at 4.

696 Verizon DC Cross Examination Exhibit No. 49 at 4.

697 Verizon DC Cross Examination Exhibit No. 49 at 9.

698 Verizon DC Cross Examination Exhibit No. 49 at 5 (emphasis in original).

699 Verizon DC Cross Examination Exhibit No. 49 at 10, 15, 18, 20.

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700 Verizon DC Cross Examination Exhibit No. 49 at 10.

701 Verizon DC Cross Examination Exhibit No. 49 at 12, 23.

702 Verizon DC Cross Examination Exhibit No. 49 at 12-14.

703 Verizon DC Cross Examination Exhibit No. 49 at 18.

704 Verizon DC Cross Examination Exhibit No. 49 at 17, 18.

705 Verizon DC Cross Examination Exhibit No. 49 at 30.

706 Verizon DC Cross Examination Exhibit No. 49 at 31.

707 Verizon DC Cross Examination Exhibit No. 49 at 23, 26.

708 Tr. at 563-564, 566. Verizon DC Cross Examination Exhibit No. 49 at 23, 26.

[END CONFIDENTIAL INFORMATION]

iii. Battery Backup

374. Verizon DC's disclosures regarding BBU changed following the introduction of switched fiber voice service and FDV service. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

375. In January 2015, Verizon DC issued a new M&P regarding BBU options. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

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709 Verizon DC Cross Examination Exhibit No. 49 at 23, 26.

710 Tr. at 572.

711 Verizon DC Cross Examination Exhibit No. 2 at 7.

712 Verizon DC Cross Examination Exhibit No. 27 at 7.

iv. Compatibility with Alarm Systems

376. In its instructions to CSSC representatives, Verizon DC provides the following language about alarm systems **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION[

v. FDV Service Disclosures

377. Verizon DC makes several disclosures to customers switching to FDV service. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] There does not appear to be a disclosure regarding the unregulated nature of FDV service.

b. Disclosures by Technicians

378. Verizon DC also provides instructions to service technicians who are dispatched to repair a customer's copper line. **[BEGIN CONFIDENTIAL INFORMATION]**

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713 Verizon DC Cross Examination Exhibit No. 49 at 32..

714 Verizon DC Cross Examination Exhibit No. 5 at 2-3.

715 Verizon DC Cross Examination Exhibit No. 50 at 4.

[END CONFIDENTIAL INFORMATION]

380. If the customer agrees to migrate to fiber facilities for voice service only, the technician is instructed to say that **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

381. Additionally, in its M&P entitled "Overcoming common customer objections – FTTP/FiOS," Verizon DC provides the following language for technicians about alarm systems **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

c. Welcome Kits

382. Verizon DC provides all of its new customers and migrating customers who choose switched fiber voice service with a Welcome to 100% Fiber Optics kit ("Welcome Kit"). The Welcome Kit begins by informing the customer that Verizon DC will maintain the same

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716 Verizon DC Cross Examination Exhibit No. 50 at 7.

717 Verizon DC Cross Examination Exhibit No. 50 at 7.

718 Verizon DC Cross Examination Exhibit No. 50 at 8.

719 Verizon DC Cross Examination Exhibit No. 50 at 9-11.

720 Exhibit VZ (2A)-1 at 4.

voice service at exactly the same rate without being charged for the network change.[721] Verizon DC represents that the Welcome Kit also provides the customer with information about the BBU, battery replacement, and E911 service.[722] The Welcome Kit indicates that the service provided over switched fiber voice service will be the same as that provided over switched copper voice service and that there will be no charge for the migration.[723] On the frequently asked questions ("FAQ") page, Verizon DC reiterates that there will be no charge for the migration and that the voice service will not change. The FAQ page also describes the installation process, and discusses the need for a battery backup to provide the customer with eight hours of dial tone in the event of a power outage.[724] The next two pages of the Welcome Kit provide instructions for setting up the new voice mail.[725] The Welcome Kit also describes the ONT and the ONT power supply unit, stating that the power unit must be plugged into a grounded electrical outlet in the garage or home.[726] The Welcome Kit includes a page about the 12-volt BBU, showing how it works and explaining the meanings for the sounds and lights. The Welcome Kit also indicates that the BBU will work for eight hours once the ONT becomes unplugged or there is a commercial power failure. There is also a discussion of the last hour of reserve emergency use. Instructions for replacing the battery are also included, although this language does not discuss the option of replacing the 12-volt battery by purchasing one through a supplier other than Verizon DC.[727] The Welcome Kit concludes by promoting FiOS Internet and video services that are now available with fiber facilities.[728]

383. When a customer purchases FiOS services, the service technician provides a FiOS Welcome Kit, which includes the FiOS Digital Voice User Guide, a Fiber Optic Equipment pamphlet,[729] stickers to place on telephones advising of E911 limitations during power outages unless there is a BBU,[730] and the Quickstart User Guide pamphlet. Verizon DC also indicates that the FiOS Welcome Kit can be found online, providing the specific website address.[731] The E911 and BBU limitations are described conspicuously on the first page of the FiOS User Guide

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721 Verizon DC Cross Examination Exhibit No. 3 at 8.

722 Verizon DC Cross Examination Exhibit No. 3 at 2.

723 Verizon DC Cross Examination Exhibit No. 3 at 8.

724 Verizon DC Cross Examination Exhibit No. 3 at 9.

725 Verizon DC Cross Examination Exhibit No. 3 and 10-11.

726 Verizon DC Cross Examination Exhibit No. 3 at 12.

727 Verizon DC Cross Examination Exhibit No. 3 at 13.

728 Verizon DC Cross Examination Exhibit No. 3 at 14-15.

729 This pamphlet is the same as the one included with the Fiber Optics Welcome Kit.

730 Verizon DC Cross Examination Exhibit No. 4 at 49.

731 Verizon DC Cross Examination Exhibit No. 4 at 1.

(including the TRS warning for customers who use the PYOAC feature).[732] In the FAQ portion of the FiOS User Guide, additional information is provided about the BBU, including the fact that the customer must purchase the battery. This discussion includes information that home alarm systems that use jacks in the house will work with FDV service without impacting security services, but a commercial power outage will affect the home alarm.[733] Information about the BBU and its limitations are again discussed in a troubleshooting section.[734] The FiOS User Guide also informs customers about the limitations on dialing, indicating that the customer can make collect or third party billed calls from FDV service but cannot receive them, while the customer cannot make 0+, 00, 01, 500, 10-10-xx, 700, 900, 950, or 976 calls from FDV service but can still receive them.[735] The Quickstart User Guide informs the customer that 10-digit dialing is required, and that collect calls, third party billed party, and 900 numbers are not available. There also is additional information regarding the BBU and power supply during a power outage.[736]

d. Adequacy of Disclosures

384. In reviewing the training materials and Welcome Kits filed on the record, the Commission finds that that Verizon DC customer service representatives are directed to provide disclosures regarding the BBU, access to E911 in the case of a power outage, and compatibility of home alarm systems when customers call in to Verizon DC. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] The Commission finds that, for the most part, these existing disclosures are reasonable, although the Commission notes that many of the instructions about the BBU are for **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] the Commission directs Verizon DC to update its scripting and Welcome to 100% Fiber Optics user guide to include information about the PowerReserve BBU and to file these revised scripts and Welcome to 100% Fiber Optics user guide with the Commission within 30 days of the date of this Order.[737]

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732 Verizon DC Cross Examination Exhibit No. 4 at 3.

733 Verizon DC Cross Examination Exhibit No. 4 at 36.

734 Verizon DC Cross Examination Exhibit No. 4 at 39.

735 Verizon DC Cross Examination Exhibit No. 4 at 8.

736 Verizon DC Cross Examination Exhibit No. 4 at 51.

737 The Commission notes that one of the Verizon DC arguments against mandating disclosures is that regulatory lag will prevent Verizon DC from rolling out improvements. Tr. at 582-583. However, the fact that Verizon DC has not updated some of its customer service materials to take into account changes in service supports

385. The Commission notes that neither the scripts nor the Welcome Kits discuss that a move from switched voice service to FDV service moves a customer from a regulated to an unregulated service. Verizon DC argues that the Commission cannot mandate such a disclosure, since the disclosure involves unregulated FDV service. Verizon DC argues further that notice to customers is not required since many Verizon DC customers have chosen other services without the need for customer disclosures regarding these other services. Verizon DC asserts that only a small percentage of Verizon DC customers remain on Verizon DC service, so the Commission does not need to regulate how notice of service, capabilities, and functionalities is provided to these customers. In support of its argument regarding the loss of Verizon DC customers, Verizon DC provides a pie chart in its Rebuttal Testimony showing its customers in the District of Columbia.[738] Furthermore, Verizon DC cites the Commission's "unconditional" approval of RCN's application to discontinue its legacy service in favor of transitioning customers to another network is an indication that customer disclosure requirements are not necessary

386. The Commission finds these arguments unpersuasive. It was the number of consumer complaints about the lack of disclosures that led the Commission to open this proceeding. The transition from switched voice service to FDV service involves the termination of switched voice service, over which the Commission has regulatory authority. When this transition involves the same company and a company that customers have only known as a regulated company, it is especially important that they be made aware of the fact that this change of service will also involve a change from a regulated service with Verizon DC to an unregulated service. While Verizon DC is correct in that the Commission cannot mandate the disclosures that Verizon DC must make related to FDV service, it does have authority to mandate the terms and conditions associated with the termination of a regulated service.

387. In addition, Verizon DC mischaracterizes the Commission's actions relating to the RCN Application. RCN filed its application to partially abandon service pursuant to the Commission's abandonment of service rules, 15 DCMR § 2706.3, which are currently not applicable to Verizon DC. As part of its Application, RCN filed a notification letter to its customers, containing *inter alia*, information about the compatibility of RCN's new service with E911 service. The Commission found that this letter did not contain all of the information required by 15 DCMR § 2706.5. The Commission also directed RCN to respond to questions regarding RCN's new service and its compatibility with medical alert systems and security systems. So while the Commission did finally approve RCN's Application, it did not do so "unconditionally" without requiring and reviewing a customer notification letter and requesting additional information to be provided in that letter. The approval of RCN's Application actually provides support for a policy decision to require Verizon DC to institute disclosure requirements; then the Commission would be treating Verizon DC like it treats the CLECs. Since 15 DCMR §

Commission involvement in mandating disclosures, to ensure that they are updated in a timely fashion so that changes are accurately presented to customers.

[738] Exhibit VZ (2A), Rebuttal Testimony of MacNabb and Vasington at 4. When asked about the sources of this information, Verizon DC indicated that the source was Verizon DC's finance department. Tr. at 541. The Commission notes that OPC cites the FCC's Local Competition Reports as evidence that the declines that Verizon DC identifies are not as great as Verizon DC asserts.

2706.5 can only be amended through a rulemaking proceeding, the Commission will be proposing amendments to this rule by initiating a rulemaking proceeding.

388. For the reasons stated above, the Commission concludes that it is in the public interest to require that when Verizon DC ceases to provide a regulated service to a customer it must so inform the customer. Therefore, Verizon DC must inform the customer that the migration to FDV service will mean that a customer is migrating to an unregulated voice service. The Commission directs Verizon DC to update its scripting to disclose that FDV service is unregulated by the Commission and to file the revised scripts with the Commission within 30 days of the date of this Order.

389. The Commission also questions the disclosures provided to customers when Verizon DC follows its **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** The Commission notes that during this process, **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] Even with the information presented by the service technician at that time, there may not be sufficient time for the customer to make an informed choice about remaining on switched copper voice service or migrating their voice service to fiber facilities. The Commission also notes that this process may lead to conflicts with the Commission's directives in Order Nos. 17313 and 17389, in which the Commission directed Verizon DC to revise its customer service representative and technician training materials and scripts to ensure that the materials were assisting customers in having copper facilities repaired, not merely offering a transition to fiber facilities as the remedy to copper service problems.[739] While the Commission notes that the technician script contains **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] This language, combined with the timing of the disclosures, raises questions for the Commission. The Commission directs Verizon DC to change its technician script to ensure that customers are provided with adequate information to assist customers in having copper facilities repaired, not just migrating services to fiber facilities. A revised version of the Provisioning and Maintenance I&M FiOS Process and System Support M&P containing language to ensure that service technicians inform customers of their ability to have their copper facilities repaired without having to migrate to fiber facilities shall be filed within 30 days of the date of this Order.

390. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] The Commission directs Verizon DC to amend the relevant M&P to include the BBU disclosures and recordation of customer agreement and understanding of the BBU disclosures by the technician. Alternatively, Verizon DC may develop a process through which

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739 Order No. 17313, ¶ 313, 352; Order No. 17389, ¶ 42, 48.

the technician calls the Customer Service Center to have a customer services representative read the current BBU disclosure and record the customer's response. A revised version of this M&P containing either one of these options shall be filed within 30 days of the date of this Order.

e. Other Issues

391. OPC asserts that in Order No. 17389, the Commission directed Verizon DC to revise its customer service representative training and scripts to ensure that the customer service representatives and technicians informed customers of their ability to have copper facilities repaired rather than migrate their switched voice service to fiber facilities. That assertion is not entirely accurate, since the Commission only directed Verizon DC to review its training and scripts and make changes, if necessary, to inform customers of their ability to have copper facilities repaired rather than migrating to fiber facilities; to ensure that customer service representatives and service technicians are not making it unnecessarily difficult to obtain repairs to copper facilities; and to ensure that customers are receiving quality service from copper facilities without undue pressure to migrate to fiber facilities.[740] OPC is correct, however, in that it took Commission action to encourage Verizon DC to add District of Columbia-specific language regarding customer choices about copper facilities repair or fiber facilities migration.

392. OPC contends that a customer that is migrated from switched copper voice service to switched fiber voice service or FDV service has had service disconnected in violation of 15 DCMR § 310. This rule prohibits a utility from disconnecting a customer's service without consent except in certain circumstances. While in Order No. 17528, the Commission determined that a customer migration from switched copper voice service to switched fiber voice service was not a termination of service pursuant to 15 DCMR § 310,[741] the Commission did not determine in that Order whether a migration to FDV service could be considered a termination of service to trigger the protections of 15 DCMR § 310. Since the Commission has now made a definitive determination that FDV services are IP-enabled services, with most FDV service being VoIP service as well, and thus unregulated, the Commission determines that a move from regulated switched voice service to FDV service without customer consent would trigger 15 DCMR § 310.

393. Finally, OPC asserts that Verizon DC's FiOS Terms of Service and information about BBUs are difficult to find on Verizon DC's website. OPC also contends that customers are not provided with the FiOS Terms of Service until after the migration order has been placed; Verizon DC indicates that this information is provided when the order is placed with a link to the FiOS Terms of Service included in the confirmation email or upon ONT installation.[742] While the Commission cannot mandate how or where Verizon DC must display its FiOS Terms of Service, we agree with OPC that as a matter of fundamental fairness to its customers, Verizon DC should make its Terms of Service more easily accessible on its website and in its correspondence with customers during the decision making process.

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740 Order No. 17389, ¶ 44, 48.

741 Order No. 17528, ¶ 248.

742 Tr. at 526-527.

J. ISSUE 9: Are District customers who want to retain or return to copper facilities being allowed to do so and if not, why not?

1. Positions of the Parties

394. **Verizon DC Brief.** Verizon DC contends that it permits District of Columbia customers to retain or return to switched voice service on available copper facilities. While Verizon DC offers to migrate a customer's switched voice services to fiber facilities in response to a service call in certain situations, Verizon DC contends that it will repair the copper facilities if that is what the customer wishes. Verizon DC argues that **[BEGIN CONFIDENTIAL INFORMATION [END CONFIDENTIAL INFORMATION]** of the customers who were offered a migration from copper to fiber facilities from January 1, 2012 to August 31, 2014 accepted, while the remainder had their copper facilities repaired. If a customer has migrated TDM-based switched voice services to fiber facilities and wishes to return to available copper facilities, Verizon DC indicates that it will honor that request. If a customer that migrates to FDV service wishes to return to TDM-based switched voice service, Verizon DC will also honor that request. Verizon DC will also return that customer to TDM-based switched voice service to available copper facilities upon request.[743]

395. **OPC Brief.** Although Verizon DC claims that customers have the option to retain or return to voice service provided over copper facilities, OPC argues that Verizon DC has adopted a policy and implemented practices that are specifically designed to dissuade a customer from retaining or returning to voice service over copper facilities. To OPC, these practices frustrate the customer's option to retain or return to switched copper voice service.[744]

396. OPC asserts that, as a threshold matter, Verizon DC is required to "maintain the copper infrastructure in use and serving customers" pursuant to Term 9 of the Settlement Agreement.[745] OPC contends that the Commission has interpreted this requirement to mean that as "long as Term 9 remains in effect and customers continue to want to receive services over copper, Verizon DC is required to maintain the copper infrastructure in use and serving those customers."[746] OPC notes that Verizon DC has reiterated in this proceeding that it has no current plans to terminate voice service over copper facilities in the District of Columbia. Thus, OPC believes, there is no definite end date for Verizon DC's obligation to maintain the copper facilities in use and serving customers.[747]

397. OPC objects to Verizon DC's commitment to provide courtesy notice when it does plan to retire copper facilities or services in the District of Columbia. Since many District of Columbia residents and businesses continue to rely on copper-based telecommunications

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743 Verizon DC Brief at 37.

744 OPC Brief at 17, 77.

745 OPC Brief at 77.

746 OPC Brief at 77-78, Order No. 17314, ¶ 16.

747 OPC Brief at 78.

services, OPC argues that Verizon DC should be required to obtain Commission approval before it can terminate the provision of this service. OPC recommends that the Commission amend 15 DCMR § 2705 to require Verizon DC to provide notice to and obtain prior authorization from the Commission before it abandons copper-based telecommunications facilities or services within the District of Columbia or within a wire center in the District of Columbia. OPC asserts that such an amendment is within the Commission's authority to promulgate, citing D.C. Code § 34-2002(n), which authorizes the Commission to "promulgate rules in respect to the notice requirements for abandonment of any service and delineate the responsibilities, if any, incumbent upon the telecommunications service provider consequent to service abandonment."[748] While the current version of 15 DCMR § 2705 contains abandonment rules applicable only to CLECs, OPC argues that the D.C. Code does not contain such a limitation.[749]

398. OPC argues that its testimony demonstrated that Verizon's top executives have made statements that leave no doubt as to Verizon's objectives in areas where Verizon DC is building out fiber facilities and offering FiOS services. OPC quotes statements from Lowell McAdam, Verizon's CEO:

> every place we have FiOS, we are going to kill the copper. We are going to just take it out of service and we are going to move those services onto FiOS. We have got parallel networks in way too many places now, so that is a pot of gold in my view.[750]

OPC quotes a later statement by Mr. McAdam:

> by the end of the year we will have moved 200,000 customers that are sitting on copper where we have FiOS. And we're going to move them off of copper and on to the FiOS, which helps the FiOS profitability as well as removes all of the expense associated with that copper plant.[751]

A further statement by Mr. McAdam is quoted by OPC:

> in the past we had the [FiOS] TV services and the [FiOS] Internet service sort of drag those [copper] customers across. Now we're going to be much more proactive about moving them across [to fiber] and then marketing into that base.[752]

OPC also quotes Francis Shammo, Executive Vice President and CFO:

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748 OPC Brief at 78, citing D.C. Code § 34-2002(n).

749 OPC Brief at 79.

750 OPC Brief at 79, citing Exhibit OPC (A)-4 at 8.

751 OPC Brief at 79, citing Exhibit OP C(A)-4 at 8.

752 OPC Brief at 79, citing Exhibit OPC (A)-5 at 3-4.

> we are really proactively going after these copper customers in the FiOS footprint and moving them to FiOS. So if you are a voice copper customer and you call in [saying] you are having trouble on your line, when we go out to repair that we are actually moving you to the FiOS product. We are not repairing the copper anymore.
>
> The benefit we are getting from there is when we move you - - if you are a voice customer and we move you to [fiber] voice we can now upsell you to [FiOS] Internet.[753]

To OPC, these statements show the aggressive steps that Verizon DC is taking to facilitate customer migrations from switched copper voice service to fiber-based voice services.[754]

399. OPC objects to Verizon DC's argument that OPC is quoting selectively. OPC claims that at the hearing, it became apparent that an explanation for the "kill the copper" statement was not a further statement by Mr. McAdam, but an interpretation by Verizon DC Witness Vasington of an ambiguous statement by Mr. McAdam regarding Verizon's plans to "shrink[] copper" and replace it with wireless services.[755] Further, OPC argues, Verizon DC's Witness Vasington pointed to other passages in this same statement to try to explain the "kill the copper" language, but none of these passages relate to the purpose of the "kill the copper" statement: Verizon's objectives in areas that are wholly within Verizon's planned FiOS footprint. OPC also argues that Verizon DC's witnesses never addressed Mr. McAdam's other statements or Mr. Shammo's statement. OPC contends that these statements speak for themselves: customers are to be moved off of copper facilities; copper service maintenance requests will be treated as a move to fiber facilities; copper repair is to be reduced or eliminated; and moving customers to fiber facilities enables Verizon DC to upsell customers to other FiOS services.[756]

400. OPC contests Verizon DC's claim that OPC "understate[s] the negative consequences of maintaining two networks."[757] OPC argues that Verizon DC's support for this statement – that the cost of maintaining copper facilities in areas in which fiber facilities are deployed is $200 million per year across the entire Verizon DC footprint – exaggerates the relative costs of continuing to maintain the copper network in fiber network areas in the District of Columbia.[758] OPC argues that at the hearing, Verizon DC's witnesses confirmed that the $200 million figure is a nationwide estimate that includes costs from other large metropolitan areas where Verizon has deployed its fiber network and does not break down these costs by

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753 OPC Brief at 80, citing Exhibit OPC (A)-6 at 12.

754 OPC Brief at 80.

755 OPC Brief at 80.

756 OPC Brief at 81.

757 OPC Brief at 81, citing Exhibit VZ (2A), Rebuttal Testimony of Vasington and MacNabb at 7.

758 OPC Brief at 81.

jurisdiction or geographic area.[759] Additionally, OPC contends that Verizon DC's witnesses conceded that this $200 million figure contains several different cost categories (including property taxes) without indicating the dollar amount that can be attributed to each cost category. OPC submits that if nationwide costs are to be the measure of costs, then these costs must be put in the context of Verizon's reported 2013 nationwide wireline service revenue of $14.7 billion.[760]

401. OPC claims that the record makes it clear that Verizon DC has powerful economic incentives to force its switched copper voice service customers in areas in which FiOS is deployed, such as the District of Columbia, to move to fiber facilities, both in terms of reducing costs and enhancing revenue. In OPC's view, the record is also clear in that, at least beginning in mid-2012, Verizon's corporate strategy was to take additional, more aggressive steps to move switched copper voice customers in FiOS-deployed areas to fiber facilities, regardless of whether those customers requested it.[761]

402. OPC claims that Verizon DC is following the directives of Verizon executives in pushing switched fiber voice service customers to fiber facilities, as evidenced by Verizon's manuals and instructions to customer service representatives.[762] OPC asserts that these manuals and instructions, including M&P documents, are replete with processes and instructions clearly designed not simply to repair copper facilities or to accept the customer's preferences, but to move switched copper voice service customers in fiber-deployed areas to fiber facilities and to keep these customers on fiber facilities.[763]

403. OPC argues that Verizon DC's **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** process impairs a customer's ability to ensure that their switched voice service remains on copper facilities. Under that process, **[BEGIN CONFIDENTIAL INFORMATION]**

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759 OPC Brief at 81-82.

760 OPC Brief at 82.

761 OPC Brief at 82.

762 OPC Brief at 82.

763 OPC Brief at 83.

764 OPC Brief at 83, citing Exhibit OP C(A), Direct Testimony of Bluhm, Loube, and Malfara at 123; OPC Cross Examination Exhibit 8 at 14.

765 OPC Brief at 83.

404.

[END CONFIDENTIAL INFORMATION] OPC argues that the customer ordered a repair to switched copper voice service and refused a migration to fiber facilities, so that there is no reason for further discussion or delay. In OPC's view, the customer should receive repairs to the copper facilities.[769]

405. OPC contends that at the hearing, Verizon DC's witnesses confirmed the existence of the **[BEGIN CONFIDENTIAL INFORMATION]**

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406. OPC represents that Verizon DC's recent updates to its M&P documents confirm that these problems persist. OPC claims that Verizon DC's newly updated manuals merely underscore Verizon DC's policy of discouraging customers from remaining on copper facilities and from returning to copper facilities. For example, OPC quotes the revised FiOS Internet Guide as stating:

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766 OPC Brief at 83.

767 OPC Brief at 83-84.

768 OPC Brief at 84, citing Tr. at 618-619.

769 OPC Brief at 84.

770 OPC Brief at 85.

771 OPC Brief at 85, citing Verizon DC Cross Examination Exhibit 6 at 3 (emphasis in original).

OPC also argues that the FiOS Voice Guide and the FiOS Internet Guide both state that if a FiOS customer wishes to return to copper facilities because of an issue that is:

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407. OPC argues that the record leaves no question that Verizon DC is following a consistent and aggressive practice of making it as unattractive and inconvenient as possible for a customer served by copper facilities to remain on or return to copper-based service. OPC contends that Verizon DC's persistence was revealed when Commissioner Fort recognized that **[BEGIN CONFIDENTIAL INFORMATION**

[END CONFIDENTIAL INFORMATION] OPC argues that the conclusion is obvious: Verizon DC will not change its policy or practices of pressuring customers to migrate from copper facilities and discouraging customers from returning to copper facilities unless the Commission acts forcefully. OPC claims that the only way to ensure that Verizon DC fully and fairly informs customers of their right to return to service provided over copper facilities, to remain on service provided over copper facilities, and to have their copper facilities repaired rather than migrating to fiber facilities, is to have the Commission impose specific requirements on Verizon DC to perform these actions. OPC believes that these requirements should be backed by strong enforceable sanctions.[775]

408. **Verizon DC Reply Brief.** Verizon DC objects to OPC's recommendation to amend the CLEC abandonment of service rules to require Verizon DC to obtain Commission approval before retiring copper facilities.[776] Verizon DC reiterates its argument that such a change to the Commission's rules can only be accomplished in a rulemaking proceeding. Verizon DC also argues that it is not a CLEC withdrawing services. Verizon DC argues that

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772 OPC Brief at 86, citing Verizon DC Cross Examination Exhibit 6 at 30-31 (emphasis in original); Verizon DC Cross Examination Exhibit 5 at 52-53.

773 OPC Brief at 86.

774 OPC Brief at 86-87.

775 OPC Brief at 87.

776 Verizon DC Reply Brief at 28-29.

withdrawal of Verizon DC's service is governed by the Price Cap Plan, which requires Commission approval for the withdrawal of only Basic Residential or Basic Business services. Verizon DC argues that it would not be withdrawing either when it retires copper facilities in the District of Columbia; it would continue to provide the same voice services under the same prices, terms, and conditions, over fiber facilities.[777]

409. Verizon DC argues that the Commission cannot adopt the copper retirement rules that OPC seeks in this proceeding. Verizon DC argues that the Issues List did not address whether any requirements should be imposed for copper facilities retirement, so there is no record upon which the Commission can base a decision to impose such a requirement. Verizon DC also argues that such a requirement would impact non-parties, which have not had notice and an opportunity to be heard on this issue.[778]

410. Verizon DC argues further that District of Columbia-specific copper retirement rules are unnecessary, since the FCC adopted national copper retirement rules in 2003.[779] Verizon DC indicates that the FCC is currently in the process of examining what changes, if any, are needed to these rules to balance adequate notice to consumers, protection of competition, and maintenance of incentives for ILECs to deploy fiber.[780] Verizon DC notes that the FCC's NPRM on this issue stated that the FCC did not want to "impede carriers from transitioning to new networks, such as fiber-to-the-home."[781] Verizon DC asserts that the FCC stated that it "does not propose any change to the notion that an incumbent carrier has the right to cease operating its copper network."[782]

411. Verizon DC contends that the District may not adopt any rule that "negates" or "frustrates the purposes" of a valid federal policy.[783] In Verizon DC's view, any District-specific requirements for Commission approval of copper retirement would be inconsistent with the FCC's broad goals of encouraging investment in broadband networks and delay and undermine the orderly transition to advanced facilities. Verizon DC argues that any such regulations would eliminate the regulatory certainty that Verizon DC has had under current FCC and Commission

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777 Verizon DC Reply Brief at 29.

778 Verizon DC Reply Brief at 29.

779 Verizon DC Reply Brief at 29.

780 Verizon DC Reply Brief at 30.

781 Verizon DC Reply Brief at 30, citing I*n the Matter of Technology Transitions; Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers; Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, Notice of Proposed Rulemaking and Declaratory Ruling GN Docket No. 13-5; RM-11358; WC Docket No. 05-25; RM-10593 (*"FCC New Technologies NPRM"*), ¶ 5, 29 FCC Rcd 14968 (2014).

782 Verizon DC Reply Brief at 30, citing *FCC New Technologies NPRM*6 (emphasis by Verizon DC omitted).

783 Verizon DC Reply Brief at 30, citing *NARUC v. FCC*, 880 F.2d 422, 431 (D.C. Cir. 1989) (citations omitted).

rules that it would be able to retire older networks when it invests in newer, more advanced networks. Verizon DC also contends that OPC's proposal would frustrate federal and District policies that have given service providers flexibility to determine which technologies to deploy in their networks. Verizon DC argues that transitions have encouraged fiber network investment and the transition to next generation networks.[784] Further, Verizon DC alleges that OPC's proposal would realize the D.C. Council's fear of "an additional layer of regulations" and their associated costs would "stifle the introduction of new and innovative services in the marketplace" given the District of Columbia's relatively small size.[785]

412. Verizon DC asserts that as companies consider whether to make substantial investments required to deploy or further enhance next generation networks, they must consider the return on these investments. In Verizon DC's opinion, these calculations include accounting for not only the costs of deployment and the anticipated revenue from the full range of services that will be offered over new facilities, but also any anticipated cost savings and efficiencies from migrating customers off of, and ultimately retiring less efficient legacy facilities. Verizon DC represents that the original business case for Verizon's fiber network deployment assumed that Verizon would achieve significant operational savings from the lower costs associated with serving customers over fiber facilities and eventually retiring copper facilities where it was no longer needed to serve customers. Verizon DC argues that investors relied on these anticipated cost savings in their decision to provide Verizon with the billions of dollars that it needed to deploy its all-fiber network. Verizon DC contends that if these cost savings are reduced or eliminated, it would alter the calculus as service providers and investors consider the future business case for fiber network investment or other investment related to the deployment and upgrade of next-generation networks.[786]

413. In Verizon DC's view, adopting District-specific copper retirement rules does not make any sense.[787] Verizon DC argues that requiring it to maintain duplicate networks not needed in areas with access to next-generation networks or undergo a long proceeding to retire these networks would only impose significant costs and undermine the investments needed to deploy and enhance these networks.[788] Verizon DC also argues that if the Commission were to accept OPC's proposal and eliminate Verizon DC's flexibility to control its technology choices, such action would disadvantage only one communications carrier, Verizon DC, over all others in the District of Columbia. Verizon DC argues that this action would distort the marketplace by giving greater flexibility to other, often larger companies (cable companies) and by favoring business models of companies focused not on deploying facilities but on using legacy network facilities at artificially low, regulated prices.[789]

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784 Verizon DC Reply Brief at 30.

785 Verizon DC Reply Brief at 30-31, citing Exhibit VZ (A)-3 at 4-6.

786 Verizon DC Reply Brief at 31.

787 Verizon DC Reply Brief at 31.

788 Verizon DC Reply Brief at 31-32.

789 Verizon DC Reply Brief at 32.

414. Contrary to OPC's insinuations, Verizon DC argues that it does not "force" customers to migrate their voice service from copper to fiber facilities.[790] Verizon DC asserts that the record shows that District of Columbia customers who wish to maintain their switched copper voice service or return to switched copper voice service may do so when copper facilities are available. Verizon DC claims that its methods and procedures and training documents for service technicians and customer service representatives provide explicit instruction that customers may retain or return to switched copper voice service. Verizon DC asserts that the vast majority of customers who move to fiber facilities enjoy the benefits of the services provided over these facilities, with only a very few customers seeking to return to switched copper voice service. Verizon DC contends that when customers are not satisfied with their migration, Verizon DC will move the customers back to copper facilities.[791] Verizon DC asserts that it is neither surprising nor inappropriate for Verizon DC to encourage its customers not to switch from fiber facilities to copper facilities, for Verizon DC seeks to serve its customers on the best network assets it has available to serve their needs.[792]

415. Verizon DC claims that OPC distorts Verizon DC's migration policies to claim that Verizon DC makes it difficult for District of Columbia customers to remain on or return to switched copper voice service. Verizon DC argues that OPC's claims are false.[793]

416. To refute these claims, Verizon DC first addresses the "ghost order process." Verizon DC asserts that its goal is to provide its customers with the best possible service with the best technology available. Verizon DC argues that its repair practices are tailored to meet that goal. When Verizon DC first began its fiber facilities migration program, Verizon DC asserts that the only way that a work order could be generated to migrate a customer from voice service provided over copper facilities to voice service provided over fiber facilities was for the sales center to create a service order. Verizon DC asserts that repair calls for customers who have been identified as candidates for migration to fiber facilities were routed to the CSSC and offered the opportunity to migrate their current services to fiber facilities. Verizon DC represents that if the customer agreed to the migration, a migration order was generated. If the customer declined, then the call was transferred to the repair center to create a trouble ticket.[794]

417. To streamline this process, Verizon DC asserts that it began implementing a process called TPCA, which automatically generates a fiber migration order in addition to the customer reported trouble ticket when a customer reports a service trouble. Verizon DC represents that it also began routing calls from migration-eligible voice-only customers to the repair center instead of to the sales center.[795] Verizon DC contends that a switched copper voice

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790 Verizon DC Reply Brief at 32.

791 Verizon DC Reply Brief at 32.

792 Verizon DC Reply Brief at 32-33.

793 Verizon DC Reply Brief at 33.

794 Verizon DC Reply Brief at 33.

795 Verizon DC Reply Brief at 33.

service customer with DSL service continues to be routed to the CSSC, since any migration in their voice service would require a change from DSL service to FiOS Internet access service.[796]

418. Verizon DC asserts that when the TPCA process is used, the service technician dispatched to the customer's premises will have both a copper repair trouble ticket and a migration order. In Verizon DC's view, having both orders permits the technician to educate the customer about the benefits of fiber facilities and to offer to migrate the customer's service. Verizon DC believes that if the customer wants to migrate, the migration order is already in place, saving the customer time and sparing the customer inconvenience.[797]

419. Verizon DC argues that the service technician will not force a customer to migrate to fiber facilities. To the contrary, Verizon DC asserts that its practices clearly recognize that the transition to fiber facilities is optional for the customer. Verizon DC asserts that if the customer does not wish to have switched copper voice service migrated to fiber facilities, the service technician will repair the copper facilities. Verizon DC asserts that the technician M&P manuals expressly instruct the technician to repair the copper facilities if the customer declines to migrate. Verizon DC represents that of the **[BEGIN CONFIDENTIAL INFORMATION]**

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420. In conclusion, Verizon DC represents that the "ghost order" process was implemented so that a Verizon DC service technician could respond to the customer's preference on the spot, rather than going through a separate process that could be inconvenient. Verizon DC argues that such customer-focused practices should be encouraged because it is the customer, not OPC, that should make the decisions regarding the customer's account.[799]

421. Verizon DC also contends that OPC misunderstands Verizon's Lead to Succeed program or selectively chooses aspects of the program to criticize it. Verizon DC represents that Lead to Succeed is a voluntary program for Verizon DC employees; service technicians are not required to participate in it. Additionally, Verizon DC asserts that Lead to Succeed does not contain any minimum quotas or targets and participation in the program is not considered when evaluating technician job performance. Verizon DC maintains that the program is designed to facilitate customers making informed service decisions; the program does not countenance making involuntary decisions for the customer. Verizon DC stresses that customers are not required to upgrade their service. Verizon DC also points out that the credits are awarded only if a customer voluntarily places an order for FiOS services with a sales representative from the CSSC, since the service technician cannot install FiOS service equipment on the spot.[800]

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796 Verizon DC Reply Brief at 33-34.

797 Verizon DC Reply Brief at 34.

798 Verizon DC Reply Brief at 34.

799 Verizon DC Reply Brief at 35.

800 Verizon DC Reply Brief at 35.

422. Verizon DC contends that OPC selectively quotes from Verizon's FiOS Internet and FiOS Television Ordering and Service Guide to suggest that Verizon DC discourages customers from remaining on or returning to voice services provided over copper facilities. Verizon DC contends that OPC is wrong. Verizon DC asserts that its M&P make it clear that that a District of Columbia customer may maintain switched copper voice service if the customer does not wish to have service migrated to fiber facilities. Verizon DC asserts that if a customer who has migrated switched copper voice service to switched fiber voice service wishes to return that service to available copper facilities, then Verizon DC will honor that request. Verizon DC contends that it will also honor a customer request to convert FDV service to switched fiber voice service or switched copper voice service.[801]

423. Verizon DC asserts that in its Brief, OPC quotes from Verizon's FiOS Internet Ordering and Service Guide but neglects to explain that the conversation quoted applies when an order is placed for FiOS Internet service. Verizon DC explains that because FiOS Internet service can only be provided over fiber facilities, Verizon DC seeks to provision all services ordered by a customer on fiber facilities in order to avoid the inefficient, costly, and unnecessary provision and maintenance of two networks to serve a single customer.[802] Verizon DC stresses that the ordering process set forth in this document is focused on ordering FiOS Internet service, so it does not address a customer's repair issues with voice services or address whether a customer may return to switched copper voice service after migrating to FiOS Internet service.[803] Verizon DC represents that in fiber-eligible areas, Verizon DC no longer offers or installs new DSL service, an address that is converted to fiber facilities may no longer receive DSL service from Verizon DC. However, Verizon DC contends, a FiOS Internet and FiOS video service customer may return voice service to available copper facilities upon request.[804]

424. Verizon DC argues that OPC implies that a FiOS Internet and video service customer may not return voice service to copper facilities if they want to due to technical issues. Verizon DC counters this implication by arguing that its Service and Ordering Guides require a customer service representative to attempt to correct the technical issues, which Verizon DC contends is proper.[805]

425. **OPC Reply Brief.** While OPC concedes that Verizon DC's statement that Verizon DC "allows its District customers who want to retain or return to available copper facilities to do so" may be "literally true," OPC claims that the customer must be persistent in order to succeed, since Verizon DC has implemented procedures and practices specifically designed to dissuade the customer from doing so.[806]

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801 Verizon DC Reply Brief at 36.

802 Verizon DC Reply Brief at 36.

803 Verizon DC Reply Brief at 36-37.

804 Verizon DC Reply Brief at 37.

805 Verizon DC Reply Brief at 37.

806 OPC Reply Brief at 34, citing Verizon DC Brief at 37.

426. OPC claims that when it initially deployed fiber facilities, it routed all customers calling in copper-related repairs to the CSSC, where OPC asserts customers were pressured to choose fiber migration over copper facility repair.[807] OPC now asserts that according to hearing testimony and Verizon DC's Brief, Verizon DC now routes switched copper voice service customers located in fiber-capable areas who call for copper-related repairs to the EVRC.[808]

427. OPC contests Verizon DC's statement that these repair calls to the EVRC are "handled the same as any other repair call."[809] OPC contends that **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] OPC contends that documents filed in response to in-hearing data requests shows that this process continues unabated. In support of this argument, OPC cites the following instructions to Verizon DC's representatives:

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428. OPC asserts that Verizon DC justifies **[BEGIN CONFIDENTIAL INFORMATION]**

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OPC asserts that the record makes it plain that Verizon DC believes that migrating the customer to fiber facilities is in Verizon DC's long-term best financial interest. OPC represents that Verizon DC continues to instruct its Network Evolution telephone representatives accordingly, stressing in its latest (filed post-hearing) revised M&P instructions that fiber migration presents the opportunity to **[BEGIN CONFIDENTIAL INFORMATION]**

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807 OPC Reply Brief at 34.

808 OPC Reply Brief at 34-35.

809 OPC Reply Brief at 35, citing Verizon DC Brief at 15.

810 OPC Reply Brief at 35-36, citing Verizon DC Cross Examination Exhibit No. 49 at 26.

811 OPC Reply Brief at 36, citing Tr. at 619.

812 OPC Reply Brief at 36.

429. OPC stresses that the possibility of Commission oversight appears to have prompted Verizon DC to modify some of its practices regarding customers who wish to remain on or return to copper facilities, albeit post-hearing and long after the directive in Order No. 17389.[813] However, OPC contends that even these revised documents continue to contain directions specifically designed to discourage customers from remaining on or returning to service on copper facilities.[814] OPC claims that Verizon DC's updated NEVO Manual continues to provide that, in the case of switched copper voice service customers in fiber-capable areas needing repairs:

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430. OPC also argues that Verizon DC's revised materials continue to contain scripts that seek to dissuade a customer from cancelling a pending fiber migration order. OPC contends that **[BEGIN CONFIDENTIAL INFORMATION]**

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431. OPC contends that Verizon DC's revised guides still contain language making it clear that Verizon DC's **[BEGIN CONFIDENTIAL INFORMATION]**

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432. OPC argues that the record leaves no doubt that Verizon DC's corporate and economic interests have impelled, and will continue to impel, Verizon DC to use all means not prohibited by the Commission to dissuade switched copper voice service customers in fiber-capable areas from remaining on, or returning to, services provided over copper facilities. OPC

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813 OPC Reply Brief at 36.

814 OPC Reply Brief at 36-37.

815 OPC Reply Brief at 37, citing Verizon DC Cross Examination Exhibit No. 49 at 12.

816 OPC Reply Brief at 37, citing Verizon DC Cross Examination Exhibit No. 49 at 29.

817 OPC Reply Brief at 37-38, citing Verizon DC Cross Examination Exhibit No. 6 at 3.

urges the Commission to adopt the strong disclosure requirements proposed by OPC and vigilantly monitor and enforce Verizon DC's compliance with these requirements.[818]

433. **CWA Reply Brief.** CWA argues that while there is a great deal of information on the record concerning many of Verizon DC's current practices as they relate to the copper-to-fiber transition, there is far less information on the record regarding Verizon DC's future plans for the continued use of its copper facilities and the transition to fiber facilities. CWA submits that it is Verizon DC's future plans that are critical for the Commission to consider.[819]

434. Regarding Verizon DC's future plans, CWA contends that there are three key questions for the Commission to consider: 1) How will Verizon DC inform consumers about the differences between copper facilities and fiber facilities?; 2) What are Verizon DC's plans for continued use or retirement of copper facilities to provide communications services?; and 3) What are Verizon DC's future plans for the buildout and use of fiber facilities to provide telecommunications services?[820]

435. CWA argues that the record reveals very little about Verizon DC's plans for copper facilities retirement. CWA asserts that Verizon DC Witness Vasington testified that while OPC claims that Verizon DC agreed to maintain its copper infrastructure for an indefinite period of time in the Settlement Agreement, Verizon DC has no date certain by which it plans to remove copper from the District of Columbia or from locations served by any particular wire center.[821] CWA asserts that Witness Vasington indicated that Verizon DC would provide notice to the FCC and the Commission in the event of any retirement.[822] CWA represents that Witness Vasington also described Verizon DC's position that the future is in wireless facilities and that Verizon DC can increase its bottom line through FiOS services.[823]

436. CWA notes that Verizon DC's statement that "Verizon's commitment to its customers is simple: to serve them using the best facilities it has available."[824] CWA then indicates that Verizon DC seeks to not be "encumbered with additional, unjustifiable requirements" and requests the Commission to close this proceeding.[825] CWA asserts that it is the Commission's purview, not Verizon DC's to determine what is best for the people of the District of Columbia. CWA asserts that as the Commission moves towards full deployment of

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818 OPC Reply Brief at 38.

819 CWA Reply Brief at 2.

820 CWA Reply Brief at 2.

821 CWA Reply Brief at 3.

822 CWA Reply Brief at 3-4.

823 CWA Reply Brief at 4.

824 CWA Reply Brief at 4, citing Verizon DC Brief at 38.

825 CWA Reply Brief at 4.

fiber facilities, critical issues relating to the transition of customers from copper facilities to fiber facilities during the deployment and the manner in which telecommunications services are provided after the deployment are key for the District of Columbia and form a more than sufficient basis for the Commission to continue its critical role.[826]

2. Decision

437. This is the third issue for which Verizon DC has the burden of proof.[827]

a. Retention of Copper Facilities

438. Term 9 of the Settlement Agreement requires that "[u]ntil FiOS is deployed, and afterwards, Verizon will maintain the copper infrastructure in use and serving customers."[828] The Commission has interpreted this language to mean that as long Term 9 remains in effect and customers continue to want to receive services over copper facilities, Verizon DC is required to maintain the copper infrastructure in use and serving those customers.[829] Many of the issues involving the retention of copper facilities arise when a customer calls in a trouble report and is issued both a network facilities conversion order and a trouble ticket. When a technician is dispatched to repair a trouble reported by a customer served on switched copper, the technician will repair the copper trouble if the customer does not want their voice service to be moved to fiber facilities, **[BEGIN CONFIDENTIAL INFORMATION]**

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439. If the customer should desire to move to a switched fiber voice service or FDV service, the copper drop wire is disconnected at the NID which serves as the network demarcation point between Verizon DC's outside plant and the customer's inside wiring. The copper drop wire between the serving terminal and the NID would remain in place. In the event a customer served by switched fiber voice service or FDV service requests to return to switched copper voice service, Verizon DC will do so – it states that the number of such requests has been small. Verizon DC contends that it has not retired any copper in the District of Columbia and

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826 CWA Reply Brief at 5.

827 Order No. 17653, ¶ 53.

828 *Formal Case No. 1057*, Terms of Full and Unanimous Settlement Between Verizon Washington, DC Inc. and the Office of the People's Counsel at 2, filed March 5, 2008.

829 Order No. 17313, ¶ 272, n. 581.

830 Tr. at 617.

831 Tr. at 620.

that leaving the copper in place also allows Verizon DC to accommodate a CLEC to serve the customer with copper facilities.

b. Reverse Migration

440. Verizon DC's FiOS Digital Voice Ordering Guide has a section on migrations from fiber facilities to copper facilities ("reverse migrations"). **[BEGIN CONFIDENTIAL INFORMATION]**

441.

[END CONFIDENTIAL INFORMATION]

442. Verizon DC's 2015 service technician instructions regarding reverse migration, **]BEGIN CONFIDENTIAL INFORMATION]**

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832 **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

833 Verizon DC Cross Examination Exhibit No. 5 at 16.

834 Verizon DC Cross Examination Exhibit No. 5 at 51.

835 Verizon DC Cross Examination Exhibit No. 5 at 52.

836 Verizon DC Cross Examination Exhibit No. 5 at 53-55.

443.

[END CONFIDENTIAL INFORMATION]

444. The record clearly shows that Verizon DC is actively promoting the migration of customers with voice service on copper facilities to voice service on fiber facilities. OPC's cited statements from Verizon executives are consistent with Verizon DC's actions. However, a review of the customer service representative and service technician scripts and training materials on the record shows that if a customer requests to retain or return to copper facilities, Verizon DC honors that request, even if it does not encourage it. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] Thus, the Commission finds that Verizon DC does permit the retention voice service on or return of voice service to copper facilities. The Commission requires Verizon DC to continue to permit retention voice service on or return of voice service to copper facilities upon customer request.

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837 Verizon DC Cross Examination Exhibit No. 52 at 1-2. Verizon DC Cross Examination Exhibit No. 52 is an updated version of Verizon DC Cross Examination Exhibit No. 20. The updates **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

838 Verizon DC Cross Examination Exhibit No. 52 at 4.

839 Verizon DC Cross Examination Exhibit No. 52 at 4-5.

840 Verizon DC Cross Examination Exhibit No. 52 at 2.

841 Verizon DC Cross Examination Exhibit No. 52 at 2.

842 Verizon DC Cross Examination Exhibit No. 21 at 2.

843 Verizon DC Cross Examination Exhibit No. 52 at 2.

c. Other Issues

445. Verizon DC represents that only a very small number of customers who have enjoyed the benefits of fiber facilities have expressed a desire to move their voice service back to copper facilities: **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] Verizon DC admits that it does not encourage customers with voice service provisioned over fiber to switch back to copper facilities and adds that such action is not surprising or inappropriate since it always wishes to provide the best network it has available to them.[845] While the Commission recognizes that it is Verizon DC's belief that the fiber network is a preferable network, the Commission reminds Verizon DC that some of its customers may not share that belief. For these customers, Verizon DC must ensure that these customers' voice service remains on or returns to copper facilities.

446. OPC criticizes Verizon DC's Lead to Succeed program, arguing that this program creates incentives for technicians to aggressively promote migration to FiOS services. Verizon DC counters this argument by asserting that the Lead to Succeed program is voluntary and does not factor into performance evaluations. Since the Lead to Succeed program is a voluntary program that only rewards service technicians for persuading customers to migrate to FiOS services, not just migrate to fiber facilities, requiring more work on the technician's part, the Commission does not find that the Lead to Succeed program would be a major driver of copper-to-fiber migrations.

447. OPC and CWA express concern about the retirement of copper facilities in the District of Columbia, asserting that Verizon DC has provided no information about its future plans for copper retirement. Verizon DC states that it does not have plans at present to retire its copper network, but argues against the establishment of any rules pertaining to copper retirement. The Commission appreciates that Verizon DC has no current plans to abandon copper facilities in the District of Columbia, but that may change in the future. Currently, there are no District of Columbia requirements for Verizon DC to provide notice of such abandonment to customers, OPC, or the Commission.[846] The Commission believes that the lack of such a

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844 Exhibit VZ (2A)-6 at 1. The Commission notes that this exhibit is unpaginated.

845 Exhibit VZ (2A), Rebuttal Testimony of MacNabb and Vasington at 25.

846 The Commission takes administrative notice that the FCC has recently released a Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking amending its copper retirement and discontinuance of service rules. *In the Matter of Technology Transitions; Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers; Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, GN Docket No. 13-5; RM-11358; WC Docket No. 05-25; RM-10593, rel. August 7, 2015. While the Commission recognizes that the Report and Order required notifying state commissions and customers of anticipated copper retirements, the Commission believes that it may be necessary to develop its own copper retirement rules. The Commission will be taking this FCC Report and Order into consideration when drafting these rules.

District of Columbia requirement would prevent the Commission from providing information about a copper abandonment to District of Columbia consumers. Thus, the Commission will be proposing a notice requirement for the abandonment of copper facilities in a subsequent rulemaking proceeding.

K. Conclusions in the Briefs

1. Positions of the Parties

448. **Verizon DC Brief.** Verizon DC argues that its commitment to its customers is simple: to serve them using the best facilities it has available. To Verizon DC, its copper-to-fiber migration practices and provision of FDV service is designed to fulfill that commitment. Verizon DC contends that its practices are consistent with District of Columbia law and should not be encumbered with additional, unjustifiable requirements. Verizon DC urges the Commission to close this investigation.[847]

449. **OPC Brief.** OPC urges the Commission to consider the record evidence pursuant to applicable law and issue an order that makes the findings of fact based on OPC's position on the designated issues in this proceeding. OPC also requests the Commission to adopt OPC's recommendations for relief.[848]

450. **Verizon DC Reply Brief.** Verizon DC represents that its move to a fiber network and FDV service are just other changes in a long series of technological advances to best serve Verizon DC customers to meet growing customer demand in a competitive market. According to Verizon DC, its copper-to-fiber migration practices are consistent with District of Columbia law, and should not be encumbered by the unjustified mandates proposed by OPC. Verizon DC believes that OPC's recommendations are a solution in search of a problem that would stifle the development of fiber facilities and advanced services in the District of Columbia. Verizon DC contends that the Commission cannot impose mandates on FDV service.[849] Verizon DC urges that the Commission to reject OPC's statutory interpretation of VoIP and IP-enabled services that would undermine the D.C. Council's intent to foster the growth of these services unencumbered by Commission regulation.[850]

451. **OPC Reply Brief.** OPC requests that the Commission issue an order containing findings of fact and conclusions of law consistent with OPC's positions on the designated issues in this proceeding and adopt OPC's recommendations for relief.[851]

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847 Verizon DC Brief at 38.

848 OPC Brief at 88.

849 Verizon DC Reply Brief at 39.

850 Verizon DC Reply Brief at 39-40.

851 OPC Reply Brief at 39.

452. **CWA Reply Brief.** CWA recommends that the Commission pursue policies that encourage Verizon DC to continue its investment in fiber deployment to all residents, businesses, and institutions in the District of Columbia while ensuring that Verizon DC provides full disclosure to customers, keep its fiber build commitments, and maintain quality service during the transition.[852]

2. Decision

453. Verizon DC seeks to have this proceeding closed without further action, while OPC and CWA seek Commission action on several of the issues raised in this proceeding. This Order directs Verizon DC to update several of its procedures and user guides and to file them in this docket. Consequently, it would be premature to close this proceeding now. Additionally, as noted throughout this Order, the Commission will be implementing several decisions in this proceeding through its rulemaking process.

V. COMMUNITY INPUT

A. Community Views Filed in the Docket

454. As noted previously, the Commission initiated this proceeding due to consumer complaints about the copper-to-fiber transition that it had received as a result of *Formal Case No. 1090*. The Commission has continued to receive community input throughout this proceeding, both in testimony during Community Hearings held November 5 and 10, 2014 and through filings in this docket. The Commission provides a summary of these statements.

455. Many consumers expressed their opinions throughout the course of this proceeding by filing letters in the docket. Some expressed support for Verizon DC's fiber deployment.[853] Other consumers expressed concerns about voice service during power outages with fiber facilities.[854] Some consumers also had concerns about Verizon DC's marketing tactics.[855] Others sought retention of copper facilities.[856] Still others argued that Verizon DC

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852 CWA Reply Brief at 5.

853 *Formal Case No. 1102*, Letter to Brinda Westbrook-Sedgwick, Commission Secretary, from Bruce DarConte, filed November 6, 2014; Letter to the Office of Planning from Jua Williams, filed November 10, 2014 Letter to Brinda Westbrook-Sedgwick, Commission Secretary, from Robin Dickerson, filed November 24, 2014; Letter to the Public Service Commission members from Charlene Hamilton, filed November 24, 2014; Letter to the Public Service Commission from Tierra Hunt, filed November 24, 2014; Letter to the Commissioners from Tiyanna Hunt, filed November 24, 2014; Letter to Brinda Westbrook-Sedgwick, Commission Secretary, from Hazel Jones, filed November 24, 2014; Letter to the Public Service Commission from Tiffany Jones, filed November 24, 2014; Letter to Brinda Westbrook-Sedgwick, Commission Secretary from Alvin McElveen, filed November 24, 2014; Letter to the Public Service Commission members from Khadijah Tribble, filed November 24, 2014.

854 *Formal Case No. 1102*, Letter to Betty Ann Kane from Barbara T. Yeomans ("Yeomans Letter"), filed December 11, 2012; Letter to the Public Service Commission from Lynn J. Bush ("Bush Letter"), filed December 26, 2015; Letter to Betty Ann Kane from Sallie Newkirk, filed January 8, 2013; Email to the OCS Director from Judy Brace ("Brace email"), filed December 6, 2012; Letter to the Public Service Commission from Soye Kim ("Kim Letter"), filed January 12, 2015.

855 Bush Letter, Brace email; Kim Letter.

should continue to maintain its copper facilities.[857] One consumer argued that the Commission should investigate the costs of maintaining copper facilities and building new facilities.[858] One consumer asserted that the Verizon DC service technician dispatched to repair the copper facilities migrated the voice service to fiber facilities, did not provide any information about the fiber facilities, and refused to return the voice service to switched copper voice service facilities. This consumer also expressed concerns about the information provided on the Verizon website.[859] Another consumer (also an OPC affiant) contended that Verizon DC converted her voice service to service on fiber facilities without her consent when she agreed to switch her Internet service to FiOS Internet service. She complained that Verizon DC has refused to return either the voice service or Internet service to copper facilities.[860]

456. At the Community Hearings, the Commission heard from individuals, business owners, and members of business organizations.[861] Several consumers, businesses, non-profit and business organizations expressed support for Verizon DC's copper-to-fiber transition and urged the Commission not to impede this transition.[862] Other consumers expressed personal experiences or concerns about the transition. One consumer related her personal experiences, claiming that she did not know that her voice service was migrated, and did not know whether switched copper voice service had been restored, as she had asked to occur.[863] One consumer expressed concerns about the BBU.[864] Another consumer related his experience in ordering what he thought was both a copper and a fiber line, only to be told at installation that he could not order the copper line.[865] Another consumer expressed concerns about cost shifting of services provided over fiber facilities, the BBU, and access to emergency services on fiber facilities.[866]

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856 *Formal Case No. 1102,* Email from Joan Reinthaler, filed December 6, 2012; Bush Letter.

857 Bush Letter.

858 Yeomans Letter.

859 *Formal Case No. 1102*, Statement of Nickola A. Lagoudakis, filed November 19, 2014.

860 *Formal Case No. 1102*, Letter to Brinda Westbrook-Sedgwick, Commission Secretary, from Angela A. Satterthwaite, filed November 14, 2014.

861 Several people testifying also filed written statements at the Community Hearings. *Formal Case No. 1102*, Testimony of Darell Maxwell, Mallory L. Barrasso, Mark Guenther, Aaron Rossi, filed November 5, 2014; Testimony of Pedro Alfonso, Anthony Rodell, Christopher Brient, Irv Sheffey, Nita Archie, Stephen M. Smith, Gustavo Viteri, Ann Loikow, Terry Tony, Brenda Lee Richardson, filed November 11, 2014.

862 Tr. Nov. 5 Community Hearing at 19-21; 21-23; 23-25; 26-28; 32-35; 35-39; 39-43; 57-60; 60-65;65-67; 67-69; Tr. Nov. 10 Community Hearing at 38-43; 43-46; 46-51; 51-52; 53-55; 56; 56-59; 59-61; 62-63; 69-70; 75-75.

863 Tr. Nov. 5 Community Hearing at 28-31.

864 Tr. Nov. 10 Community Hearing at 24-30.

865 Tr. Nov. 5 Community Hearing at 43-48.

866 Tr. Nov. 10 Community Hearing at 63-69.

Two consumers (who are also OPC affiants) expressed concerns about Verizon DC's FiOS marketing practices, retention of copper facilities, and compatibility of fiber facilities with alarm systems, and BBU issues.[867] Another consumer urged the Commission to require Verizon DC to obtain consent for copper-to-fiber migration in writing, to have a rescission period of 30 to 60 days, and to permit a return to copper facilities upon request.[868] Another consumer expressed support for requiring additional Verizon DC outreach to and informed consent by consumers, requiring additional training for Verizon DC customer service representatives to educate consumers about the new services offered over fiber facilities, and permitting customers to retain service on copper facilities.[869]

457. On April 27, 2015, Windstream filed comments in this proceeding to provide additional clarity to parts of the record. As a CLEC providing telecommunications service in the District of Columbia, Windstream asserts that it has been monitoring this proceeding and seeks to provide a more complete record in this proceeding.[870]

458. Windstream notes that one of the purposes of this proceeding is to promote the core value of competition. Windstream asks the Commission to take care when considering how to uphold this core value. Windstream explains that it is a CLEC that provides competitive services to many District of Columbia small and medium-sized customers, including restaurants, educational institutions, auto service stations, and healthcare providers. Windstream notes that while Verizon DC states that Windstream provides VoIP and regulated services over a fiber network, Windstream and other CLECs are still dependent on ILEC last-mile connectivity to reach the customer location. Windstream asserts that to serve all but the largest customers, it is usually uneconomic for Windstream and other CLECs to overbuild ILEC facilities in the last mile. Windstream contends that CLECs continue to face considerable challenges in addressing last-mile physical plant costs because they lack legacy infrastructure underwritten by monopoly rents as well as a large customer base, which can spread out costs.[871]

459. In its Comments, Windstream argues that any prospect that Verizon DC will render its copper facilities and TDM-based services unavailable for CLEC use – whether by retirement/discontinuance, exclusionary conduct, or failure to maintain copper facilities – leaves open the possibility of whether District of Columbia consumers will continue to benefit from CLEC competitive service options deployed via a combination of CLEC fiber and Verizon DC's last mile connections. Windstream cites OPC's witnesses' testimony that competition will be harmed to the extent that Verizon DC is permitted to retire copper facilities without providing comparable wholesale inputs. While Windstream indicates that OPC's testimony focuses mainly

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867 Tr. Nov. 5 Community Hearing at 48-57; Tr. Nov. 10 Community Hearing at 31-38.

868 Tr. Nov. 10 Community Hearing at 71-75.

869 Tr. Nov 10 Community Hearing at 78-81.

870 Windstream Comments at 1, 2.

871 Windstream Comments at 3.

on the effects of retirement on residential customers, Windstream argues that the negative impact of this retirement will be felt by residential and business customers equally.[872]

460. Windstream advises the Commission that small and medium-sized businesses may be adversely impacted by Verizon DC's plans for unbundled DS1 and DS3 capacity loops in particular. Windstream represents that in FCC proceedings, a wide variety of stakeholders, including consumer groups, state government agencies, businesses, small rural incumbent carriers, and competitive carriers, have been critical of the legal basis for and policy implications of large ILECs' plans for these facilities.[873] In these proceedings, Windstream contends that the stakeholders have argued that by raising CLECs' wholesale costs for locations at which CLECs have no viable alternative to unbundled loops, the ILECs can force the CLECs to increase their retail prices, so that the ILECs can also raise their own prices since they would no longer be constrained by CLECs' lower prices. Windstream also claims that Verizon DC has continued to assert that it does not have to meet its obligations to provide unbundled DS1 and DS3 loops outside of wire centers that both satisfy the FCC's impairment triggers and have the TDM-based equipment necessary to provide DS1 or DS3 service.[874]

461. Windstream argues that a change in technology or facilities should not be a pretext to bypass the core value of competition, as the Commission has recognized. Transitioning from TDM-based to IP-enabled switching or copper to fiber facilities should not trigger higher prices for CLECs and consumers, Windstream contends, particularly when Verizon DC contends that fiber facilities and IP technology are more efficient.[875] Windstream argues that CLEC services are crucial to the District of Columbia businesses, public institutions, and non-profit entities because they constrain Verizon DC's prices and drive innovation in the communications marketplace.[876]

462. The Community Brief, also filed on April 27, 2015, was filed by the D.C. Federation on behalf of District consumers. The D.C. Federation argues that consumers are sharing their real life experiences in this proceeding, thereby enhancing and adding immeasurable value to the process. The Community Brief filed in this proceeding is intended to capture the viewpoints of Verizon DC's customers for the Commission's review and consideration.[877]

463. The D.C. Federation represents that the Commission has a long history of considering the testimony of District of Columbia consumers in its decision-making process. The D.C. Federation notes that the Commission seeks community input in its Community

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872 Windstream Comments at 3.

873 Windstream Comments at 3.

874 Windstream Comments at 4.

875 Windstream Comments at 4.

876 Windstream Comments at 4-5.

877 Community Brief at 3.

Hearings. The D.C. Federation argues that active consumer participation not only supplements the record with valuable evidence the Commission can consider, but also in this case provides an illuminating, real-time perspective of District of Columbia consumers regarding Verizon DC's current practices in relation to the copper-to-fiber transition. The D.C. Federation believes that the Community Brief, along with the evidence presented at the hearing, will aid the Commission in its deliberation of the issues in this proceeding as it considers first-hand information from consumers, who will be directly impacted by any determination or remedies ordered by the Commission as a result of this investigation. The D.C. Federation strongly urges the Commission to give "great weight" to the testimony of all consumers who have participated in this proceeding.[878]

464. In the Community Brief, the D.C. Federation summarizes the testimony of the 35 District of Columbia residents and business owners who testified at the Community Hearings. The Community Brief organizes these summaries based on four themes: that District of Columbia consumers support the development of fiber-based telecommunications services throughout the District of Columbia; that Verizon DC's fiber-based telecommunications services are different from Verizon DC's copper-based telecommunications services and the District of Columbia consumers want to be informed of these differences; that District of Columbia consumers want the ability to keep their copper facilities should they choose; and that District of Columbia consumers do not want their services to be migrated from switched copper voice service to switched fiber voice service or FiOS Digital Voice service without their informed consent.[879]

465. Additionally, ANC 3D filed Comments on April 27, 2015, supporting OPC's Brief. ANC 3D applauds the Commission for pursuing this investigation. ANC 3D represents that residents within its boundaries, particularly in the Palisades and Spring Valley, began expressing concerns about their telephone service nearly two years ago. These concerns included complaints about static on the line or an inability to hear or be heard during a call. ANC 3D also asserts that residents reported being advised by Verizon DC maintenance personnel that the problem was in the copper lines and that the copper lines could not be maintained. ANC 3D represents that residents were advised to change their service to a fiber facility alternative. For some residents, ANC 3D asserts, fiber facility alternatives were not available as a service offering, so residents had no alternative but to rely on inadequate voice landline service.[880]

466. ANC 3D expresses concern that the pattern of consumer complaints suggests a lack of commitment by Verizon DC to maintain the copper facilities within the boundaries of ANC 3D. ANC 3D also states its concern that customers within ANC 3D are not fully informed

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878 Community Brief at 4.

879 Community Brief at 4.

880 ANC 3D Comments at 1. The Commission notes that this filing is unpaginated.

of the implications of a copper-to-fiber facility migration, including limits on 911 service during a power outage.[881]

467. ANC 3D recognizes that the FCC has opened a proceeding to assess the reliability of the transition from a copper-based infrastructure to a fiber-based infrastructure. ANC 3D asserts that several issues have emerged regarding the reliability of fiber-based systems, including the ability to make 911 calls. ANC 3D believes that the FCC proceeding has suggested that there are significantly different capabilities between a copper-based system and a fiber-based system that must be overcome to ensure service reliability.[882]

468. For these reasons, ANC 3D supports OPC's calls for Verizon DC to maintain its copper network and ensure reliable telecommunications service delivery for residents who choose to subscribe to copper-based systems. ANC 3D declares that it has an interest in ensuring the local residents have access to reliable telecommunications services, especially in times of emergency when these services are most needed. ANC 3D supports OPC's efforts in calling on the Commission to require Verizon DC to continue to maintain its copper infrastructure, to improve its maintenance of the copper infrastructure, and to require that all voice communications services – whether provided over copper or fiber facilities – offer customers comparable and reliable voice communications.[883]

469. The Commission appreciates the willingness of District of Columbia consumers, ANCs, businesses, non-profits, and civic organizations to share their experiences regarding the issues raised in this proceeding. The Commission always values community input on issues such as the copper-to-fiber transition, since it involves quality of service issues. While community input from the Community Hearings and comments filed on the record cannot be used as evidence regarding the quasi-judicial issues in this proceeding, since it is not sworn testimony, the Commission believes that community input on policy matters is beneficial and provides the Commission with a helpful backdrop against which it can evaluate the issues in this proceeding.

470. In reviewing the comments filed in this proceeding, the Commission notes the split between those consumers who favor the copper-to-fiber transition and those who have concerns with such a transition. Many of the concerns in these comments, such as the adequacy of backup power for fiber facilities, customer disclosures, and retention or return to copper facilities for voice service, have been addressed by the parties through the evidence that they have filed on the particular issues to which these concerns relate. The Commission also recognizes that Windstream's business concerns, relating to the diminishment of CLEC competition with any retirement of copper facilities, are addressed in the Commission's discussion of notice requirements.

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881 ANC 3D Comments at 2.

882 ANC 3D Comments at 2.

883 ANC 3D Comments at 2.

B. OPC Consumer Affidavits

471. **OPC Brief.** As exhibits to its Direct Testimony, OPC filed 15 affidavits from several consumers who have expressed concerns about Verizon DC's copper-to-fiber transition, particularly its consumer disclosures and the ability to retain or return to voice service on copper facilities (Issues 8 and 9). OPC discussed some of the affidavits in its Brief.

472. Regarding customer disclosures, OPC claims that several District of Columbia consumers have complained that they have been affected by Verizon DC's lack of clarity. For example, Affiant Fleming states that before FiOS service became available, she had switched copper voice service from Verizon DC and cable service from Comcast. Then she changed her video and Internet service to Verizon DC, choosing a separate landline even though the cost was greater. OPC claims that although Affiant Fleming clearly indicated that she did not want her voice service migrated from switched copper voice service, she found out that it was converted to switched fiber voice service. OPC represents that when Affiant Fleming called Verizon DC to switch the voice service back to switched copper voice service, she was informed that it could not be done. Thus, OPC asserts, Affiant Fleming agreed to a Triple Play package of FDV, FiOS Internet, and FiOS video services.[884]

473. OPC claims that Verizon DC's customer records support Affiant Fleming's statement: **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

474. OPC also provides an affidavit from Carolyn Cook, who states that her residence receives Internet and voice service from Verizon DC, with the Internet service in her name and with voice service in her mother's name. After experiencing outages, Affiant Cook contacted Verizon DC, whose customer service representatives allegedly informed Affiant Cook that her service was going to be transferred to FiOS. Affiant Cook asserts that she agreed to FiOS Internet service, but found out later that the voice service had also been transitioned to fiber facilities.[886]

475. OPC asserts that Verizon DC's response to both of these affidavits is that neither affiant alleges that fiber facilities were placed at the affiants' home without their consent.[887] OPC argues that the problem with this response is that the affiants (or affiants' family members)

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884 OPC Brief at 68-69.

885 OPC Brief at 70, citing OPC Cross Examination Exhibit No. 92 at 58-63.

886 OPC Brief at 69.

887 OPC Brief at 69-70.

ordered FiOS Internet and/or FiOS video services but not switched fiber voice service or FDV service.

476. In relation to the ability to retain voice service on or return voice service to copper facilities, OPC cites Affiant Goldberg's statement as a demonstration of the harm to consumers from Verizon DC's **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** process. OPC claims that Affiant Goldberg described that when she attempted to have her copper facilities repaired after a storm, service technicians arrived at her home with orders for FiOS service. Affiant Goldberg also received calls promoting FiOS service. OPC asserts that Affiant Goldberg stated that after rejecting offers to migrate her voice service to FiOS, the technicians left her home without attempting to correct the service problems with her copper line.[888] OPC asserts that while Verizon DC's response to the affidavit is factually correct – Affiant Goldberg still has service provided over copper facilities – that fact is not the point.[889] In OPC's view, if a customer asks for copper facilities to be repaired, they should be repaired, without any further sales pressure to migrate to fiber facilities.[890]

477. **Verizon DC Reply Brief.** Verizon DC argues that customer complaints do not support OPC's recommendations in this proceeding. Verizon DC asserts that OPC offers affidavits from 15 customers in support of its recommendations, even though OPC solicited nearly one thousand customers through an email list and sought customer input through its webpage and community hearings. Verizon DC contends that OPC has not investigated the claims included in the affidavits.[891] In Verizon DC's opinion, these affidavits do not provide reliable, probative, and substantial evidence of a problem with Verizon DC's migration practices and FDV service that would be necessary to justify OPC's recommendations.[892] Regarding the 15 affidavits, Verizon DC represents that some affidavits state that the customer's service remains on copper facilities. Verizon DC argues that the remaining affiants agreed to or ordered services provided over fiber facilities. To Verizon DC, these affidavits show that its fiber migration practices are lawful and working well.[893]

478. Verizon DC provides its own detailed analysis of the 15 affidavits. Of these affidavits, Verizon DC represents that six affiants declined Verizon DC's offer to migrate their voice services to fiber facilities and continue to have service on copper facilities.[894] Verizon DC represents that the rest of the customers agreed to migrate their voice services to fiber facilities or to migrate to FiOS services. Six affiants agreed to have voice service migrated to fiber facilities,

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888 OPC Brief at 84.

889 OPC Brief at 84-85.

890 OPC Brief at 85.

891 Verizon DC Reply Brief at 37.

892 Verizon DC Reply Brief at 37-38.

893 Verizon DC Reply Brief, Attachment A at 1.

894 Verizon DC Reply Brief, Attachment A at 1.

while four agreed to the purchase of FiOS Internet or video services, which are provided over fiber facilities.[895]

479. Regarding Affiant Goldberg's questions about whether her copper facilities were repaired after the Derecho storm, Verizon DC asserts that its records show that **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

480. Verizon DC asserts that Affiant Herzstein has declined all offers to migrate his voice service to fiber facilities. Verizon DC contends that its customer records show that **[BEGIN CONFIDENTIAL INFORMATION]**
[END CONFIDENTIAL INFORMATION]

481. Verizon DC represents that Affiant Savwoir has two lines, one of which remains on copper facilities and one of which was migrated to fiber facilities with Affiant Savwoir's agreement.[898]

482. Regarding Affiant Smith, Verizon DC maintains that the work order for **[BEGIN CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** was a new service order, not a migration. Verizon DC asserts that the new service order was placed because the tenant at that address had disconnected the service upon moving. Verizon DC contends that the new service was installed on copper facilities at Affiant Smith's request.[899]

483. Verizon DC represents that Affiant Uqdah claims that an order for FiOS Internet service that he did not authorize was placed. Even though Verizon DC asserts that it cannot confirm the claim, Verizon DC asserts that the order was successfully canceled before installation. Verizon DC also represents that it reviewed its procedures with the vendor that placed the order.[900]

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[895] Verizon DC Reply Brief, Attachment A at 3.

[896] Verizon DC Reply Brief, Attachment A at 1.

[897] Verizon DC Reply Brief, Attachment A at 2.

[898] Verizon DC Reply Brief, Attachment A at 2.

[899] Verizon DC Reply Brief, Attachment A at 2.

[900] Verizon DC Reply Brief, Attachment A at 2.

484. Verizon DC asserts that Affiant Noel-Cushenberry expressed an interest in FiOS Internet service, but wants to retain switched copper voice service.[901] According to Verizon DC, Affiant Noel-Cushenberry's voice and Internet service remain on copper facilities.[902] Although Affiant Noel-Cushenberry continues to request that Verizon DC deploy FiOS Internet service to her location while permitting her to retain switched copper voice service, but Verizon DC asserts that the Commission declined to address this issue in this proceeding in Order No. 17528.[903]

485. Verizon DC claims that six affiants (one in regard to his second line) make it clear that they knew of and agreed to the migration of their voice service to switched fiber voice service or FDV service. Verizon DC represents that Affiant Dinsmore notes that "[a]ll seems to be going well."[904]

486. Regarding Affiant Gomes, Verizon DC asserts that when his condominium association installed fiber facilities, Affiant Gomes ordered **[BEGIN CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]** service. Prior to this service installation, Verizon DC represents that Affiant Gomes was informed that he would need to migrate his voice service to fiber facilities in order to receive FiOS video service.[905]

487. **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

488. According to Verizon DC, Affiant Cook does not allege that fiber facilities were installed without her knowledge and consent.[907] Verizon DC argues that Affiant Cook converted her DSL service to FiOS Internet service. Upon Affiant Cook's request to return to switched copper voice service, Verizon DC asserts that **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

489. Verizon DC claims that Affiant Fleming ordered a FiOS Double Play of Internet and video services, which **[BEGIN CONFIDENTIAL INFORMATION]**

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901 Verizon DC Reply Brief, Attachment A at 2.

902 Verizon DC Reply Brief, Attachment A at 2-3.

903 Verizon DC Reply Brief, Attachment A at 3.

904 Verizon DC Reply Brief, Attachment A at 3, citing OPC (A)-29, ¶ 9.

905 Verizon DC Reply Brief, Attachment A at 3.

906 Verizon DC Reply Brief, Attachment A at 3.

907 Verizon DC Reply Brief, Attachment A at 3-4.

908 Verizon DC Reply Brief, Attachment A at 4.

[END CONFIDENTIAL INFORMATION] Verizon DC asserts that the affidavit contains statements that Affiant did not want her "phone service" changed to FiOS service, and wanted her "phone line" to remain untouched. Verizon DC also asserts that Affiant claims that her later request to migrate her "phone line" back to copper facilities was denied.[909] **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

490. Regarding Affiant Jourdinia Brown, **[BEGIN CONFIDENTIAL INFORMATION]**,

[END CONFIDENTIAL INFORMATION]

491. Verizon DC argues that Affiant Satterthwaite **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION]

492. **OPC Exhibit 92 Comments.** To support its arguments in favor of mandatory disclosure, OPC asserts that it cited two of its affidavits. According to OPC, both Affiants Fleming and Cook had Verizon DC's switched copper voice service before ordering FiOS Internet and/or video services. OPC contends that while both affiants requested repeatedly to

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909 Verizon DC Reply Brief, Attachment A at 4, citing OPC (A)-30, ¶¶ 7, 11-13.

910 Verizon DC Reply Brief, Attachment A at 4.

911 Verizon DC Reply Brief, Attachment A at 4-5.

912 Verizon DC Reply Brief, Attachment A at 5.

913 Verizon DC Reply Brief, Attachment A at 5.

914 Verizon DC Reply Brief, Attachment A at 5.

maintain their switched copper voice service, they discovered that Verizon DC had transitioned the switched copper voice service to FDV service without their knowledge or consent during the installation of the ONT to provide FiOS Internet and/or video services. OPC indicates that Verizon DC's response to these affidavits is that neither affiant "alleges that fiber was placed at their homes without their knowledge and consent."[915] While OPC concedes that Verizon DC's response is true, OPC argues that the response misses the point that both affiants make: neither affiant denies ordering FiOS Internet and/or video services, but neither ordered FDV service, so Verizon DC transitioned their switched copper voice service to FDV service without the affiants' knowledge or consent.[916]

493. OPC argues that it cited to Affiant Brown because her experience was similar to that of Affiants Fleming and Cook. While the affidavit omits details about how she obtained FiOS service, OPC contends that the Brown affidavit confirms that she was unaware that she had FDV service until she experienced a prolonged power outage. OPC claims that nothing in the customer records that Verizon DC originally provided refutes Affiant Brown's statement that she was unaware that she had FDV service and that Verizon DC refused to allow her to return to switched copper voice service.[917]

494. OPC contends that Corrected Exhibit No. 92 does not support Verizon DC's claim that Affiant Brown **[BEGIN CONFIDENTIAL INFORMATION]**

495.

[END CONFIDENTIAL INFORMATION] In her affidavit, Affiant Brown states that she discovered that "her copper wire service was switched to FiOS" after "one of the winter storms of 2013..."[920] **[BEGIN CONFIDENTIAL INFORMATION]**

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915 OPC Exhibit 92 Comments at 8, citing OPC Cross Examination Exhibit No. 111 at 14.

916 OPC Exhibit 92 Comments at 8.

917 OPC Exhibit 92 Comments at 9.

918 OPC Exhibit 92 Comments at 9, citing Verizon DC's Opposition to the Amended Motion of the Office of the People's Counsel for Expedited Commission Action and Interim Relief at 12, filed April 23, 2014.

919 OPC Exhibit 92 Comments at 10.

920 OPC Exhibit 92 Comments at 10, citing OPC (A)-41, ¶ 4-5.

496.

[END CONFIDENTIAL INFORMATION] OPC argues that the major premise on which OPC relies in citing the Brown affidavit – that Verizon DC's aggressive copper-to-fiber transition practices result in some consumers having their voice service transitioned from switched copper voice service to FDV service without their consent – remains undisturbed.[925]

497. One issue raised by two of the affiants involves Verizon DC's practices regarding customers seeking to have different service provided over a mix of copper and fiber facilities. Two of the affiants complain that a customer cannot have switched copper voice service with FiOS Internet or video services.[926] OPC contends that Verizon DC prefers that its customers be served over one medium (preferably fiber facilities), prohibiting its customers from subscribing to certain combinations of its telecommunications, Internet, and video services. OPC contends that during the hearing, Verizon DC's witnesses explained that Verizon DC prohibits switched copper voice service customers from obtaining FiOS Internet or video services.[927] In OPC's view, this policy provides customers with two unpalatable choices: retain voice service over copper facilities and forego the benefits of FiOS broadband and video services; or abandon switched copper voice service to obtain these FiOS services.[928]

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921 OPC Exhibit 92 Comments at 10, citing Corrected OPC Cross Examination Exhibit No. 92 at 212.

922 OPC Exhibit 92 Comments at 10, citing Corrected OPC Cross Examination Exhibit No. 92 at 213.

923 OPC Exhibit 92 Comments at 10.

924 OPC Exhibit 92 Comments at 10-11.

925 OPC Exhibit 92 Comments at 11.

926 Exhibit OPC (A-32) at 1-2; Exhibit OPC (A-36) at 2.

927 OPC Brief at 24.

928 OPC Brief at 24-25.

498. OPC contends that Verizon DC's practices also adversely affect competition. OPC argues that D.C. Code § 34-2002(i)(1)(B) prohibits Verizon DC from "unjustly discriminat[ing] in favor or itself or any other telecommunications provider in the provision of any telecommunications service or network element."[929] OPC claims that its witnesses' testimony explained that CLECs are more dependent on the ILEC in the District of Columbia because 54% of the CLEC lines in the District of Columbia are provided over Verizon DC facilities as opposed to 26% of CLEC lines nationwide being provided over ILEC facilities.[930] OPC claims that at the hearing, Verizon DC's witnesses stated that CLEC customers are not allowed to subscribe to FiOS services. OPC contends that, later in the hearing, Verizon DC's witnesses changed their position, clarifying that a customer who receives switched copper voice service from a CLEC will be able to subscribe to FiOS Internet and/or video services. In reviewing the revised FDV service, Internet, and TV Ordering and Service Guides filed after the hearing, OPC notes that only **[BEGIN CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] so there is no assurance that Verizon DC is actually following these new practices. OPC argues that Verizon DC's internal documents should be revised to reflect that policy clearly.[931]

499. Regarding OPC's concern about whether Verizon DC will provide FiOS Internet or video services to customers who do not migrate to voice service provided over fiber facilities, Verizon DC asserts that this concern is just another attempt to expand the Commission's jurisdiction to unregulated services.[932] Verizon DC asserts that the Commission has already declined to address this issue in this proceeding.[933] In support of that assertion, Verizon DC cites the following:

> [t]he Commission is prohibited from regulating FiOS services and therefore has no jurisdiction to examine the conditions under which Verizon DC offers its services to its customers in the District in this proceeding.[934]

Verizon DC asserts that OPC did not seek reconsideration of the decision in Order No. 17528 and cannot do so now.[935]

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929 OPC Brief at 25, citing D.C. Code § 34-2002(i)(1)(B) (2001).

930 OPC Brief at 25.

931 OPC Brief at 25-26.

932 Verizon DC Reply Brief at 8.

933 Verizon DC Reply Brief at 8-9.

934 Verizon DC Reply Brief at 9, citing Order No. 17528, ¶ 274.

935 Verizon DC Reply Brief at 9.

500. Verizon DC contests OPC's assertion that whether Verizon DC will provide FiOS Internet or video services to customers who do not order voice service over fiber facilities implicates D.C. Code § 34-2002(i)(1)(B), which prohibits Verizon DC from discriminating in favor of itself or other providers. Verizon DC represents that the record establishes that competition is flourishing in the District of Columbia. Furthermore, Verizon DC argues that it does not discriminate in favor of itself or any other telecommunications service provider in the provision of telecommunications services or network elements since it does not require any FiOS Internet or video services customer to purchase Verizon DC TDM-based voice services or vice versa. Verizon DC represents that any CLEC voice or data service customer may purchase Verizon DC FiOS Internet or video service pursuant to the terms and conditions of those services and the Cable Franchise Agreement.[936] Additionally, Verizon DC asserts that it will provision any CLEC order to provide services using Verizon DC copper facilities pursuant to Verizon DC's interconnection and wholesale advantage agreements, even if the customer had previously migrated to fiber or purchases FiOS Internet or video services.[937] Verizon DC indicates that a CLEC's voice and data services can only be disconnected by the CLEC, not by Verizon DC. Finally, Verizon DC asserts that it has no way of knowing whether a potential FiOS Internet or video service customer has voice services from another facilities-based service provider and could not deny FiOS services on that basis.[938]

501. Verizon DC confirmed at the hearing that it does not permit customers to have switched copper voice service and FiOS Internet or video services.[939] However, in its Reply Brief, Verizon DC asserts that "FiOS Internet and FiOS Television customers may return their voice service to available copper facilities upon request," keeping these services while returning to switched copper voice service.[940] Several of Verizon DC's documents indicate that a customer with FiOS Internet, video, and FDV services may have the voice service returned to switched copper voice service upon request.[941] So it appears that customers seeking to order FiOS Internet and video services while retaining their switched copper voice service are not permitted to do so, although customers who have migrated to a FiOS Double or Triple Play may return to switched copper voice service and retain their FiOS Internet and/or video services.

502. For customers subscribing to both Verizon DC and another provider's (including a CLEC) services, Verizon DC will allow mixed media. For example, a customer may have DSL service from a CLEC and switched fiber voice service. Alternatively, a customer can have CLEC switched copper voice service and FiOS Internet and/or video services.[942] A customer

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936 Verizon DC Reply Brief at 9.

937 Verizon DC Reply Brief at 9-10.

938 Verizon DC Reply Brief at 10.

939 Tr. at 148, 172.

940 Verizon DC Reply Brief at 37.

941 Verizon DC Cross Examination No. 5 at 55; Verizon DC Cross Examination Exhibit No. 6 at 33; Verizon DC Cross Examination Exhibit No. 22 at 6.

942 Tr. at 353.

may also have voice service provided by a CLEC or another provider using its own facilities and FiOS Internet and/or video services.[943]

503. Regarding the OPC Consumer Affidavits accepted into evidence in this proceeding, the Commission views them as anecdotal evidence regarding some of the nine issues in this proceeding. Six of the 15 remain or were returned to copper facilities, at their request,[944] although three complain about the pressure to migrate to fiber facilities.[945] At least two of the customers wanted to return to switched copper voice service, but changed their minds, apparently because of promotional offers in one case,[946] and in the second case with the purchase of an additional BBU.[947] One affiant switched to a FiOS Double Play (voice and Internet) and expressed satisfaction with the service, although not with the salespeople who came to her home because they did not have much information.[948] Another affiant switched to FDV service because of recurring copper repair problems but was not pleased with the prospect of migration or the ONT installation.[949] Four affiants felt that they had been pressured to convert to fiber facilities.[950] The last affiant complained that she had received no information about how a conversion from HSI to FiOS Internet service would affect her switched copper voice service. She also asserts that she has been told that she cannot return to HSI service.[951]

504. After reviewing the affidavits, they appear to confirm some of the findings that the Commission has made: that Verizon DC does permit retention or return to copper facilities (with the exception of a return to HSI), albeit with some pressure to remain on fiber facilities; and that Verizon DC is actively marketing its FiOS services provided over fiber facilities. It also appears that Verizon DC does permit some customers to have services over copper facilities and fiber facilities simultaneously in certain limited circumstances.

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943 Tr. at 190-191.

944 Affiant Cook asserts that two lines at her house were converted to digital facilities, one (her mother's) without consent. Verizon DC has returned that line to switched copper voice service. Exhibit OPC (A-28) at 2-3. *See also*, Exhibit OPC (A-39) at 1-4; Addendum to Affidavit of Stephen Smith Concerning Verizon DC's Attempt to Switch him from its Copper Network to its Fiber Network without his Consent, filed November 11, 2014.

945 Exhibit OPC (A-31) at 1-2; Exhibit OPC (A-33) at 1-3. One affiant, Mr. Savwoir, asserts that he felt pressured into migrating one of his two lines to fiber facilities. The other line remains on copper facilities. Exhibit OPC (A-38) at 1-3. Affiant Uqdah claims that an incorrect migration order was submitted to Verizon DC on his behalf without his consent; this work order was cancelled. Exhibit OPC (A-40) at 1-2.

946 Exhibit OPC (A-30) at 1-2.

947 Exhibit OPC (A-41) at 1-2.

948 Exhibit OPC (A-29) at 1-2.

949 Exhibit OPC (A-34) at 1-2.

950 Exhibit OPC (A-32) at 1-2; Exhibit OPC (A-35) at 1-2; Exhibit OPC (A-36) at 1-2; Exhibit OPC (A-37) at 1-2.

951 Exhibit OPC (A-42) at 1-3.

505. Regarding a customer's request to have switched copper voice service and FiOS Internet and/or video services, Verizon DC argues that the Commission declined to address this issue in this proceeding, citing Order No. 17528. In that Order, the Commission stated that it is "prohibited from regulating FiOS services and therefore has no jurisdiction to examine the conditions under which Verizon DC offers its services to its customers in the District of Columbia in this proceeding."[952] OPC has not provided any subsequent evidence to show that the Commission has such authority to require Verizon DC to provide switched copper voice service when it offers FiOS Internet and video services.

C. Consumer Complaint Data

506. Verizon DC argues that actual customer complaints submitted to the Commission, OPC, and Verizon DC in the normal course of business contradict OPC's claims that customer complaints support OPC's positions and recommendations. In support of this contention, Verizon DC cites the Commission's 2014 Annual Report, which states that "[a]fter peaking in 2006, the number of complaints and inquiries concerning Verizon's telephone service has steadily declined through 2012."[953] Verizon DC asserts that the most recent Commission Annual Report shows that consumer complaints and inquiries relating to Verizon DC decreased by 29.25% between fiscal year 2012 and fiscal year 2013. Verizon DC claims that Commission statements during the recent (February 2015) oversight hearings demonstrates that this trend has continued, with total complaints declining an additional 39.42% to 146 total complaints out of 81,000 residential switched access customers in fiscal year 2014.[954]

507. Regarding the 1,274 total complaints relating to Verizon DC received by OPC between 2011 and 2013, Verizon DC argues that only 20 (1.5%) were classified as FiOS complaints.[955] Verizon DC asserts that OPC did not provide any detailed information on these 20 complaints, since OPC did not rely on these complaints as evidence in this proceeding.[956] Regardless of the nature of these complaints, Verizon DC asserts that the miniscule number of complaints over a three year period when there are thousands of FDV service customers does not justify OPC's recommendations relating to FDV service. Verizon DC also argues that during this same time period, complaints made to OPC or Verizon DC that are directly related to copper facility maintenance have declined each year and represent a tiny fraction of the hundreds of thousands of copper switched access lines served by Verizon DC. Verizon DC contends that its own internal records show that it has received complaints from less than one percent of

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952 Order No. 17528, ¶ 274.

953 Verizon DC Reply Brief at 38, citing Public Service Commission 2012 Annual Report at 86, rel. September 2013 (emphasis in Verizon DC Reply Brief omitted).

954 Verizon DC Reply Brief at 38.

955 Verizon DC Reply Brief at 38.

956 Verizon DC Reply Brief at 39.

customers who have migrated from switched copper voice service to switched fiber voice service.[957]

508. There is very little evidence regarding consumer complaints received by OPC about the issues related to the copper-to-fiber transition, and no evidence relating to any consumer complaints received about issues raised by the copper-to-fiber transition by Verizon DC or the Commission. Verizon DC argues that the number of consumer complaints to the Commission about Verizon DC in general has been decreasing. On this very limited evidence, the Commission cannot find that there have been a great number of consumer complaints about the copper-to-fiber transition.

VI. FINDINGS OF FACT AND CONCLUSIONS OF LAW

509. Switched copper voice service and switched fiber voice service provide the same local exchange services even though they do not operate in an identical manner.

510. There are several differences in the offerings of TDM-based switched voice service, whether provided over copper or fiber facilities, and FDV service.

511. FDV service provides several offerings in addition to local exchange service that Verizon DC's TDM-based switched voice service cannot perform.

512. Residential and business customers will lose certain features associated with local exchange service if they choose FDV service.

513. It is unclear as to the importance to customers of the loss of the local exchange features that are not provided with FDV service.

514. FDV service customers would also be required to supply commercial power to their ONTs, a distinguishing feature which is important to business and residential customers.

515. Because fiber facilities are more resistant to environmental factors, these facilities may be less prone to service outages which would benefit business and residential customers.

516. The reliance of fiber facilities on commercial power at the customer premises makes the fiber network less reliable in the event of a commercial power outage.

517. The differences between switched copper voice service, switched fiber voice service, and FDV service are important to business and residential customers in that they impact reliability and they can have an impact on public safety and the delivery of emergency services during times of commercial power outages.

518. In the case of a commercial power outage, the ONT used to provide switched fiber voice service and FDV service will not function without battery backup power.

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[957] Verizon DC Reply Brief at 39.

519. The difference in the source of power between switched copper voice service, switched fiber voice service, and FDV service means that the three voice service architectures function differently.

520. The difference in the source of power is significant, since residential and business customers subscribing to switched fiber voice service and FDV service are now responsible for providing their own power, and cannot rely on Verizon DC to provide power from the central office.

521. In at least some circumstances, Verizon DC must make adjustments in its fiber migration activities to accommodate home alarm systems, which is an indication of a difference in functionality between switched copper voice service and voice services provided over fiber facilities.

522. The question of whether home alarm systems are compatible with switched fiber voice service or FDV service is important to those business and residential customers with home alarm systems.

523. OPC has not provided any specific evidence demonstrating that faxes and/or modems are not operational with FDV service.

524. E911 service over switched fiber voice service and FDV service operates and performs similarly to E911 service provided over switched copper voice service with only one notable exception – the inability of the switched fiber voice service to remain operational during long periods of loss of commercial power.

525. Because of this power issue, the Commission finds that fiber lines connected to TDM-based circuit switch equipment do not provide the same or better call and response capabilities for emergency services.

526. A FDV service call to E911 service is essentially the same as a switched fiber voice service call with the exception that the conversion from IP to TDM takes place at the OLT for switched fiber voice service and at the IP softswitch for FDV service.[958]

527. In certain limited circumstances, the FDV service network provides more reliability in reaching the E911 network than the TDM-based switched network.

528. Because of the power issue, FDV service fiber lines connected to IP softswitch equipment do not provide the same or better call and response capabilities for emergency services.

529. CALEA compliance is different on the switched voice network and the FDV service network.

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[958] OPC Cross Examination Exhibit No. 1 at 11.

530. There is insufficient information on the record to determine whether Verizon DC's ability to comply with CALEA is better or the same if FDV service is involved.

531. Access to emergency service for TRS users is the same as that provided to switched voice service TRS users.

532. No additional equipment or services are needed for FDV service to achieve the same level of response capabilities for TRS as exist with copper facilities.

533. GETS calls work differently on the FDV service network than in the switched voice network, but FDV service customers are still able to access GETS.

534. No additional equipment or services are needed to achieve the same level of response capabilities for FDV service as exist with copper facilities for GETS services.

535. There is no information on the record to support a conclusion that prioritization of TSP circuits is different for switched fiber voice service or FDV service as compared to switched copper voice service.

536. No additional equipment or services for TSP are needed to achieve the same level of response capabilities on fiber facilities as exist with copper facilities.

537. While the record is not clear at which point in the call flow the Reverse 911 call would be converted from TDM format to IP format, it appears that this conversion would not be any different from the conversion of any other TDM-based call.

538. Although it appears that there is a difference between the routing of Reverse 911 calls to switched voice service customers and FDV service customers, the Commission determines that there is no information on the record to suggest that additional equipment or services are needed for switched voice fiber facilities or FDV service to achieve the same level of response capabilities as exists for switched voice service with copper facilities.

539. There are no differences in the voice services provided by switched copper voice service and switched fiber voice service (although there are some significant differences in the functionalities and capabilities of the two services).

540. Since there are no differences between the services offered by the two switched services, the Commission finds that the services should be treated the same for regulatory purposes.

541. The provision of basic service and access to emergency services should be required services of any telecommunications service, regardless of the facilities over which it is provided.

542. The services outlined in 15 DCMR §2505.4(c) must be provided over fiber as well as copper facilities.

543. The services in the Basic Services Baskets of Price Cap Plan 2008 must continue to be provided with switched fiber voice service.

544. The availability of power should be a functionality of both switched copper voice service and switched fiber voice service.

545. Section C.5 of the General Regulations Tariff, P.S.C.-D.C.-No. 21 is being used for purposes beyond the original intent of the tariff.

546. Service quality standards should be the same for switched copper voice service and switched fiber voice service.

547. The lack of power, particularly when compared with the ability of switched copper voice service to remain functional during a commercial power outage, poses issues related to network reliability and public safety that need to be addressed for switched fiber voice service.

548. Battery backup is necessary when fiber facilities that are used to provide regulated voice service rely on commercial power in order to function.

549. The Commission will propose regulations through its rulemaking process regarding requirements for battery backup.

550. Regardless of the voice service provided, the signal from the NID or ONT to the customer telephone is in analog format.

551. Verizon DC's ONT used for switched fiber voice service and FDV service is the network demarcation point at the customer's premises.

552. The placement of the ONT at the customer premises satisfies the statutory requirement in D.C. Code §34-2001(23)(A)(i) that the conversion to IP must occur at the customer location.

553. Verizon DC's FDV service permits users to connect to the PSTN, so that they can receive calls that originate on the PSTN and can place calls that terminate on the PSTN. This capability satisfies the requirement of D.C. Code §34-2001(23)(B).

554. The record establishes that the conversion at the ONT involves either BPON or GPON technology, both of which use broadband connections, satisfying the requirement of having a broadband connection in D.C. Code §34-2001(23)(A)(ii).

555. Depending on the type of ONT, the analog signals are converted into non-IP signals by BPON technology or IP signals using GPON technology.

556. If a customer is served by an ONT using GPON technology, which uses SIP technology, then that service "enables real-time 2-way voice communications that originate or terminate from the user's location using" IP and meets the definition of a VoIP service that is set out in D.C. Code §34-2001(23)(A)(i).

557. ONTs with BPON technology, convert analog signals into non-IP packets at the end user location; therefore, the use of IP format does not occur until the packets reach the OLT. While using a broadband connection, these ONTs do not "enable[] real-time 2-way voice communications that originate or terminate from the user's location using [IP] or a successor protocol" as required by D.C. Code §34-2001(23)(A)(i). Thus, the FDV service provided by these ONTs would not fit the definition of "VoIP" service.

558. Verizon DC's FDV service is an IP-enabled service, regardless of the PON technology used by the ONT, because there is a conversion to IP signals during the transmission of the voice message that permits the end user to send the voice message in IP format.

559. The Commission finds that all FDV service is IP-enabled service while FDV service that is provided by GPON ONTs is also a VoIP service, pursuant to the definitions provided in the D.C. Code. Thus, the Commission has no jurisdiction over FDV service and cannot impose any requirements on FDV service.

560. It has not been established on this record that the copper facilities in the Identified Wire Centers are poorly performing.

561. It has not been established on this record that there are areas in the District where there are poorly performing copper-based facilities but no immediate plans to transition to fiber facilities.

562. Verizon DC customer service representatives provide inadequate disclosures regarding the BBU, access to E911 service in the case of a power outage, and compatibility of home alarm systems when customers call in to Verizon DC and a change of service from switched voice service to switched fiber service or FDV service is discussed.

563. It is in the public interest to require that when Verizon DC plans to discontinue providing a regulated service to customers it must so inform the customers in advance.

564. Verizon DC should make its Terms of Service more easily accessible on its website and in its correspondence with customers during the decision making process.

565. The record in this proceeding supports a finding that Verizon DC does permit customers to retain and return voice service to copper facilities.

566. There currently is no advance public notice requirement in the District of Columbia regarding copper facility retirements; the lack of such a requirement prevents the Commission from currently mandating that a telephone service provider provide information about a copper facility abandonment to District of Columbia consumers.

567. A notice requirement for the abandonment of copper facilities will be proposed in a subsequent rulemaking proceeding.

THEREFORE, IT IS ORDERED THAT:

568. The Office of the People's Counsel's Motion to Correct the Evidentiary Hearing Transcript is **GRANTED**;

569. Verizon Washington, DC Inc.'s Motion to Correct Confidential Transcript is **GRANTED**;

570. Verizon Washington, DC Inc.'s Motion to Correct Public Transcript is **GRANTED**;

571. Verizon Washington, DC Inc. is to file an amendment to Section C.5 of the General Regulations Tariff, P.S.C.-D.C.-No. 21 to exclude residential and small business customers from the purview of this tariff within 30 days of the date of this Order;

572. Verizon Washington, DC Inc. is directed to update its scripting and Welcome to 100% Fiber Optics user guide to include information about the PowerReserve BBU and to file these revised scripts and Welcome to 100% Fiber Optics user guide with the Commission within 30 days of the date of this Order;

573. Verizon Washington, DC Inc. is directed to update its scripting to disclose that FDV service is unregulated by the Commission and to file the revised scripts with the Commission within 30 days of the date of this Order;

574. Verizon Washington, DC Inc. is directed to file the revised version of the Provisioning and Maintenance I&M FiOS Process and System Support M&P containing language to ensure that service technicians inform customers of their ability to have their copper facilities repaired without having to migrate voice service to fiber facilities within 30 days of the date of this Order;

575. Verizon Washington, DC Inc. is directed to amend the relevant M&P to include the BBU disclosures and recordation of customer agreement and understanding of the BBU disclosures by the service technician or develop a process through which the service technician calls the Customer Service Center to have a customer services representative read the current BBU disclosure and record the customer's response. A revised version of this M&P containing either one of these options shall be filed within 30 days of the date of this Order;

576. Verizon Washington, DC Inc. is directed to amend the relevant training materials and scripting for customer service representatives to provide disclosures regarding: (1) the availability, features and price for a BBU; (2) access to E911 service during a commercial power outage; and (3) compatibility with home security and alarm systems when customers call in to Verizon DC and inquire about a change to or to order switched fiber voice service or FDV service and to file the revised training materials and scripts with the Commission within 30 days of the date of this Order; and

577. Verizon Washington, DC Inc. shall continue to permit voice service customers to retain or return to copper facilities upon the customer's request.

A TRUE COPY: **BY DIRECTION OF THE COMMISSION:**

CHIEF CLERK: **BRINDA WESTBROOK-SEDGWICK**
COMMISSION SECRETARY