I. Meeting Packet

State of Florida
Public Service Commission
INTERNAL AFFAIRS AGENDA
Tuesday - July 10, 2018
Immediately Following Agenda Conference
Room 105 - Gerald L. Gunter Building

1. Review of the 2018 Report on the Status of Competition in the Telecommunications Industry (Attachment 1)

2. Review of Electric Utility Hurricane Preparedness and Restoration Actions – Draft Report and Recommended Actions (Attachment 2)

3. General Counsel's Report

4. Executive Director's Report

5. Other Matters

BB/aml

OUTSIDE PERSONS WISHING TO ADDRESS THE COMMISSION ON ANY OF THE AGENDAED ITEMS SHOULD CONTACT THE OFFICE OF THE EXECUTIVE DIRECTOR AT (850) 413-6463.

Attachment 1

State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: June 29, 2018

TO: Braulio L. Baez, Executive Director

FROM: Office of Industry Development & Market Analysis (Long, Bates, Wooten)

RE: Draft of the Report on the Status of Competition in the Telecommunications Industry

CRITICAL INFORMATION: Please place on the July 10, 2018 Internal Affairs. FPSC approval of draft report is sought. Report is due to the Governor and Legislature by August 1, 2018.

Section 364.386, Florida Statutes, requires that the Commission prepare an annual report on the status of competition in the telecommunications industry. The report is to be submitted to the Governor, the Speaker of the House of Representatives, the President of the Senate, and the majority and minority leaders of the Senate and the House of Representatives by August 1 of each year. The attached draft report on the "Status of Competition in the Telecommunications Industry" has been prepared to fulfill the legislative requirement. Staff is seeking approval of the draft report.

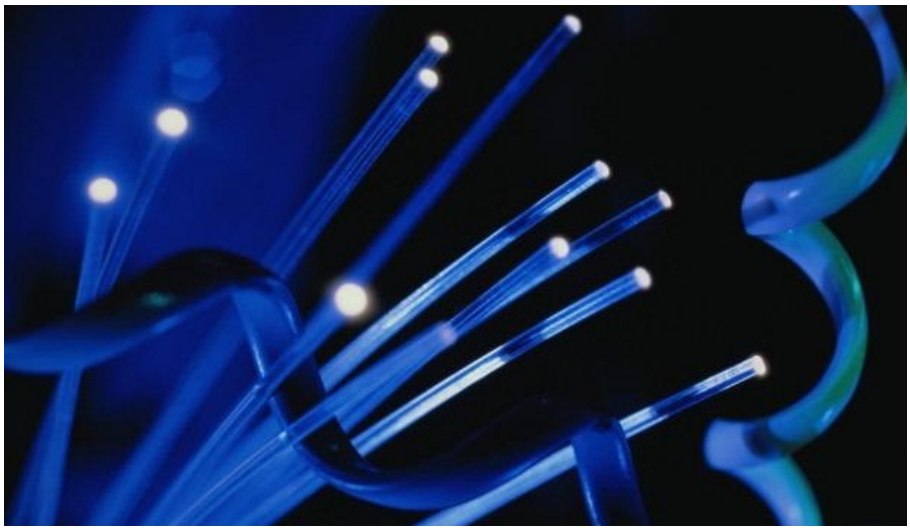
Attachment

cc: Mark Futrell, Deputy Executive Director, Technical
Apryl Lynn, Deputy Executive Director, Administrative
Keith Hetrick, General Counsel

DRAFT 06/29/18

Report on the Status of

Competition in the Telecommunications Industry

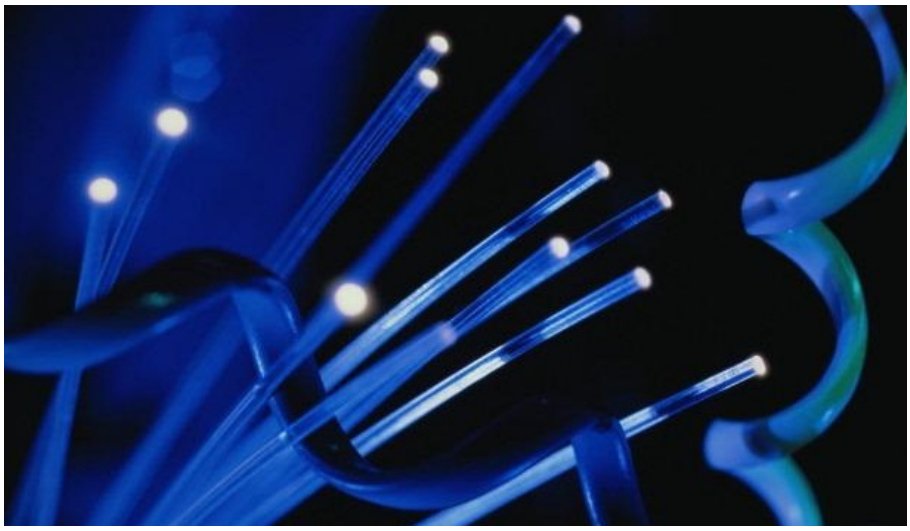


AS OF DECEMBER 31, 2017

Florida Public Service Commission

Report on the Status of

Competition in the Telecommunications Industry



AS OF DECEMBER 31, 2017

Florida Public Service Commission
Office of Industry Development and Market Analysis

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List of Acronyms

CDC	Centers for Disease Control and Prevention
CLEC	Competitive Local Exchange Company
FCC	Federal Communications Commission
FiOS	Verizon's trademark name for its fiber-to-the-home package of services
FPSC	Florida Public Service Commission, the Commission
FTRI	Florida Telecommunications Relay, Inc.
F.S.	Florida Statutes
ILEC	Incumbent Local Exchange Company
IP	Internet Protocol
kbps	kilobits per second
Mbps	Megabits per second
TASA	Telecommunications Access System Act of 1991
TDM	Time Division Multiplexing
USF	Universal Service Fund
USAC	Universal Service Administrative Company
VoIP	Voice over Internet Protocol

Executive Summary

Section 364.386, Florida Statutes, requires the Florida Public Service Commission (FPSC or Commission) to report on the status of competition in the telecommunications industry to the Legislature by August 1 of each year. As of December 31, 2017, there were 10 incumbent local exchange companies and 268 competitive local exchange companies certificated by the Commission to operate in Florida.

In 2017, the Florida wireline market continued to follow the national trend with AT&T, CenturyLink and Frontier all experiencing access line losses. The local and national markets continued to consolidate with several mergers and acquisitions. Several intrastate issues were resolved or initiated in 2017. The Lifeline subscription rate in Florida decreased measurably, from 49.8 percent of eligible households in 2016 to 41.3 percent in 2017.

Consumers in Florida continue to migrate from traditional wireline service to wireless and cable/Voice over Internet Protocol (VOIP) services. The data indicates that residential migration may be increasing slightly. Business customers continue to migrate to Internet Protocol technology in large numbers. Carriers reported approximately two and a half million total wireline access lines in Florida for 2017, about 17 percent fewer than the previous year.

For the seventh year in a row, total wireline business access lines exceeded total residential lines. Wireline business and residential access lines experienced significant drops that were larger than those of the previous year. In 2017, business lines declined 12.2 percent, and residential lines declined 23.4 percent. Much of this decline can continue to be attributed to the transition to VOIP and wireless-only services. CenturyLink continues to be Florida's largest wireline residential provider, despite experiencing a 25.5 percent decline in residential access lines during 2017. AT&T declined 22.4 percent, and Frontier declined 24.8 percent in residential access lines for the same period. The wireline competitors maintained their 38 percent business market share in 2017. Competitors continued to largely ignore the wireline residential market, as their market share remained at one percent. AT&T's and Frontier's mix of residential and business lines continued their shift towards business lines, which now comprise about 53 percent of their total number of access lines. Competitors have nearly 99 percent of their accounts in the business sector.

As reported for the past several years, intermodal competition from wireless, VOIP, and broadband continued to drive the telecommunications markets in 2017. There are an estimated 21.5 million wireless subscriptions in Florida, and greater than 4.5 million VOIP connections.

Analysis of the telecommunications data produced the following conclusions:

- Many competitive local exchange companies reported offering a variety of services and packages comparable to those offered by incumbents. Subscribers to cable, wireless, and business VOIP services continued to increase. These factors contribute to the conclusion

that competitive providers are able to offer functionally equivalent services to both business and residential customers.

- The continued decrease in both business and residential incumbent local exchange carrier wireline access lines demonstrates customers are finding reasonable pricing packages and functionality with competitive local exchange companies, cable providers, and wireless providers, as well as VOIP services from the incumbent local exchange carriers.
- Based on the continued growth of interconnected VOIP services and wireless-only households, network reliability of non-incumbent providers is sufficient to satisfy customers. The Federal Communications Commission (FCC) reported telephone penetration rate of 94.4 percent for Florida suggests that the overwhelming majority of Florida residents are able to afford telephone service. The number and variety of competitive choices among all types of service providers suggest that competition is continuing to have a positive impact on the telecommunications market in Florida.

Chapter I. Introduction and Background

Chapter 364, F.S., requires the Florida Public Service Commission (Commission or FPSC) to prepare and deliver a report on the status of competition in the telecommunications industry to the President of the Senate, the Speaker of the House of Representatives, and the majority and minority leaders of the Senate and the House of Representatives on August 1 of each year. Section 364.386, F.S., requires that the report address the following four issues:

1. The ability of competitive providers to make functionally equivalent local exchange services available to both residential and business customers at competitive rates, terms, and conditions.
2. The ability of customers to obtain functionally equivalent services at comparable rates, terms, and conditions.
3. The overall impact of competition on the maintenance of reasonably affordable and reliable high-quality telecommunications services.
4. A list and short description of any carrier disputes filed under Section 364.16, F.S.

The Commission is required to make an annual request to local exchange telecommunications providers each year for the data required to complete the report. The data request was mailed on February 20, 2018, and responses were due April 16, 2018. Data requests were mailed to 10 incumbent local exchange companies (ILECs) and 268 competitive local exchange companies (CLECs). The Commission continues its efforts to increase efficiency while gathering the data and information to produce this report. The data presented and the analyses that follow accurately reflect the information provided by the ILECs and the reporting CLECs.

The report also summarizes key events that may have a short-term or long-term effect on the Florida telecommunications market. National and state telecommunications issues, economic factors, mergers, universal service developments, FCC enforcement actions, and state actions are presented to provide a more comprehensive picture of the market in 2017.

Chapter II. Wireline Market Overview

A. Incumbent Carriers

AT&T, CenturyLink, and Frontier are the three largest ILECs in Florida providing wireline services.[1] These providers continued to face access line losses in the national wireline market in 2017, as customers disconnected traditional landline services and switched to alternative technologies such as wireless and VOIP.

AT&T reported losses of approximately 2.2 million switched access lines nationwide (16 percent) in 2017. In Florida, AT&T's total switched access lines declined by nearly 176,000 (17.3 percent), with residential access lines decreasing by nearly 95,000 lines (22.4 percent), and business access lines decreasing by nearly 81,000 lines (13.7 percent). This represented a slight moderation in the pace of the total line losses from 17.9 percent in 2016. In 2017, AT&T reported a decrease in operating revenues of around $3.2 billion nationwide, a decline of two percent.[2,3]

CenturyLink continued to experience declines in its switched access lines nationwide, losing around 808,000 lines (7.3 percent) in 2017.[4] In Florida, CenturyLink's total switched access lines declined by around 160,000 (20.3 percent), with residential access lines decreasing 138,000 (25.5 percent), and business access lines decreasing 22,000 (8.9 percent). In 2017, CenturyLink reported a slight increase in operating revenues of approximately $186 million nationwide, a gain of 1.1 percent.[5]

Frontier experienced a 10 percent loss of access lines nationwide compared to 2016, ending 2017 with approximately 4.4 million subscribers.[6] In Florida, Frontier's total switched access lines declined by around 58,000 (15.9 percent), with residential access lines decreasing nearly 34,000 (24.8 percent), and business lines decreasing by nearly 24,000 (10.5 percent). In 2017, Frontier reported a slight increase in revenue of $232 million nationwide, a gain of 2.62 percent.[7]

The seven rural Florida ILECs experienced a modest contraction in the number of switched access lines in their respective wireline service areas.[8] In 2017, rural carriers in Florida saw their

[1] Responses to Local Competition Data Request 2017.
[2] AT&T Inc., Form 10-K, December 31, 2017, Exhibit 13, p.1, https://www.sec.gov/Archives/edgar/data/732717/000073271718000009/ex13.htm, accessed April 10, 2018.
[3] Responses to Local Competition Data Request for 2017.
[4] CenturyLink Form 10-K, December 31, 2017, https://www.sec.gov/Archives/edgar/data/18926/000001892618000012/ctl2017123110k.htm#s8BA099BB78C85ED686DA46DE4B785401, p. 6, accessed April 9, 2018.
[5] CenturyLink Form 10-K, December 31, 2017, https://www.sec.gov/Archives/edgar/data/18926/000001892618000012/ctl2017123110k.htm#s040A362F380259669A7BEBCCDD3759AE, p. 49, accessed April 9, 2018.
[6] Frontier Communications Form 10-K, December 31, 2017, https://www.sec.gov/Archives/edgar/data/20520/000002052018000007/ftr-20171231x10k.htm#Managementss_Discussion_And_Analysis, p. 29, accessed April 9, 2018.
[7] Ibid, p. 27.
[8] Frontier Communications of the South data was reported with Frontier Florida figures.

total access lines decline by approximately 9,000 (7.5 percent), while residential lines decreased by 8,500 (10.1 percent) and business lines decreased by over 500 (1.5 percent).[9]

Windstream is the largest of the rural ILECs and operates in northeast Florida. Nationally, Windstream has approximately 1.4 million residential and small business customers, a decline of approximately 97,000 (6.5 percent). Windstream also experienced a nationwide 4.2 percent decrease in broadband subscribers.[10] By the end of 2017, Windstream's income from its ILEC segment decreased by $85 million nationally, or 4.1 percent from 2016.[11] In Florida, Windstream experienced a decline in switched access lines of around 6,600 (9.5 percent) in total lines, 6,000 (10.9 percent) in residential lines and around 600 (4.3 percent) in business lines.[12]

In spite of the decline in wireline access lines, wireline telecommunications carriers continue to play a role in an evolving telecommunications market. Wireless carriers continue to be dependent on the wireline network. The majority of wireless call transport occurs over the wireline network, a function commonly referred to as "backhaul." While the number of access lines continues to decline, the wireline network remains a crucial element in the mix of communications technologies.

B. Mergers/Acquisitions

Telecommunications carriers seeking to transfer assets or corporate control in mergers and acquisitions must first receive approval from the FCC, which examines the public interest impact of proposed mergers or acquisitions. In 2017, there were 52 telecommunications mergers and acquisitions in the U.S. Recent transactions of interest to Florida are described below. [13,14,15]

1. CenturyLink/Level 3

In October 2016, CenturyLink Communications, Inc. (CenturyLink) announced that the company would acquire Level 3 Communications, Inc. (Level 3) in a cash and stock transaction valued at approximately $34 billion. Under the terms of the merger agreement, Level 3 shareholders will receive $26.50 per share in cash and a fixed exchange ratio of 1.4286 shares of CenturyLink stock for each Level 3 share they own. Upon the closing of the transaction, CenturyLink shareholders own approximately 51 percent and Level 3 shareholders will own approximately 49 percent of the combined company.[16]

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[9] Responses to Local Competition Data Request for 2017.
[10] Windstream, 10-K, December 31, 2017, https://www.sec.gov/Archives/edgar/data/1282266/000128226618000016/a201710k.htm, Table. F-17, accessed April 10, 2018.
[11] Ibid, Table F-104, Footnote 58.
[12] Responses to Local Competition Data Request for 2017.
[13] Section 214 of the Communications Act of 1934, sections 63.03 and 63.04 of the FCC's rules govern the procedures for domestic transfer of control/asset applications.
[14] FCC, "2017 Completed Domestic Section 214 Transfer of Control Transactions," https://www.fcc.gov/2017-completed-domestic-section-214-transfer-control-transactions#block-menu-block-4, accessed April 24, 2018.
[15] FCC, "2016 Completed Domestic Section 214 Transfer of Control Transactions," https://www.fcc.gov/general/2016-completed-domestic-section-214-transfer-control-transactions#block-menu-block-4, accessed April 24, 2018.
[16] "CenturyLink to acquire Level 3 Communications," CenturyLink News Release, released October 31, 2016, http://news.centurylink.com/news/centurylink-to-acquire-level-3-communications, accessed April 20, 2017.

Both Level 3 and CenturyLink provide communications services in all 50 states, including Florida. Level 3 is a global communications company that provides primarily fiber-based communications services such as Internet backbone, broadband transport, collocation, voice, and IP-based services. CenturyLink offers local and long-distance voice, wholesale local network access, high-speed internet, and fiber transport services through copper and fiber networks. According to CenturyLink, the merger with Level 3 will significantly improve the company's global network capabilities, creating a company with one of the most robust fiber networks in the world. The CenturyLink/Level 3 merger closed on November 1, 2017.[17]

2. Windstream/EarthLink

On November 7, 2016, Windstream announced a merger agreement with EarthLink Holdings Corp. (EarthLink) wherein EarthLink will ultimately become a wholly-owned subsidiary of Windstream.[18] The merger was completed on February 27, 2017. Under the terms of the agreement, EarthLink shareholders received 0.818 shares of Windstream common stock for each EarthLink share owned. As a result, Windstream shareholders will own approximately 51 percent and EarthLink shareholders will own approximately 49 percent of the combined company. The all-stock transaction is valued at approximately $1.1 billion, including debt.[19] According to Windstream, the merger with EarthLink further advances Windstream's strategy by creating a stronger, more competitive business to serve its customers while increasing free cash flow and reducing leverage. It will also extend Windstream's national footprint spanning to approximately 145,000 fiber route miles and provide advanced network connectivity, managed services, voice, internet and other value-added services.[20]

Windstream provides an array of communications and technology services. The company also operates as an ILEC in multiple states, including Florida. Windstream provides local exchange and intrastate, interstate and international long distance telecommunications services to residential customers located in primarily rural areas. EarthLink operates as a CLEC and is authorized to provide services in 50 states, including Florida. The company provides data, voice, and managed network services to small- and medium-sized business, enterprise, and wholesale customers.

[17] Cision PR Newswire, "CenturyLink completes acquisition of Level 3," CenturyLink, Inc. News Release, release November 1, 2017, https://www.prnewswire.com/news-releases/centurylink-completes-acquisition-of-level-3-300547357.html, accessed April 24, 2018.
[18] "Windstream and EarthLink to merge in $1.1 billion transaction," Windstream News Release, released November 7, 2016, http://news.windstream.com/article_display.cfm?article_id=1770, accessed November 14, 2017.
[19] "Windstream completes merger with EarthLink," Windstream News Release, released February 27, 2017, http://news.windstream.com/article_display.cfm?article_id=1791, accessed April 24, 2018.
[20] "Windstream and EarthLink to merge in $1.1 billion transaction," Windstream News Release, released November 7, 2016, http://news.windstream.com/article_display.cfm?article_id=1770, accessed April 24, 2018.

3. Consolidated/FairPoint

In December 2016, Consolidated Communications Holdings, Inc. (Consolidated) signed an agreement to acquire FairPoint Communications, Inc. (FairPoint) in an all stock merger. On March 28, 2017, Consolidated's shareholders approved the issuance of the company's common stock pursuant to the merger agreement. Under the terms of the agreement, FairPoint shareholders will receive a fixed exchange ratio of 0.7300 shares of Consolidated's common stock for each share of FairPoint common stock. After closing, Consolidated's shareholders will own approximately 71.3 percent of the combined company and FairPoint's shareholders will own 28.7 percent. Consolidated secured financing to fund the acquisition and both Consolidated and FairPoint secured the necessary state and federal regulatory approvals to complete the merger. The merger closed on July 3, 2017.[21] The Fairpoint brand will be retired in favor of the Consolidated brand. Fairpoint has two subsidiaries operating in Florida: GTC Communications, Inc. and GTC, Inc.

4. Windstream/Broadview

On April 13, 2017, Windstream signed a definitive agreement to acquire Broadview Networks for $227.5 million in cash in an effort to improve its competitiveness in the unified communications market.[22] Broadview Networks specializes in cloud-based unified communications solutions targeting the small and medium business market (SMB). Therefore, the acquisition of Broadview Networks will add an additional footprint of unified communications and other business class services targeting SMBs to Windstream's reach, which has grown significantly due to Windstream's recent acquisition of EarthLink. Acquiring Broadview Networks will also help Windstream continue its diversification strategy of moving away from legacy telecom services towards business, cloud, and broadband focused services. The boards of both companies unanimously approved the acquisition and the transaction closed July 28, 2017. Both companies conduct business in Florida.[23]

5. Windstream/MassComm

On March 27, 2018, Windstream Holdings, Inc. announced that it has acquired MASS Communications, a privately held New York-based telecommunications network management company, for approximately $37.5 million in an all-cash transaction. MASS Communications serves a broad range of small to mid-sized global enterprises in the financial, legal, healthcare, technology, education and government sectors, providing custom engineered voice, data and networking solutions.

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[21] Vermontbiz, "Consolidated Communications completes FairPoint acquisition," published July 3, 2017, https://vermontbiz.com/news/july/consolidated-communications-completes-fairpoint-acquisition, accessed April 24, 2018.

[22] Windstream, "Windstream to acquire Broadview Networks," Windstream News Release, released April 13, 2017, http://news.windstream.com/article_display.cfm?article_id=1804, accessed April 24, 2018.

[23] Globenewswire, "Windstream completes acquisition of Broadview Networks," Windstream News Release, released July 28, 2017, https://globenewswire.com/news-release/2017/07/28/1064084/0/en/Windstream-completes-acquisition-of-Broadview-Networks.html, accessed April 23, 2018.

6. AT&T/Time Warner

On October 22, 2016, AT&T Inc. announced that it intended to acquire Time Warner Inc. [24] The new company would have a total equity value of $85.4 billion and a total transaction value of $108.7 billion. Acquiring Time Warner would give AT&T control of a large portfolio of content creation and aggregation including: HBO, Harry Potter, DC Comics, TNT, TBS, CNN, Cartoon Network/Adult Swim, NBA, March Madness, MLB, Hulu, Bleacher Report, CNN.com, and Fandango. On November 20, 2017, the United States Department of Justice sued to block the merger on the grounds that AT&T could use control of Time Warner content to harm rivals and drive up prices.[25] US District Judge Richard Leon of the United States District Court for the District of Columbia approved the merger on June 12, 2018.[26]

[24] AT&T Press Release, "AT&T to Acquire Time Warner," released October 22, 2016, http://about.att.com/story/att_to_acquire_time_warner.html, accessed May 1, 2018.
[25] The Hill, "Closing arguments made in AT&T-Time Warner merger trial," published April 30, 2018, http://thehill.com/policy/technology/385510-justice-makes-closing-argument-against-att-time-warner-deal, accessed May 1, 2018.
[26] Telecompetitior, "AT&T Time Warner Approval is Without Conditions," published June 12, 2018, http://www.telecompetitor.com/att-time-warner-approval-is-without-conditions/, accessed June 20, 2018.

Chapter III. Status of Wireline Competition in Florida

A. Wireline Trends in Florida

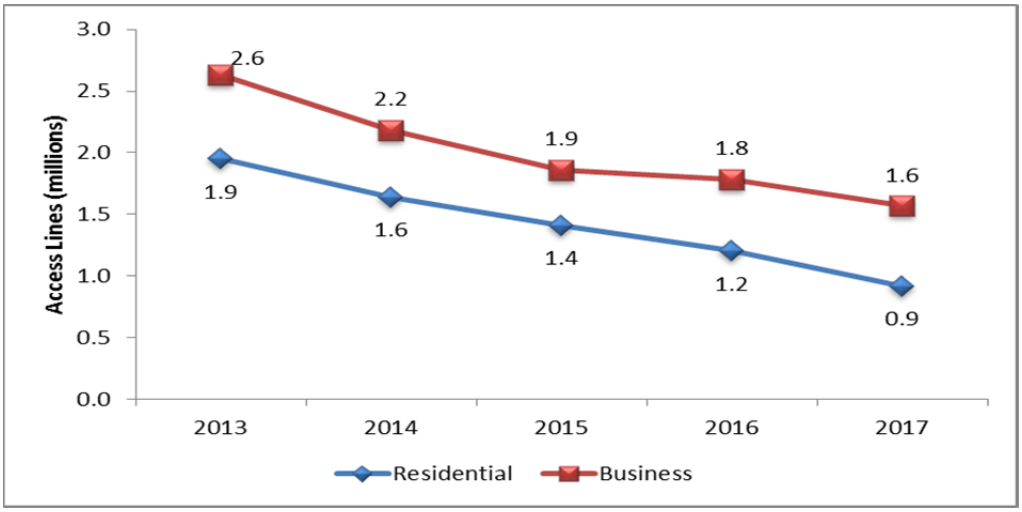
Total combined traditional wirelines for ILECs and CLECs declined nine percent, from approximately 3 million in December 2016 to 2.5 million as of December 2017. Most of the lost access lines resulted from lower demand by customers. VoIP lines reported by CLECs and cable companies are not included in wireline CLEC market share analyses.

Residential access lines, which totaled approximately 920,000 as of 2017, fell by 23 percent from the previous year. From 2005 through 2017, wireline residential access lines have declined by about six million. Florida CLECs, while representing relatively few residential access lines, reported a decrease in the number of residential customers served of about 6,000 lines, or 42 percent in 2017.

The number of wireline business connections declined as well. The total business access lines reported for ILECs and CLECs were nearly 1.6 million, a decrease of 12 percent from 2016 to 2017. The decline consisted of a decrease of approximately 127,000 ILEC business access lines versus a decrease of about 90,000 CLEC business access lines. Of the incumbent carriers, AT&T experienced the largest business access line losses of about 81,000, while CenturyLink and Frontier lost around 22,000 and 24,000 business lines respectively. Rural ILECs had a smaller loss at around 500 lines. These losses equate to an 11.9 percent decline in the combined line total of the three largest ILECs, versus a 1.5 percent decline in the combined line total of the rural ILECs.

Figure 3-1 illustrates the overall trend in Florida for both residential and business lines (not including VoIP connections). Based on current data, both residential and business lines appear to be declining at a similar rate.

Figure 3-1
Florida Wireline Access Line Trends



Source: Responses to FPSC data requests (2012-2018)

B. Wireline Market Mix, Market Share, and Access Lines

1. Market Mix

The composition of customers served by ILECs and CLECs has shifted over time. In general, both ILECs and CLECs have seen increased concentration of business customers as residential customers migrate to wireless and VoIP services. The business-to-residential customer mix for ILECs was about 30 percent business and 70 percent residential in 2004. By 2017, the mix for ILECs had shifted so much that the percentage of business lines exceeded the percentage of residential lines; ILECs held nearly 52 percent business lines versus 48 percent residential lines.

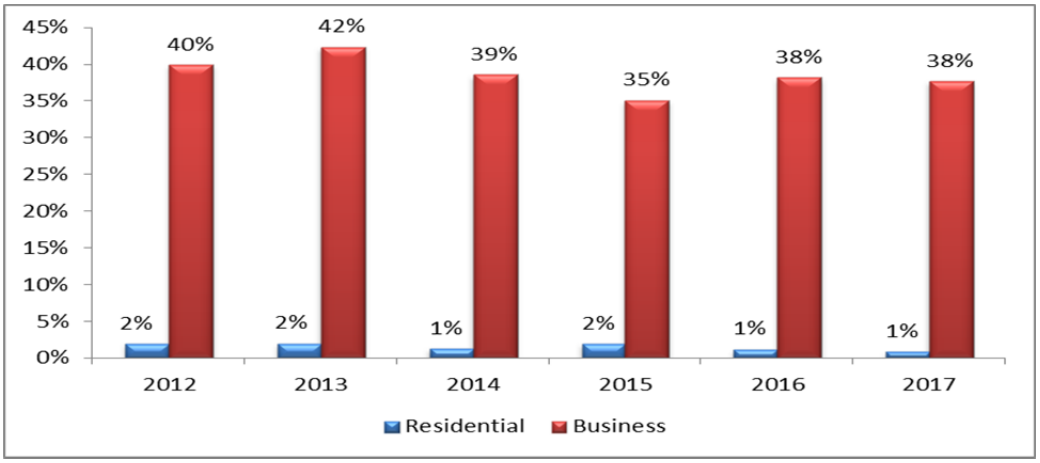
The shift in mix has been even more pronounced in the CLEC market. In 2004, the business to residential customer mix for CLECs was about 63 percent business and 37 percent residential. By 2017, the CLEC business-to-residential customer mix had shifted to close to 99 percent business and one percent residential. These changes, however, do not reflect gains or losses of residential or business customers served by VoIP technology.

2. Market Share

CLECs have traditionally focused on business customers. Figure 3-2 illustrates the CLEC market share by business and residential customer classes. The inverse of this percentage would be market share for the ILECs in Florida. Overall, the CLEC residential market share has remained at one or two percent over the last six years, while ILECs retain the rest of the residential wireline market.

The CLEC business market share in 2017 remained at 38 percent. This percentage excludes VoIP services, which cable companies, and more recently ILECs and CLECs, have deployed.

Figure 3- 2
Florida Residential & Business CLEC Market Share



Source: Responses to FPSC data requests (2013-2018)

The FCC also reports CLEC market share by state and for residential and business lines. For December 2016 (latest data available), the FCC reported Florida CLECs have one percent of the total residential market share and 34 percent of the business market share.[27] This is consistent with the Commission's data represented in Figure 3-2.

3. Access Lines

Local exchange companies were serving approximately two and a half million lines in Florida as of December 31, 2017, a decline of nearly 17 percent from 2016 as illustrated in Table 3-1. In 2017, residential access lines provided by ILECs decreased by 23 percent, while ILEC business lines decreased by 12 percent. The largest residential line losses were experienced by CenturyLink and AT&T with declines of around 26 percent and 22 percent from last year, respectively, while the largest business line losses were experienced by AT&T and the CLECs with declines of 14 percent and 13 percent.

[27] FCC, "Voice Telephone Services Report as of December 31, 2016," released March 2018, https://www.fcc.gov/voice-telephone-services-report, accessed May 11, 2018, State-Level Subscriptions (Excel).

Table 3- 1
Florida Wireline Access Line Comparison

		ILECs	CLECs	Both
2014	Residential	1,614,926	21,651	1,636,577
	Business	1,340,699	841,880	2,182,579
	Total	2,955,625	863,531	3,819,156
2015	Residential	1,381,124	27,813	1,408,937
	Business	1,205,777	652,214	1,857,991
	Total	2,586,901	680,027	3,266,928
2016	Residential	1,187,615	14,415	1,202,030
	Business	1,104,197	681,398	1,785,595
	Total	2,291,812	695,813	2,987,625
2017	Residential	911,814	8,341	920,155
	Business	976,768	591,089	1,567,857
	Total	1,888,582	599,430	2,488,012
Change 2016-2017	Residential	-23%	-42%	-23%
	Business	-12%	-13%	-12%
	Total	-18%	-14%	-17%

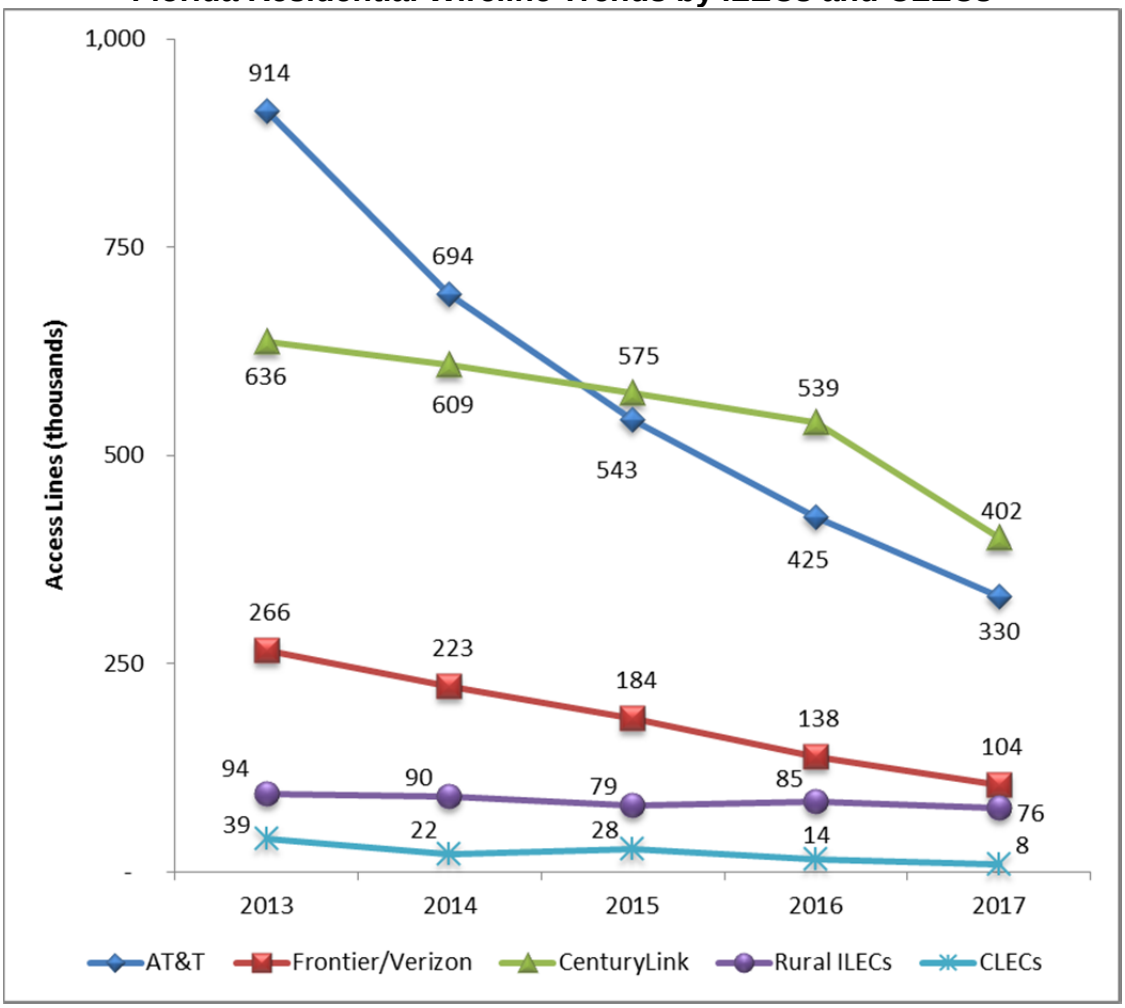
Source: Responses to FPSC data requests (2014-2018)

C. Competitive Market Trends

1. Residential Wireline Access Line Trends

Figure 3-3 displays the wireline residential access line trends separately for AT&T, Frontier, CenturyLink, aggregate rural ILECs, and aggregate CLECs. Over the past five years, AT&T and Frontier/Verizon have both averaged around 22 percent declines per year, while CenturyLink has experienced an average of about 10 percent decline per year in residential access lines. In 2015, CenturyLink became the largest provider of residential access lines in Florida.

Figure 3-3
Florida Residential Wireline Trends by ILECs and CLECs



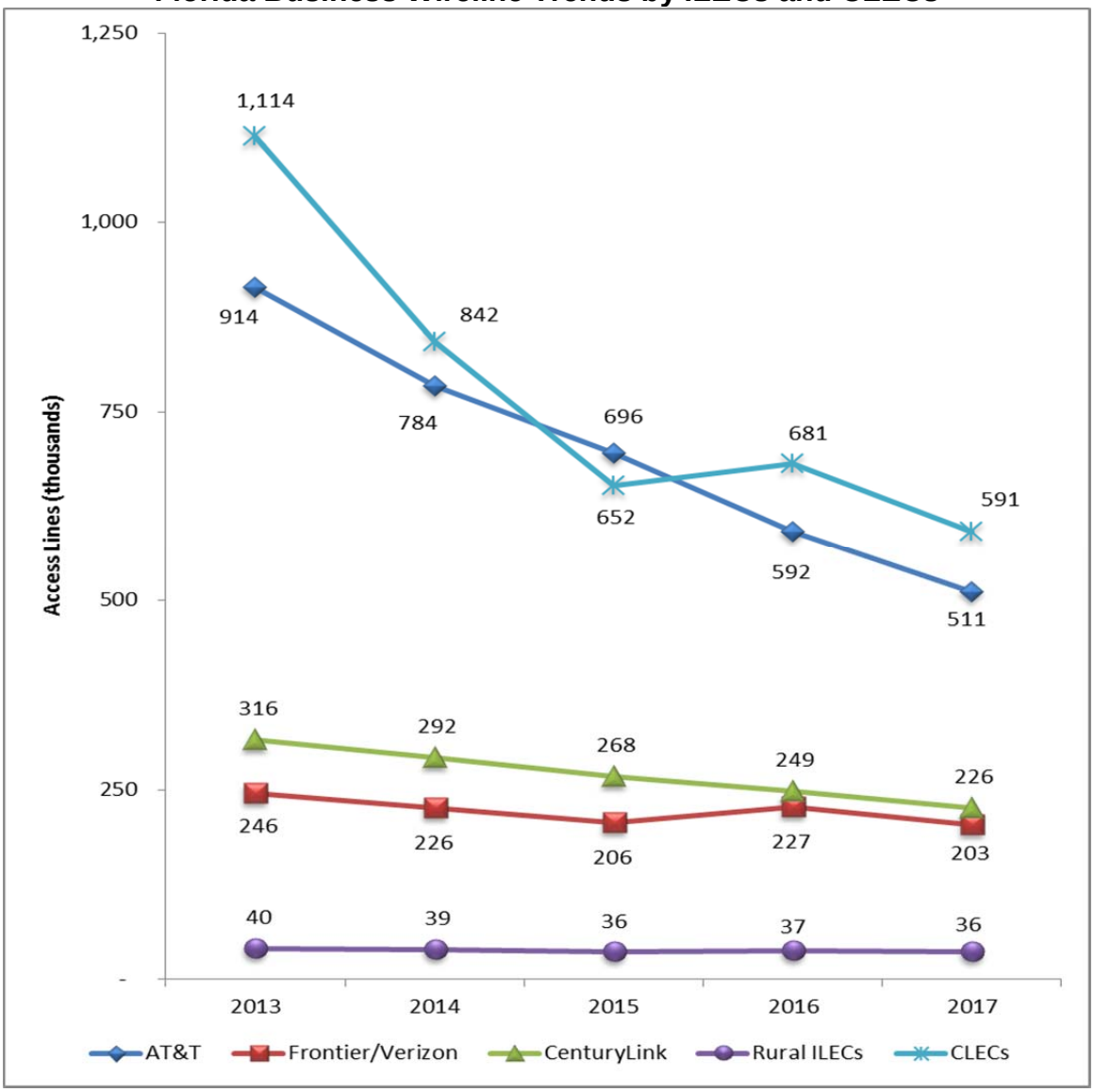
Source: Responses to FPSC data requests (2013-2018)

In 2017, Frontier's rate of residential line losses stayed the same at about 25 percent. AT&T, CenturyLink, and the rural ILECs all experienced an acceleration in the rate of line losses ranging from a decline of 25.5 percent for CenturyLink to a decline of 10.1 percent for the rural ILECs. By comparison, CLECs reported a decline in residential access lines of around 42 percent in 2017, which was an improvement from the decline of 48 percent that they experienced in 2016.

2. Business Wireline Access Line Trends

Figure 3-4 displays the wireline business access line trends separately for AT&T, Frontier, CenturyLink, aggregate rural ILECs, and aggregate CLECs. Over the past five years, AT&T has experienced an average decline of about 13 percent per year, while Frontier/Verizon and CenturyLink have experienced average declines of about nine and eight percent, respectively.

Figure 3-4
Florida Business Wireline Trends by ILECs and CLECs



Source: Responses to FPSC data requests (2013-2018)

In 2017, AT&T's losses decelerated to around 14 percent; all other parties experienced an acceleration of losses. Frontier's 2016 business line gains turned into 2017 losses of over 10 percent. CenturyLink's losses accelerated to nearly 9 percent. The rural ILECs declined over one percent, reversing a gain in 2016. The CLECs reported a decline in business access lines of greater than 13 percent in 2017.

Chapter IV. Wireless, VoIP, and Broadband

A. Wireless

Pew Research Center reported that 95 percent of Americans own a cellphone of some kind.[28] Smartphones are now owned by 77 percent of Americans.[29] Among men and women, 95 percent of men, and 94 percent of women, own a cellphone of any type. For smartphones specifically, the divide breaks down to 80 percent of men and 75 percent of women.[30]

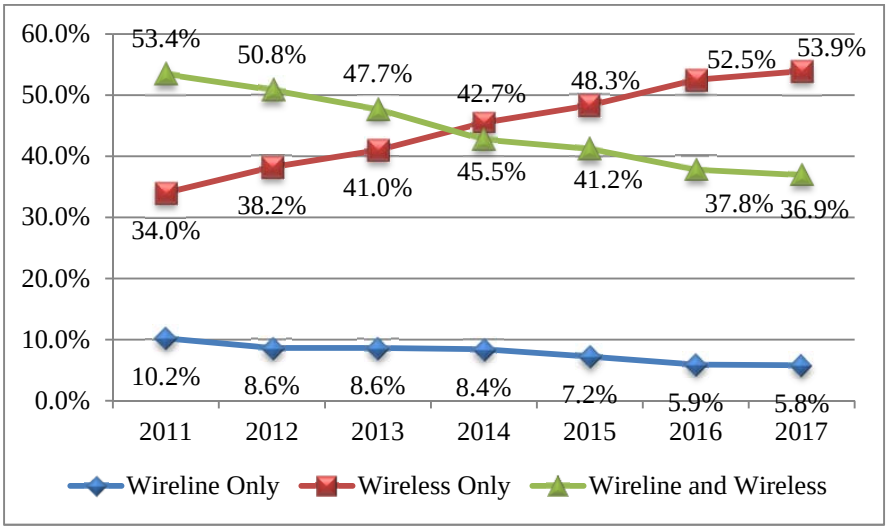
A national wireless trade association, CTIA, reports that wireless subscriber connections have grown from 395.9 million in 2016 to an estimated 396 million by year-end 2017, representing a 2.5 percent increase over 2016.[31] In addition, wireless penetration has reached 121 percent, increasing .4 percent over 2016.[32]

1. Wireless Substitution

By the end of 2017, wireless-only households in the United States rose from 49.3 percent to 52.5 percent. Substitution continued to increase while the number of households with both wireline and wireless service decreased 2.4 percent.[33] The number of wireline-only households decreased 1.3 percent to 5.9 percent.[34] Figure 4-1 shows national trends in the percentage of households with wireless only, wireline only, and dual household usage.

[28] Demographics of Mobile Device Ownership and Adoption in the United States, Pew Research Center, published February 5, 2018, http://www.pewinternet.org/fact-sheet/mobile/, accessed April 3, 2018.
[29] Ibid.
[30] Ibid.
[31] CTIA, The Wireless Industry, Industry Data, https://www.ctia.org/the-wireless-industry/infographics-library, accessed April 23, 2018.
[32] Ibid.
[33] Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, January – June 2017. National Center for Health Statistics, released December 2017, https://www.cdc.gov/nchs/nhis/releases.htm#wireless, accessed April 23, 2018.
[34] Ibid.

Figure 4-1
U.S. Wireless Substitution Rates



Source: CDC/NCHS, National Health Interview Survey

2. Florida Trends

The United States Census Bureau estimated Florida's population to be 20,984,400 on July 1, 2017, up from 20,612,439 in 2016.[35] Between 2011 and 2015, Florida's wireless substitution rate grew an average of 4.7 percent per year.[36] During the same period, the national wireless substitution rate grew an average of 3.9 percent.

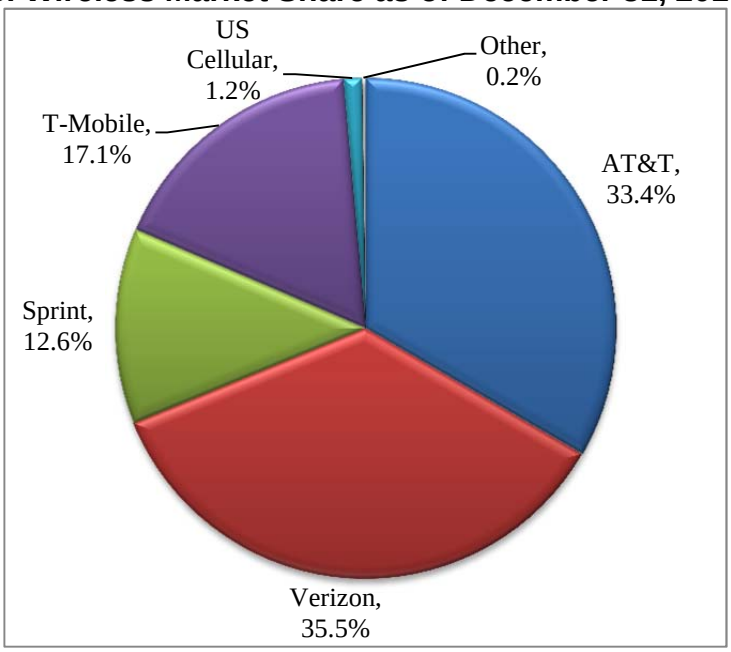
There is no reason to believe the Florida wireless-only substitution rate changed appreciably from 2016 to 2017. State-level data is not available for 2017, but a comparison of Florida data and national data for 2016[37] showed that Florida was outpacing national wireless-only substitution trends. Wireless-only homes in Florida increased to 54.6 percent, and during the same timeframe, the wireless-only substitution rate nationally was 52.5 percent.

3. Networks and Usage

Among wireless providers, Verizon continues to lead the market with a 35.5 percent market share. AT&T, T-Mobile, and Sprint follow with 33.4 percent, 17.1 percent, and 12.6 percent, respectively.[38] Current wireless market share is shown in Figure 4-2.

[35] United States Census Bureau, Florida QuickFacts from the US Census Bureau, Population estimates, July 1, 2017, https://www.census.gov/quickfacts/fact/table/FL/PST045216, accessed April 24, 2018.
[36] National Center for Health Statistics, Centers for Disease Control and Prevention, "Wireless Substitution State-Level Estimates from then National Health Interview Survey," released June 2018, http://www.cdc.gov/nchs/nhis/new_nhis.htm, accessed June 7, 2018.
[37] Ibid.
[38] Fierce Wireless, "How Verizon, AT&T, T-Mobile, Sprint and more stacked up in Q4 2017: The top 7 carriers," March 6, 2018, https://www.fiercewireless.com/wireless/how-verizon-at-t-t-mobile-sprint-and-more-stacked-up-q4-2017-top-7-carriers, accessed April 30, 2018.

Figure 4-2
U.S. Wireless Market Share as of December 31, 2017



Source: Fierce Wireless

4. New Technology

Wireless technology continues to outpace innovations for wireline services. As discussed in last year's report, this is not an indication the switched access network is no longer necessary. These facilities are the backbone of the new generation of wireless tools available to consumers. The switched access network is instrumentally critical to wireless technology and that network will be vital in the advancement of 5G services.

- As reported in its February 23, 2018 Form 10-K,[39] Verizon Communications, Inc. announced in November 2017 that it "will commercially launch 5G wireless residential broadband in three to five U.S. markets in 2018.[40]

- Sprint believes its "broad spectrum holdings allow us to introduce 5G in parallel with 4G service over the same 2.5 GHz spectrum band, supporting the early introduction of 5G devices without disrupting the capacity needed to support our 4G users."[41]

- In its 2018 10-K filing, AT&T, Inc. announced they "expect to be the first U.S. company to introduce mobile 5G service in 12 markets by late 2018."[42]

[39] Form 10 K is an annual report required by the U.S. Securities and Exchange Commission that reports the company's finanacial performance.
[40] Verizon Communications, Inc., Form 10-K, filed 2/23/2018 for the Period Ending 12/31/2017, https://www.verizon.com/about/investors/sec-filings, accessed May 31, 2018.
[41] Sprint Corporation, Form 10-K for the fiscal year ended March 31, 2018, filed May 24, 2018, http://investors.sprint.com/financials/sec-filings/sec-filings-details/default.aspx?FilingId=12776690, accessed May 31, 2018.

- T-Mobile "will start building out its 5G network this year and plans to be in 30 cities by the end of 2018."[43] However, the company has said "it wouldn't be until … next year that we'll see the first phones announced that support 5G on T-Mobile's network."

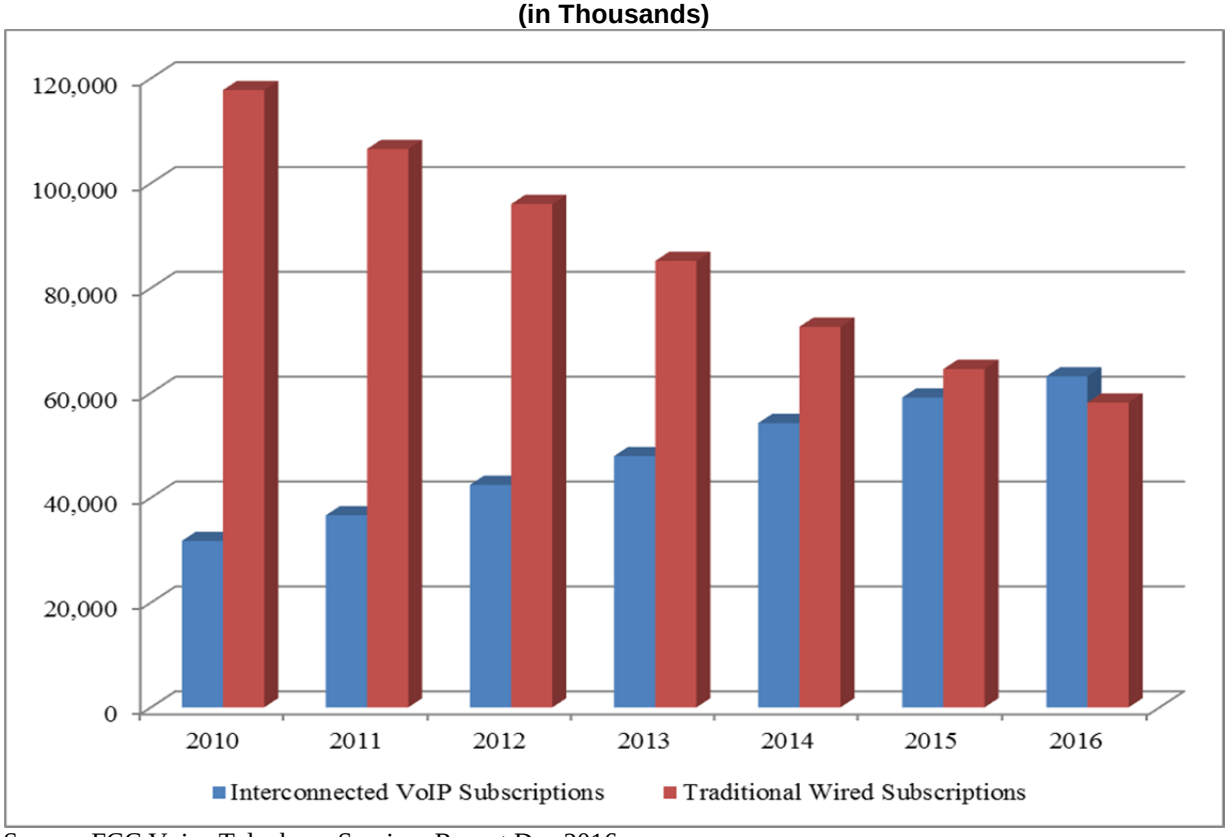
In addition to the development of small cell technology and the advancements and deployment of 5G services, access to the public right of way to advance these technologies will be required. It will be dependent upon local jurisdictions and FCC action to maintain a competitive atmosphere of economic growth.[44]

B. Voice over Internet Protocol (VoIP)

The number of customers who subscribe to interconnected VoIP services has steadily increased each year while subscribership rates to traditional wired services have continued to decline. The FCC's latest data, between 2013 and 2016, shows interconnected VoIP subscriptions continued a compound annual growth rate of 10 percent while subscribership to traditional wireline services decreased by 12 percent per year.[45] Figure 4-3 shows the number of traditional and interconnected VoIP subscriptions between 2013 and 2016.

[42] AT&T, Inc. Form 10-K, filed February 20, 2018, https://otp.tools.investis.com/clients/us/atnt/SEC/sec-outline.aspx?FilingId=12564537&Cik=0000732717&PaperOnly=0&HasOriginal=1, accessed May 31, 2018.
[43] T-Mobile to launch 5G in 30 cities this year, including New York and LA, Jacob Kastrenakes, The Verge, February 27, 2018, https://www.theverge.com/2018/2/27/17058368/tmobile-5g-first-30-cities-2018-new-york-la-dallas-las-vegas, accessed May 31, 2018.
[44] Petition for Declaratory Ruling, Mobilitie, LLC, Adopted/Filed November 15, 2016, https://ecfsapi.fcc.gov/file/122306218885/mobilitie.pdf, accessed June 20, 2017.
[45] FCC, Voice Telephone Services: Status as of December 31, 2016, released February 2018, https://www.fcc.gov/voice-telephone-services-report, accessed May 1, 2018.

Figure 4-3
National Retail Voice Telephone Subscriptions
(in Thousands)



Source: FCC Voice Telephone Services Report Dec 2016

As of December 2016, the FCC reported that there were approximately 63 million interconnected VoIP subscribers in the U.S. This total includes roughly 7.4 million "over-the-top" or "bring your own broadband" VoIP subscribers.[46] Residential VoIP subscribers accounted for over 40 million of the total subscribers nationwide while business subscribers accounted for approximately 22.9 million.[47] Table 4-1 shows U.S. interconnected VoIP subscribership by customer type as of December 2016.[48] Data collected by the FPSC also shows an estimate of over 2.8 million interconnected VoIP residential subscribers in Florida as of December 2017.[49]

[46] In 2014, the FCC modified Form 477 to distinguish over-the-top interconnected VoIP subscriptions from other interconnected VoIP subscriptions. The phrase "over-the-top VoIP" refers to a VoIP service that requires a consumer to obtain broadband access from another company.
[47] FCC, Voice Telephone Services: Status as of December 31, 2016, released February 2018, https://www.fcc.gov/voice-telephone-services-report, Table 1, accessed May 11, 2018.
[48] Ibid, Figure 3.
[49] Responses to the FPSC Local Competition Data Request 2018.

Table 4-1
U.S. Interconnected VoIP Subscribership by Customer Type
(In Thousands)

Total	Over-the-Top (OTT)	All Other VoIP	Total
ILEC	41	13,043	13,084
Non-ILEC	7.375	42,703	50,080
Total	7,416	55,746	63,165
Residential			
ILEC	38	9,950	9,988
Non-ILEC	2,619	27,673	30,292
Residential Total	2,658	37,622	40,280
Business			
ILEC	3	3,093	3,096
Non-ILEC	4,755	15,031	19,788
Business Total	4,758	18,124	22,885

Source: FCC Voice Telephone Services Report December 2016[50]

1. National Market Analysis

The FCC reported that at year-end 2016, there were "463 million retail voice telephone service connections" across the United States.[51] Of these retail service connections, 121 million of them are provided over end-user switched access lines and interconnected VoIP subscriptions. Over half of these end use subscribers, 63 million, receive access via interconnected VoIP services.[52]

a. Facilities-Based VoIP Providers

In the facilities-based residential interconnected VoIP market, cable companies accounted for nearly 30.3 million VoIP subscribers as of December 2016, compared to 9.9 million ILEC VoIP subscribers.[53] Comcast, the country's largest cable provider, had an estimated 11.6 million VoIP subscribers at year-end 2017.[54] This represents a decrease of approximately 1.2 percent from year-end 2016. The second largest cable provider, Charter Communications, Inc., reported over 11.3 million VoIP subscribers at year-end 2017, a 2.1 percent increase from 2016.[55]

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[50] FCC, Voice Telephone Services: Status as of December 31, 2016, released February 2018, https://www.fcc.gov/voice-telephone-services-report, Figure 3, accessed May 1, 2018. Note: totals in the table may not sum due to rounding.
[51] Ibid, Page 2.
[52] Ibid, Table 1.
[53] FCC, Voice Telephone Services: Status as of December 31, 2016, released February 2018, https://www.fcc.gov/voice-telephone-services-report, Table 1, accessed May 1, 2018.
[54] Comcast Corporation, Comcast Reports 4th Quarter and Year End 2017 Results, released January 24, 2018, http://files. shareholder.com/downloads/CMChttps://www.cmcsa.com/news-releases/news-release-details/comcast-reports-4th-quarter-and-year-end-2017-results?linkId=47304539, accessed May 1, 2018.
[55] "Charter Announces Fourth Quarter and Full Year 2017 Results," Charter Communications, Inc. News Release, released February 2, 2018, https://newsroom.charter.com/press-releases/charter-announces-fourth-quarter-and-full-year-2017-results/, accessed May 1, 2018.

AT&T reported approximately 5.2 million U-verse Consumer VoIP subscribers at year-end 2017.[56] This represents a 3.7 percent decrease from the previous year.

b. Over-the-Top VoIP Providers[57]

According to the FCC, there were roughly 7.4 million over-the-top interconnected VoIP subscribers in the U.S. as of December 2016. This total included nearly 2.7 million residential subscribers and approximately 4.8 million business subscribers nationwide. The FCC's figures show a reduction of 4.7 percent in residential subscribers, and a 43.3 percent increase in business subscribers in 2016 over the same period in 2015.[58] The price advantage over the bundled services offered by facilities-based VoIP providers has allowed over-the-top VoIP providers to attract more customers.

Vonage, 8x8, Inc., MagicJack, Skype, and Google are a few of the leading over-the-top VoIP providers. Reliable data on subscribership is not widely available for over-the-top providers. However, at year-end 2017, Vonage reported 2.2 million subscriber lines, a decrease of roughly 4.3 percent from the previous year.[59] MagicJack reported 1.95 million subscribers in 2017, a decrease of approximately 9.3 percent since 2016.[60]

2. Florida Market

The FPSC does not have jurisdiction over VoIP services. As a result, the ability to determine an accurate estimate of the total number of VoIP subscribers in Florida is limited. However, several ILECs and CLECs in Florida voluntarily responded to the Commission's data request and provided information on the number of residential VoIP subscribers. The Florida Internet and Television Association (formerly the Florida Cable Telecommunications Association) reported nearly 2.1 million residential VoIP subscribers for its five largest member providers, but it has not historically provided business line data. The FCC reported non-ILECs in Florida served approximately 1.2 million business subscribers by year-end 2015, and almost 1.4 million by year-end 2016.[61]

Based on the analysis of the available data, there are an estimated 2.8 million residential interconnected VoIP subscribers in Florida. Figure 4-4 shows the number of residential interconnected VoIP subscribers in Florida by provider type. Data for 2017 indicates a modest gain in the residential VoIP market. Growth should continue as network facilities transition to an IP-centric infrastructure.

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[56] AT&T Inc. 2017 Annual Report, https://otp.tools.investis.com/clients/us/atnt/SEC/sec-show.aspx?Type=html&FilingId=12564537&CIK=0000732717&Index=10000, accessed May 10, 2018.

[57] Over-the-top VoIP providers offer low-priced stand-alone interconnected VoIP service. The service quality of these providers varies because calls are transmitted over the public Internet rather than private managed IP-based networks.

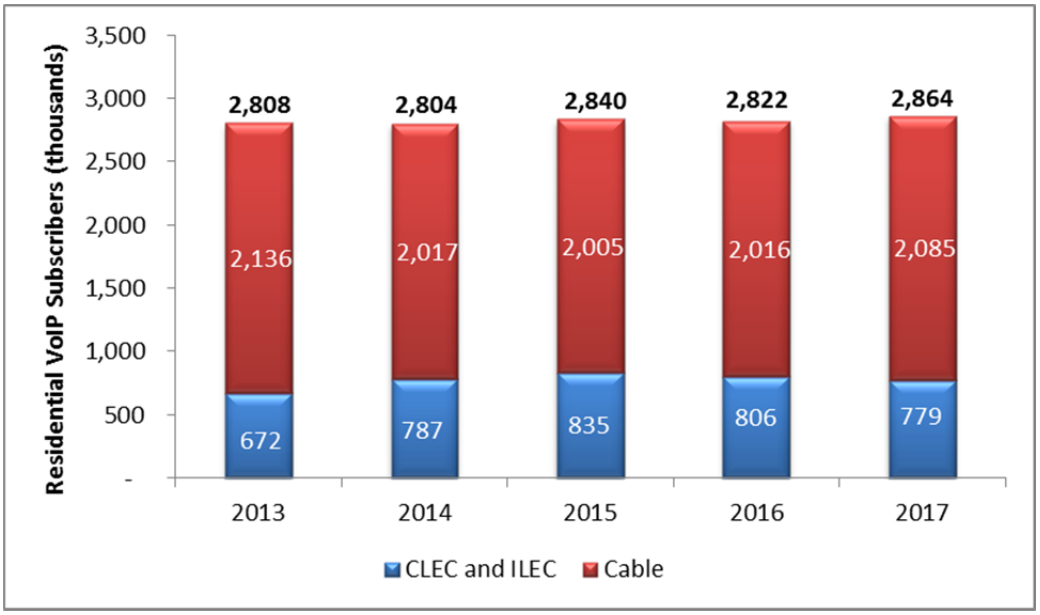
[58] FCC, Voice Telephone Services: Status as of December 31, 2016, released February 2018, https://www.fcc.gov/voice-telephone-services-report, accessed May 2, 2018.

[59] Vonage Holding Corp. 2017 Annual Report, https://ir.vonage.com/financials/sec-filings, accessed May 2, 2018.

[60] "MagicJack Reports Fourth Quarter and Full Year 2017 Financial Results, Global News Wire, released March 16, 2018, http://www.vocaltec.com/news-releases/news-release-details/magicjack-reports-fourth-quarter-and-full-year-2017-financiall, and ".MagicJack Reports Fourth Quarter and Full Year 2016 Financial Results, Global News Wire, released March 15, 2017, http://www.vocaltec.com/news-releases/news-release-details/magicjack-reports-fourth-quarter-and-full-year-2016-financial, accessed May 2, 2018.

[61] FCC Voice Telephone Services Report, State-Level Subscriptions, Supplemental Table 1, Florida, released February 2018, https://www.fcc.gov/voice-telephone-services-report, accessed May 1, 2018.

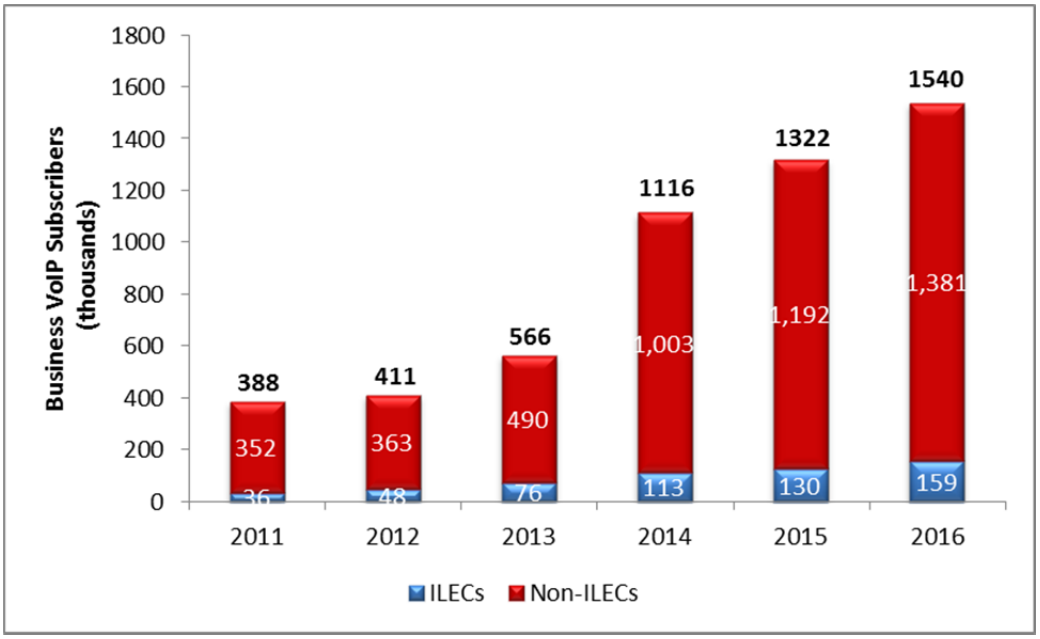
Figure 4-4
Florida Residential Interconnected VoIP Subscribers



Source: Responses to FPSC data requests (2013-2018)

While the Commission received business VoIP data from telecommunications carriers, corresponding data was not made available from most cable companies as requested. Data is available from the FCC that provides VoIP business lines through December 2016. Figure 4-5 identifies the number of interconnected VoIP business subscribers by ILEC and non-ILEC carriers. Non-ILEC carriers include cable companies. From 2015 to 2016, non-ILECs experienced a nearly 16 percent increase in their number of interconnected business VoIP subscribers. By comparison, ILECs experienced an increase of more than 22 percent in interconnected business VoIP subscribers for the same time period. Based on the general trend of such interconnected business VoIP lines and the reduction in traditional switched access lines, it is likely that there will be further growth in this market segment.

Figure 4-5
Florida Business Interconnected VoIP Subscribers



Source: FCC, Voice Telephone Services Report, and FPSC data request

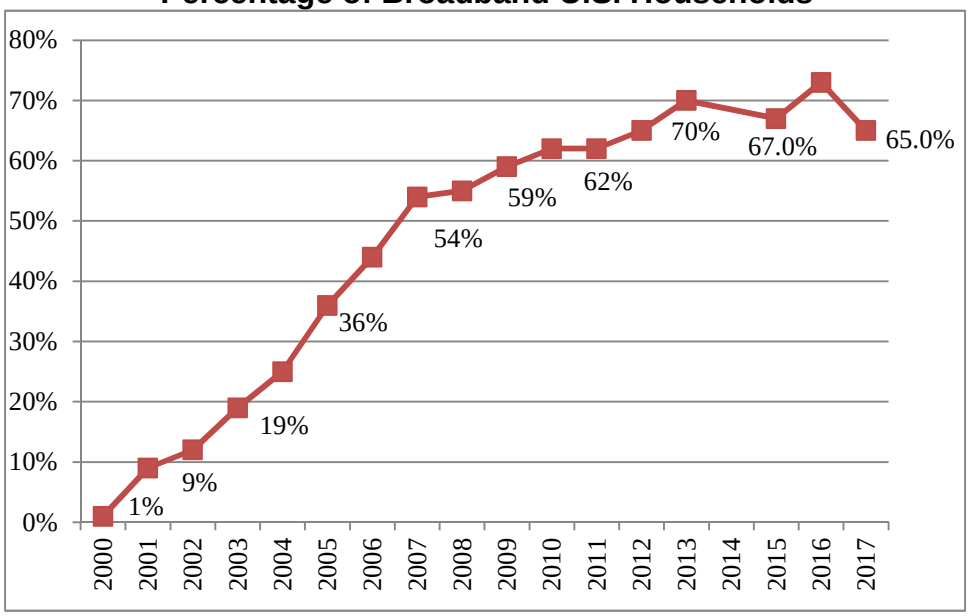
C. Broadband

The most recent report published by the FCC indicates that 82 percent of U.S. households had fixed broadband connections with download speeds of at least 200 kilobits per second (kbps) in 2015. Sixty-six percent of households had broadband connection speeds of at least 10 megabits per second (Mbps) while 50 percent of households had fixed broadband connections of at least 25 Mbps and 15 percent had connection speeds of at least 100 Mbps.[62]

According to the Pew Research Center, between 2015 and 2016 the number of Americans who had a high-speed Internet connection in their homes increased from 66 percent to 73 percent.[63] However, by the end of December 2017, the number of Americans reporting broadband in the home dropped to 65 percent.[64] This represents an eight percent reduction from 2016. This shift may be the result of increased smartphone and tablet use at home.[65] Figure 4-6 shows the percentage of U.S. households with in-home broadband connections between 2000 and 2017.

[62] FCC, Internet Access Services: Status as of December 31, 2016, released February 2018, https://www.fcc.gov/internet-access-services-reports, Figure 32, accessed May 3, 2018.
[63] Pew Research Center, Internet/Broadband Fact Sheet, February 5, 2018, http://www.pewinternet.org/fact-sheet/internet-broadband/, accessed May 3, 2018, and June 11, 2018.
[64] One-in-five Americans own a smartphone, but do not have traditional broadband service, Pew Research Center Internet & Technology, April 27, 2018, http://www.pewinternet.org/2018/04/30/declining-majority-of-online-adults-say-the-internet-has-been-good-for-society/pi_2018-04-30_internet-good-bad_0-02/, accessed June 11, 2018.
[65] Demographics of Mobile Device Ownership and Adoption in the United States, Pew Research Center, February 5, 2018, http://www.pewinternet.org/fact-sheet/mobile/, accessed April 3, 2018.

Figure 4-6
Percentage of Broadband U.S. Households



Source: Pew Research Center

Even though the adoption of in-home broadband continues to increase, the rate of increase has slowed because a growing share of Americans using mobile devices such as smartphones and tablets as their primary means of accessing the Internet at home and while "on the go."[66] According to the Pew Research Center, 77 percent of Americans own a smartphone.[67] In 2016, 12 percent of Americans indicated that they were "smartphone dependent" or "smartphone-only" Internet users, up from 7.75 percent in 2013.[68]

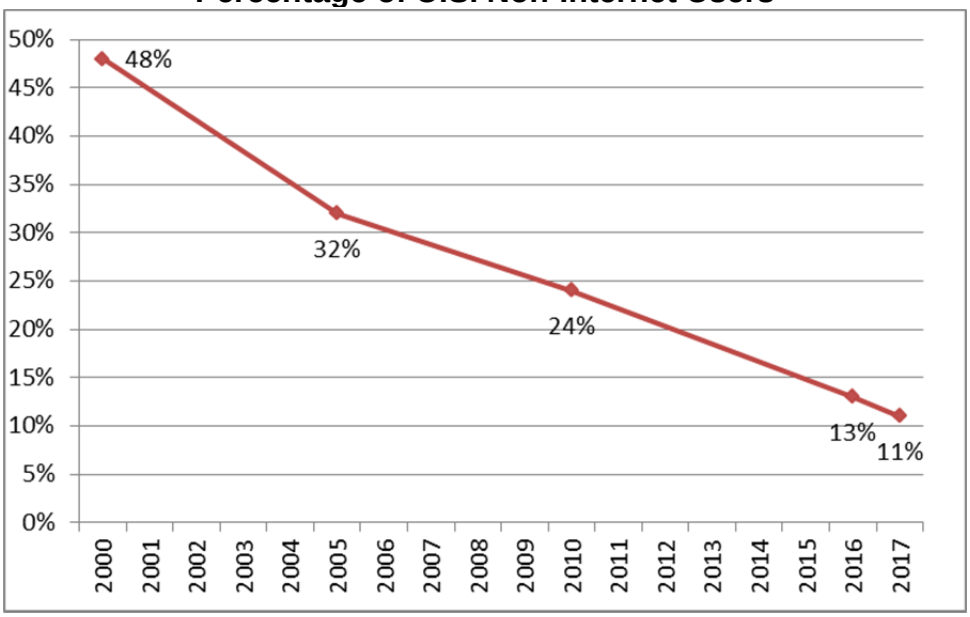
Despite the increases in broadband and Internet usage, 11 percent of U.S. adults did not use the Internet in 2017, compared to 13 percent in 2016 and 48 percent in 2000.[69] Lack of interest, difficulty of usage, and cost were the most cited reasons why people did not use the Internet. Other demographic variables, including age, educational attainment, household income and community type also affected Internet usage.[70]

For instance, seniors were the group most likely to say they never go online. About 34 percent of adults ages 65 and older reported that they do not use the Internet, compared with only two percent of 18- to 29-year-olds. Household income and education are also indicators of a person's likelihood to be offline. Thirty-four percent of adults with less than a high school education do

[66] Demographics of Mobile Device Ownership and Adoption in the United States, Pew Research Center, February 5, 2018, http://www.pewinternet.org/fact-sheet/mobile/, accessed April 3, 2018.
[67] Ibid.
[68] Ibid.
[69] 11% of Americans don't use the internet. Who are they?, Pew Research Center, published March 5, 2018, http://www.pewresearch.org/fact-tank/2018/03/05/some-americans-dont-use-the-internet-who-are-they//, accessed May 3, 2018.
[70] Ibid.

not use the Internet. Figure 4-7 shows the percentage of U.S. households who do not use the Internet.

Figure 4-7
Percentage of U.S. Non-Internet Users



Source: Pew Research Center

Florida Broadband Trends

According to the FCC, 94 percent of households in Florida had fixed broadband connections of at least 200 kbps at the end of 2016. Over 65 percent had speeds of at least 25 Mbps and 17 percent of households had broadband connections of at least 100 Mbps.[71] Cable modem services accounted for roughly 65 percent of non-mobile broadband connections in Florida with download speeds greater than 200 kbps. Mobile broadband connections accounted for almost 68 percent of all broadband connections in Florida with download speeds greater than 200 kbps.[72]

[71] Ibid.
[72] Ibid, Figure 34.

Chapter V. Competitive Market Analysis & Statutory Elements

Section 364.386, F.S., requires the Commission to address four elements in its annual report on telecommunications competition: competitive providers, consumers, affordability and service quality, and carrier disputes. These elements emphasize analysis of the impact of competition and regulatory changes on the telecommunications market.

A. Statutory Issue - Competitive Providers

The ability of competitive providers to make functionally equivalent local exchange services available to both residential and business customers at competitive rates, terms, and conditions.

In 2017, the wireline residential and business markets in Florida declined for both ILECs and CLECs. The total number of access lines decreased by around 17 percent. CLEC lines decreased around 14 percent between December 2016 and December 2017, while ILEC lines decreased by around 18 percent. The lower rate of line loss increased the total CLEC wireline market share in Florida from 23 percent in 2016 to 24 percent in 2017.

Residential VoIP subscribership accounted for 2.9 million connections by December 2016, representing a decrease of less than one percent from the prior year.[73] Comparable 2016 end of year data was not available for wireless and business VoIP segments of the market. However, recently released data for 2016 from the FCC indicates that the number of business VoIP lines grew 16.5 percent from December 2015 through December 2016.[74] Continued growth in 2018 is likely.

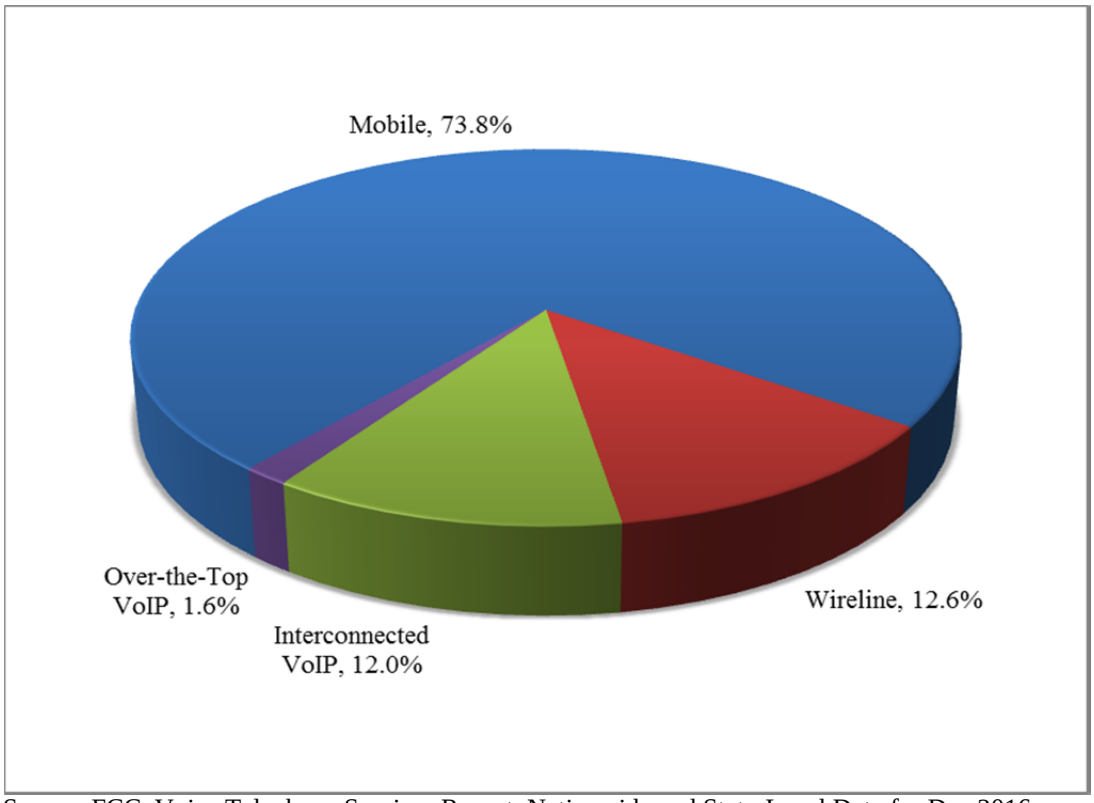
Wireless carriers in Florida also experienced growth in 2016. The FCC reported that there were approximately 21.5 million handsets in service as of December 2016, an increase of 3.3 percent from 2015.[75] Figure 5-1 uses the FCC's data regarding the number of voice subscribers by technology for 2016 to illustrate the competitive nature of the industry in Florida. While the data does not reflect the market for the reporting period of this report, it does provide insight regarding how carriers are meeting the market demand for service.

[73] Responses to FPSC data requests 2015-2017.
[74] FCC, "Voice Telephone Services as of December 31, 2017," State-Level Subscriptions spreadsheets, released February 2018, https://www.fcc.gov/voice-telephone-services-report, accessed May 31, 2018.
[75] Ibid.

This data suggests that CLECs, VoIP, and wireless carriers are able to provide functionally equivalent services to residential and business customers at rates, terms and conditions acceptable to consumers. The number of CLECs offering a variety of services also indicates the availability of functionally equivalent services at comparable terms. Other services offered by CLECs that reported providing local service include:

- Bundled services (34 CLECs)
- VoIP (65 CLECs)
- Broadband Internet access (54 CLECs)
- Video service (10 CLECs)

Figure 5-1
2016 Florida Voice Market



Source: FCC, Voice Telephone Services Report, Nationwide and State-Level Data for Dec 2016

The majority of CLECs reported no barriers to competition or elected not to respond in the comment portion of the FPSC data request. The companies that did indicate competitive concerns mentioned issues with ILEC pricing practices, responsiveness to trouble reports and lack of FCC support. More specifically, some concerns of the companies reported to the Commission include:

- Anticompetitive pricing by ILECs for last-mile access[76].
- ILEC practice of passing through special construction charges to companies and lack of responsiveness to maintenance issues possibly leading to customers switching to incumbents.
- Excessively expensive wholesale pricing by ILECs potentially causing customers to switch away from competitive carriers to ILECs or wireless telephones.
- Lack of government support for telecom infrastructure in rural areas.

Conclusion: Subscribers to VoIP and wireless services continued to show signs of growth, reflecting the opportunity for customers to seek out services from providers other than traditional ILECs. Many CLECs reported offering a variety of services and packages comparable to those offered by ILECs. All of these factors contribute to the conclusion that competitive providers are able to offer functionally equivalent services to both business and residential customers. We note that the CLECs have not filed a petition with the FPSC to address the issues above. Some of these issues may be addressed by the FCC.

B. Statutory Issue – Consumers

The ability of consumers to obtain functionally equivalent services at comparable rates, terms, and conditions.

Functionally equivalent services are available to customers via wireline telephony, wireless telephony, or VoIP. The primary focus of this report is the provision of wireline telecommunications by ILECs and CLECs, which submit responses to the FPSC's annual data request.

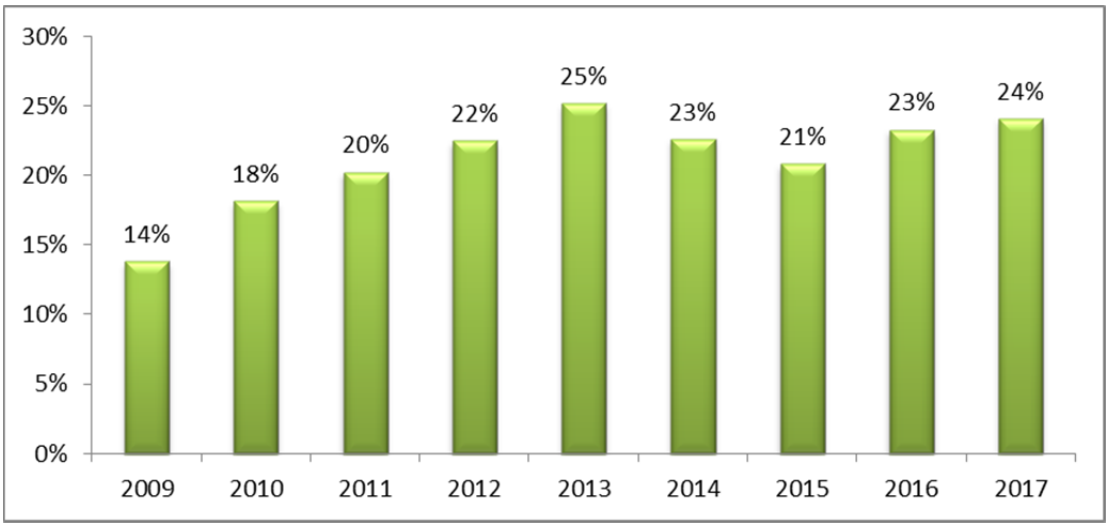
As of December 31, 2017, 104 CLECs provided data indicating that they provide local voice service in Florida. Though the responses indicate a reduction from 110 CLECs in 2016, it remains an increase over 2015 when 63 CLECs responded similarly.

Competitive carriers can offer service through resale of ILEC or CLEC wholesale services, by using their own facilities, by leasing portions of their networks from an ILEC, or a combination of any of these methods. Figure 5-2 provides a historical view of CLEC market share in Florida

[76] Windstream has documented these problems in a proceeding at the FCC. See Business Data Services in an Internet Protocol Environment. WC Docket No. 16-143; Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans, WC Docket No. 15-247; Special Access for Price Cap Local Exchange Carriers, WC Docket No. 05-25; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Service, RM-10593.

for the traditional wireline access line market. As of December 2017, 24 percent of total traditional wireline access lines in Florida are provided by companies other than ILECs.

Figure 5-2
Florida CLEC Market Share



Source: Responses to FPSC data requests

Business lines from ILECs fell 12 percent in 2017, while business lines from competitive carriers decreased 13 percent. While business VoIP data was not provided by all segments of the industry for 2017, non-ILEC VoIP business lines grew nearly 16 percent from 2015 to 2016 according to data from the FCC.[77] This suggests that business customers have the ability to find reasonable pricing packages with CLECs and are taking advantage of these options. These options include CLEC cable companies and, in some cases, wireless providers. ILEC residential lines decreased 23 percent in Florida in 2017. CLEC residential lines decreased around 42 percent, but as those lines only comprise around one percent of the residential market, the impact was muted. Nationally, wireless-only households continued to grow, reaching 52.5 percent in the first half of 2017.[78]

As stated in Chapter IV of this report, there are nearly 2.9 million interconnected residential VoIP subscribers in Florida.[79] These and other factors demonstrate that customers are able to find comparable services at reasonable prices through wireless, CLEC, and VoIP providers.

Conclusion: Access lines for both residential and business customers have maintained a steady decline over the past several years (see Figure 3-1). This contrasts with the continued growth in

[77] FCC, Voice Telephone Services, Status as of December 31, 2016, released February 2018, https://www.fcc.gov/voice-telephone-services-report, accessed May 11, 2018.
[78] Stephen J. Blumberg, Ph.D., Julian V. Luke, "Wireless substitution: Early release of estimates from the National Health Interview Survey, January–June 2017," National Center for Health Statistics, Centers for Disease Control and Prevention, released December 2017, https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201712.pdf, accessed May 11, 2018.
[79] Responses to FPSC Local Competition Data Request for 2017.

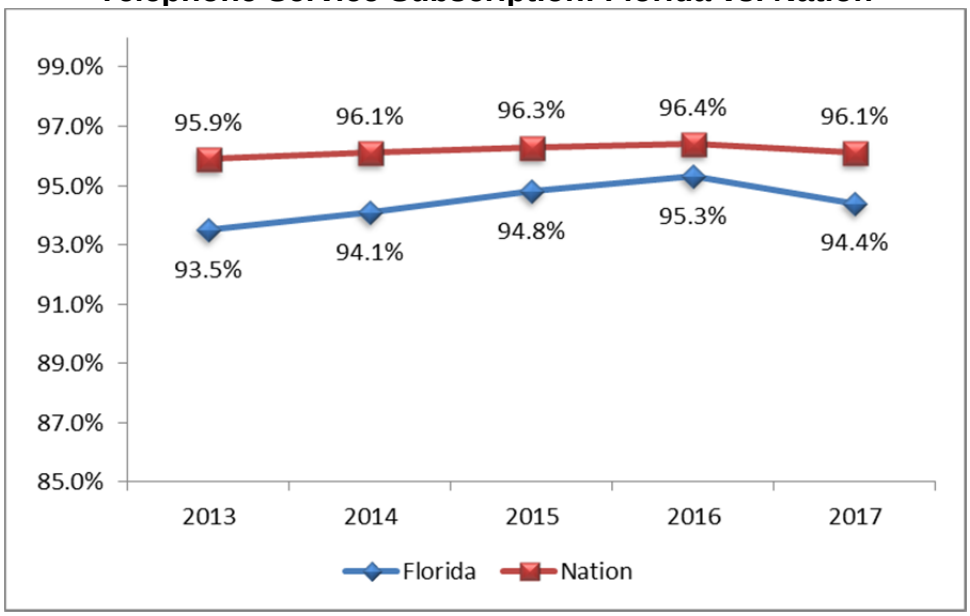
wireless-only households. While wireline declines have occurred in the business market, they are partially offset by significant growth in business VoIP lines. Carriers are managing the shifts in market conditions by bundling services and providing a variety of pricing plans in an attempt to meet consumer demand and expectations.

C. Statutory Issue – Affordability & Service Quality

The overall impact of competition on the maintenance of reasonably affordable and reliable high-quality telecommunications services.

The telephone subscription rate in Florida for 2017 was 94.4 percent, according to the FCC. This is slightly lower than the national subscription rate of 96.1 percent.[80] The Florida telephone penetration rate has consistently been below the national penetration rate and the variance has varied little between 2013 and 2017, as shown in Figure 5-3.

Figure 5-3
Telephone Service Subscription: Florida vs. Nation



Source: FCC, Telephone Subscribership & USF Monitoring Reports

Conclusion: Based on the continued growth of interconnected VoIP and wireless-only households and the ongoing decline of wireline access lines, network reliability of non-ILEC providers appears to be sufficient. The telephone penetration rate of 94.4 percent supports the conclusion that the vast majority of Florida residents are able to afford telephone service. The number and variety of competitive choices among all types of service providers suggest that competition is having a positive impact on the telecommunications market in Florida.

[80] FCC, "Telephone Subscribership in the United States as of July 2011," released December 2011, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-311523A1.pdf, accessed May 19, 2013, Table 3; "Universal Service Monitoring Report," released January 13, 2017, https://apps.fcc.gov/edocs_public/attachmatch/DOC-343025A1.pdf, accessed June 21, 2017, Table 6.7.

D. Statutory Issue – Carrier Disputes

A listing and short description of any carrier disputes filed under Section 364.16, F.S.

Conclusion: There were no carrier disputes filed with the FPSC under Section 364.16, F.S., in 2017.

Chapter VI. State Activities

The Commission dealt with several intercarrier and compliance issues during the past year. The following is a summary of activities affecting local telecommunications competition in 2017.

A. Intercarrier Matters

1. Wholesale Performance Measurement Plans

Wholesale performance measurement plans provide a standard against which the Commission can monitor performance over time to detect and correct any degradation in the quality of service ILECs provide to CLECs. The Commission adopted performance measurements for AT&T in August 2001 (revised in 2010), for CenturyLink in January 2003 (revised in 2013), and for Verizon in June 2003 (revised in 2007). Trending analysis is applied to monthly performance measurement data provided by each ILEC. [81]

AT&T is the only ILEC that is required to make payments to CLECs when certain performance measures do not comply with established standards and benchmarks. AT&T's approved Performance Assessment Plan consists of 47 measurements, of which 24 measurements have remedies applied to them. For the calendar year 2017, AT&T paid approximately $472,960 in remedies to CLECs, a decrease of 37.9 percent from 2016. The greatest cause of the decrease in remedies was the correction of an incident in 2016 that led to a number of blocked and redialed calls. No similar incidents occurred in 2017.

On October 15, 2015, CenturyLink filed proposed revisions to its Performance Measurement Plan as a result of a negotiated settlement in Nevada. The revisions included revising reporting requirements from monthly to quarterly, eliminating several performance measures from the plan, and amending two measures. The proposal was approved for Florida by the Commission in February of 2016.[82] For the 2017 calendar year, CenturyLink reported no non-compliances, versus an average of 0.167 non-compliances per month in 2016.

Frontier Communications completed its purchase of Verizon Florida's wireline operations in Florida in April 2016. In its new role as a large ILEC, Frontier's Performance Measurement Plan includes 29 measures. For the calendar year 2017, Frontier's monthly compliance with approved standards ranged from a low of 68.7 percent to a high of 85.4 percent. In 2017, Frontier's average compliance rate was 76.5 percent versus an average compliance rate of 73.7 percent over the last nine months of 2016.

2. Other Matters

The Commission processed a number of other telecommunications-related items in 2017. The Commission processed 70 service schedule and tariff filings, 67 interconnection agreements and

[81] FPSC Dockets: No. 20000121A-TP (AT&T), No. 20000121B-TP (CenturyLink), and No. 20000121C-TP (Frontier FL)

[82] Docket No. 000121B-TP, Investigation into the establishment of operations support systems permanent performance measures for incumbent local exchange telecommunications companies. (Centurylink Florida Track), Order No. PSC-16-0072-PAA-TP issued February 15, 2016, http://www.floridapsc.com/library/filings/2016/00858-2016/00858-2016.pdf, accessed May 25, 2017.

amendments, 4 carrier certifications, 2 certificate cancellations, one eligible telecommunications carrier (ETC) certificate relinquishment, and over 150 general inquiries/informal complaints.

B. Lifeline

Consumers participating in the Supplemental Nutrition Assistance Program (SNAP) or Medicaid may apply to the Lifeline program online. When an application is completed, a Commission computer automatically makes a query to a Florida Department of Children and Families (DCF) Web services interface to confirm current participation in SNAP or Medicaid. The real-time response verifies participation in at least one of the programs, but does not identify the program. A positive response will generate an automatic email to the appropriate Lifeline provider advising that an approved Lifeline application is available for retrieval on the FPSC web site. A negative response will cause a letter to be sent to the applicant stating his/her participation in SNAP or Medicaid could not be confirmed and offering Commission staff assistance with any questions. Based upon June 2017 SNAP participants, the Lifeline eligible households decreased by 2.9 percent while the participation rate decreased by 8.5 percent from the prior year.[83] Table 6-1 shows the Lifeline eligibility and participation rate in Florida for the last seven years.[84]

Table 6-1
Florida Lifeline Eligibility and Participation Rate

Year	Lifeline Enrollment	Eligible Households	Participation Rate
June 2011	943,854	1,690,512	55.8%
June 2012	1,035,858	1,864,183	55.6%
June 2013	918,245	1,952,890	47.0%
June 2014	957,792	1,930,106	49.6%
June 2015	831,612	2,011,166	41.4%
June 2016	852,255	1,712,005	49.8%
June 2017	685,864	1,662,374	41.3%

Source: U.S. Department of Agriculture data figures as of June 2017

If a program other than Medicaid or SNAP is used for certification, the customer must provide documentation of participation from the administering agency, which could be the Social Security Administration (Supplemental Security Income), Federal Public Housing Assistance (FPHA), Veterans Pension benefit, or the Bureau of Indian Affairs. If a Lifeline applicant chooses to apply for Lifeline directly with an ETC, the carrier can access the DCF web services to confirm program participation for Medicaid and SNAP. In Florida, certification and verification can be accomplished using this process if the applicant or existing Lifeline customer participates in the Medicaid or SNAP programs which are administered by the DCF.

[83] According to the US Department of Agriculture Report, "Supplemental Nutrition Assistance Program: Number of Households Participating, ending June 30, 2015," over 2,011,156 Florida households participated SNAP.
[84] FPSC, "2017 Florida Lifeline Report," released December 2017, http://www.floridapsc.com/Publications/Reports#, Figure 2, accessed June 5, 2018.

On April 27, 2016, the FCC released its Lifeline Modernization Order.[85] In this Order, the FCC established a National Lifeline Eligibility Verifier (National Verifier) for the purpose of transitioning from various carrier and state verification systems to a single system. The FCC envisions that the National Verifier will include electronic and manual methods to determine eligibility and will include a Lifeline Eligibility Database. In addition to determining eligibility for Lifeline, the National Verifier will allow access by authorized users, provide support payments to providers and conduct recertification of subscribers.

While the FCC intended for the National Verifier to be live in Colorado, Mississippi, Montana, New Mexico, Utah and Wyoming by December 31, 2017, that implementation date has been pushed back to sometime in 2018. The FCC intended to phase in additional states in 2018 and have all states using the National Verifier by 2019. However, delays in the initial implementation of the National Verifier will likely affect this timeline. As the National Verifier is deployed, the responsibility to verify eligibility will transition from ETCs or state administrators to the National Verifier. The Universal Service Administrative Company (USAC) will inform stakeholders of its deployment schedule in the states when it is ready to deploy the National Verifier.

C. Telephone Relay Service

It is estimated that approximately 2.5 to 3 million of the estimated 20 million persons living in Florida have been diagnosed as having hearing loss.[86] Relay service in Florida provides telecommunication services for deaf, hard of hearing, deaf-blind, or speech impaired persons, functionally equivalent to the service provided to hearing persons.

Chapter 427, Part II of the Florida Statutes established the Telecommunications Access System Act of 1991 (TASA). TASA provides funding for the distribution of specialized telecommunications devices and intrastate relay service through the imposition of a surcharge of up to $0.25 per landline access line per month, for up to 25 access lines per account. The surcharge billed per month per landline access line is $0.10 for the 2017-2018 budget year.

Pursuant to TASA, the FPSC is responsible for establishing, implementing, promoting, and overseeing the administration of a statewide telecommunications access system to provide access to telecommunications relay services by people who are deaf, hard of hearing, deaf-blind or speech impaired. In accordance with TASA, the FPSC directed the local exchange companies (LECs) to form a not-for-profit corporation, known as Florida Telecommunications Relay, Inc. (FTRI) to directly administer basic relay service in Florida.

Basic relay service is provisioned in Florida under contract by a single service provider. Through a competitive bid evaluation process, the FPSC awarded the current relay provider contract to Sprint, effective March 1, 2018, for a period of three years. The contract contains options to

[85] FCC 16-38, WC Docket No. 11-42, Lifeline and Link Up Reform and Modernization, Third Report and Order, Further Report and Order, and Order on Reconsideration, released April 27, 2016, https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-38A1.pdf, access June 19, 2017.

[86] 2015 Florida Coordinating Council for the Deaf and Hard of Hearing Biennial Report to Governor Rick Scott, the Florida Legislature & the Supreme Court and "Demographics and Statistics," Florida Telecommunications Relay, Inc., http://ftri.org/index.cfm/go/public.view/page/12, accessed April 21, 2016.

extend the contract for four additional one-year periods, and requires mutual consent by both parties to extend the contract.

On July 13, 2017, the Commission approved FTRI's 2017-2018 budget, directing FTRI to reduce its proposed budget. The reduction is due to review of the requested budget items. Specifically, the FPSC approved FTRI's projected operating revenue of $6,224,425 and expenses of $5,851,306. As a result, the TASA surcharge decreased from $0.11 to $0.10, beginning September 1, 2017.

Chapter VII. Federal Activities

A. USTelecom Forbearance Petition

On May 4, 2018, the United States Telecom Association (USTelecom) filed a petition with the FCC seeking forbearance from several of the ILEC regulatory obligations under Sections 251 and 252 of the Communications Act of 1934, as amended, such as providing wholesale access to unbundled network elements (UNEs) and resale. USTelecom also requested that states not be allowed to issue similar unbundling and resale rules if a forbearance is granted. [87]

The FCC issued a public notice on May 8, 2018, that set the deadline for comments and oppositions on June 7, 2018, and for reply comments on June 22, 2018. Given the complexity and importance of the potential ramifications of the requested forbearance, several parties requested an extension of the comment due dates.[88] The FCC granted an extension to August 6, 2018, for comments and to September 5, 2018, for reply comments.[89]

B. FCC Hurricane Response

Several major storms and hurricanes struck the United States during the 2017 hurricane season. Hurricanes Irma and Maria, in particular, caused substantial damage in Florida, especially in the Florida Keys.

In response, the FCC took several steps to promote public safety and connectivity. It created web pages to track information regarding its activities for each hurricane. The FCC also gave a presentation on hurricane response at its 2017 September Open Agenda meeting.

The FCC offered Puerto Rico and the U.S. Virgin Islands nearly $77 million in advanced Universal Service Funding (USF) to help recovery. [90] It also accelerated the post-incentive auction transition to support broadcasters in the territories.[91] The FCC granted temporary Lifeline recertification rules, while expediting approval of experimental licenses to provide Internet access to residents. [92,93] The FCC also approved targeted and flexible support to help

[87] USTelecom, "Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks," filed May 4, 2018, https://www.ustelecom.org/sites/default/files/documents/USTelecom%20Forbearance%20Petition.pdf, accessed May 15, 2018.

[88] FCC, Public Notice WC Docket No. 18-141, "Pleading Cycle Established For Comments On USTelecom's Petition For Forbearance From Section 251(C) Unbundling And Resale Requirements And Related Obligations, And Certain Section 271 And 272 Requirements," released May 8, 2018, https://www.fcc.gov/document/pleading-cycle-established-ustelecom-forbearance-petition, accessed May 15, 2018.

[89] FCC, Order DA 18-574, "WCB Grants Comment Extension on USTA Forbearance Petition," released June 1, 2018, https://www.fcc.gov/document/wcb-grants-comment-extension-usta-forbearance-petition, accessed June 1, 2018.

[90] USF advance https://apps.fcc.gov/edocs_public/attachmatch/DOC-347069A1.pdf, accessed March 7, 2018.

[91] Accelerating post-incentive broadcast auction https://apps.fcc.gov/edocs_public/attachmatch/DOC-348681A1.pdf, accessed March 7, 2018.

[92] Lifeline recertification waivers https://transition.fcc.gov/Daily_Releases/Daily_Business/2018/db0202/DA-18-102A1.pdf, accessed March 7, 2018.

[93] Project Loon experimental license https://apps.fcc.gov/edocs_public/attachmatch/DOC-347125A1.pdf, accessed on March 7, 2018.

restore connectivity of schools and libraries. The agency granted more than 200 waivers and requests for Special Temporary Authority to help re-establish communications in hurricane-affected areas. [94] It allocated $954 million for the creation of two substantial funds for the communications networks in Puerto Rico and the US Virgin Islands. [95] The FCC also hosted a public information workshop on Federal, State/Local/Territorial, and Consumer critical information needs.[96]

Additionally, the FCC solicited comments on the resiliency of communications infrastructure, the effectiveness of emergency communications, and government and industry responses to the 2017 hurricane season.[97] Common problems from hurricane issues mentioned in the comments included delays in reliable electricity restoration, lack of access to repair sites because of blocked roads, etc., theft of generators and copper wire, depletion of recovery resources due to multiple hurricanes over a short window, and possible favoritism in recovery priorities. Reply comments included concerns that potential new regulatory mandates would harm continued new deployment and recovery time. Common suggested solutions to hurricane issues listed in the comments and reply comments included FCC responsiveness in organizing, licensing, granting waivers and USF funding, etc., inter-agency coordination, prepositioning of assets to aid recovery, assistance provided by amateur radio operators, and the effectiveness of the Wireless Network Resiliency Cooperative Framework, which is a voluntary agreement among the major wireless carriers and the FCC to enhance coordination during emergencies.[98,99]

C. Broadband Deployment Issues

FCC Chairman Ajit Pai has stated that his number one priority is expanding broadband access.[100] On January 31, 2017, Chairman Pai announced the formation of a new federal advisory committee, the Broadband Deployment Advisory Committee (BDAC), which will provide advice and recommendations for the FCC on how to accelerate the deployment of high-speed Internet access. The BDAC charter lasts until March 1, 2019, or whenever its work is complete.

The BDAC's mission is to make recommendations for the FCC on how to accelerate the deployment of high-speed Internet access by reducing and/or removing regulatory barriers to infrastructure investment. BDAC is intended to provide an effective means for stakeholders with interests in this area to exchange ideas and develop recommendations for the FCC, which will in turn enhance the FCC's ability to carry out its statutory responsibility to encourage broadband

[94] E-rate funding https://apps.fcc.gov/edocs_public/attachmatch/DOC-347419A1.pdf, accessed on March 7, 2018.
[95] FCC news release available at https://www.fcc.gov/document/chairman-pai-proposes-954-million-plan-puerto-rico-and-usvi, accessed on March 7, 2018.
[96] FCC Public Notice available at https://www.fcc.gov/document/fcc-hold-workshop-april-13-critical-info-during-disasters, released Mar. 23, 2018.
[97] Public Notice available at https://ecfsapi.fcc.gov/file/1207118673392/DA-17-1180A1.pdf, accessed on March 7, 2018.
[98] FCC Hurricane response comments and reply comments available at https://www.fcc.gov/ecfs/search/filings?express_comment=0&limit=100&proceedings_name=17-344&q=(proceedings.name:((17%5C-344*))%20OR%20proceedings.description:((17%5C-344*)))&sort=date_disseminated,DESC, accessed on March 7, 2018.
[99] FCC Hurricane Recovery Task Force available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-347113A1.pdf, accessed on March 7, 2018.
[100] FCC, "Bridging The Digital Divide For All Americans," https://www.fcc.gov/about-fcc/fcc-initiatives/bridging-digital-divide-all-americans, accessed April 27, 2018.

deployment to all Americans.[101]

BDAC has working groups on each of the following:

- Model Code for States
- Model Code for Municipalities
- Streamlining Federal Siting
- Competitive Access to Broadband Infrastructure
- Removing State and Local Regulatory Barriers

Reports, presentations and other BDAC related information can be found on the FCC's BDAC webpage, https://www.fcc.gov/broadband-deployment-advisory-committee.[102]

While continuing to work on multiple broadband issues, the FCC has released some measures of its progress so far. On February 2, 2018, the FCC released its 2018 Broadband Deployment Report. Based on the FCC's actions to accelerate deployment in 2017, the report concludes that the FCC is now encouraging broadband deployment on a reasonable and timely basis. Still, the report finds that far too many Americans lack access to high-speed Internet service, defined as 25 Mbps download/3 Mbps upload speeds, and the FCC must continue its work to encourage deployment of broadband to all Americans, including those in rural areas, on Tribal lands, and in the nation's schools and libraries. The report also concludes that mobile services are not currently full substitutes for fixed services.[103]

On February 22, 2018, the FCC announced that it has updated and modernized its National Broadband Map. The new, cloud-based map will support more frequent data updates and display improvements at a lower cost than the original mapping platform.[104]

D. Open Internet/Net Neutrality

On May 23, 2017, the FCC released a proposal to undo the 2015 net neutrality rules, which prevented blocking, throttling and paid prioritization.[105] The Notice of Proposed Rulemaking (NPRM), also known as the Restoring Internet Freedom NPRM, was adopted on May 18, 2017, during the FCC's Open Meeting.[106] According to the FCC, the purpose of the NPRM was to end the utility-style regulatory approach that gives government control of the Internet and to restore the market-based policies necessary to preserve the future of Internet freedom, and to reverse the

[101] FCC, "Broadband Deployment Advisory Committee," https://www.fcc.gov/broadband-deployment-advisory-committee, accessed April 25, 2018.
[102] Ibid.
[103] FCC, "FCC Releases 2018 Broadband Deployment Report," released February 2, 2018, https://www.fcc.gov/document/fcc-releases-2018-broadband-deployment-report, accessed April 26, 2018.
[104] FCC, "FCC Updates National Broadband Map," released February 22, 2018, https://www.fcc.gov/document/fcc-updates-national-broadband-map, accessed April 26, 2018.
[105] FCC 17-60, WC Docket No. 17-108, "Restoring Internet Freedom," Notice of Proposed Rulemaking, adopted May 18, 2017 and released May 23, 2017, https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-60A1.pdf, accessed May 24, 2017.
[106] A Notice of Proposed Rulemaking or NPRM is a public notice that is issued by law during the rulemaking process when an independent U.S. agency, such as the FCC, adds, removes, or changes a rule or regulation.

decline in infrastructure investment, innovation, and options for consumers put into motion by the FCC in 2015.[107]

Following consideration of the NPRM, on December 14, 2017, the FCC reversed the 2015 Order. In place of that framework, the FCC is returning to the framework that was in place until 2015. The FCC also adopted transparency requirements that will facilitate government oversight of broadband providers' conduct. In particular, the FCC's action has restored the jurisdiction of the Federal Trade Commission (FTC) to act when broadband providers engage in anticompetitive, unfair, or deceptive acts or practices. The Declaratory Ruling, Report and Order, and Order adopted by the FCC:

- Restores the classification of broadband Internet access service as an "information service" under Title I of the Communications Act, the classification affirmed by the Supreme Court in the 2005 Brand X case.[108]

- Reinstates the classification of mobile broadband Internet access service as a private mobile service.

- Restores broadband consumer protection authority to the FTC, enabling it to provide online protections against unfair, deceptive, and anticompetitive practices.

- Requires that internet service providers (ISPs) disclose information about their practices to consumers, entrepreneurs, and the FCC, including any blocking, throttling, paid prioritization, or affiliated prioritization.

- Eliminates the Internet Conduct Standard, under which the FCC could micromanage business models.

The new rules took effect on June 11, 2018.[109,110]

Prior to the 2015 Open Internet Order, the FTC had been responsible for regulation of internet activities using its authority to prohibit deceptive or unfair acts and practices in all commerce, with a few exceptions like common carriers. But some common carrier telecom companies also offer internet services. The FTC has also been involved in a long running lawsuit regarding its ability to regulate the internet service provision of telecom companies that are common carriers. In 2014, the agency sued AT&T Mobility LLC for throttling its customers' unlimited mobile data plans without proper notice. The company claimed that its common carrier status exempted it from the jurisdiction of the FTC. That case has been appealed and heard en banc. On February

[107] FCC, Fact Sheet Restoring Internet Freedom Notice of Proposed Rulemaking – WC Docket No. 17-108, released April 27, 2017, https://apps.fcc.gov/edocs_public/attachmatch/DOC-344614A1.pdf, accessed May 24, 2017.
[108] Tech Law Journal, "Supreme Court Rules in Brand X Case," http://www.techlawjournal.com/topstories/2005/20050627b.asp, accessed April 25, 2018.
[109] FCC, "FCC Takes Action to Restore Internet Freedom," released December 14, 2017, https://www.fcc.gov/document/fcc-takes-action-restore-internet-freedom, accessed April 25, 2018.
[110] FCC, "WCB Announces Effective Date of Restoring Internet Freedom Order," released May 11, 2018, https://www.fcc.gov/document/wcb-announces-effective-date-restoring-internet-freedom-order, accessed June 8, 2018.

26, 2018, the Ninth US Circuit Court of Appeals ruled that the FTC data-throttling lawsuit against AT&T may proceed.[111,112]

On December 14, 2017, the FTC and the FCC announced a Memorandum of Understanding under which the two agencies would coordinate online consumer protection efforts following the adoption of the Restoring Internet Freedom Order, which returns jurisdiction to the FTC to police the conduct of ISPs, including with respect to their privacy practices.[113]

In response to the imminent change in net neutrality protections, proponents of the previous rules have mounted court challenges, proposed federal laws and promulgated state level laws and rules.

1. Federal Court Challenges

Multiple parties have filed legal challenges to the new order. On January 17, 2018, the United States Court of Appeals for the D.C. Circuit issued an Order consolidating four Protective Petitions for Review of the FCC's Restoring Internet Freedom Order filed by the State of N.Y., et al., Mozilla, Public Knowledge, and New America's Foundation OTI.[114]

2. Federal Legislative Challenges

Democratic lawmakers have sought to use the Congressional Review Act (CRA) to invalidate the FCC repeal of net neutrality rules with a joint Congressional resolution of disapproval. The net neutrality CRA was introduced in the Senate by Senator Bill Markey (D-MA) and in the House by Representative Mike Doyle (D-PA).[115]

On December 19, 2017, Representative Marsha Blackburn (R-TN) introduced the Open Internet Preservation Act to replace some of the net neutrality rules that the FCC repealed. The bill would prohibit internet service providers from blocking or throttling web content. The bill would still allow companies to charge websites for faster data speeds, and it pre-empts states from implementing stronger net neutrality protections.[116,117]

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[111] engadget, "FTC sues AT&T over 'deceptive' mobile data throttling (update: response)," released October 28, 2014, https://www.engadget.com/2014/10/28/ftc-sues-att-over-throttling/, accessed April 25, 2018.
[112] US 9th Circuit Court of Appeals, "Federal Trade Commission, Plaintiff-Appellee, v. AT&T Mobility LLC, a limited liability company, Defendant-Appellant," filed February 26, 2018, http://cdn.ca9.uscourts.gov/datastore/opinions/2018/02/26/15-16585.pdf, accessed April 25, 2018.
[113] FCC, "FCC/FTC To Coordinate Online Consumer Protection Efforts," released December 11, 2017, https://www.fcc.gov/document/fccftc-coordinate-online-consumer-protection-efforts, accessed April 25, 2018.
[114] NECA, US DC Circuit Court of Appeals, "New America Foundation's Open Technology Institute, Petitioner v. Federal Communications Commission and United States of America, Respondents," filed January 17, 2018, https://prodnet.www.neca.org/publicationsdocs/wwpdf/011718dcctorder.pdf, accessed April 25, 2018.
[115] The Hill, "Dems introduce legislation to stop FCC net neutrality repeal." published February 27, 2018, http://thehill.com/policy/technology/375829-democrats-officially-introduce-legislation-to-stop-fcc-net-neutrality, accessed April 25, 2018.
[116] Congress, "H.R.4682 - Open Internet Preservation Act," introduced December 19, 2017, https://www.congress.gov/bill/115th-congress/house-bill/4682?r=2, accessed April 25, 2018.
[117] The Hill, "House Republican offers net neutrality replacement bill," published December 19, 2017, http://thehill.com/policy/technology/365671-house-republican-offers-net-neutrality-replacement-bill, accessed April 25, 2018.

3. State Legislative Challenges

According to the National Regulatory Research Institute's Net Neutrality State Actions Tracker, as of April 17, 2018, 32 states and the District of Columbia have passed legislation and/or resolutions concerning net neutrality since the FCC adopted the Restoring Internet Freedom Order. Also four state governors have issued executive orders that effectively bar state agencies from doing business with ISPs that violate net neutrality, using the state governments' positions as large customers to influence ISPs.[118]

E. Universal Service

Universal service is the policy that all Americans should have access to communications services. While Florida consumers benefit from being able to make and receive calls from all parts of the nation, there is a cost associated with this policy.

In general, Florida consumers pay more into the federal USF than what is returned to eligible service providers in Florida.[119] For 2016, New York consumers continued to be larger net contributors than Florida. The FPSC monitors and participates in ongoing proceedings at the FCC and with the Federal-State Joint Board on Universal Service. Table 7-1 shows Florida's estimated contribution and receipts for 2016 and provides a comparison of net contributions for 2014 and 2015.

Table 7-1
2015 Federal Universal Service Programs in Florida
(Annual Payments and Contributions in Thousands of Dollars)

	2014	2015	2016		
	Estimated Net	Estimated Net	Payments to Service Providers	Estimated Consumer Contributions	Estimated Net
High-Cost	($173,267)	($219,785)	$60,719	$272,713	($211,994)
Low Income	1,299	(6,787)	97,378	93,378	4,004
Schools & Libraries	(62,451)	(60,265)	96,709	144,966	(48,257)
Rural Health Care	(12,059)	(16,315)	4,466	18,105	(13,639)
Total	($254,024)	($308,505)	$259,276	$539,589	($280.312)

Source: FCC Universal Service Monitoring Report, various years, Table 1.9.[120]

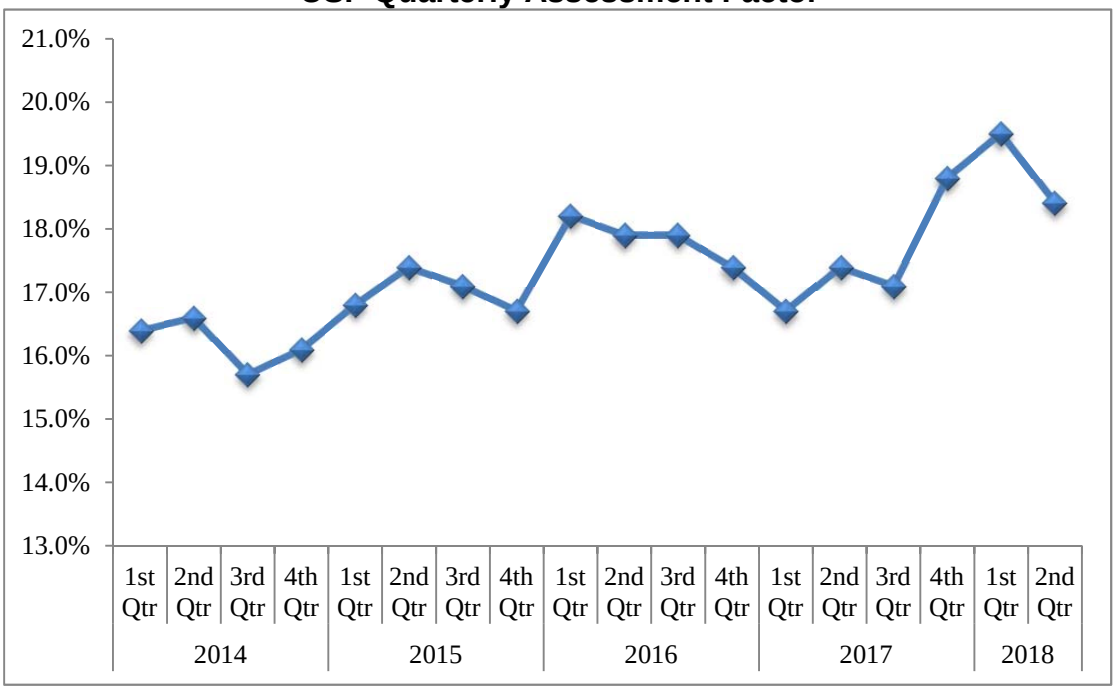
1. Contribution System Reform

Telecommunications service providers fund the USF based on a quarterly FCC assessment factor and the amount of telecommunications revenues service providers collect from end-users. Specifically, the assessment factor is applied to interstate and international telecommunications revenues.

[118] NRRI, "Net Neutrality State Actions Tracker," published April 17, 2018, http://nrri.org/net-neutrality-tracker/, accessed April 25, 2018.
[119] FCC, "Universal Service Monitoring Report-2017," released April 13, 2018, https://docs.fcc.gov/public/attachments/DOC-350207A1.pdf, accessed June 5, 2018.
[120] Note: Figures may not add up due to rounding.

Mobile wireless carriers and interconnected VoIP providers are also required to contribute.[121] In the last four and a half years, the assessment factor ranged from a high of 19.5 percent in the first quarter of 2018 to a low of 15.7 percent in the third quarter of 2015.[122] Figure 7-1 illustrates changes to the assessment factor over the last four and a half years.

Figure 7-1
USF Quarterly Assessment Factor



Source: FCC Public Notices on Proposed Contribution Factors, various quarters

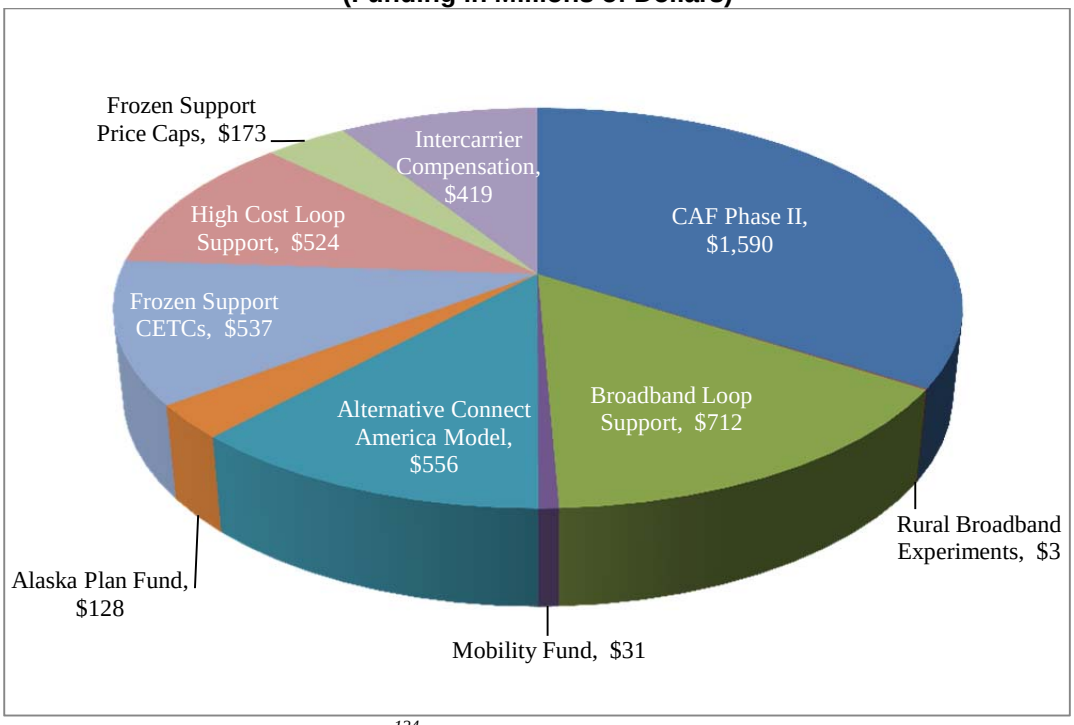
2. High Cost

In 2011, the FCC reformed and modernized its existing high-cost fund to maintain voice services and extend broadband capable infrastructure.[123] As part of this reform, the FCC began to phase out the existing high-cost support programs and began funding through the Connect America Fund (CAF). The CAF focuses on supporting and expanding fixed broadband availability and voice service. Figure 7-2 identifies the authorized national support by high-cost program for 2017, an increase of 3.9 percent from 2016.

[121] Wireless carriers and interconnected VoIP providers may use the interim safe harbor percentages to estimate the interstate portion of their revenues.
[122] FCC, "Contribution Factor & Quarterly Filings - Universal Service Fund (USF) - Management Support," http://www.fcc.gov/encyclopedia/contribution-factor-quarterly-filings-universal-service-fund-usf-management-support, accessed June 5, 2017.
[123] FCC 11-161, WC Docket No. 10-90, Connect America Fund, Report and Order and Further Notice of Proposed Rulemaking, released November 18, 2011, http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-161A1.pdf, accessed June 5, 2018.

The High Cost Program implemented three new funds in 2017 with the intended goal to bring broadband to rural America. First, the Alternative Connect America Cost Model, with $555.8 million disbursed in 2017, offered interstate rate-of-return carriers the option to elect to receive model-based support for a 10-year term in exchange for extending broadband service to a pre-determined number of eligible locations. Second, the Connect America Broadband Loop Support, with $713.9 million disbursed in 2017, was made available to interstate rate-of-return carriers that elected not to participate in the Alternative Connect America Cost Model. This program is a rebranded form of interstate common line support, but expanded to support broadband-only lines. Finally, the Alaska Plan, with $128.3 million disbursed in 2017, established a separate fund for wireline and wireless carriers that serve Alaska. Like the Alternative Connect America Cost Model, carriers can elect to receive model-based support for a 10-year term in exchange for extending broadband service. It differs from that program in so far as it incorporates the unique climate and geographical conditions of Alaska.

Figure 7-2
2017 Authorized Federal High-Cost Support
(Funding in Millions of Dollars)



Source: USAC 2017 Annual Report[124]

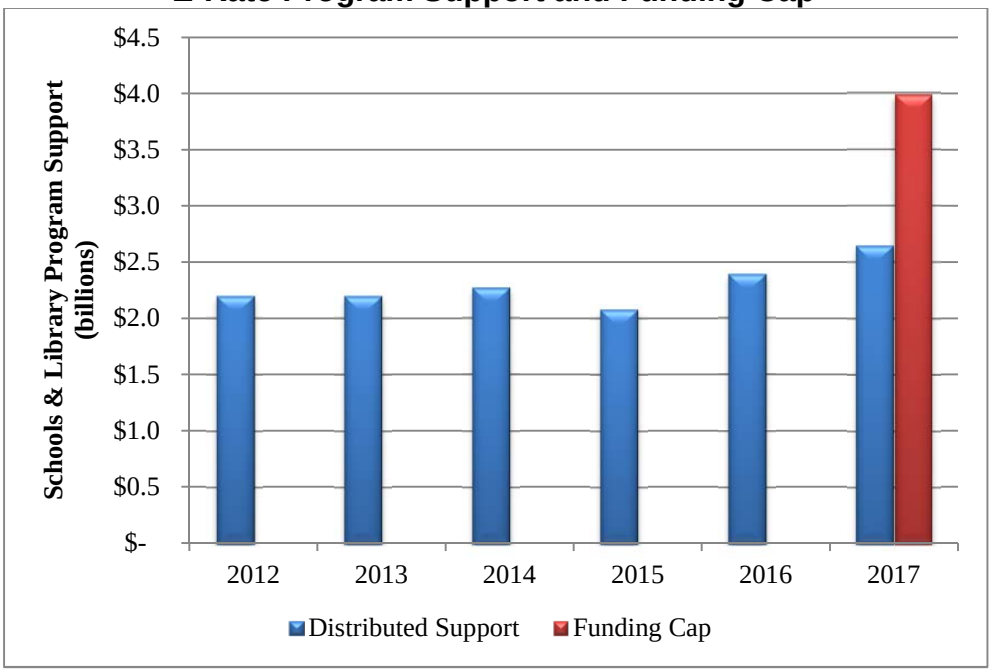
[124] Universal Service Administrative Company 2017 Annual Report, https://www.usac.org/_res/documents/about/pdf/ annual-reports/usac-annual-report-2017.pdf, page 10, accessed June 5, 2018.

3. Schools and Libraries

The schools and libraries support program, commonly known as the E-rate Program, provides financial assistance for eligible schools and libraries. The program provides support to reduce the cost associated with telecommunications services, Internet access, and eligible equipment, along with repair and upkeep of eligible equipment. The discounts range from 20 percent to 90 percent of the costs of eligible services depending on the level of poverty and whether the school or library is located in an urban or rural area.

Figure 7-3 reflects the new cap relative to the amount of support distributed in prior years.[125] On an annual basis, Florida consumers can expect to pay about $50 million more per year into the federal program than the amount of support Florida schools and libraries will receive based on 2017 estimated contribution data. Because the cap is almost twice the amount as what was distributed, there is the potential for increased net contributions into the program in the future.

Figure 7-3
E-Rate Program Support and Funding Cap



Source: USAC 2017 Annual Report[126]

4. Low Income

The Lifeline program provides a $9.25 discount on phone service for qualifying low-income consumers to ensure that all Americans have the opportunities and security that phone service brings. In addition, the FCC has determined that broadband has become essential to participation

[125] FCC Public Notice, DA 17-243, Wireline Competition Bureau Announces E-Rate Inflation-Based Cap for Funding Year 2017, released March 13, 2017, https://docs.fcc.gov/public/attachments/DA-17-243A1.pdf, accessed June 5, 2018.

[126] Universal Service Administrative Company 2017 Annual Report, https://www.usac.org/_res/documents/about/pdf/annual-reports/usac-annual-report-2017.pdf, page 7, accessed June 5, 2018.

in modern society, offering access to jobs, education, health care, government services and opportunity. On April 27, 2016, the FCC released an Order to further modernize the federal Lifeline program.

The FCC's Order takes a variety of actions to encourage more Lifeline providers to deliver newly supported broadband services as the FCC transitions from primarily supporting voice services to targeting support at providing broadband services. The Order also limits the qualifying criteria consumers can use to sign up for Lifeline services, removing the ability of states to specify additional qualifying programs or criteria. In addition, the FCC has established a budget for the expanded Lifeline program of $2.25 billion, indexed to inflation. By way of comparison, the authorized support for the Lifeline program in 2017 was $1.26 billion.[127]

The FCC states that to be sustainable and achieve its goals of providing low-income consumers with robust, affordable, and modern service offerings, a forward-looking Lifeline program must focus on broadband services. Therefore, the FCC concluded that it is necessary that going forward the Lifeline discount will no longer apply to voice-only offerings, following an extended transition period, except in census blocks with only one Lifeline provider. Prior to the complete phase out of support for voice-only services, the FCC will reevaluate its conclusion as part of a 2021 report on the state of the Lifeline marketplace. After this transition, the federal Lifeline program will continue to support voice service when bundled with a broadband service that meets the FCC's minimum service standards.[128] The table below outlines the FCC's phase down schedule.

Table 7-2
Lifeline Support Phase Down Schedule

Effective Dates	Fixed Voice	Mobile Voice	Fixed Broadband	Mobile Broadband
Through 11/30/19	$9.25	$9.25	$9.25	$9.25
From 12/1/19 to 11/30/20	$7.25	$7.25	$9.25	$9.25
From 12/1/20 to 11/20/21	$5.25	$5.25	$9.25	$9.25
After 11/30/21	$0	$0	$9.25	$9.25

Source: FCC, Lifeline Modernization Order

On December 1, 2017, the FCC released its Fourth Report and Order and Notice of Proposed Rulemaking to further reform the Lifeline program.[129] The FPSC filed comments in this proceeding on February 21, 2018. In this proceeding, the FCC asserted that Lifeline support will best promote access to advanced communications services if it is focused on encouraging

[127] Ibid. p. 9.
[128] The fixed broadband speed standard is based on what a substantial majority of consumers receive (currently 10 Mbps downloads/1 Mbps uploads). The FCC also sets minimum monthly fixed broadband usage allowances, starting at 150 GB, and updated thereafter. Mobile broadband services standards are phased in starting at 500 MB per month of 3G data by December 1, 2016, 1 GB by December 1, 2017, and increasing to 2 GB per month by the end of 2018.
[129] FCC, Fourth Report and Order, Order on Reconsideration, Memorandum Opinion and Order, Notice of Proposed Rulemaking, and Notice of Inquiry, FCC 17-155, WC Docket Nos. 17-287, 11-42, and 09-197, released December 1, 2017.

investment in broadband-capable networks. It therefore proposed "limiting Lifeline support to facilities-based broadband service provided to a qualifying low-income consumer over the ETC's voice- and broadband-capable last-mile network."[130]

In the FPSC's comments, we noted our continued concern about growth in the size of the Lifeline budget and that we do not believe the FCC's proposal will have the desired effect to more efficiently meet the needs of Lifeline consumers. First, resellers contribute, albeit indirectly, to the infrastructure of the underlying network. Specifically, resellers pay wholesale companies a market-based rate for the services they use that should include the wholesale companies' expenses related to infrastructure. Second, some prominent facilities-based carriers have already left the Lifeline market. In Florida, AT&T has withdrawn as an ETC in areas where it was not eligible to receive high-cost support. Resellers are the only option in many of the affected areas where AT&T has relinquished this designation for wireline service. Finally, many states have seen a significant transition in the provision of Lifeline service from wireline to wireless carriers. Many of these wireless resellers have developed this business plan, not to defraud the Lifeline program, but to serve a market underserved by many traditional carriers.

The FCC also asked for comment on continuing the phase-down of Lifeline support for voice-only services. The FPSC takes the position that customers should have the option to continue to receive Lifeline support for voice-only service and that the FCC should eliminate its planned phase down of support for voice-only services. We noted our concern that if the only option for customers to obtain Lifeline voice service is by combining the service with broadband, the cost of the combined services may become cost prohibitive for some consumers without increasing financial support from the Lifeline program. Furthermore, some consumers may have concluded that they do not need broadband service. Customers should continue to have the option of stand-alone voice or a combination of voice and broadband services.

F. FCC Major Enforcement Actions

Federal and state agencies routinely initiated enforcement actions to deter noncompliance with government regulations. During 2017, the Florida Attorney General, FCC, FTC, and Department of Justice issued major violations for buildout failure, calling violations, fraud, slamming and cramming, and universal service program rule violations. Some major violations involving Florida-based companies include the following.

1. Calling Violations

The Truth in Caller ID Act prohibits callers from deliberately falsifying caller ID information, a practice called "spoofing", to disguise their identity with the intent to harm, defraud consumers, or wrongfully obtain anything of value. Changes in technology have made it easier and cheaper for scammers to make robocalls and to manipulate caller ID information. To address this consumer problem, the FCC and FTC have focused both on enforcement actions and on pursuing policies to help consumers and their service providers block malicious robocalls. Some recent examples of calling violation enforcement actions are listed below.

- On January 13, 2017, the FTC said that defendants in two legal actions the agency brought agreed to pay the FTC more than $510,000 in settlement of those suits. The

[130] Ibid.

defendants in the cases, including Justin Ramsey, managing member of Boynton Beach, FL based Data Guru LLC, which is not certificated in Florida, and Aaron Jones, owner of Allorey, Inc., based in Orange County, CA, directed millions of robocalls since 2012 to consumers listed on the Do-Not-Call Registry. Monetary judgments against the defendants in the cases totaled $11.3 million, but were reduced to $510,000 based on the defendants' ability to pay. In addition to the monetary judgments, defendants in the case agreed to court orders banning them from making robocalls, making calls to numbers on the Do-Not-Call Registry, and violating the FTC's Telemarketing Sales Rule. The FTC said that Mr. Ramsey and Mr. Jones have previously been sued by state attorneys general for telemarketing violations.[131]

- On June 5, 2017, at the request of the FTC and the Florida Attorney General, a federal district court judge entered eight orders against an intertwined web of Orlando-based individuals and companies that bombarded consumers with illegal robocalls from "Card Member Services," pitching worthless credit card interest rate reduction programs.

  All of the stipulated orders contain monetary judgments that are either entirely or partially suspended based on the defendants' inability to pay. If they are later found to have misrepresented their financial condition, the entire amount of the respective judgment will become due. The judgments entered against the 12 defendants that were alleged to be primarily responsible for this scam are in the amount of $4,890,797. The stipulated orders against three other defendants are for lesser amounts, reflecting the consumer injury caused by their more-limited conduct.[132]

- On June 22, 2017, the FCC proposed a $120 million fine against an individual who apparently made almost $100 million from spoofed robocalls in violation of the Truth in Caller ID Act.[133] Mr. Adrian Abramovich of Miami, FL apparently made 96 million spoofed robocalls during a three-month period. Mr. Abramovich's operation apparently made the spoofed calls in order to trick unsuspecting consumers into answering and listening to his advertising messages. The FCC's Enforcement Bureau also issued a citation to Mr. Abramovich for apparent violations of the Telephone Consumer Protection Act (TCPA) robocall limits and the federal wire fraud statute.

[131] Consumerist, "Feds Shut Down Two Massive Illegal Robocall Operations," released January 14, 2017, https://consumerist.com/2017/01/13/feds-shut-down-two-massive-illegal-robocall-operations/, accessed January 15, 2017.
[132] FTC, News Release, "FTC, Florida Attorney General Close the Book on Robocall Ring That Pitched U.S. Consumers Worthless Credit Card Rate Reduction Programs," released June 5, 2017, https://www.ftc.gov/news-events/press-releases/2017/06/ftc-florida-attorney-general-close-book-robocall-ring-pitched-us, accessed June 6, 2017.
[133] FCC, News Release, "FCC Proposes $120 Million Fine of Massive Caller ID Spoofing Operation," released June 22, 2017, https://www.fcc.gov/document/fcc-proposes-120-million-fine-massive-caller-id-spoofing-operation, accessed June 23, 2017.

2. Fraud/Other Noncompliance

On January 6, 2017, the Justice Department announced that the operator of an Orlando, FL telecommunications company, Arymyx, Inc., pled guilty in conjunction with a global cellphone fraud scheme in which the accounts of wireless customers were compromised and their phones were cloned in order to make fraudulent international calls. Also, a West Palm Beach resident was sentenced on January 4, 2017 to 52 months in prison in connection with the scheme. Ramon Batista, pleaded guilty to several counts, while Jose Santana (aka Octavio Perez), was given 52 months in prison. This company is a Florida wireless service provider, but is not certificated by the Florida Public Service Commission.[134]

3. Slamming and Cramming

"Slamming" is the illegal practice of switching a consumer's traditional wireline telephone company for local, local toll, or long distance service without permission. The slamming rules also prohibit unreasonable delays in the execution of an authorized switch by your local telephone company. "Cramming," is the illegal act of placing unauthorized charges on your wireline, wireless, or bundled services telephone bill. Crammers often rely on confusing telephone bills to trick consumers into paying for services they did not authorize or receive, or that cost more than the consumer was led to believe. Below is a list of slamming and cramming enforcement actions taken by the FCC.

- On April 25, 2017, the FCC announced a $1 million fine against a Winter Park, FL-based long distance carrier, Advantage Telecommunications, for "slamming" and "cramming." This company was regulated by the Florida Pubic Service Commission as an interexchange company (IXC) until IXCs were deregulated on July 1, 2011. The company's telemarketers violated FCC rules by impersonating representatives of customers' existing long-distance providers and switching the customers' long-distance carriers without obtaining proper, verified authorization. Advantage also added unauthorized charges to consumers' telephone bills. In addition, the company violated the FCC's truth-in-billing rules by failing to plainly and clearly describe its charges on bills. The vast majority of consumers impacted were small businesses.[135]

- On October 3, 2017, the FCC issued a Notice of Apparent Liability, that contains a nearly $4 million fine against Neon Phone Service of Rockledge, FL for "slamming" and "cramming." This is also a Florida company, but as an IXC, it is not regulated by the FPSC. The company appears to have violated FCC rules by switching customers' long distance carriers without obtaining proper, verified authorization. It also apparently added unauthorized charges to consumers' telephone bills. Due to Neon's apparent violations of the Communication Act and FCC rules for these actions, the

[134] Department of Justice, News Release, "Owner of Florida Telecommunications Company Pleads Guilty, Second Defendant Sentenced to 52 Months in Prison for Involvement in International Cellphone Fraud Scheme," released January 5, 2017, https://www.justice.gov/opa/pr/owner-florida-telecommunications-company-pleads-guilty-second-defendant-sentenced-52-months, accessed January 6, 2017.

[135] FCC, News Release, "FCC Fines Company $1 Million For Illegally Switching Consumers' Long Distance Carriers," released April 25, 2017, https://www.fcc.gov/document/fcc-fines-company-1m-violating-slamming-cramming-rules, accessed May 12, 2017.

FCC is proposing a $3,963,722 fine against Neon.[136]

4. Universal Service Violations

- On January 30, 2018, the FCC proposed an $18,715,405 fine against DataConnex for apparent violations involving the Universal Service Fund Rural Health Care Program. The Florida and Mississippi-based telecommunications services provider is charged with violating the Communications Act, the program's competitive bidding rules, and using forged, false, misleading, and unsubstantiated documents to improperly seek funding from the USF. DataConnex's apparent financial relationship with a consultant hired by rural health care providers to help select a service provider undermined the competitive bidding process. DataConnex also apparently provided false and misleading information to unlawfully increase the USF funding it received. As a VoIP provider, the Brandon, FL, company is not regulated by the Florida Public Service Commission.[137]

- On February 15, 2017, the FCC announced a $9.1 million settlement with two companies which provide telecommunications services to consumers with hearing and speech disabilities. In addition to a monetary penalty for improper billing, the settlement with TRS providers Purple Communications and CSDVRS, of Clearwater, FL, repays the TRS Fund and establishes a 5-year compliance plan to ensure that services going forward incorporate the required checks.[138]

- On June 8, 2017, the FCC released a Forfeiture Order against Advanced Tel, Inc. (ATI), of New Port Richey, FL. The penalty of $975,000 has been imposed on ATI for violating its federal regulatory obligations as a telecommunications service provider for several years by failing to file required data and make required contributions to federal programs. [139]

G. Local Number Portability Transition

Local Number Portability (LNP), or number porting, is a system that enables end users to keep their telephone numbers when switching from one communications service provider to another. When deregulation came to the telephone industry, many new service providers emerged, giving consumers a choice of services and prices. Yet, switching to a new provider meant getting a new telephone number. Number portability changed that, making it easy for consumers to freely select the communications service provider of their choice and retain the same telephone number.[140]

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[136] FCC, News Release, "FCC Proposes $3.9 Million Fine Against Neon for Slamming and Cramming," released October 3, 2017, https://www.fcc.gov/document/fcc-proposes-39-million-fine-against-neon-slamming-and-cramming, accessed October 4, 2017.
[137] FCC, News Release, "FCC Proposes $18.7 Million Fine Against DataConnex," released January 30, 2017, https://www.fcc.gov/document/fcc-proposes-187-million-fine-against-dataconnex, accessed January 31, 2017.
[138] FCC, News Release, "FCC Settles Investigation Of Relay Service Providers," released February 15, 2017, https://www.fcc.gov/document/fcc-settles-investigation-relay-service-providers, accessed February 16, 2017.
[139] FCC, News Release, "FCC Fines ATI $975K for Universal Service and Other Violations," released June 8, 2017, https://www.fcc.gov/document/fcc-fines-ati-975k-universal-service-and-other-violations, accessed June 9, 2017.
[140] NPAC Number Portability Administration Center, "Local Number Portability," https://www.npac.com/number-portability, accessed April 24, 2018.

The Number Portability Administration Center (NPAC) supports the implementation of and is the system used to facilitate number porting in the United States. Comprised of seven regional systems across the U.S., the NPAC manages the number portability processes of all Telecom Service Providers in the United States, including wireline, wireless and VoIP.[141]

North American Portability Management LLC, (NAPM) negotiates and manages the contracts for LNP administration, including "immediate oversight and management" of the LNP administrator(s) in accordance with orders and directions from the FCC.[142]

Neustar had been the Local Number Portability Administrator (LNPA) for all seven NPAC regions since 1997, but after a bidding process, the FCC awarded the contract to iconectiv, as the next LNPA. On August 8, 2016, iconectiv and the NAPM signed the Master Services Agreements for each of the seven U.S. NPAC regions, officially establishing iconectiv as the next LNPA in all U.S. regions.[143]

The first NPAC region to transfer to iconectiv was the Southeast and on April 8, 2018, iconectiv announced that the transition had been successful. This marks the first regional cutover of NPAC data and services for Service Providers, Service Bureaus and Providers of Telecom-Related Services, and it follows iconectiv's successful transition of law enforcement services enabling number identification and porting in March 2018.[144]

H. Public Safety Network

On December 28, 2017, the state of Florida opted to join the First Responder Network Authority (FirstNet).[145] FirstNet is a nationwide public safety broadband network, as well as the name of the federal agency that was created in 2012 to deploy and operate the network. Congress established FirstNet in Section 6204 of the Middle Class Tax Relief and Job Creation Act of 2012, which also directed the FCC to reserve some spectrum frequencies for public safety use in a nationwide broadband network and allocated up to $7 billion dollars for construction of the network. FirstNet falls under the responsibility of the National Telecommunications and Information Agency (NTIA), which is itself under the purview of the United States Department of Commerce. FirstNet is envisioned as a way to improve efficiency and coordination of emergency services amongst thousands of federal, state, and local first responders. All states and territories have joined FirstNet.[146,147]

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[141] NPAC, "About The NPAC," https://numberportability.com/about-us/about-npac/, accessed April 24, 2018.
[142] North American Portability Management LLC, "Welcome to the North American Portability Management LLC website!," https://www.napmllc.org/pages/home.aspx, accessed April 24, 2018.
[143] RCR Wireless News, "Iconectiv officially tapped to serve as nation's LNPA," published August 10, 2016, https://www.rcrwireless.com/20160810/policy/iconectiv-officially-tapped-to-serve-as-nations-lnpa-tag2, accessed April 24, 2018.
[144] NPAC, "iconectiv Announces Cutover of First Regional NPAC System," published April 9, 2018, https://numberportability.com/news/iconectiv-announces-cutover-first-regional-npac-system/, accessed April 24, 2018.
[145] Tampa Bay Times, "Florida finally joins FirstNet's future first-responder network," published January 1, 2018, http://www.tampabay.com/news/publicsafety/Florida-finally-joins-FirstNet-s-future-first-responder-network_164012151, accessed April 24, 2018.
[146] First Responder Network Authority, https://firstnet.gov/, accessed April 24, 2018.

I. Robocalls

Robocalls are calls dialed by an Automatic Telephone Dialing Systems (ATDS) that deliver a recorded message. The majority of such are unsolicited calls from spammers and scammers, often from organized criminal groups overseas. There are some legitimate uses for robocalls like appointment reminders or school closing announcements, etc., but the main issue is whether a citizen consents to being called. These calls have become an ever more pressing topic of interest in the telecommunications in dustry, because cheaper and improved technology has spurred a sharp increase in the volume of robocalls. Citizens are receiving robocalls on all voice media including wireline, wireless and VoIP telephones (robotexts as well). According to the YouMail robocall index, the volume of robocalls nationwide had risen from 2.3 billion calls in January 2017 to 3.2 billion calls in March 2018.[148] The FTC and FCC received more than 600,000 complaints about unwanted calls in 2017 from Florida.[149] The Telephone Consumer Protection Act (TCPA), which is the principal federal legislation that prohibits robocalls, allows for civil lawsuits against robocallers. Citizens filed 4,392 lawsuits in 2017, up from just 14 in 2007.[150] The Department of Justice (DOJ), Consumer Financial Protection Bureau (CFPB), FCC, FTC and many states attorneys general have been active in pursuing civil and criminal penalties against offending robocallers as well. Despite these efforts, the volume of robocalls still continues to increase.

The FCC took several actions to halt the proliferation of robocalls. The FCC's efforts to reduce unwanted robocalls met with a legal setback on March 16, 2018, when the United States Court of Appeals for the District of Columbia Circuit issued a decision granting in part and denying in part petitions for review of the 2015 Robocall Order in which the FCC sought to clarify various aspects of the TCPA's general bar against using automated dialing devices to make uninvited calls.[151,152] The Court upheld the FCC's approach to revocation of consent, under which a party may revoke consent through any reasonable means clearly expressing a desire to receive no further messages from the caller, and sustained the scope of the agency's exemption for time-sensitive health care calls. The Court, however, set aside the FCC's effort to clarify the types of calling equipment that fall within the TCPA's restrictions, and vacated the FCC's approach to calls made to a phone number previously assigned to a person who had given consent but since reassigned to another (nonconsenting) person. The Court ruled the FCC's one-call safe harbor, at least as defended in the Order, is arbitrary and capricious.[153]

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[147] Government Publishing Office, "Middle Class Tax Relief And Job Creation Act Of 2012," released February 22, 2012, https://www.gpo.gov/fdsys/pkg/PLAW-112publ96/pdf/PLAW-112publ96.pdf, accessed January 24, 2018.
[148] YouMail, Robocall Index, https://robocallindex.com/, accessed April 24, 2018.
[149] FTC, "Do Not Call Registry Data Book 2017," https://www.ftc.gov/policy/reports/policy-reports/commission-staff-reports/national-do-not-call-registry-data-book-fy accessed on April 24, 2018.
FCC, "Consumer Complaints Data - Unwanted Calls Consumer," https://opendata.fcc.gov/Consumer/Consumer-Complaints-Data-Unwanted-Calls/vakf-fz8e, accessed on April 24, 2018.
[150]WebRecon, LLC,"WebRecon Stats for Dec 2017 & Year in Review," https://webrecon.com/webrecon-stats-for-dec-2017-year-in-review/, accessed April 24, 2018.
[151] NECA, "US DC Court of Appeals: ACA International, et al., Petitioners V. Federal Communications Commission and United States Of America," released on March 16, 2018, https://prodnet.www.neca.org/publicationsdocs/wwpdf/031618aca.pdf, accessed on April 24, 2018.
[152] FCC, "TCPA Omnibus Declaratory Ruling and Order," released July 10, 2015, https://www.fcc.gov/document/tcpa-omnibus-declaratory-ruling-and-order, accessed on April 24, 2018.
[153] Ibid, Footnote 193.

Appendix A. List of Certificated CLECs as of December 31, 2017

** Indicates the company did not respond to the Commission's data request.

365 Wireless, LLC
382 Networks, Inc.
A.SUR Net, Inc.**
Access One, Inc.
Access Point, Inc.
ACN Communication Services, LLC
Airbus DS Communications, Inc.
Airespring, Inc.
Airus, Inc.
ALEC, LLC
Alternative Phone, Inc.
American Telephone Company LLC
ANEW Broadband, Inc.
ANPI Business, LLC
AT&T Corp.
AT&T Florida
ATC Outdoor DAS, LLC
Atlantic Broadband Enterprise, LLC
Atlantis Communications LLC
ATN, Inc.
Backbone Communications Inc.
Baldwin County Internet/DSSI Service, L.L.C.**
Bandwidth.com CLEC, LLC
Barr Tell USA, Inc.
BCM One, Inc.
BCN Telecom, Inc.
BeCru
BetterWorld Telecom
Birch Communications, Inc.**
Birch Telecom of the South, Inc.**
Bright House Networks Information Services (Florida), LLC
Broadband Dynamics, L.L.C.
BroadRiver Communication Corporation
Broadsmart Florida, Inc,
Broadview Networks, Inc.
Broadvox-CLEC, LLC
Broadwing Communications, LLC
BT Communications Sales LLC
BullsEye Telecom, Inc.
C3
Callis Communications, Inc.
Campus Communications Group, Inc.
Cbeyond Communications, LLC**
CBTS Technology Solutions LLC
CenturyLink
Citadel Design & Construction, LLC
City Communications Inc.**
City of Bartow
City of Lakeland
City of Leesburg
City of Ocala
Clear Rate Communications, Inc.
Cogent Communications of Florida LHC, Inc.
Comcast Business Communications, LLC
Comcast Digital Phone
Comity Communications, LLC
Communications Authority, Inc
ComNet (USA) LLC
Comtech21, LLC
Consolidated Communications/GTC
Conterra Ultra Broadband, LLC
Convergia, Inc.
CoreTel Florida, Inc.
Cox Florida Telcom, L.P.
Crexendo Business Solutions, Inc.
Crosstel Tandem, Inc.
Crown Castle NG East LLC
Custom Network Solutions, Inc.
Custom Tel, LLC
Dais Communications, LLC
Dedicated Fiber Systems, Inc.
Dialtone Telecom, LLC
DIGITALIPVOICE, INC.
Discount CLEC Services Corporation
dishNET Wireline L.L.C.
DSCI, LLC
EarthLink Business
EarthLink Business, LLC
Easy Telephone Services Company
Electronet Broadband Communications, Inc.

Embarq Communications
ENA Services, LLC
eNetworks NC, LLC
ENGAGE COMMUNICATIONS
Enhanced Communications Network, Inc.
Entelegent Solutions, Inc.
ExteNet Systems, Inc.
FiberLight, LLC
Fibernet Direct Florida LLC
First Choice Technology, Inc.
First Communications, LLC
FL Network Transport, LLC
Florida Hearing and Telephone Corporation
Florida Phone Systems, Inc.
FPUAnet Communications
France Telecom Corporate Solutions L.L.C.
Frontier Communications of America, Inc.
Frontier Communications of the South, LLC
Frontier Florida LLC
Fusion**
Georgia Public Web, Inc.
GetGo Communications LLC
GigaMonster, LLC
Global Capacity
Global Connection Inc. of America (of Georgia)
Global Crossing Local Services, Inc.
Granite Telecommunications, LLC
Great America Networks, Inc.
GRU Communication Svs/GRUCom
GRUCom
GTC Communications, Inc.
Harbor Communications, LLC
Hayes E-Government Resources, Inc.
HD Carrier, LLC
Home Town Telephone, LLC
Hotwire Communications, Ltd.
IDT America, Corp.
inContact, Inc.
INdigital
iNetworks Group, Inc.**
INNOVATIVE TECH PROS**
Integrated Path Communications, LLC**
InteleTel, LLC
Intelletrace, Inc.
Intellicall Operator Services, Inc.**
Intellifiber Networks, LLC
InterGlobe Communications, Inc.
InterMetro Fiber, LLC
Internet & Telephone, LLC
IPC Network Services, Inc.
IPFone
ITS Fiber
ITS Telecommunications Systems, Inc.
J C Telecommunication Co., LLC
Joytel Wireless Communications, Inc.
Keys Energy Services
Latin American Nautilus USA, Inc.
Level 3 Communications, LLC
Level 3 Telecom of Florida, LP
Lightower Fiber Networks II, LLC
Lightspeed CLEC, Inc.
Litestream Holdings, LLC
Local Access LLC
Local Telecommunications Services - FL, LLC
Magna5 LLC
Maryland TeleCommunication Systems, Inc.
Mass Communications
Matrix Telecom, LLC
MCC Telephony of Florida, LLC
McLeodUSA Telecommunications Services, L.L.C.
MetTel
Miami-Dade Broadband Coalition I LLC
Micro-Comm, Inc.
Mitel Cloud Services, Inc.
MIX Networks, Inc.
Mobilitie Management, LLC
Mobilitie, LLC
Momentum Telecom, Inc.
MOSAIC NETWORX LLC
MULTIPHONE LATIN AMERICA, INC.
Nebula Telecommunications of Florida LLC
NEFCOM
Network Innovations, Inc.
Network Telephone LLC
Neutral Tandem-Florida, LLC
New Horizons Communications Corp.
Norstar Telecommunications, LLC
North County Communications Corporation
NOS Communications, Inc.
O1 Communications East, LLC
Offramp, LLC
One Voice Communications, Inc.
OneStar Long Distance, Inc.**
Onvoy, LLC
Opextel LLC d/b/a Alodiga**
PacOptic Networks, LLC
PAETEC Business Services

PaeTec Communications, LLC
Paradigm Telecom II, LLC
Paradigm Telecom, Inc.**
PBX-Change
Peerless Network of Florida, LLC
Phone Club Corporation
Pioneer Telephone
PowerNet Global Communications
Preferred Long Distance, Inc.
Pro-Net, Inc.
Pure Telephone Corp**
QuantumShift Communications, Inc.**
RCLEC, Inc.
Real Fast Networks LLC
Reliance Globalcom Services, Inc.
Rosebud Telephone, LLC
Sage Telecom Communications, LLC
SBA DAS & Small Cells, LLC
Seminole Telecom of Florida, LLC
SH Services LLC**
SKYNET360, LLC**
Smart City Communications
Smart City Networks, Limited Partnership
Smart City Telecom
Southeastern Services, Inc.
Southern Light, LLC
Southern Telecom
Sprint Communications Company L.P.
SanTel Communications
Stratus Networks, Inc.
Strome Networks, LLC
Summit Broadband
Sunesys, LLC
Synergem Technologies, Inc.
T3 Communications, Inc.
Talk America Services, LLC
Talkie Communications, Inc. (f/k/a Sonic Systems, Inc. of Maryland)
TDS Telecom
TelCentris Communications, LLC
Telco Experts, LLC
TelCove Operations, LLC
Tele Circuit Network Corporation
Telepak Networks, Inc.
Teleport Communications America, LLC
Teliax, Inc.**
Telrite Corporation
Telscape Communications, Inc.
Terra Nova Telecom, Inc.
TerraNovaNet, Inc.
The Other Phone Company, LLC
TIME CLOCK SOLUTIONS, LLC
Time Warner Cable Business LLC
TNE Telephone, Inc.**
Total Marketing Concepts, LLC
TotalComUSA
Touch Base Communications
Touchtone Communications Inc. of Delaware
Trans National Communications International, Inc.**
Tristar Communications Corp.
Triton Networks, LLC
United Commercial Telecom, LLC
Uniti Fiber LLC
US Signal Company, L.L.C.
USA FIBER
Vanco US, LLC
Velocity The Greatest Phone Company Ever, Inc.
Verizon Access Transmission Services
Verizon Select Services Inc.
Vitcom, LLC
VoDa Networks, Inc.
Vodafone US Inc.
VOX3COM**
Voxbeam Telecommunications Inc.
WAHL TV INC.
Webpass Florida LLC
West Safety Communications Inc.
West Telecom Services, LLC
Wholesale Carrier Services, Inc.
Wide Voice, LLC
WiMacTel, Inc.
Windstream Florida, LLC
Windstream KDL, LLC
Windstream Norlight, LLC
Windstream NTI, LLC
Windstream NuVox, LLC
Windstream Talk America, LLC
WonderLink Communications, LLC
WOW! Internet, Cable and Phone
WTI Communications, Inc.
XO Communications Services, LLC
YMax Communications Corp.
Zayo Group, LLC

Glossary

4G	The short name for fourth-generation wireless, the stage of broadband mobile communications that will supercede the third generation (3G). A 4G network requires a mobile device to be able to exchange data at 100 Mbit/sec.
5G	5G is the coming fifth-generation wireless broadband technology. 5G will provide better speeds and coverage than the current 4G. 5G is set to offer speeds of up to 1 Gb/s for tens of connections or tens of Mb/s for tens of thousands of connections. 5G is not scheduled for launch until 2020.
Access Line	The circuit or channel between the demarcation point at the customer's premises and the serving end or class 5 central office.
Backhaul	In wireless networks, the connection from an individual base station (tower) to the central network (backbone). Typical backhaul connections are wired high-speed data connections (T1 line, etc.), but they can be wireless as well (using point-to-point microwave or WiMax, etc.).
Broadband	A term describing evolving digital technologies offering consumers integrated access to voice, high-speed data services, video on demand services, and interactive information delivery services.
Circuit	A fully operational two-way communications path.
CLEC	*Competitive Local Exchange Company*. Any company certificated by the Florida Public Service Commission to provide local exchange telecommunications service in Florida on or after July 1, 1995.
Communications Act or The Act	The federal Communications Act of 1934, as amended by the Telecommunications Act of 1996, established a national framework to enable CLECs to enter the local telecommunications marketplace.
DSL	Digital Subscriber Line, a technology that connects the user to broadband connections across a telephone network. It uses the same copper loops as wireline telephone service.
Facilities-based VoIP service	This term refers to VoIP service provided by the same company that provides the customer's broadband connection. Facilities-based VoIP services are generally provided over private managed networks and are capable of being provided according to most telephone standards. While this service uses Internet Protocol for its transmission, it is not generally provided over the public Internet.
FiOS	FiOS is Verizon's suite of voice, video, and broadband services provisioned over fiber optic cable directly to the customer premises. FiOS can currently provide Internet access with maximum download speed of 500 Mbps and upload speed of 500 Mbps.

ILEC	*Incumbent Local Exchange Company*. Any company certificated by the FPSC to provide local exchange telecommunications service in Florida on or before June 30, 1995.
Interconnected VoIP service	According to the FCC, it is a VoIP service that (1) enables real-time, two-way voice communications; (2) requires a broadband connection from the user's location; (3) requires Internet protocol-compatible customer premises equipment; and (4) permits users generally to receive calls that originate and terminate on the public switched telephone network.
Intermodal	The use of more than one type of technology or carrier to transport telecommunications services from origination to termination. When referring to local competition, intermodal refers to non-wireline voice communications such as wireless or VoIP.
Internet Protocol (IP)	The term refers to all the standards that keep the Internet functioning. It describes software that tracks the Internet address of nodes, routes outgoing messages, and recognizes incoming messages.
Over-the-Top VoIP service	This term refers to VoIP service that is provided independently from a particular broadband connection and is transmitted via the public Internet. Examples of this service include Vonage and Skype.
Switched Access	Local exchange telecommunications company-provided exchange access services that offer switched interconnections between local telephone subscribers and long distance or other companies. Long distance companies use switched access for origination and termination of user-dialed calls.
TDM	Time Division Multiplexing is a method of transmitting and receiving independent signals over a common signal path by means of synchronized switches at each end of the transmission line so that each signal appears on the line only a fraction of the time in an alternating pattern. TDM circuit switched lines represent the traditional wireline access line data within this report and do not include VoIP connections.
U-verse	U-verse is the brand name of AT&T for a group of services provided via Internet Protocol (IP), including television service, Internet access, and voice telephone service. Similar to Verizon's FiOS service, AT&T's U-verse is deployed using fiber optic cable.
Universal Service	This term describes the financial support mechanisms that constitute the national universal service fund. This fund provides compensation to telephone companies or other communications entities for providing access to telecommunications services at reasonable and affordable rates throughout the country, including rural, insular, high-cost areas, and public institutions.

Universal Service Administrative Company (USAC)	USAC is an independent American nonprofit corporation designated as the administrator of the federal Universal Service Fund by the Federal Communications Commission. USAC is a subsidiary of the National Exchange Carrier Association.
VoIP	*Voice over Internet Protocol*. The technology used to transmit voice conversations over a data network using Internet Protocol.
Wireline	A term used to describe the technology used by a company to provide telecommunications services. Wireline is synonymous with “landline” or land-based technology.

Attachment 2

State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: July 3, 2018

TO: Braulio L. Baez, Executive Director

FROM: Division of Engineering (E. Knoblauch, P. Buys, T. Thompson) TT PoE EK
Office of Industry Development & Market Analysis (J. Breman) CH
Office of Consumer Assistance & Outreach (R. Hicks) CW
Office of the General Counsel (R. ~~Gervasi~~, R. Dziechciarz) K. Hetrick

RE: Docket No. 20170215-EU - Review of Electric Utility Hurricane Preparedness and Restoration Actions.

CRITICAL INFORMATION: ACTION IS NEEDED - Please place on the July 10, 2018 Internal Affairs. Commission approval of draft report and recommended future actions is sought.

On October 3, 2017, the Commission opened Docket No. 20170215-EU to review the hurricane preparedness and restoration actions of Florida's electric utilities. The purpose of the review was to identify potential areas where infrastructure damage, outages, and restoration time for customers could be minimized in the future. Commission staff issued several data requests to all electric utilities and sought input from customers and non-utility stakeholders. On May 2-3, 2018, the Commission held a workshop to further explore the preparedness and restoration actions of Florida's electric utilities.

An initial draft report was discussed at the June 19, 2018 Internal Affairs meeting. Staff has incorporated the Commission's suggestions and directions in the attached draft report. As outlined in the attached draft report, the Commission has directed staff to take the following actions:

- Open storm hardening plan review dockets earlier than previously scheduled, for all five IOUs and begin collecting additional details related to:
    - Meetings with local governments regarding vegetation management and the identification of critical facilities.
    - Utility staffing practices at local emergency operations centers.
    - Planned responses to roadway congestion, motor fuel availability, and lodging accommodation issues.

  - Alternatives considered before selecting a particular storm hardening project.
  - The collection of more uniform performance data for hardened vs. non-hardened and underground facilities.
  - The impact of non-electric utility poles on storm recovery.

- Begin collecting data related to the targeted underground projects of Florida Power & Light Company and Duke Energy Florida as part of the staff's annual distribution reliability review.
- Explore the feasibility and cost of updating the 2007 Commission directed study on the cost of undergrounding.
- Initiate a management audit to examine the procedures and processes used by the IOUs to estimate and disseminate outage restoration times following a major storm.
- Initiate a management audit to examine the procedures and processes used by the IOUs to inspect and schedule maintenance on transmission structures.

Staff is seeking approval of the report and to close Docket No. 20170215-EU. Staff also recommends that the report be provided, through the Chairman's office, to legislative and executive stakeholders.

EK:pz

Attachment

cc: Office of the General Counsel (K. Hetrick)
Deputy Executive Director, Technical (M. Futrell)
Deputy Executive Director, Administrative (A. Lynn)

DRAFT

Review of Florida's Electric Utility Hurricane Preparedness and Restoration Actions 2018

July 2018

State of Florida
Florida Public Service Commission

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Terms and Acronyms

APPA	American Public Power Association
CIAC	Contributions-in-Aid-of-Construction
Cooperative	Rural Electric Cooperative Utility
DEF	Duke Energy Florida, LLC
DEM	Florida Department of Emergency Management
EEI	Edison Electric Group
EOC	Emergency Operation Center
ESF-12	Emergency Support Function 12
F.A.C.	Florida Administrative Code
FECA	Florida Electric Cooperatives Association, Inc.
FEMA	Federal Emergency Management Agency
FIPUG	Florida Industrial Power Users Group
FMEA	Florida Municipal Electric Association
FPL	Florida Power & Light Company
FPUC	Florida Public Utilities Company
FRF	Florida Retail Federation
F.S.	Florida Statutes
GIS	Geographic information system
GPC	Gulf Power Company
IOUs	The five investor-owned electric utilities: DEF, FPL, TECO, GPC, and FPUC
Municipal	Municipal Electric Utility
NRECA	National Rural Electric Cooperatives Association
OPC	Office of Public Counsel
PURC	Public Utility Research Center – University of Florida
RMAG	Regional Mutual Assistance Groups
TECO	Tampa Electric Company

Executive Summary

The Florida Public Service Commission (PSC or Commission) has broad authority over the adequacy and reliability of the state's electric transmission and distribution grids. In addition, the Commission's jurisdiction extends to rate setting and all cost-recovery matters for investor-owned electric utilities (IOUs).

To promote strengthening of Florida's electric infrastructure and to reduce the frequency and length of outages following the intense 2004 and 2005 hurricane seasons, the Commission adopted extensive storm hardening initiatives, such as wooden pole inspection and replacement. The Commission ordered IOUs to file updated storm hardening plans for Commission review every three years. Those initiatives and the utilities' hardening plans have been the roadmap for aggressively improving resilience during the past 12 years. There were no major storm landfalls in Florida until the four hurricanes of 2016-2017, making the last two storm seasons the first opportunity to gather performance data from the programs.

On October 3, 2017, the Commission opened Docket No. 20170215-EU to review electric utility preparedness and restoration actions, and to identify potential areas where infrastructure damage, outages, and recovery time for customers could be minimized in the future. Commission staff issued several data requests to all utilities and sought input from non-utility stakeholders and customers, including a customer comments portal on the PSC website.

On May 2-3, 2018, the Commission held a workshop during which information was presented by utilities, customers and their representatives, and local governments. All of the IOUs provided data at the workshop that showed hardened facilities performed better than non-hardened facilities. There were clearly fewer outages for underground than overhead circuits.

The utilities suggested improvements such as targeted undergrounding projects for certain lateral circuits, possible legislation to require inspections and hardening of non-electric utility poles, and additional coordination and communication regarding vegetation outside of the utilities' rights of way. Non-utility stakeholders, including local governments, suggested increased coordination and more utility staffing at local Emergency Operations Centers (EOCs).

Key Findings

- Florida's aggressive storm hardening programs appear to be working. (Section V)
- Restoration time generally improved from the 2005 storm season. (Section IV)
- Falling trees, vegetation and other debris outside the rights of way were the primary causes of outages. (Section IV)
- Utilities typically do not have access to perform vegetation management outside the rights of way. (Section IV)

- Hardened overhead distribution facilities had substantially lower failure rates than non-hardened facilities. (Section V)

- Very few transmission structure failures were reported. (Section V)

- Underground facilities had minimal failure rates compared to overhead facilities. (Section V)

- Despite substantial improvements, some customers were dissatisfied with the extent of outages and restoration times associated with Hurricane Irma. (Section VI)

- The public has high expectations for reliable service and prompt restoration. (Section VI)

- In some instances, following Hurricane Irma, estimates of restoration time proved inaccurate, and consumer communication systems were overwhelmed. (Section VI)

- Some local governments see a need for better coordination and communication with utilities during and after storms. (Section VI)

Commission Actions

At the July 10, 2018 Internal Affairs meeting, the Commission directed its staff to initiate the following:

- Open storm hardening plan review dockets earlier than previously scheduled, for all five IOUs and begin collecting additional details related to:

    - Meetings with local governments regarding vegetation management and the identification of critical facilities.

    - Utility staffing practices at local emergency operations centers.

    - Planned responses to roadway congestion, motor fuel availability, and lodging accommodation issues.

    - Alternatives considered before selecting a particular storm hardening project.

    - The collection of more uniform performance data for hardened vs. non-hardened and underground facilities.

    - The impact of non-electric utility poles on storm recovery.

- Begin collecting data related to the targeted underground projects of Florida Power & Light Company (FPL) and Duke Energy Florida (DEF) as part of the staff's annual distribution reliability review.

- Explore the feasibility and cost of updating the 2007 Commission directed study on the cost of undergrounding.

- Initiate a management audit to examine the procedures and processes used by the IOUs to estimate and disseminate outage restoration times following a major storm.

- Initiate a management audit to examine the procedures and processes used by the IOUs to inspect and schedule maintenance on transmission structures.

Legislative Considerations

At the June 19, 2018 Internal Affairs meeting, the Commission identified several issues outside its jurisdiction that the Legislature may consider:

- Revision of vegetation management policies to improve the ability of electric utilities to conduct vegetation management outside of rights of way to reduce outages and restoration costs.

- Possible legislation to require inspection and hardening of non-electric utility poles.

- Enhanced statewide public education regarding tree trimming and problem tree placement and removal on private property. This program could be similar to a Right Tree, Right Place initiative already used by several utilities.

- Implementation of emergency procedures regarding roadway congestion, fuel availability, and lodging accommodations for mutual aid personnel.

Section I: Background

In response to the intense impact that the 2004 and 2005 hurricanes had on the state, the 2006 Florida Legislature directed the Commission to ". . . conduct a review to determine what should be done to enhance the reliability of Florida's transmission and distribution grids during extreme weather events, including the strengthening of distribution and transmission facilities." Based on its review of the 2004 and 2005 hurricane seasons, the Commission provided three recommendations in a 2007 report to the Legislature:[1] (1) maintain a high level of storm preparation; (2) strengthen the electric infrastructure to withstand severe weather events with the use of hardening activities; and (3) establish additional planning tools to identify and implement instances where undergrounding is appropriate as a means of storm hardening. As discussed in the 2007 report to the Florida Legislature, ". . . the Commission has been careful to balance the need to strengthen the state's electric infrastructure to minimize storm damage, reduce outages, and reduce restoration time while mitigating excessive cost increases to electric customers."

The 2006 Order

In 2006, after considering recommendations from the utilities, the Commission ordered IOUs to inspect wooden poles every eight years to assure weakened ones are replaced, and to implement 10 storm preparedness initiatives:

- Three-year Vegetation Management Cycle for Distribution Circuits
- Audit of Joint-Use Attachment Agreements (shared use of poles with telecom)
- Six-year Transmission Structure Inspection Program
- Hardening of Existing Transmission Structures
- Development of Transmission and Distribution Geographic Information System
- Collection of Post-Storm Data and Forensic Analysis
- Collection of Detailed Outage Data Differentiating Between the Reliability Performance of Overhead and Underground Systems
- Increased Utility Coordination with Local Governments
- Collaborative Research on Effects of Hurricane Winds and Storm Surge
- Development of Natural Disaster Preparedness and Recovery Program Plans

The Commission also ordered electric utilities to file updated storm hardening plans every three years, and began annual Hurricane Season Preparation Workshops, which allow the IOUs, Municipals, and Cooperatives to share individual hurricane season preparation activities. These practices continue today.

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[1] Report to the Legislature on Enhancing the Reliability of Florida's Distribution and Transmission Grids During Extreme Weather, July 2007, http://www.psc.state.fl.us/Files/PDF/Utilities/Electricgas/EnergyInfrastructure/UtilityFilings/docs/stormhardening2007.pdf.

The Commission requires all IOUs to file an Annual Distribution Reliability Report with the PSC. This report includes updates of utilities' hardening efforts to allow the Commission to monitor progress. Additionally, each IOU updates its tariff as necessary to reflect the Commission requirement that the cost of conversion from overhead to underground, as well as the benefits of storm hardening, be incorporated into the Contributions-in-Aid-of-Construction (CIAC) calculation as outlined in Rules 25-6.0342 and 25-6.064, Florida Administrative Code (F.A.C.).

Also in 2006, the Commission required Florida's local exchange telecommunications companies to implement inspections of their wooden poles.[2] The Commission's authority to impose that requirement was subsequently repealed in 2011 as part of a number of deregulatory changes made to Chapter 364, Florida Statutes.

2016-2017 Hurricanes

During 2016, Florida was impacted by two hurricanes: Hermine and Matthew and in 2017, Hurricanes Irma and Nate impacted Florida. The largest storm Hurricane Irma, made landfall in Florida on September 10, 2017, as a Category 4 hurricane in Monroe County; then made a second landfall as a Category 3 hurricane in Collier County, providing the first major test to the system since 2005.

On October 3, 2017, the PSC opened Docket No. 20170215-EU to identify potential areas where infrastructure damage, outages, and recovery time for customers could be minimized in the future. In order to identify these areas, Commission staff issued several data requests to all utilities in the areas of preparation, restoration practices, customer communication, outage causes, facility performance, meteorological data, and suggested improvements.

Commission staff also sought comments from non-utility stakeholders and customers. A summary of the non-utility stakeholders' comments are provided in Appendix A. On October 9, 2017, a customer portal was opened on the Commission's website, allowing customers to submit comments regarding their reaction to utility restoration/communication efforts. The portal was closed on May 1, 2018, with 701 customer comments and 14 non-utility stakeholder comments received.

On May 2-3, 2018, the Commission held a workshop. Leading up to the workshop, staff provided topics for utilities to address, which included preparation and restoration processes, hardened vs. non-hardened facility performance, underground vs. overhead performance, impediments to restoration, customer/stakeholder communication, and suggested improvements based on lessons learned.

[2] Order No. PSC-06-0168-PAA-TL, issued March 1, 2006, in Docket No. 20060077-TL, *In re: Proposal to require local exchange telecommunications companies to implement ten-year wood pole inspection program.*

At the workshop, the following provided input:

- FPL
- DEF
- Tampa Electric Company (TECO)
- Gulf Power Company (GPC)
- Florida Public Utilities Company (FPUC)
- Florida Electric Cooperatives Association, Inc. (FECA)
- Florida Municipal Electric Association (FMEA)
- Office of Public Counsel (OPC)
- Florida Industrial Power Users Group (FIPUG)
- Florida Retail Federation (FRF)
- City of Dunedin
- St. Johns County
- City of Monticello

The IOUs provided data at the workshop that showed hardened facilities performed better than non-hardened facilities. There were clearly fewer outages for underground than overhead circuits.

The utilities suggested improvements such as targeted undergrounding projects for certain lateral circuits, possible legislation to require inspections and hardening of non-electric utility poles, and additional coordination and communication regarding vegetation outside of the utilities' rights of way. Non-utility stakeholders, including local governments, suggested increased coordination and more utility staffing at local EOCs.

Section II: Hurricane Preparedness Practices

Commission Role

No amount of preparation can eliminate outages in extreme weather events, so all utility regulators work to reduce and shorten outages. In support of sharing individual hurricane preparation activities among IOUs, Municipals, and Cooperatives, the Commission has held annual Hurricane Season Preparation Workshops since 2006. The workshops provide an opportunity for electric utilities to discuss their storm preparation and restoration processes, coordination with local governments, and public outreach.

The Commission's Division of Engineering is responsible for staffing the Emergency Support Function 12 (ESF-12) in the State's Emergency Operations Center. ESF-12 coordinates with the electric and natural gas utilities operating in Florida to ensure the integrity of their energy supply systems are maintained during emergency situations. In this role, Commission staff also participates in an annual hurricane preparedness drill and other EOC related exercises.

The Commission provides information to consumers regarding storm preparedness, such as hurricane survival kits, portable generator safety, and ways to prepare your home before a storm. In the event of a storm, links to current Florida Division of Emergency Management (DEM) information are highlighted on the PSC website (www.floridapsc.com), as well as links to the Federal Emergency Management Agency (FEMA) and the National Hurricane Center. The PSC issues statewide news releases at the beginning of each storm season regarding hurricane workshops, or Commission decisions on utility storm preparedness plans. All of this information is distributed via the PSC's Twitter account (https://twitter.com/floridapsc) at appropriate times throughout the year.

Utility Preparedness and Storm Hardening Activities

Throughout the year, utilities participate in hurricane exercises and drills in order to better prepare for a storm event. Prior to hurricane season, utilities ensure that they have the required internal materials on hand, as well as commitments for external resources which may be needed following a storm. Utilities also partake in hurricane preparedness exercises and meetings with local governments and the state Emergency Operations Center, and they ensure that the proper critical facilities (i.e., hospitals, water and wastewater treatment plants, and fire stations) are identified.

The activities outlined in each IOUs' storm hardening plan vary to a degree; however, all are grounded in substantive strengthening and protection of the utility's electric facilities. Programs include tree trimming, pole inspections, hardening of feeders and laterals, and undergrounding.

Utilities typically focus hardening efforts on transmission infrastructure, as these can impact large numbers of customers. Hardening efforts are also prioritized for infrastructure that serves critical facilities which are generally restored first following a storm event.

IOUs complete tree trimming of their distribution circuits, composed of laterals and feeders, in three- to six-year cycles. Feeders run outward from substations and have the capability of serving

thousands of customers. Laterals branch from the feeder circuits and are the final portion of the electric delivery system, serving a smaller portion of customers, and are typically associated with residential areas.

Each year, IOUs trim a certain percentage of their total lateral and feeder miles as part of their hardening plans; however, the trees trimmed only include those that are in the utilities' rights of way. Most IOUs trim overhead feeder circuits over a three-year trim cycle, excluding TECO which is currently on a four-year trim cycle.[3] For overhead laterals, IOUs must complete all trimming during a maximum six-year cycle.[4]

Table 2-1 lists the number of miles of vegetation cleared or trimmed that each IOU has completed for its feeder and lateral circuits since 2006. The number of miles provided includes planned tree trimming and may not include hot-spot or mid-cycle trimming. Hot-spot tree trimming occurs when crews are sent to specific areas that require unscheduled trimming due to rapid growth.

Table 2-1.
Vegetation Clearing from Feeder and Lateral Circuits (in Miles)

	DEF		FPL		FPUC		GPC		TECO	
	Feeders	Laterals	Feeders	Laterals	Feeders	Laterals	Feeders	Laterals	Feeders	Laterals
2006	723	2,703	10,094	825	-	-	-	-	268	840
2007	2,112	2,203	4,454	2,215	-	-	1,878	675	363	945
2008	708	2,544	4,262	2,078	59	86	274	821	374	806
2009	467	3,178	4,151	2,768	63	96	274	821	374	806
2010	787	4,139	5,222	2,741	65	84	281	1,060	617	1,634
2011	2,370	1,132	4,337	3,367	68	205	259	1,530	606	1,514
2012	196	3,228	4,045	3,703	52	123	240	857	435	1,282
2013	476	3,810	4,637	4,124	67	129	240	1,293	374	1,098
2014	3,297	2,782	4,249	3,685	52	145	241	1,294	465	1,161
2015	1,024	3,579	4,209	3,817	51	134	241	913	454	1,146
2016	1,016	2,173	4,418	3,745	62	188	241	331	386	926
2017	2,106	1,909	4,381	3,560	29	86	241	446	199	627

Source: IOUs' 2006-2017 distribution reliability reports.

[3] Order No. PSC-12-0303-PAA-EI, issued June 12, 2012, in Docket No. 20120038-EI, *In re: Petition to modify vegetation management plan by Tampa Electric Company*.
[4] Order No. PSC-07-0468-FOF-EI, issued May 30, 2007, in Docket No. 20060198-EI, *In re: Requirement for investor-owned electric utilities to file ongoing storm preparedness plans and implementation cost estimates*.

As part of each IOUs' storm hardening plan, the Wooden Pole Inspection Program requires each utility to inspect and assess the strength of all of its installed wooden poles over an eight-year period. IOUs also have wooden pole replacement programs in place where a select number of existing poles are replaced with hardened poles. The National Electrical Safety Code Extreme Wind Loading standards are used in designing replacement poles. Table 2-2 shows the number of transmission and distribution wooden poles replaced from 2006 through 2017.

Table 2-2.
Wooden Pole Replacement

	DEF		FPL		FPUC		GPC	TECO	
	Trans.	Distr.	Trans.	Distr.	Trans.	Distr.	Distr.	Trans.	Distr.
2006	-	-	307	2,334	-		-	-	-
2007	956	1,130	1,471	8,164	-		185	494	1,536
2008	866	1,903	1,966	7,533	47		736	781	2,056
2009	704	3,018	3,206	7,342	34		969	713	1,640
2010	-	-	1,409	10,639	215		418	900	2,815
2011	635	2,887	1,559	9,942	215		1,060	1,060	3,328
2012	803	4,670	816	10,454	242		1,032	683	4,957
2013	1,347	5,722	1,106	13,639	135		380	866	6,572
2014	2,028	5,597	2,070	12,777	536		790	720	6,038
2015	1,738	8,420	1,888	15,089	382		676	649	5,392
2016	698	4,429	1,737	12,067	254		693	940	6,701
2017	530	2,654	1,934	8,486	-		746		
Total	10,305	40,430	19,469	118,466	2,060		6,939	7,806	41,035

Source: Document Nos. 01516-2018, 01517-2018, 01518-2018, 01519-2018, 01520-2018, DEF's 2006-2017 distribution reliability reports.

Underground Facilities

The Commission's 2006 storm hardening initiatives included collaborative research efforts involving the electric utilities and the Public Utility Research Center (PURC), Warrington College of Business at the University of Florida. Specifically, the research provided three reports addressing material relevant to the modeling and assessment of the costs and benefits of relocating existing overhead electric distribution systems to underground. The effort reflects the state of facts that existed at that time and the results of this research remain available to the general public and local communities that are interested in relocating existing overhead electric distribution facilities.

In response to staff's data requests, the three largest IOUs stated that approximately 40 percent of all distribution lines are underground and that the majority of recent underground projects were for new construction, rather than the conversion of overhead to underground. Since 2006, the installed underground facilities have increased by approximately 5,300 miles for the IOUs. The

total amount of installed underground facilities during the past five years was approximately 2,200 miles for an average rate of 440 miles/year.

The construction of underground electrical distribution systems, when compared with overhead systems, is more expensive. For construction of underground, the customer is responsible for the difference in the costs between underground and overhead, which often results in an installation barrier. Pursuant to Rules 25-6.0342 and 25-6.064, F.A.C., the costs and benefits of storm hardening are factored into the cost difference calculation for new construction or conversion to underground facilities, as reflected on each IOUs' tariff.

In an effort to further the deployment of underground facilities, DEF and FPL have initiated targeted undergrounding programs over the next few years. Both programs are scheduled to begin in 2018, focus on historically poor performing lateral circuits to replace several hundred miles of overhead lines, and are being funded through current base rates including any previously approved step increases. DEF's program is scheduled over a period of ten years and FPL's pilot program is currently scheduled for three years. The goal for each program is to test different construction techniques and identify impediments to converting these targeted overhead facilities to underground.

Storm Hardening Cost Recovery

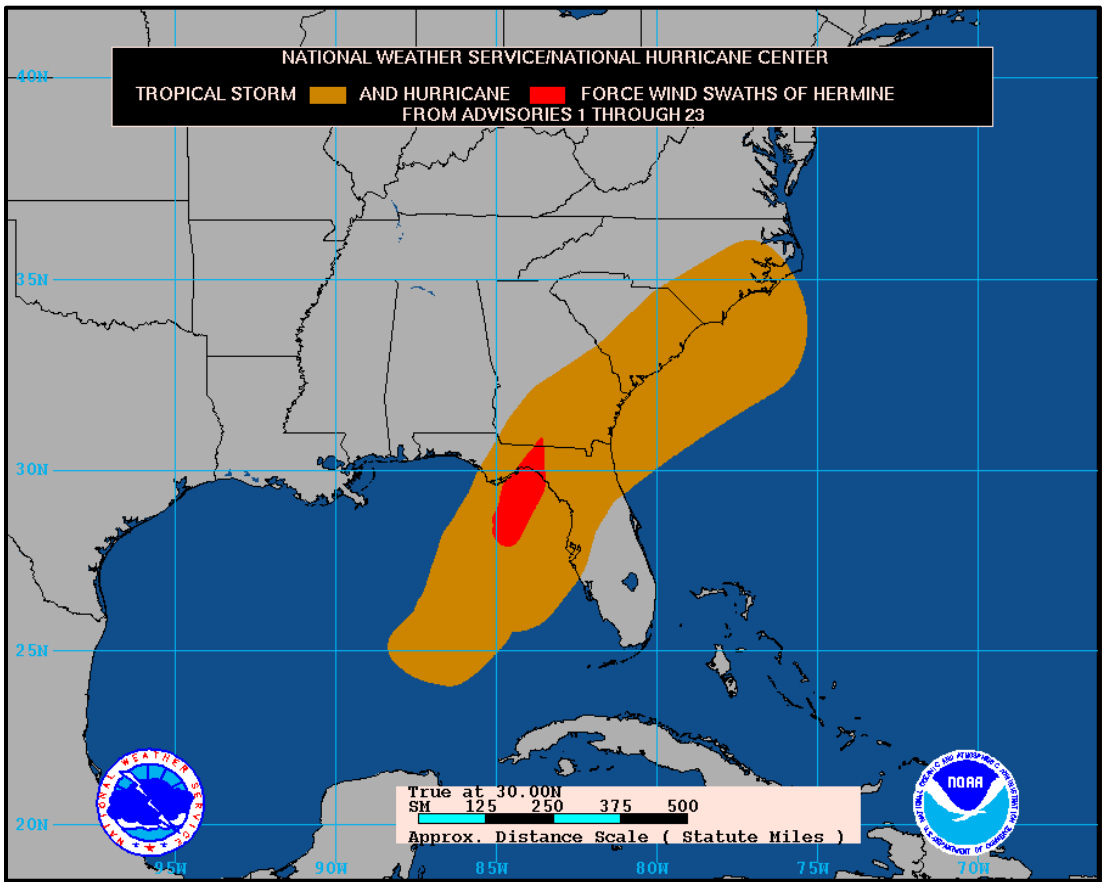
While an IOU's storm hardening plan must be approved by the Commission, this does not guarantee an IOU the recovery of all incurred costs for the implementation of the plan. Storm hardening costs are addressed during an IOU's general rate case proceeding, and those costs are covered in base rates since they are considered a part of providing electric service in Florida. During a general rate case, the costs for storm hardening are taken into consideration and the Commission makes a ruling on whether the costs were prudently incurred.

Section III: Summary of 2016 and 2017 Storms

Hurricane Hermine

Hurricane Hermine made landfall on September 2, 2016, near Wakulla and Jefferson counties. Hurricane Hermine was a Category 1 hurricane when it made landfall, primarily affecting the Big Bend area. Figure 3-1 illustrates the path of Hurricane Hermine, and the areas that experienced tropical storm and hurricane force winds. The National Hurricane Center defines tropical storm force winds as winds between 39 miles per hour (mph) to 73 mph. Winds that are equal to or exceeding 74 mph are defined as hurricane force winds.

Figure 3-1.
Hurricane Hermine – Tropical Storm and Hurricane Force Winds



Source: NOAA's National Hurricane Center

Wind, rainfall, and storm surge data was requested from IOUs, Municipals, and Cooperatives for each hurricane. A total of 36 utilities provided data and the maximum reported sustained winds, wind gusts, rainfall, and storm surge for Hurricane Hermine, summarized in Appendix C. The three counties that experienced some of the highest sustained winds and wind gusts from Hermine were Jefferson, Madison, and Taylor. These counties also received high levels of

rainfall; however, the two counties with the largest amounts of rainfall were Manatee and Sarasota. These two counties did not rank highest for any other category, and appear to be outliers in the reported weather data. The reason for the large amount of rain experienced in Manatee and Sarasota counties may have been due to strong storm bands that hit that part of the state. The three counties that had the largest storm surges were Dixie, Taylor, and Wakulla. All of these counties, with the exception of Manatee and Sarasota, were located in the area where Hurricane Hermine made landfall.

Table 3-1 provides the five counties with the highest number of outages for Hurricane Hermine. This outage data was reported to the state EOC by IOUs, Municipals, and Cooperatives at set intervals of reporting times. The percentages of accounts without power were calculated based on the peak number of customer accounts without power divided by the total number of customer accounts for that county, which includes IOUs, Municipals, and Cooperatives' customers. The total peak percentage of accounts in the state without power was approximately 3 percent for Hurricane Hermine. Appendix B provides a comprehensive list of the peak number of customer accounts by county that were without power for each hurricane.

Table 3-1.
Hurricane Hermine – Five Counties with Highest Maximum Outages

	Max. Account Outages	Max. Percent of Account Outages
Hamilton	5,864	87.9%
Jefferson	5,762	71.5%
Lafayette	2,965	71.5%
Madison	7,278	69.0%
Wakulla	14,009	93.0%

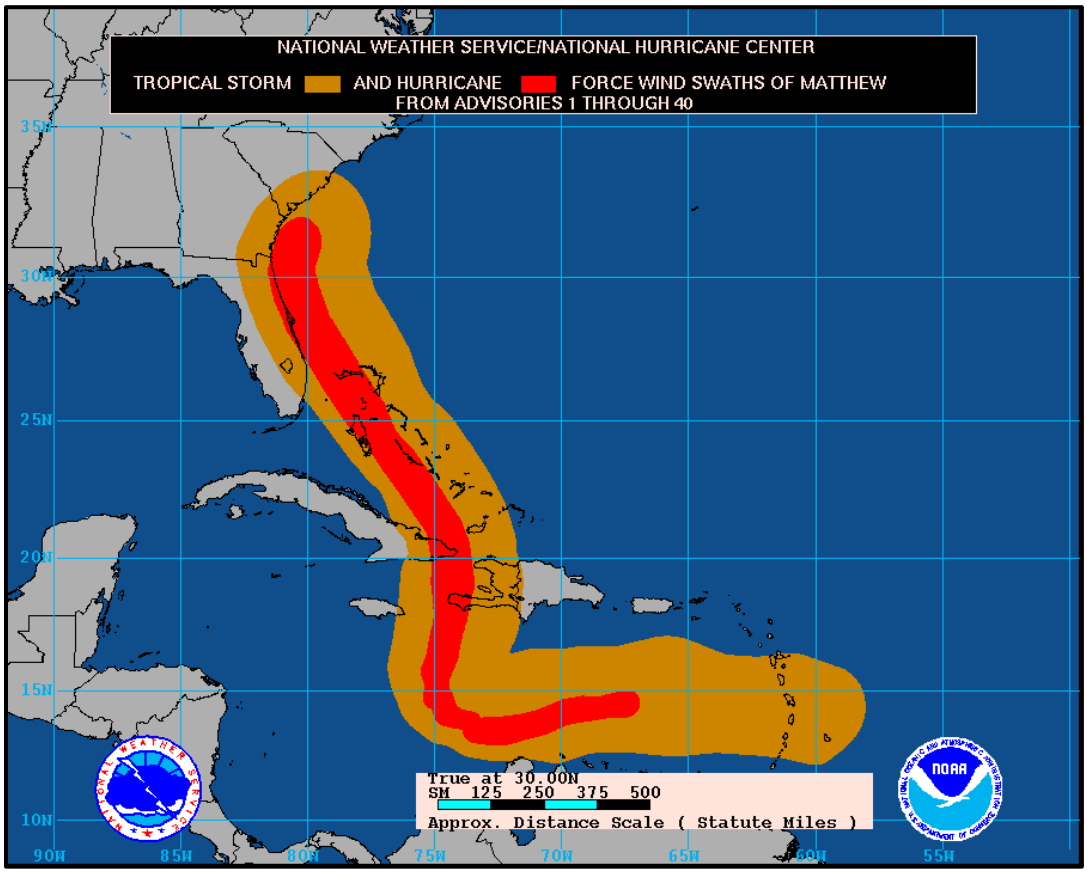
Source: State EOC power outage reports.

The outages for Jefferson, Madison, and Wakulla counties correlate to the reported weather data as they were among the counties that experienced the highest winds, rainfall, and storm surges. Wind data was not reported for Hamilton and Lafayette counties, though they both received large amounts of rainfall.

Hurricane Matthew

While Hurricane Matthew never made landfall in Florida, it passed along Florida's east coast shoreline, where some areas experienced sustained hurricane force winds. Hurricane Matthew began as a Category 4 hurricane on October 7, 2016, but weakened and later became a Category 2 hurricane northeast of Jacksonville Beach on October 8, 2016. Figure 3-2 illustrates the path of Hurricane Matthew, and the areas that experienced tropical storm and hurricane force winds.

Figure 3-2.
Hurricane Matthew – Tropical Storm and Hurricane Force Winds



Source: NOAA's National Hurricane Center

Wind speed, rainfall, and storm surge data for Hurricane Matthew is contained in Appendix D. The three counties that experienced some of the highest sustained winds and wind gusts for Hurricane Matthew were Brevard, St. Johns, and Volusia. From the reported rainfall data, the counties with the three highest amounts of rainfall were Brevard, Indian River, and St. Lucie. The three counties that had the largest storm surges were Flagler, Nassau, and St. Johns. All of these counties are located on Florida's east coast and correspond to the path of the storm. Table 3-2 provides the five counties with the highest number of outages for Hurricane Matthew. The total peak percentage of customer accounts in the state without power was 11 percent.

Table 3-2.
Hurricane Matthew – Five Counties with Highest Maximum Outages

	Max. Account Outages	Max. Percent of Account Outages
Flagler	57,016	100.0%
Indian River	59,244	67.2%
Putnam	27,393	66.8%
St. Johns	78,610	89.6%
Volusia	257,718	92.0%

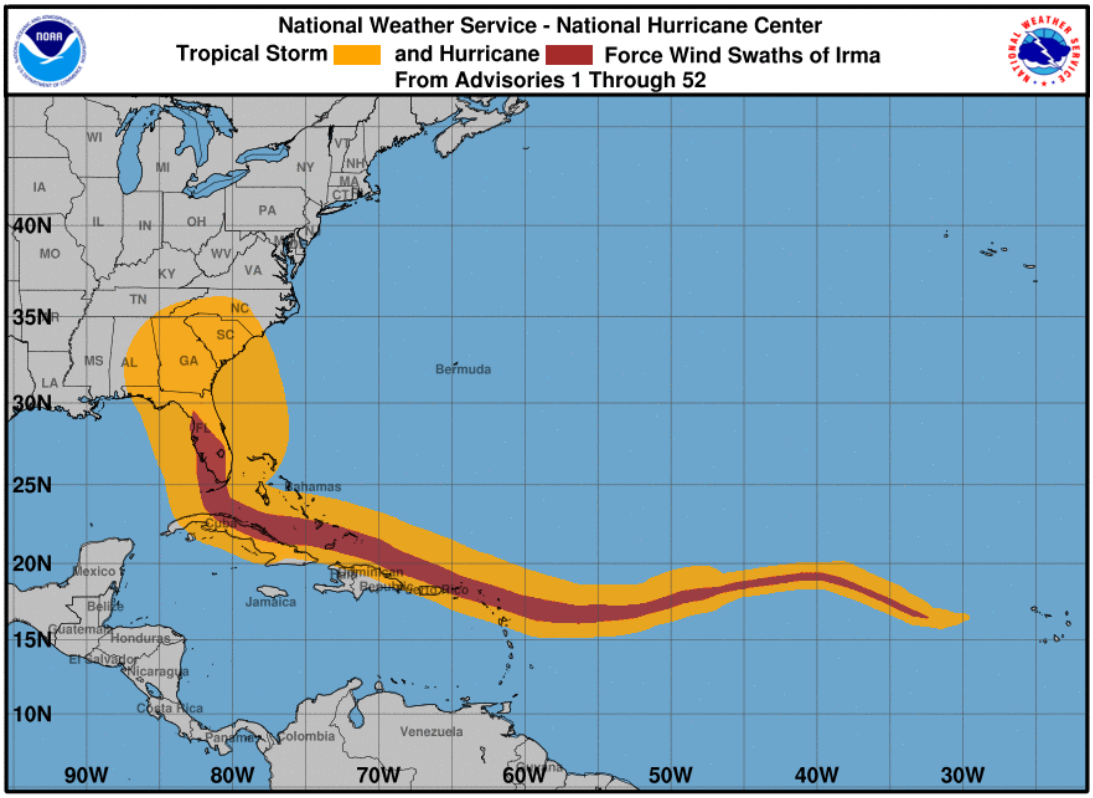
Source: State EOC power outage reports.

The outages for Flagler, Indian, St. Johns, and Volusia counties correlate to the reported weather data as they were among the counties that experienced the highest winds, rainfall, and storm surges. Rainfall data was not reported for Putnam County; however, it is located next to St. Johns County, which experienced severe weather conditions.

Hurricane Irma

Hurricane Irma was the first major hurricane to make landfall in Florida since the 2004 and 2005 hurricane seasons. On September 10, 2017, Hurricane Irma made landfall in the Florida Keys as a Category 4 hurricane and weakened to a Category 3 hurricane as it made a second landfall near Marco Island, Florida on the same day. The storm continued to weaken as it moved over Florida, affecting all 67 counties in the state and resulting in widespread power outages. Figure 3-3 illustrates the path of Hurricane Irma, and the areas that experienced tropical storm and hurricane force winds.

Figure 3-3.
Hurricane Irma – Tropical Storm and Hurricane Force Winds



Source: NOAA's National Hurricane Center

Wind speed, rainfall, and storm surge data for Hurricane Irma is contained in Appendix E. The three counties that experienced the highest maximum sustained winds for Hurricane Irma were Collier, Monroe, and Polk. The largest amount of rainfall was reported for Bradford, Hillsborough, and St. Lucie counties. The three counties that had the largest maximum storm surge were Collier, Monroe, and Nassau. Due to the path of Hurricane Irma, many of the southernmost counties, such as Monroe and Collier, experienced high winds and storm surges, while parts of central Florida had large amounts of rain. Additionally, parts of northeast Florida, such as Nassau County, experienced high winds and storm surges due to the outer bands and the path of the storm.

Table 3-3 provides the five counties with the highest number of outages for Hurricane Irma. The total peak percentage of customer accounts in the state without power was 62 percent.

Table 3-3.
Hurricane Irma – Five Counties with Highest Maximum Outages

	Max. Account Outages	Max. Percent of Account Outages
Hardee	11,976	97.4%
Hendry	18,750	100.0%
Highlands	62,010	99.3%
Nassau	43,740	97.6%
Okeechobee	21,990	96.5%

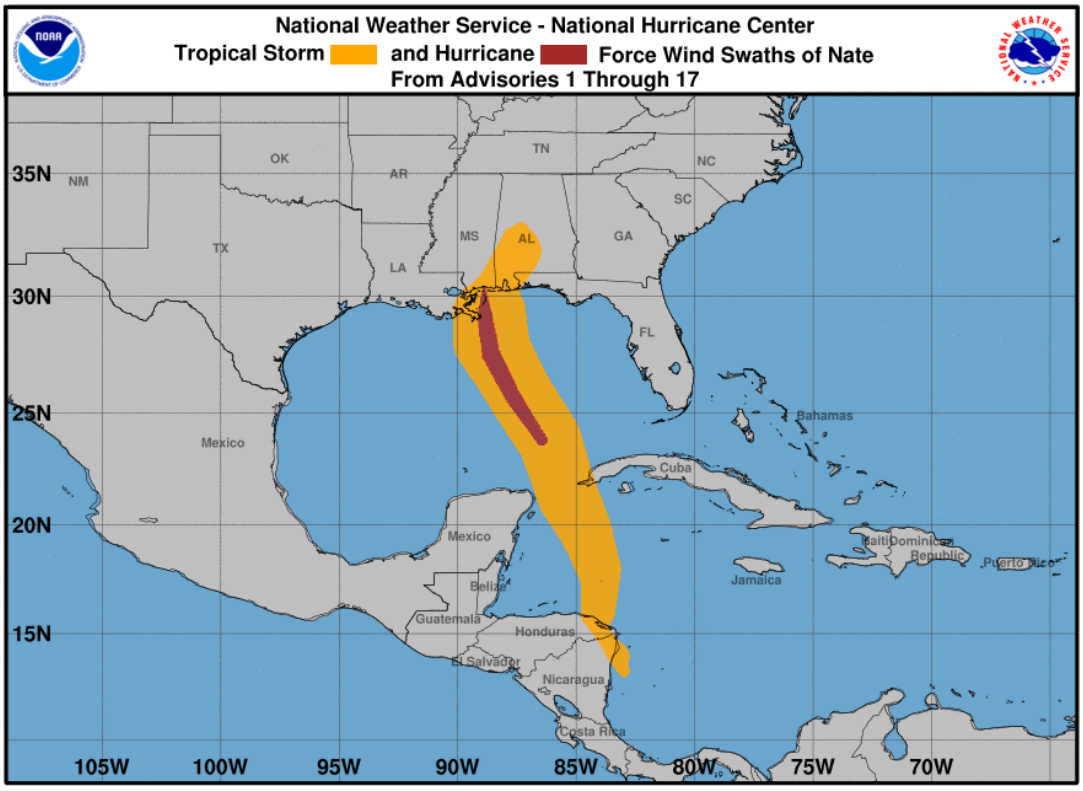
Source: State EOC power outage reports.

The outages for Nassau County correlate to the reported weather data as it was among the counties that experienced high storm surges. Okeechobee, Hardee, Henry, and Highlands counties are in close proximity to one another and are located in south Florida, near Hurricane Irma's landfall. All of these counties experienced wind gusts over 100 mph and all but Okeechobee recorded over 10 inches of rainfall.

Hurricane Nate

On October 7, 2017, Florida was impacted by a second storm, Hurricane Nate, which made its first landfall at the mouth of the Mississippi River as a Category 1 hurricane, followed by a second landfall near Biloxi, Mississippi on the same day. While Hurricane Nate did not make landfall in Florida, parts of the panhandle were impacted by the hurricane. Figure 3-4 illustrates the path of Hurricane Nate, and the areas that experienced tropical storm and hurricane force winds.

Figure 3-4.
Hurricane Nate – Tropical Storm and Hurricane Force Winds



Source: NOAA's National Hurricane Center

Wind speed, rainfall, and storm surge data for Hurricane Nate is contained in Appendix F. The impact of Hurricane Nate was much smaller in scope compared to the previous three hurricanes. The three counties that experienced the highest sustained winds, wind gusts, and rainfall were Escambia, Okaloosa, and Santa Rosa. The three counties that had the highest storm surges were Escambia, Franklin, and Santa Rosa. All of these counties are located in Florida's panhandle, close to where Hurricane Nate made landfall. Table 3-4 provides the five counties with the highest number of outages for Hurricane Nate. The total peak percentage of accounts in the state without power was 0.1 percent.

Table 3-4.
Hurricane Nate – Five Counties with Highest Maximum Outages

	Max. Account Outages	Max. Percent of Account Outages
Escambia	5,384	3.4%
Holmes	77	0.7%
Okaloosa	6,382	5.9%
Santa Rosa	1,712	2.2%
Walton	613	1.0%

Source: State EOC power outage reports.

The outages for Escambia, Okaloosa, and Santa Rosa counties correlate to the reported weather data as they were among the counties that experienced some of the highest winds, rainfall, and storm surges. While Walton County did not have the highest reported winds and rainfall, it experienced high winds comparable to Okaloosa County, as well as receiving several inches of rain. Wind data was not reported for Holmes County; however, it is located in the panhandle area near Okaloosa and Walton counties.

Section IV: Review of Outage Restoration Activities

Restoration Process

The restoration process is a year-round activity. Many utilities across the state engage in exercises that simulate storms in order to better prepare for an actual hurricane or other significant weather event.

In an actual hurricane, utilities may initiate pre-staging meetings and activities as early as 240 hours before landfall, which may include requests for mutual aid. IOUs communicate with county EOCs to identify critical facilities (i.e., hospitals, water and wastewater treatment plants, and fire stations) and coordinate on other restoration activities.

Before a storm makes landfall, an assessment of potential damage is completed by utilities based on the forecasted path of the storm. This information can be used to determine if mutual aid and additional material resources should be requested.

As the storm approaches, repair activities will continue until winds reach 35-40 miles per hour, at which time crews will be called back for a stand-down period. Once winds drop below 35-40 miles per hour and weather conditions are considered to be safe following a storm, utility crews are re-deployed to continue the restoration process.

Once the storm has passed, a post-storm damage assessment is completed, where utilities can establish what facilities have been damaged, refine restoration time estimates, manage workloads, and allocate resources to where they are needed. Restoration begins with repairs to generation plants and transmission facilities that sustained damage, followed by repairs to substations and feeders. Substations and feeders that power critical infrastructure are prioritized first in order to get those necessary facilities back in service.

Feeders that serve the largest number of customers are restored next, and finally laterals that serve neighborhoods with fewer customers are repaired and restored. Overall, utilities strive to restore as many customers as possible in the shortest amount of time.

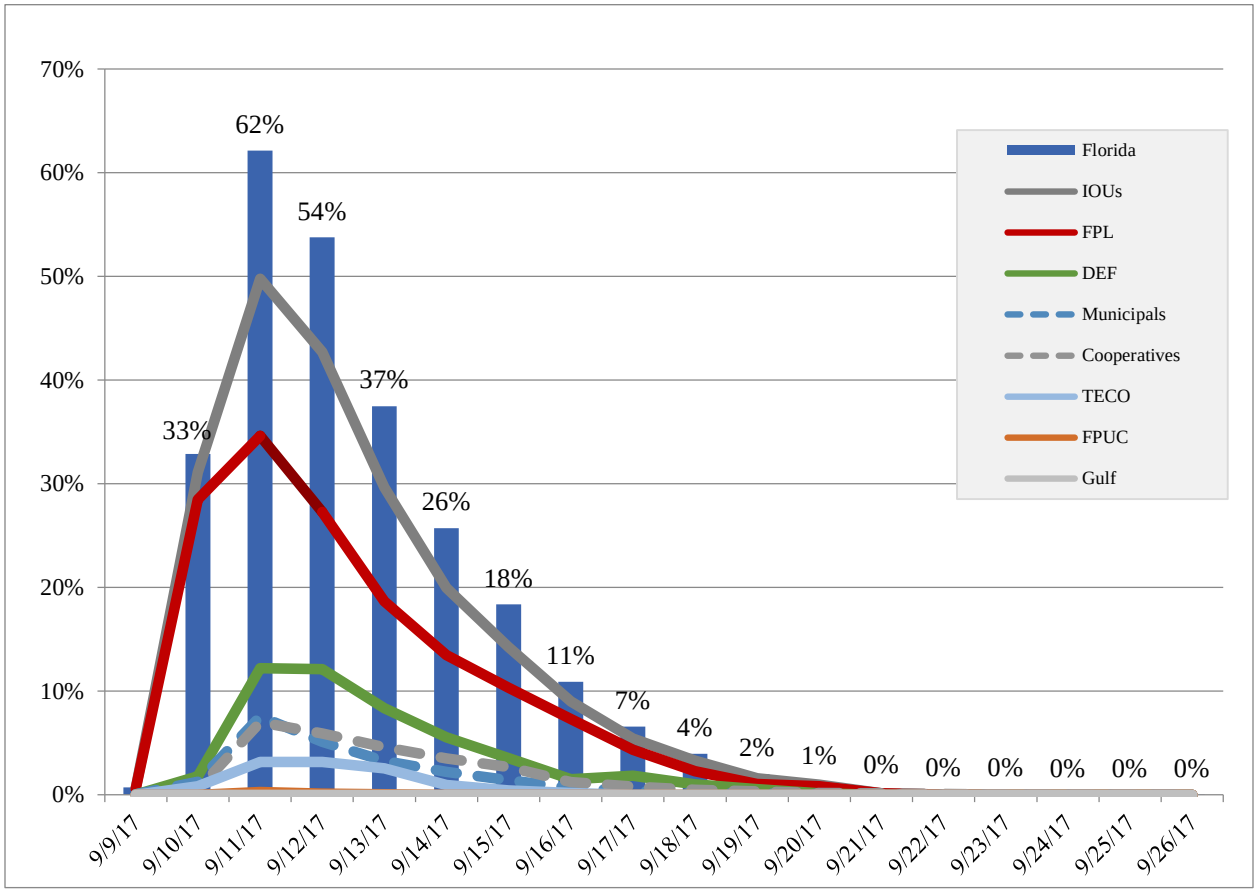
Based on a review of the utility presented data for each hurricane, the utilities performed consistently in restoring service. Hurricane Irma affected the entire state and was the first significant test of Florida's electric infrastructure since the 2004 and 2005 hurricane season. For simplification purposes, and due to the size and scope of the storm, the following subsections on restoration, outage causes, mutual aid, and impediments are specific to Hurricane Irma only. Data from other storms was used for comparison purposes to determine if there were any anomalies or unique circumstances.

Hurricane Irma Restoration

Florida's utilities managed more than 27,000 crews in the aftermath of Hurricane Irma. The rate of restoration was fairly rapid - 50 percent of customers were restored in one day, with comparable results for all utilities.

Using outage data reported to the Florida Division of Emergency Management (DEM), Figure 4-1 provides the number of customer accounts without power in proportion to the total state caused by Hurricane Irma. The peak outages occurred on September 11, 2017, with approximately 62 percent of all customers in the state without power. Five days following this peak, the number of outages dropped to approximately 11 percent. On September 20, 2017, ten days following the outage peak, the percent of customer accounts without power dropped below 1 percent.

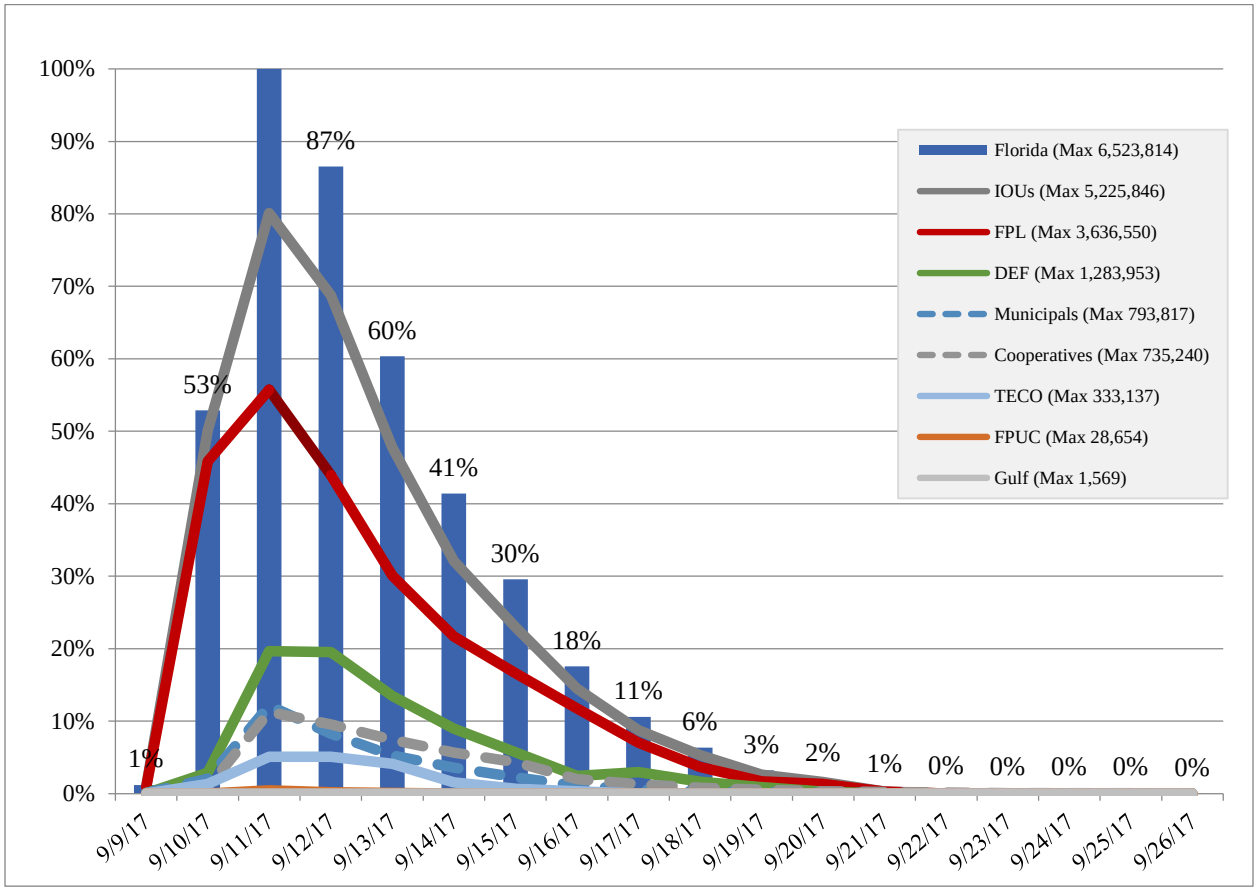
Figure 4-1.
Hurricane Irma – Daily Maximum Percent of Florida's Customers without Power



Source: State EOC power outage reports.
Note: Individual utility outage maximums occurred at different times and do not add to the total.

Figure 4-2 provides the affected customers that were without power from Hurricane Irma. Following the peak outages on September 11, 2017, the proportion of affected customers without power was below 50 percent by September 14, 2017. By September 20, 2017, the number of customers without power dropped to 2 percent. For several utilities, once the number of customers without power dropped to 2 percent or less, the utility stopped reporting outages to the DEM as these outages could be unrelated to the storm event.

Figure 4-2.
Hurricane Irma – Daily Maximum Percent of Affected Customers without Power



Source: State EOC power outage reports.
Note: Individual utility outage maximums occurred at different times and do not add to the total.

Overall, Figures 4-1 and 4-2 illustrate that the graphs for IOUs are similar in shape to the Municipals and Cooperatives, demonstrating comparable power restoration achievements for the different utility groups. No irregularities were observed in the data.

During the May 2018 workshop, FPL provided a comparison of outage data and restoration times for Hurricane Wilma (2005) and Hurricane Irma. As seen in Table 4-1, it took one day to restore power to 50 percent of FPL's customers for Hurricane Irma, while FPL reported it took

five days for Hurricane Wilma. Restoring all customers took 10 days after Hurricane Irma, and it took 18 days after Hurricane Wilma.

Table 4-1.
FPL – Outage and Restoration Data for Hurricanes Wilma and Irma

	Wilma	Irma
Customer outages	3.2M	4.4M
Staging sites	20	29
% Restored / days	50% / 5	50% / 1
All restored (days)	18	10
Avg. days to restore	5.4	2.1

Source: FPL's presentation at the May 2, 2018, Commission Workshop.

Also at the May 2018 workshop, TECO provided a comparison of time to complete restoration after Hurricane Irma (7 days) and in 2004 Hurricane Jeanne (11 days). No other utility provided a similar comparison. While each storm is different and presents its own set of difficulties, the data show restoration times have decreased markedly compared to previous storms.

Outage Causes

Data collected from 39 utilities identified that the biggest source of outages was vegetation issues. Many utilities described that these issues were from fallen trees or branches that were outside of the utilities' rights of way where utilities typically do not have access to perform vegetation management. Additional trimming by the utilities within their rights of way would not eliminate these vegetation related outages. It should also be noted that typical hardening projects are designed and constructed to withstand extreme wind loads, not fallen trees. The second most prevalent outage cause was from embedded severe weather events, such as tornadoes, microbursts, and flooding.

Proactive tree trimming has been a key initiative of the Commission, and the results of the review indicate that vegetation continues to be a primary cause of damage and outages. Entities with authority over tree trimming policies should carefully consider options that would enhance the ability of electric utilities to conduct vegetation management in order to further reduce outages and restoration costs. Enhanced statewide public education regarding tree trimming and problem tree placement and removal on private property could provide additional benefits.

Mutual Aid

Many mutual aid agreements among IOUs throughout the country are managed by seven Regional Mutual Assistance Groups (RMAGs). Florida's IOUs are members of the Southeastern Electric Exchange RMAG. RMAGs facilitate the process of identifying available restoration workers and help coordinate the logistics to help with restoration efforts.

IOUs that are in RMAGs follow guidelines established by the Edison Electric Institute (EEI), and also establish additional guidelines that aid in the communication process and rapid mobilization and response efforts. EEI also communicates regularly with the associations that serve Municipals and Cooperatives during major outage incidents, providing a process for

electric companies to request support from other electric companies that have not been affected by major outage events.[5]

The American Public Power Association (APPA), together with state and regional public power utilities and organizations, coordinate the mutual aid network for the nation's public power utilities. These utilities have local, state, and regional contracts and agreements for mutual aid, and there is a national mutual aid agreement with over 2,000 public power and rural electric cooperatives so they are able to assist one another when needed. Florida's electric cooperatives sign mutual aid agreements through the National Rural Electric Cooperatives Association (NRECA). These mutual aid agreements include more than 800 cooperatives in Florida, the Southeast, and across America.

Section 252.40, Florida Statutes, Mutual Aid Arrangements, authorizes the governing body of each political subdivision of the state, "to develop and enter into mutual aid agreements within the state for reciprocal emergency aid and assistance in case of emergencies too extensive to be dealt with unassisted." It also provides that, "[s]uch agreements shall be consistent with the state comprehensive emergency management plan and program, and in time of emergency it shall be the duty of each local emergency management agency to render assistance in accordance with the provisions of such mutual aid agreements to the fullest possible extent."

Mutual aid played a key role in restoring the power quickly after Hurricane Irma.[6] At the May 2018 workshop, all utilities stated that they received all assistance that was requested.

Prior to Hurricane Irma making landfall, many utilities made requests for mutual aid. Based on information from the state EOC, a total of 49 utilities received mutual aid. Information on the number of crew managers and crews managed, which includes both utility and mutual aid crews, was requested from utilities.

Table 4-2 illustrates the large number of crews that were managed by a limited number of experienced managers. From the 47 utilities that responded to staff's data request, the average experience level of the crew managers was 25 years. This demonstrates the level of expertise that is required to coordinate large recovery efforts, particularly in regard to mutual aid crews that are unfamiliar with local terrain, the transmission and distribution systems, and procedures specific to each utility.

Considering the large number of mutual aid crews that were brought in to assist with power restoration, the number of injuries was low and there were no fatalities. Of the total 103 injuries, 38 were reported for utility personnel and 65 were reported for mutual aid personnel.

[5] Edison Electric Institute, *Understanding the Electric Power Industry's Response and Restoration Process* (October 2016).
[6] APPA letter to U.S. House Energy & Commerce Committee, Subcommittee on Energy (November 1, 2017).

Table 4-2.
Hurricane Irma – Utility Coordination, Injuries, and Fatalities

	Managers	Crews Managed	Meals	Injuries	Fatalities
IOU	48	22,398	1,409,352	76	0
Municipals	96	1,935	109,266	13	0
Cooperatives	104	3,295	171,803	14	0
Total	248	27,628	1,690,421	103	0

Impediments to Restoration

Data was collected from 39 utilities on the primary impediments that were identified for Hurricane Irma. Consistent with prior hurricanes, the biggest impediment to restoration was clearing vegetation, much of which was debris from fallen trees or branches that were outside of the utilities' rights of way.

Other impediments to restoration unique to Hurricane Irma were roadway congestion and lack of motor fuel availability due to the size and scale of evacuations. Therefore, utility crews that were tasked to aid in power restoration for various areas were delayed by some fuel shortages and traffic congestion on the roadways.

Storm Restoration Cost Recovery

Storm hardening costs (Section II), incurred to make the system less vulnerable, are covered by the base rates the utility is authorized to charge. Storm restoration costs, incurred in response to a specific storm, are addressed differently and are not covered by base rates.

Following Hurricane Andrew in 1992, which radically changed the availability and cost of commercial insurance, IOUs requested that the Commission allow for alternative risk mitigation for storm damage. The Commission considered various forms of storm cost risk mitigation for the IOUs and settled on a three part approach:

- A storm damage reserve.
- An annual storm accrual.
- A provision to seek recovery of costs that exceed the storm damage reserve balance.

Under the three-part system, cost recovery of storm related damage is typically addressed through a storm damage reserve, a surcharge, or a combination of the two.

The annual accrual spreads cost over a long period to build a reserve dedicated to storm expenses. Once the storm reserve reaches a target value, the accrual can be suspended. The reserve alleviates consumer rate shock, either by entirely absorbing the cost of lesser storm

damage, or at least diminishing the cost impact of major storms that may exceed the reserve balance. When the reserve is depleted, typically it is replenished through a small amount added to customer's monthly bills.

In order to define what type of costs can be recovered, the Commission adopted Rule 25-6.0143, F.A.C., which specifies that only incremental costs – those above the normal costs that are covered by rates – can be charged to the storm reserve or recovered in a storm cost recovery proceeding. The largest incremental storm cost categories typically include repair materials, added payroll/overtime, contracted crews, travel, housing, and food.

In the event that the storm reserve is depleted from a major storm or multiple storms, or if a utility does not have a storm reserve, an IOU can request an interim storm surcharge added to customer rates for a specific period based on an estimate, pending a thorough accounting. Upon determination by the IOU, the Commission dockets the matter for a formal process to determine actual eligible costs when they are available.

Revenues collected with the interim storm charge are compared to the total actual amount of storm restoration costs determined to be eligible. Expenses that exceed what the interim charge generated are recovered in rates, or excess interim charge revenues are flowed back to customers.

Section V: Storm Hardening Performance

Analyzing infrastructure performance is inherently problematic because conditions vary widely among storms, and among different times and locations within the same storm. However, Hurricane Irma's very large footprint, which spread extreme weather conditions across multiple IOUs' service territories throughout the Florida peninsula, provided a sample that tends to offset those variables. This section focuses on Hurricane Irma outcomes.

Although the sample was large, data collection was limited due to urgency and tumultuous conditions during storm restoration. With a decade having passed since the Commission's 2006 storm order, the IOUs report they were focused on restoring service as rapidly as possible and making it infeasible to collect data during restoration. In part, the performance data had to be reconstructed after the fact, not all the contemplated data is available, and much of it is based on differing methodologies and making comparisons amongst utilities difficult.

The 2016-2017 experience suggests the next step is more complete and standardized data collection in future storms, which will allow a deeper analysis of the circumstances under which hardening and undergrounding are most beneficial. However, the Hurricane Irma data provides a broad performance comparison of non-hardened overhead, hardened overhead, and underground facilities.

FPL, the state's largest utility, was able to report outage rates of Irma-impacted facilities broken out by non-hardened, hardened, and underground facilities.

Table 5-1.
FPL Outage Rates for Facilities Impacted by Hurricane Irma

	Transmissions	Distribution feeders	Distribution Laterals
Overhead, Non-hardened	20%	82%	24%
Overhead, Hardened	16%	69%	N/A
Underground	25%[7]	18%	4%

Supporting data for Table 5-1 is contained in Appendix G. The results showed, across FPL's system, that hardening overhead lines resulted in fewer outages and underground lines suffered minimal outages.

[7] No underground section was damaged or failed causing an outage; however, the sections were out due to line termination equipment in substations.

Hardening overhead facilities also resulted in lower rates of pole failure, and failure rates of underground facilities were even lower, across all three of Florida's largest IOUs. (Gulf Power Company's territory was not materially affected by Hurricane Irma, and FPUC's territory would provide a very small data sample.) Very few transmission structures failed as a majority of damaged facilities were related to the utilities' distribution systems. Note that poles are the unit of measurement for non-hardened vs. hardened overhead data, while overhead vs. underground figures are miles of circuit. The data reflecting infrastructure performance is contained in Appendix H.

It should be noted that while underground facilities fared particularly well during Hurricane Irma, they also can be susceptible to damage caused by uprooted trees and flooding. Repairs to such facilities typically take longer to complete.

Forensic Analysis

As part of their storm hardening plans, as required by the 2006 order, IOUs conduct post-storm forensic analyses which review storm-related data and assess damaged facilities that did not perform as designed. Following a review of the storm damage data, which typically takes several months, a report is issued outlining the findings of the review.

For Hurricane Irma, FPL, DEF, and TECO completed a forensic analysis to evaluate the performance of their facilities during the storm.[8] GPC and FPUC indicated that forensic analyses were not completed due to a lack of significant damage or determined that all damage was caused by vegetation.

DEF provided five forensic analysis reports related to failures of wooden distribution poles, wooden transmission poles, and a transmission tower. In the forensic report on the steel transmission tower that fell during Hurricane Irma, the failure was identified as corrosion at the base of the tower. DEF's forensic reports also identified 27 wooden transmission pole failures due to high winds, with wood rot contributing to some of the failures. FPL provided a post-storm forensic review for Hurricane Irma, which identified five wooden transmission pole failures. TECO's forensic analysis identified three leaning structures following Hurricane Irma, and at the May 2018 workshop, TECO reported that it had ten transmission structure failures.

[8] Forensic analysis reports for FPL see Document No.03152-2018; for DEF see Document No. 00416-2018; for TECO see Document No. 01051-2018.

Section VI: Customer Communication

Public preparedness is critical during natural disasters. The utilities and the Commission provide information to consumers regarding storm preparedness, such as hurricane survival kits, portable generator safety, and ways to prepare a home before a storm.

Following a storm, customers are provided various methods to communicate with utilities. Customers can report a power outage to the utility through various means such as interactive voice response systems, customer call centers, the utility's website, mobile applications, and the PSC.

Communication issues were a notable source of customer dissatisfaction during Hurricane Irma. Customers particularly complained of inaccurate restoration projections and unavailability of overwhelmed utility websites and apps.

A total of 41 utilities provided data on the number of customer representatives that were utilized during Hurricanes Hermine, Matthew, Irma, and Nate. This information is summarized in Table 6-1, which includes third-party representatives.

Table 6-1.
Total Number of Utility and Third-Party Customer Contact Representatives

	Hermine	Matthew	Irma	Nate
IOUs	948	1,825	2,418	106
Municipals	300	571	1,059	48
Cooperatives	163	84	297	6
Total	1,411	2,480	3,774	160

Source: Utilities' responses to staff's first data request, No. 14.

Table 6-2 provides the number of customer contacts for Hurricanes Hermine, Matthew, Irma, and Nate. Customer contacts may include various forms of communication, including phone, email, mobile application, utility website, and social media.

Table 6-2.
Total Customer Contacts

	Hermine	Matthew	Irma	Nate
IOUs	395,358	3,605,174	11,424,246	30,545
Municipals	71,302	414,202	1,634,438	0
Cooperatives	53,804	12,053	207,488	343
Total	520,464	4,031,429	13,266,172	30,888

Source: Utilities' responses to staff's first data request, No. 15.

Table 6-3 provides the average number of customer contacts that were handled by each utility and third-party customer contact representatives. For Hurricane Irma, an average number of 2,513 customer contacts per representative, which demonstrates the large scale of communication that occurred between customers and the electric utilities.

Table 6-3.
Average Number of Customer Contacts per Utility Representative[9]

	Hermine	Matthew	Irma	Nate
IOUs	628	1,776	2,513	332
Municipals	138	774	1,061	0
Cooperatives	439	84	796	57

Source: Utilities' responses to staff's first data request, Nos. 14 and 15.

Public Comments to the PSC

Following the establishment of Docket No. 20170215-EU, a customer portal was opened on the Commission's website on October 9, 2017, allowing customers to submit comments regarding their reaction to utility restoration/communication efforts.

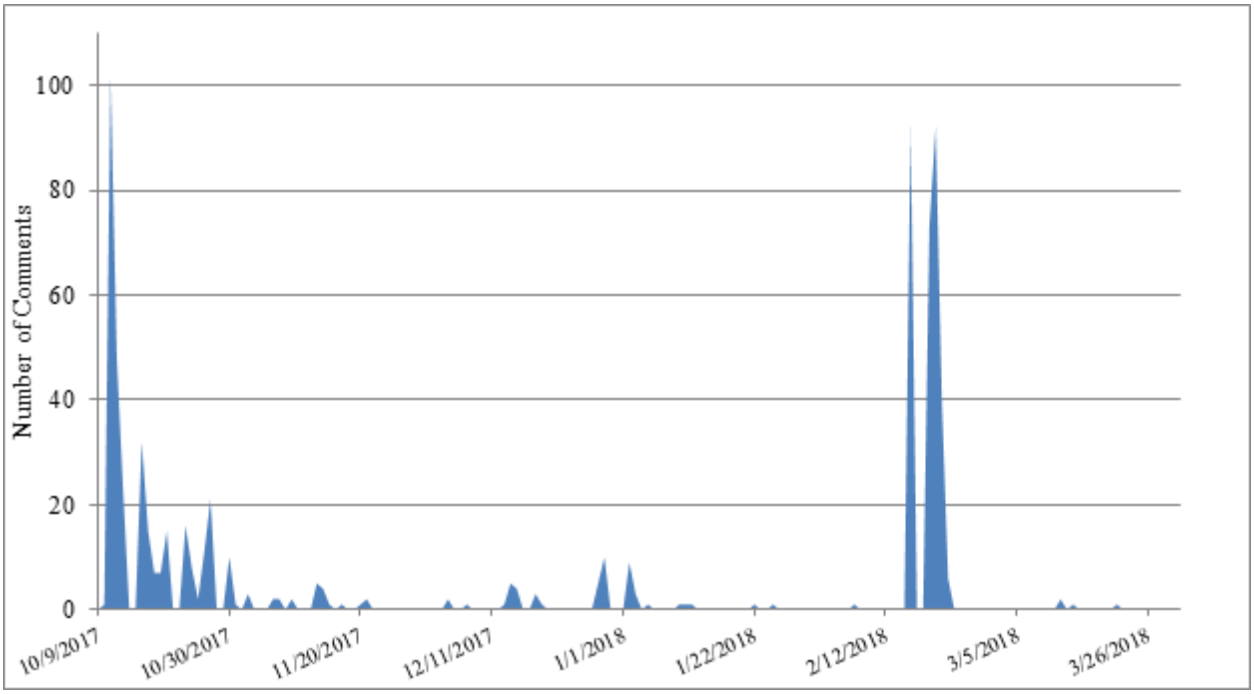
The portal provided consumers four categories to select from, as well as the option to submit written comments, where consumers could address any specific concerns. The four categories that consumers could select from were:

- Power restoration time.
- Information provided by electric utility provider prior to the storm.
- Information provided by electric utility provider after the storm.
- Other.

[9] It should be noted that this average includes only utilities that were affected by a storm.

Figure 6-1 provides a timeline of the number of comments received through the PSC Consumer Comment Portal.

Figure 6-1.
PSC Portal – Timeline of Consumer Comments Received



Source: PSC Consumer Comment Portal

For the month of October the PSC received 319 comments, which mostly related to consumers' experiences and feedback during Hurricane Irma. Comments focused on frustration with timely communication, inaccurate estimated restoration times, and tree trimming.

Comments decreased after October 2017, but there was a small swell of comments from December 28, 2017, to January 12, 2018. Comments during this period expressed concerns about the potential addition of a surcharge to customer bills as a result of the hurricane.

From February 16 to February 22, 2018, a total of 303 comments were received, which were predominantly focused on supporting and encouraging the use of distributed solar generation. The portal was closed on May 1, 2018, with a total of 701 public comments received.

Staff collected and sorted the comments by category and divided them into subcategories based on whether the comment was negative, positive, or neutral. Table 6-4 provides a summary of the comments that were received.

Table 6-4.
PSC Portal – Customer Comments

Category	Comments
Power Restoration Time	345
Information Provided Prior to the Storm	14
Information Provided After the Storm	69
Other	273
Total	701
Positive vs. Negative Comments	
Negative Comments on Electric Utility	346
Positive Comments on Electric Utility	74
Not Expressed	281
Total	701

Source: PSC Consumer Comments Portal

Table 6-5 provides the number of comments received for IOUs, Municipals and Cooperatives. Two of the customer comments did not provide the names of their electric utilities.

Table 6-5.
PSC Portal – Customer Comments by Utility Type

Utility Type	Comments
Investor Owned Electric Utility	616
Municipal Electric Utility	48
Cooperative Electric Utility	35
Not Specified	2
Total	701

Source: PSC Consumer Comments Portal

The most prevalent topics were related to supporting and encouraging the use of roof-top or distributed solar generation, cost responsibility for restoration, frustration with communication, tree trimming, and effectiveness of storm hardening.

Table 6-6 provides the number of comments that were received for each of these topics.

Table 6-6.
PSC Portal – Most Prevalent Topics Discussed in Customer Comments

Subcategory	Comments	Percent of Total
Support and encouragement of solar	258	37%
Cost responsibility for restoration	105	15%
Frustration with timely communications	84	12%
Tree trimming	73	10%
Effectiveness of hardening	60	9%

Despite the wide-spread impact of Hurricane Irma on the state and the number of customers that were affected, the number of comments the Commission received was nominal.

Stakeholder Comments to the PSC

In addition to comments from utilities and customers, staff also solicited comments from non-utility stakeholders, which included Associated Industries of Florida, the Florida Chamber of Commerce, Florida Association of Counties, and Florida League of Cities. Appendix A provides a summary of the stakeholder comments that the Commission received. A total of 14 stakeholders provided comments on the topics of vegetation management, undergrounding, and coordination and communications. Aside from the suggested areas of improvement mentioned below, the overall comments that stakeholders provided were positive.

Regarding vegetation management, the comments mainly focused on improving communication between stakeholders and utilities on where and when tree trimming occurs, as well as better educating the public on tree trimming. While the comments on undergrounding varied, many voiced a positive position on undergrounding, though stakeholders expressed differences in opinion on cost responsibility. Last, the comments on coordination and communication largely concentrated on more involvement from utilities at local EOCs, in addition to improving post-event information and power restoration time estimates.

Section VII: Commission Actions

Preparedness and Restoration

No amount of preparation can eliminate outages in extreme weather events. Throughout the year, utilities participate in hurricane exercises and drills in order to better prepare for a storm event. Prior to hurricane season, utilities ensure that they have the required internal materials on hand, as well as commitments for external resources which may be needed following a storm. Utilities also partake in hurricane preparedness exercises. Preparedness and restoration efforts appear consistent across the different utility entities. All utilities have similar staging, damage assessment, and workload management processes. Data collected after the storms show the causes of outages were consistent across utilities.

Utilities reported that they have regular meetings with local governments regarding vegetation management and identification of critical facilities (i.e., hospitals, water and wastewater treatment plants, and fire stations). However, the utilities, local government representatives, and the Office of Public Counsel agreed that communication among all affected parties could be improved. During the May 2018 workshop, some local government representatives expressed a desire for additional utility staffing at local emergency operations centers.

Action: Commission staff should collect additional details regarding meetings with local governments regarding vegetation management, identification of critical facilities, and utility staffing practices at local EOCs as part of the Commission's review of utility storm hardening plans.

The Commission has been careful to balance the need to strengthen the state's electric infrastructure to minimize storm damage, reduce outages, and reduce restoration time while mitigating excessive cost increases to electric customers. Approval of an IOUs storm hardening plan does not equate to approval for cost recovery. During a general rate case, the costs for storm hardening are taken into consideration and the utility has the burden of proof to show that the costs are prudent for cost recovery. In order to enhance the review process related to storm hardening activities, a comparison of all viable alternatives considered by the IOUs before selecting proposed hardening projects would ensure that storm hardening is being pursued in a cost-efficient manner. For example, a utility should be able to explain why a proposed underground project is preferable to a hardened overhead project or additional smart grid investment, etc.

Action: Commission staff should collect information on all viable alternatives considered before selecting a particular storm hardening project as part of the Commission's review of utility storm hardening plans.

Distribution Infrastructure

While granular data appeared to be somewhat lacking due to a focus on restoration, Florida's aggressive hardening programs appear to be working, as fewer poles were replaced compared to the 2004-2005 storm seasons. The IOUs affirmed that the hardened facilities, including poles, performed better than non-hardened facilities. The Commission's required eight-year wooden pole inspection program resulted in proactive replacement of poles before outages occurred.

Based on the wooden pole replacement data provided by the IOUs, as well as the post-storm review, there were fewer broken poles due to non-vegetation causes than with prior storms.

Action: Commission staff should explore the collection of more uniform performance data for hardened vs. non-hardened and underground facilities as part of the Commission's review of utility storm hardening plans.

Some IOUs suggested legislation to require inspections and hardening of non-electric utility distribution poles, which includes poles owned and maintained by telecommunications providers. In 2006, the Commission required Florida's local exchange telecommunications companies to implement an eight-year inspection cycle of their wooden poles. The Commission's authority to impose that requirement was pursuant to Section 364.15, F.S., which was subsequently repealed in 2011. Thus, the Commission no longer has the authority to require inspections of poles owned by telecommunications companies.

Action: Commission staff should seek additional information on the impact of non-utility poles on storm recovery as part of the Commission's review of utility storm hardening plans.

Legislative Consideration: The Legislature may consider possible legislation to require inspection and hardening of non-electric utility poles.

Undergrounding

The data collected showed that underground lines suffered minimal outages during storms. It should be noted that while underground facilities fared particularly well during Hurricane Irma, they also are susceptible. The damage may be caused by uprooted trees and flooding, and the repairs to such facilities typically take longer to complete. Under current pricing policies, approximately 40 percent of all distribution lines are underground and the majority of recent underground projects were for new construction, rather than the conversion of overhead to underground. In an effort to further the deployment of underground facilities, DEF and FPL have initiated targeted undergrounding programs over the next few years. Both programs are scheduled to begin in 2018, focus on historically poor performing lateral circuits to replace several hundred miles of overhead lines, and are being funded through current base rates including any previously approved step increases. The goal for each program is to test different construction techniques and identify different impediments to converting these targeted overhead facilities to underground.

Action: Commission staff should collect data and monitor the progress of targeted undergrounding programs as part of the annual distribution reliability review.

The Commission's 2006 storm hardening initiatives included collaborative research efforts involving the electric utilities and PURC. The results of this research remain available to the general public and local communities that are interested in relocating existing overhead electric distribution facilities. Over the past 10 years, there have been developments in electric utility processes, technologies, and associated costs. The industry developments also include lessons learned from various extreme weather events in Florida and other states. Recent literature and analysis addressing the resilience of the electric distribution systems may exist that is applicable to locations throughout Florida. Additionally, there may be recent case studies and lessons learned that should be recognized in the assessment and modeling of the costs and benefits

associated with a given project. Consequently, it may be reasonable to revisit the prior collaborative research efforts to ensure the information remains relevant and applicable.

Action: Commission staff should explore the feasibility and cost of updating the 2007 Commission directed study on the cost of undergrounding.

Transmission Infrastructure

The transmission infrastructure appears to have generally performed as designed. As part of their storm hardening plans, IOUs conduct post-storm forensic analyses which include a review of storm-related data and an assessment of damaged facilities that did not perform as designed.

Despite regular inspection requirements, post-storm forensic reports identified corrosion and/or wood rot as a contributing factor to the failure of some DEF transmission towers. Post-storm analyses provided by FPL reported five wooden transmission pole failures and TECO reported ten wooden transmission pole failures. A more thorough examination of the procedures and processes used by the IOUs for the inspection and maintenance of transmission structures may identify areas of improvement in the future.

Action: Commission staff should initiate a management audit to examine the procedures and processes used by the IOUs to inspect and maintain transmission structures.

Impediments to Restoration

In addition to the usual impediment of vegetation clearing, the majority of the utilities identified roadway congestion and procurement of fuel to be impediments to restoration during Hurricane Irma. Due to the large number of evacuations, major roadways experienced high amounts of traffic. This presented problems in allowing utility crews to reach areas where aid in power restoration was needed. Additionally, there was a shortage of fuel leading up to and following the storm which also presented an impediment to utilities' restoration efforts.

Action: Commission staff should collect information on how each utility prepares for and responds to roadway congestion, fuel availability, and lodging accommodation issues as part of the Commission's review of utility storm hardening plans.

Legislative Consideration: The Legislature may consider implementation of emergency procedures regarding roadway congestion, motor fuel availability, and lodging accommodations for mutual aid personnel.

Vegetation Management Coordination

Proactive tree trimming has been a key initiative of the Commission. Each year, IOUs trim a certain percentage of their total lateral and feeder miles as part of their hardening plans. However, the trees trimmed only include those that are in the utilities' rights of way. Utilities identified that a major contributor to outages continues to be vegetation outside of the utilities' rights of way. Therefore, more frequent tree trimming by utilities within rights of way would not alleviate this outage cause. Tree trimming outside of a utility's rights of way requires coordination and cooperation with local government and customers.

As mentioned above, Commission staff should gather additional details regarding the utilities' coordination with local governments as part of the Commission's review of utility storm hardening plans. In addition, the Commission suggests the following for consideration by the Legislature.

Legislative Considerations: Revision of vegetation management policies to improve the ability of electric utilities to conduct vegetation management outside of rights of way to reduce outages and restoration costs.

Funding for a statewide public education regarding tree trimming and problem tree placement and removal on private property. This program could be similar to a Right Tree, Right Place initiative already used by several utilities.

Post-storm Communication

Despite substantial, well documented improvement to the utilities' infrastructure, some customers who provided comments were dissatisfied with the extent of outages and restoration times associated with Hurricane Irma. Post storm communication with customers was not an impediment to power restoration, yet many customers expressed dissatisfaction with the information provided by utilities following Hurricane Irma. In particular, customers voiced frustrations with inaccurate power restoration estimates and cost responsibility for restoration.

Action: Commission staff should initiate a management audit to examine the procedures and processes used by the IOUs to estimate and disseminate outage restoration times following a major storm.

Appendix A.
Summary of Stakeholder Comments

Date	Stakeholder	Summary of Comments
01/26/2018	City of Homestead	Regarding coordination on vegetation management, the majority of FPL's power lines are underground, but it should focus on the local level. City ordinances require new construction be underground. Stated that communication with the utility is good, but would like to see more "granular, city-specific" information and outage status.
01/29/2018	City of St. Petersburg Fire Rescue	Suggested continuing aggressive tree trimming program. Continue to support annual pre-storm meetings at city level, and DEF should provide representative to city's EOC. As well as develop a system to report downed lines and assure downed power lines are safe for city crews to work on. Difficult to establish reliable line to communicate with DEF.
01/30/2018	City of Boca Raton	Very little communication from FPL. FPL should make contact with City 48 hours before storm, implement distribution and street light GPS program, have FPL liaison at City or trained staff, and interactive map that provides updates.
02/01/2018	City of South Daytona	Suggested that tree trimming is too infrequent. FPL has tried to inform public of tree trimming, but no way for city/customers to submit tree trimming requests. More information to public about planting vegetation near power lines. For undergrounding, suggested removing requirement to bury additional conduit for future growth. Yearly review of critical infrastructure should be required, and not enough accurate/fast information available during Irma. More representatives to communicate information.
02/06/2018	City of Naples Fire-Rescue Department	FPL is doing well with tree trimming, but more information should be provided to the public about property rights. Good communication with FPL, but improvement on the removal of problem trees should be made. New construction policy requires electrical line to be underground, and there should be communication with FPL on connection. Critical infrastructure was not previously identified to FPL, but this should be done in the future. Great communication at the EOC level.
02/07/2018	City of Dunedin	Utility should remove trees/palms listed on Florida Exotic Pest Plant Council list, and use proper trimming techniques. Utility should provide notice of when and where trimming will occur, and issue information on proper plants below power lines. Ordinance requires new construction to be underground, but it would be helpful to establish metrics for where conversion to underground should occur. There were challenges with extent of the outages, response times, and communication during restoration with DEF. Suggested that representatives are provided to local EOCs.
02/09/2018	Town of Belleair	Would like to see area risk assessments from DEF and consistent tree trimming. More proactive communication from DEF of when they will be in an area, what they are planning, and what work was completed. Suggested having an area administrator or a single point-of-contact. DEF should provide a more active role in undergrounding, and a set amount of area that is set up for undergrounding. More proactive communication on critical facilities and better information on restoration (DEF did not meet set restoration deadline).

Date	Stakeholder	Summary of Comments
02/12/2018	St. Johns County	Suggested enacting a program for local and state agencies to notify utilities of problem trees and vegetation areas. Currently have policy/practice in place for new construction, which is to require undergrounding. FPL is implementing county wide hardening projects, which is a much cheaper alternative than undergrounding. Communication between county and utility is critical for new projects to discuss subjects such as cost sharing. Currently good communication and coordination with both FPL and JEA at EOC.
02/15/2018	City of Wilton Manors	There should be an aggressive, proactive schedule for tree trimming and notification of when/where trimming is occurring. FPL should devise a plan to transition overhead to underground, and complete a cost benefits analysis. City should have a part in the process of updating and maintaining a list of critical facilities, and communication could be improved. Also, there was no way for the city to report outages to FPL, so there should be more technology resources for tracking restoration efforts.
02/19/2018	City of Monticello	Suggested no change to vegetation management as the city does not believe it was a contributing factor to outages. However, the staging of repair equipment prior to storm by DEF could be improved. Action by legislature and/or PSC for promoting undergrounding (ex. possible monetary incentives from the state). Suggested continued improvements with local DEF representative, and more accurate post storm information.
02/19/2018	Citrus County Public Works	Suggested providing notifications to utility if tree trimming or removal is needed, and facilitating undergrounding with County ordinances and state statues. More proactive interaction at EOC prior to, during, and after storm event.
02/20/2018	City of Rockledge	Suggested implementing a survey to list potential trimming or tree removal, and joint meetings on potential problem areas. For undergrounding, explore shared costs by grant funding. Communication of real time events was lacking; therefore, utility representative(s) should have contact with field representatives and management for plan of action. It would be beneficial to have a representative in each Brevard County EOC.
02/21/2018	City of Sarasota	Currently have close coordination with FPL on vegetation management, and should continue to have utility review and comment on ordinances and code changes. Suggested providing incentives for undergrounding. Potential problems may arise due to limited spots on priority list; therefore, criteria should be established to prioritize critical facilities. Suggested having designated FPL crew for the city to remove their power lines, so the city crews can make repairs to infrastructure.
02/22/2018	Marion County Utilities	Suggested that each electric utility should have a website with a critical infrastructure list, dedicated outage phone number for critical facilities (rather than consumer outage phone number), and better communication with all utilities to address issues.

Appendix B.
Peak Number of Account Outages

	Hermine		Matthew		Irma		Nate	
	Peak Accounts Out	% of Accounts Out	Peak Accounts Out	% Accounts Out	Peak Accounts Out	% Accounts Out	Peak Accounts Out	% Accounts Out
Alachua	30,065	24.9%	5,796	4.8%	68,557	52.7%	2	0.0%
Baker	3,810	34.4%	4,527	40.8%	10,731	94.4%	0	0.0%
Bay	116	0.1%	18	0.0%	3,533	3.1%	388	0.3%
Bradford	2,285	23.3%	4,757	48.5%	12,010	94.9%	0	0.0%
Brevard	2,921	1.0%	196,729	64.6%	268,343	86.4%	0	0.0%
Broward	420	0.0%	12,340	1.3%	709,360	76.0%	0	0.0%
Calhoun	0	0.0%	0	0.0%	1,018	25.9%	0	0.0%
Charlotte	200	0.2%	220	0.2%	73,230	63.7%	0	0.0%
Citrus	15,375	16.0%	1,317	1.4%	69,269	79.0%	0	0.0%
Clay	6,000	4.2%	33,965	23.5%	74,424	78.5%	0	0.0%
Collier	110	0.0%	400	0.2%	236,141	96.0%	0	0.0%
Columbia	9,605	29.7%	2,953	9.1%	30,734	92.1%	0	0.0%
Desoto	10	0.1%	10	0.1%	15,627	88.9%	0	0.0%
Dixie	4,853	48.8%	290	2.9%	7,540	75.3%	0	0.0%
Duval	8,500	2.1%	253,725	61.5%	257,261	57.2%	0	0.0%
Escambia	27	0.0%	0	0.0%	1,421	0.9%	5,384	3.4%
Flagler	370	0.7%	57,016	100.0%	52,746	90.9%	0	0.0%
Franklin	2,264	22.5%	172	1.7%	5,869	57.5%	0	0.0%
Gadsden	9,747	44.0%	0	0.0%	14,998	67.2%	0	0.0%
Gilchrist	5,370	61.2%	590	6.7%	7,029	79.0%	0	0.0%
Glades	0	0.0%	10	0.1%	6,272	86.5%	0	0.0%
Gulf	540	5.0%	83	0.8%	4,198	38.5%	0	0.0%
Hamilton	5,864	87.9%	255	3.8%	5,249	78.2%	0	0.0%
Hardee	0	0.0%	26	0.2%	11,976	97.4%	0	0.0%
Hendry	10	0.1%	10	0.1%	18,750	100.0%	0	0.0%
Hernando	5,514	6.1%	117	0.1%	58,644	61.8%	0	0.0%
Highlands	128	0.2%	472	0.8%	62,010	99.3%	0	0.0%
Hillsborough	17,956	2.8%	262	0.0%	265,542	42.0%	0	0.0%
Holmes	0	0.0%	0	0.0%	1,254	12.0%	77	0.7%
Indian River	60	0.1%	59,244	67.2%	73,311	80.1%	0	0.0%
Jackson	0	0.0%	0	0.0%	11,092	42.4%	0	0.0%
Jefferson	5,762	71.5%	107	1.3%	6,092	75.1%	0	0.0%
Lafayette	2,965	71.5%	199	4.8%	3,676	90.9%	0	0.0%
Lake	1,699	1.0%	16,849	10.0%	123,954	69.7%	0	0.0%
Lee	50	0.0%	400	0.1%	361,999	82.5%	0	0.0%
Leon	94,088	65.6%	2	0.0%	59,821	42.2%	0	0.0%
Levy	10,007	41.2%	254	1.0%	17,932	72.6%	0	0.0%
Liberty	438	13.5%	0	0.0%	3,303	81.2%	0	0.0%
Madison	7,278	69.0%	69	0.7%	7,171	67.0%	0	0.0%
Manatee	2,290	1.1%	113	0.1%	132,455	63.1%	0	0.0%
Marion	11,525	6.3%	27,389	14.9%	143,485	75.9%	0	0.0%
Martin	40	0.0%	44,600	48.1%	76,120	81.5%	0	0.0%
Miami-Dade	400	0.0%	16,850	1.5%	919,340	80.9%	0	0.0%
Monroe	0	0.0%	0	0.0%	52,855	84.4%	0	0.0%
Nassau	3,052	11.1%	19,092	43.5%	43,740	97.6%	0	0.0%
Okaloosa	2	0.0%	45	0.0%	323	0.3%	6,382	5.9%
Okeechobee	100	0.5%	1,680	7.7%	21,990	96.5%	0	0.0%
Orange	685	0.1%	69,231	12.3%	362,088	62.4%	0	0.0%
Osceola	306	0.2%	7,321	5.7%	55,352	36.2%	0	0.0%
Palm Beach	30	0.0%	58,870	7.7%	566,250	73.8%	0	0.0%
Pasco	10,213	3.9%	472	0.2%	190,567	70.6%	0	0.0%
Pinellas	24,179	4.4%	1,111	0.2%	434,037	78.6%	0	0.0%
Polk	535	0.2%	1,306	0.4%	216,839	65.6%	0	0.0%
Putnam	1,011	2.5%	27,393	66.8%	36,634	88.8%	0	0.0%
Santa Rosa	0	0.0%	0	0.0%	259	0.3%	1,712	2.2%
Sarasota	3,570	1.4%	280	0.1%	174,672	66.2%	0	0.0%
Seminole	184	0.1%	68,597	33.1%	158,065	75.1%	0	0.0%
St. Johns	1,140	1.3%	78,610	89.6%	107,130	81.9%	0	0.0%
St. Lucie	150	0.1%	57,477	38.3%	113,280	73.6%	0	0.0%
Sumter	2,643	3.9%	1,307	1.9%	28,598	38.9%	0	0.0%
Suwannee	11,493	52.9%	1,300	6.0%	20,991	92.2%	0	0.0%
Taylor	8,742	67.9%	138	1.1%	9,665	74.8%	0	0.0%
Union	990	19.0%	920	17.7%	4,695	86.3%	0	0.0%
Volusia	635	0.2%	257,718	92.0%	222,328	77.6%	0	0.0%
Wakulla	14,009	93.0%	153	1.0%	11,513	74.5%	1	0.0%
Walton	3	0.0%	0	0.0%	139	0.2%	613	1.0%
Washington	0	0.0%	0	0.0%	605	4.6%	29	0.2%
Totals	323,505	3.2%	1.13M	11.0%	6.52M	62.1%	13,539	0.1%

Source: State EOC power outage reports.

Appendix C.
Utility Reported Weather Data - Hurricane Hermine

County	Maximum Sustained Wind (MPH)	Maximum Gusts (MPH)	Maximum Rainfall (inches)	Maximum Storm Surge (Feet)
Alachua	34	52	4.85	-
Baker	32	50	-	-
Bay	35	69	2	-
Bradford	32	50	-	-
Brevard	26	39	-	-
Broward	19	29	-	-
Calhoun	30	64	-	-
Charlotte	30	45	4.47	-
Clay	39	60	2.02	0.73
Collier	25	38	-	-
Columbia	34	52	-	-
Desoto	24	36	-	-
Dixie	-	48	-	7.3
Duval	41	61	2.53	1.4
Flagler	34	51	-	-
Franklin	-	58	4.41	-
Gadsden	60	64	4	-
Glades	20	30	-	-
Gulf	-	79	-	-
Hamilton	-	-	3.15	-
Hardee	24	36	-	-
Hendry	21	31	-	-
Highlands	21	31	3.28	-
Hillsborough	36.8	57.5	7	4.2
Indian River	21	32	-	-
Jackson	30	64	-	-
Jefferson	75	90	7	6.1
Lafayette	-	-	6.1	-
Lee	29	43	1.49	-
Leon	60	70	6	-
Levy	-	-	-	6.2
Liberty	30	64	-	-
Madison	65	80	7	-
Manatee	38	57	10	-
Marion	33	45	6.18	-
Martin	21	32	-	-
Miami-Dade	21	32	-	-
Monroe	29	44	-	-
Nassau	37	64	-	-
Okeechobee	20	29	-	-
Orange	25	37	3.5	-
Osceola	22	34	3.25	-
Palm Beach	21	32	-	-
Polk	29.9	41.4	-	-
Putnam	36	55	-	-
Sarasota	35	53	10.71	-
Seminole	24	37	-	-
St. Johns	39	60	0.84	0.61
St. Lucie	21	32	-	-
Sumter	-	-	3.27	-
Suwannee	41	62	4.52	-
Taylor	75	90	7	8.6
Union	32	48	-	-
Volusia	32	49	-	-
Wakulla	65	75	5.81	6.3

Source: Utilities' responses to staff's first data request, No. 27.

Appendix D.
Utility Reported Weather Data - Hurricane Matthew

County	Maximum Sustained Wind (MPH)	Maximum Gusts (MPH)	Maximum Rainfall (inches)	Maximum Storm Surge (Feet)
Alachua	35	60	1.49	-
Baker	30	46	-	-
Bradford	40	65	6	-
Brevard	80	121	17.01	4.09
Broward	39	60	1.61	-
Calhoun	39	87	7	-
Charlotte	26	39	-	-
Clay	44	68	10.3	3.77
Collier	26	40	-	-
Columbia	26	40	-	-
Desoto	20	30	-	-
Duval	61	88	9.63	4.69
Flagler	68	102	6	6
Glades	30	45	-	-
Hardee	23	34	-	-
Hendry	30	42	-	-
Highlands	29	43	-	-
Indian River	64	97	13.85	-
Jackson	39	87	7	-
Lake	31	48	5.22	-
Lee	26	40	-	-
Leon	23	30	-	-
Liberty	39	87	7	-
Manatee	30	45	-	-
Marion	23	39	3	-
Martin	61	92	4.18	-
Miami-Dade	31	48	-	-
Monroe	30	46	-	-
Nassau	45	87	7	7
Okeechobee	34	50	-	-
Orange	48	73	6.17	-
Osceola	49	69	0.03	-
Palm Beach	49	75	-	-
Pinellas	24.2	40.3	-	-
Polk	36	44	-	-
Putnam	48	74	-	-
Sarasota	29	43	-	-
Seminole	47	72	8.99	-
St. Johns	73	109	9.97	8.39
St. Lucie	71	100	13.85	-
Suwannee	24	37	-	-
Union	29	45	-	-
Volusia	72	109	7.75	-

Source: Utilities' responses to staff's first data request, No. 27.

Appendix E.
Utility Reported Weather Data - Hurricane Irma

County	Maximum Sustained Wind (MPH)	Maximum Gusts (MPH)	Maximum Rainfall (inches)	Maximum Storm Surge (Feet)
Alachua	64	99	13.07	-
Baker	65	100	9.76	-
Bay	34	46	1.5	-
Bradford	62	96	15	-
Brevard	75	114	13.74	4.2
Broward	83	127	9.72	2.7
Calhoun	50	71	12	-
Charlotte	70	104	-	4
Citrus	-	64	10.65	-
Clay	73	112	11.32	5.97
Collier	115	144	14.98	6.5
Columbia	62	95	9.63	-
Desoto	77	100	-	-
Dixie	-	56	-	-
Duval	89	136	11.11	6.44
Escambia	30	42.6	0.25	-
Flagler	64	97	9.83	4.19
Franklin	-	50	-	-
Gadsden	50	55	2	-
Gilchrist	-	-	6.68	-
Glades	71	106	8.38	-
Gulf	-	45	1	-
Hamilton	-	-	-	-
Hardee	100	111	12	-
Hendry	80	102	10.31	-
Hernando	-	-	7.67	-
Highlands	70	103	10.95	-
Hillsborough	56	68	16.08	3.1
Holmes	23	37	2	-
Indian River	75	116	14.15	3
Jackson	50	71	12	-
Jefferson	-	60	3	-
Lake	43	69	11.59	-
Lee	72	110	9.02	6
Leon	43	55	2	-
Levy	-	55	8.07	-
Liberty	50	71	12	-
Madison	-	62	4	-
Manatee	80	122	-	-
Marion	-	51	13.24	-
Martin	79	119	10.53	-
Miami-Dade	85	127	8	6
Monroe	120	160	12.54	8
Nassau	89	135	12.7	7.8
Okaloosa	27.7	42.5	1	-
Okeechobee	72	107	-	-
Orange	71	110	12.36	-
Osceola	70	108	10.61	-
Palm Beach	85	127	10.35	2.7
Pasco	-	55	9.83	-
Pinellas	49.4	88	5.6	2.17
Polk	115	130	11.1	-
Putnam	59	91	-	3.6
Santa Rosa	28.9	40.3	0.75	-
Sarasota	72	108	8	-
Seminole	66	101	12.14	-
St. Johns	79	121	10.22	5.61
St. Lucie	84	127	21.66	-
Sumter	70	75	11.3	-
Suwannee	58	88	-	-
Taylor	-	48	4	1
Union	62	95	-	-
Volusia	78	116	12.55	-
Wakulla	35	56	2	0.7
Walton	25.3	33	1.5	-
Washington	10	27	2	-

Source: Utilities' responses to staff's first data request, No. 27.

Appendix F.
Utility Reported Weather Data - Hurricane Nate

	Maximum Sustained Wind (MPH)	Maximum Gusts (MPH)	Maximum Rainfall (inches)	Maximum Storm Surge (Feet)
County	Max	Max	Max	Max
Bay	38	50	2	-
Escambia	50	85	5	5
Franklin	29	37	0.18	4
Gulf	25	34	0.2	3
Holmes	-	-	2	-
Jackson	25.3	33.4	0.75	-
Leon	25	31	0.52	-
Okaloosa	45	65	10	-
Santa Rosa	52	85	8	5
Walton	40	60	4	-
Washington	8	17	2	-

Source: Utilities' responses to staff's first data request, No. 27.

Appendix G.
FPL Outage Data - Hurricane Irma

FPL's Feeder and Lateral Outage Performance for Hurricane Irma

Irma - 2017	Overhead Non-Hardened			Overhead Hardened			Underground			Total		
	Out	Pop	% Out	Out	Pop	% Out	Out	Pop	% Out	Out	Pop	% Out
Distribution Feeders	1,609	1,958	82%	592	859	69%	85	470	18%	2,286	3,287	70%
Distribution Laterals	20,341	84,574	24%	N.A.	N.A.	N.A.	3,767	103,384	4%	24,108	187,958	13%

Pop = Population; Lateral population includes laterals with multi-stage fusing
Source: FPL's second supplemental amended response to staff's first data request No. 29.

FPL's Substation Line Section Outage Performance for Hurricane Irma

Irma - 2017	Overhead Non-Hardened			Overhead Hardened			Underground			Total		
	Out	Pop	% Out	Out	Pop	% Out	Out	Pop	% Out	Out	Pop	% Out
Trans. Line Section	60	306	20%	142*	884	16%	13**	51	25%	215	1,241	17%

* 4 sections were out because substations were proactively de-energized due to flooding.
** No underground section was damaged or failed causing an outage; however, the sections were out due to line termination equipment in substations.
Source: FPL's second supplemental amended response to staff's first data request No. 29.

Appendix H.
Utility Reported Repairs- Hurricane Irma

FPL
Overhead vs. Underground – Repairs per Pole Line Mile for Hurricane Irma

	Underground Total	Underground Replaced/Repaired	Overhead Total	Overhead Replaced/Repaired
Transmission	105	0	6,857	0.1
Distribution	25,818	12.5	42,301	443
Feeder	3,830	0.5	12,850	48
Lateral	17,921	1	22,788	148

Notes:
All figures above are provided in pole line miles instead of repairs per mile.

While FPL does not track or maintain its records in the manner requested, it has estimated the amount of pole line miles replaced/repaired using certain assumptions and preliminary information available at this time. Repaired/replaced information is preliminary, as Hurricane Irma follow-up work and final accounting are still ongoing.

Source: Document No. 03308-2018 filed 4/30/18.

FPL
Hardened vs. Non-hardened – Pole/Tower Repairs for Hurricane Irma

	Hardened Overhead Total	Hardened Overhead Replaced/Repaired	Non-hardened Overhead Total	Non-hardened Overhead Replaced/Repaired
Transmission	60,694	0	5,991	5[(2)]
Distribution	124,518[(1)]	26[(2)]	1,063,684[(3)]	2,834[(2)]

Note: Hardened pole for Transmission = concrete/steel pole; Hardened pole for Distribution = poles replaced as a result of FPL's approved hardening projects (Extreme wind loading thresholds – 105 mph in the north central region; 130 in north, east, and west coastal and central regions; and 145 mph in southern region).

(1) Includes only distribution feeder poles hardened as a result of FPL's approved hardening plan projects. Additional poles currently installed may meet FPL's EWL hardening criteria or are otherwise hardened relative to NESC minimum requirements but are not included as "hardened" in the above table. For example, the total for Hardened OH excludes other feeder/lateral poles installed since 2007 that meet FPL's current stronger construction standards (in place since 2007) for new construction (e.g., new feeders or laterals) and/or daily work activities (e.g., maintenance, pole line extensions and relocation projects).

(2) Poles that failed (i.e., had to be repaired/replaced during restoration in order to restore service).

(3) Includes all remaining distribution poles (i.e., all poles not counted in the 124,518 poles installed as a result of FPL's approved hardening plan projects). Distribution poles installed pre-2007 meet Grade B construction, while poles installed in 2007 or later meet FPL's new stronger construction standards and may also meet extreme wind loading thresholds.

Source: Document No. 03308-2018 filed 4/30/18.

DEF
Overhead vs. Underground – Repairs per Circuit Mile for Hurricane Irma

	Underground Total	Underground Replaced/Repaired	Overhead Total	Overhead Replaced/Repaired
Transmission	69.83*	0	5139.32*	0
Distribution	14,140	4.3	17,993	324
Feeder	N/A	N/A	N/A	N/A
Lateral	N/A	N/A	N/A	N/A

*Circuit miles.

**DEF does not track repaired conductors during a major event. The information above shows the amount of conductor that was replaced during Hurricane Irma. This information is based on the material charged out during the storm; differentiating between feeder and lateral is not possible because the size of the conductor does not necessarily determine the type of circuit.

Additional information comparing the overall outage performance of overhead versus underground facilities, at the feeder and lateral level, is available on Page 13 of the PowerPoint Slide Deck provided by DEF for the Docket No. 20170215 [-EU] Workshop.

Source: Document No. 03296-2018 filed 4/27/18.

DEF
Hardened vs. Non-hardened – Pole/Tower Repairs for Hurricane Irma

	Hardened Overhead Total	Hardened* Overhead Replaced/Repaired	Non-hardened Overhead Total	Non-hardened Overhead Replaced/Repaired
Transmission	29,499	0	21,285	139 wood poles**
Transmission Towers	1,095 (replaced/rebuilt)	0	2,340 (replaced/rebuilt)	3 towers
Distribution***	N/A	N/A	N/A	N/A

*DEF defines hardened transmission structures as new, repaired or replaced structures since the 2006/2007 Storm Hardening Plan began. Hardened structures consist of any new structures (steel or concrete) or any previously wood structures replaced with steel or concrete materials. DEF considered steel & lattice structures in place prior to the Hardening Plan to be "non-hardened"—they were not part of the original baseline for "hardened" as they were in place prior to 2006/2007.

**DEF originally stated that 148 transmission structures were replaced; 142 structures were actually replaced/repaired and it was later determined that 6 of these structures did not need replacement.

***DEF does not record damaged poles as "hardened" or "non-hardened" during restoration activity. A total of 2,130 poles were replaced during the restoration of damage from Hurricane Irma. To better understand the nature of the storm damage on DEF's system, a forensic report was conducted on 526 randomly selected replaced poles after Hurricane Irma. The report found that none of the selected poles were part of a storm hardening project. Therefore, 29 storm hardening project areas were selected for further analysis; no broken poles were discovered in any of the selected storm hardening projects.

Source: Document No. 03296-2018 filed 4/27/18.

TECO
Overhead vs. Underground – Repairs per Mile for Hurricane Irma

	Underground Total	Underground Replaced/Repaired	Overhead Total	Overhead Replaced/Repaired
Transmission	27	0	5,307	0
Distribution	7,915	0.1	19,104	24.8
Feeder	1,629	0.1	7,008	7.3
Lateral	6,286	0	12,096	17.5

TECO
Hardened vs. Non-hardened – Pole Repairs for Hurricane Irma

	Hardened Overhead Total	Hardened Overhead Replaced/Repaired	Non-hardened Overhead Total	Non-hardened Overhead Replaced/Repaired
Transmission	19,447	2	5,834	15
Distribution	63,120	20	199,880	145

Source: Document No. 03213-2018 filed 4/25/18.

II. Outside Persons Who Wish to Address the Commission at Internal Affairs

Note: The records reflect that no outside persons addressed the Commission at this Internal Affairs meeting.

III. Supplemental Materials for Internal Affairs

Note: The following material pertains to Item 2 of this agenda.

Chairman Graham

Parties/Staff Handout
Internal Affairs/Agenda
on 7/10/2018
Item No. 2

Key Findings

- Florida's aggressive storm hardening programs ~~appear to be~~ are working. (Section V)
- The length of outages was reduced markedly from the 2004-2005 storm season. ~~Restoration time generally improved from the 2005 storm season.~~ (Section IV)
- Falling trees, vegetation and other debris outside the rights of way were the primary causes of outages. (Section IV)
- Utilities typically do not have access to perform vegetation management outside the rights of way. (Section IV)
- Hardened overhead distribution facilities had substantially lower failure rates than non-hardened facilities. (Section V)
- Very few transmission structure failures were reported. (Section V)
- Underground facilities had minimal failure rates compared to overhead facilities. (Section V)
- Despite substantial, documented improvement, many customers were dissatisfied with the extent of Hurricane Irma outages and restoration times. The public's expectations are rising, indicating resilience and restoration will have to continually improve.
- ~~Despite substantial improvements, some customers were dissatisfied with the extent of outages and restoration times associated with Hurricane Irma.~~ (Section VI)
- ~~The public has high expectations for reliable service and prompt restoration. (Section VI)~~
- In some instances, following Hurricane Irma, estimates of restoration time proved inaccurate, and consumer communication systems were overwhelmed. (Section VI)
- Some local governments see a need for better coordination and communication with utilities during and after storms. (Section VI)

Section V

In addition to the reduction in *number* of outages shown in table 5-1, hardening reduced the *length* of outages: the Construction Man Hours ("CMH") to restore hardened feeders was 50% less than non-hardened feeders, primarily due to hardened feeders experiencing less damage than non-hardened feeders.

- *Page 6, FPL's Second Supplemental Amended Response to Staff's First Data Request #29*

Chairman Graham

Parties/Staff Handout
Internal Affairs/Agenda
on 7/10/2018
Item No. 2

MATTHEW - 2016	Overhead Non-Hardened			Overhead Hardened			Underground			Total		
	Out	Pop	% Out	Out	Pop	% Out	Out	Pop	% Out	Out	Pop	% Out
Trans. Line Sections	16	350	5%	23*	846	3%	0	49	0%	39	1,245	3%

IRMA - 2017	Overhead Non-Hardened			Overhead Hardened			Underground			Total		
	Out	Pop	% Out	Out	Pop	% Out	Out	Pop	% Out	Out	Pop	% Out
Trans. Line Sections	60	306	20%	142**	884	16%	13***	51	25%	215	1241	17%

* 2 sections were out because substation was proactively de-energized due to flooding
** 4 sections were out because substations were proactively de-energized due to flooding
*** No underground section was damaged or failed causing an outage; however, the sections were out due to line termination equipment in substations.

The table below compares substation outage and restoration performance – Irma vs, Wilma.

Substations	Wilma 2005	Irma 2017
De-energized	241	92
Restored (Days)	5	1

Smart Grid Performance

During Hurricane Matthew and Irma, smart grid devices prevented a significant amount of customer outages, assisted with restoration efforts and reduced restoration time and costs. Specifically, automated feeder switches avoided approximately 664,000 outages during Hurricanes Matthew and Irma. Additionally, FPL's restoration crews are able to "ping" smart meters before leaving an area to ensure that power is, in fact, restored. This prevents restoration crews from leaving an area, thinking all power was restored, only to be called back when the customer informs FPL that they are still without service. FPL is also enhancing an application, first utilized during Hurricanes Matthew and Irma, whereby it will be able to "bulk meter ping" smart meters to confirm whether customers have service.

Automated Feeder Switches	Avoided Customer Outages
Matthew - 2016	118,000
Irma - 2017	546,000

Polmann Edits for Discussion

Parties/Staff Handout
Internal Affairs/Agenda
on 7/10/2018
Item No. 2

Key Findings

- Florida's aggressive storm hardening programs appear to be working. (Section V)
- Restoration time generally improved ~~from~~ compared to the 2005 storm season. (Section IV)
- ~~Falling trees, vegetation and other debris outside the rights of way were t~~The primary causes of power outages came from outside the utilities' rights of way as falling trees, displaced vegetation and other debris. (Section IV)
- ~~Utilities typically do not have access to perform v~~Vegetation management outside the utilities' rights of way is typically not performed by utilities due to lack of legal access. (Section IV)
- Hardened overhead distribution facilities had substantially lower failure rates than non-hardened facilities. (Section V)
- Very few transmission structure failures were reported by comparison to local distribution components. (Section V)
- Underground facilities had minimal failure rates compared to overhead facilities. (Section V)
- Despite substantial improvements, some customers were dissatisfied with the extent of outages and restoration times associated with Hurricane Irma. (Section VI)
- The public has high expectations for reliable service and prompt restoration. (Section VI)
- In some instances, following Hurricane Irma estimates of restoration time proved inaccurate and consumer communication systems were overwhelmed. (Section VI)
- Some local governments see a need for better coordination and communication with utilities during and after storms. (Section VI)

CLARK

Parties/Staff Handout
Internal Affairs/Agenda
on 7/10/2018
Item No. 2

Section VII: Commission Actions

Preparedness and Restoration

No amount of preparation can eliminate outages in extreme weather events. Throughout the year, utilities participate in hurricane exercises and drills in order to better prepare for a storm event. Prior to hurricane season, utilities ensure that they have the required internal materials on hand, as well as commitments for external resources which may be needed following a storm. Utilities also partake in hurricane preparedness exercises. Preparedness and restoration efforts appear consistent across the different utility entities. All utilities have similar staging, damage assessment, and workload management processes. Data collected after the storms show the causes of outages were consistent across utilities.

Utilities reported that they have regular meetings with local governments regarding vegetation management and identification of critical facilities (i.e., hospitals, water and wastewater treatment plants, and fire stations). However, the utilities, local government representatives, and the Office of Public Counsel agreed that communication among all affected parties could be improved. Counties should continue to take the lead in identifying critical facilities for priority restoration and utilities should work with counties to provide information and expertise. Restoration priority lists should be based on community priorities balanced with the practical realities of restoration. During the May 2018 workshop, some local government representatives expressed a desire for additional utility staffing at local emergency operations centers.

Action: Commission staff should collect additional details regarding meetings with local governments regarding vegetation management, identification of critical facilities, and utility staffing practices at local EOCs as part of the Commission's review of utility storm hardening plans.

The Commission has been careful to balance the need to strengthen the state's electric infrastructure to minimize storm damage, reduce outages, and reduce restoration time while mitigating excessive cost increases to electric customers. Approval of an IOUs storm hardening plan does not equate to approval for cost recovery. During a general rate case, the costs for storm hardening are taken into consideration and the utility has the burden of proof to show that the costs are prudent for cost recovery. In order to enhance the review process related to storm hardening activities, a comparison of all viable alternatives considered by the IOUs before selecting proposed hardening projects would ensure that storm hardening is being pursued in a cost-efficient manner. For example, a utility should be able to explain why a proposed underground project is preferable to a hardened overhead project or additional smart grid investment, etc.

Action: Commission staff should collect information on all viable alternatives considered before selecting a particular storm hardening project as part of the Commission's review of utility storm hardening plans.

Distribution Infrastructure

While granular data appeared to be somewhat lacking due to a focus on restoration, Florida's aggressive hardening programs appear to be working, as fewer poles were replaced compared to

IV. Transcript

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

PROCEEDINGS: INTERNAL AFFAIRS

COMMISSIONERS PARTICIPATING: CHAIRMAN ART GRAHAM
COMMISSIONER JULIE I. BROWN
COMMISSIONER DONALD J. POLMANN
COMMISSIONER GARY F. CLARK
COMMISSIONER ANDREW GILES FAY

DATE: Tuesday, July 10, 2018

TIME: Commenced: 11:35 a.m.
Concluded: 12:51 p.m.

PLACE: Gerald L. Gunter Building
Room 105
2540 Shumard Oak Boulevard
Tallahassee, Florida

REPORTED BY: DEBRA KRICK
Court Reporter and
Notary Public in and for
the State of Florida at Large

PREMIER REPORTING
114 W. 5TH AVENUE
TALLAHASSEE, FLORIDA
(850) 894-0828

P R O C E E D I N G S

CHAIRMAN GRAHAM: Let the record show it is Tuesday, January -- I am sorry, July 10th, and this is --

COMMISSIONER BROWN: January?

CHAIRMAN GRAHAM: This is the -- it seems like it's taken six months. This is the Internal Affairs agenda. Let's get right no Attachment No. 1 -- or Item No. 1, Telecom.

MR. LONG: Commissioners, Item 1 is the 2018 telecom COMPETITION report. With me is Eric Wooten this primary author this year.

MR. WOOTEN: Excuse me, I had lots of help.

Okay. So good morning, Commissioners. The statute requires that the report address these three elements: Are providers offering functionally equivalent services? Are customers services? And the impact on affordability. And the report found in the affirmative on these elements, and then the report must also include a list of carrier disputes, which there were none last year.

So staff is requesting approval of the draft report, and also asking for editorial privileges for typos and last minute updates. And staff is

available for questions.

CHAIRMAN GRAHAM: Thank you, staff.

Commissioners?

Commissioner Brown.

COMMISSIONER BROWN: Thank you.

I have a few questions, but also want to commend staff for compiling all of this data. I know it's a lot of information, but it certainly is helpful because it gives us a snapshot of really where the industry is over the past year. That means that I think, if I could, just talk about the Executive Summary.

Obviously, wireline for residential declining by 23 percent in 2017 is very notable, and with the vote that we just had at the agenda about declining traditional relay services, I think we should include that language about -- we mention it on possibly page 38 of the report. It talks about the FTRI's budget, and where we are this past year. But I think because the item that we just voted on talked about the declining landlines, but also the declining traditional relay services, use of traditional relay services and folks converting over to newer technologies, I think we should include that language in here. Any thoughts on

that?

MR. LONG: Yes, we can add that in here. We do have some language if you would like to see it now, or we can show it to you later.

COMMISSIONER BROWN: Is it brief?

MR. LONG: It is brief.

COMMISSIONER BROWN: You can just read it if you could.

MR. LONG: Sure. Minutes of use for tradition relay service have declined in recent years as evolving technologies cause many users to migrate to more advanced services. Current provider projects that traditional minutes will continue to decline.

COMMISSIONER BROWN: That's good. Well, that's accurate. That's what we voted on, so, Commissioners, I think it would be appropriate to put that in.

It also talks about, though, how Lifeline has decreased measurably by eight percent from 2016 to 2017. It goes on on page 36 to talk a little bit more about that. Can you elaborate for the decline?

MR. LONG: I could get our Lifeline expert here.

COMMISSIONER BROWN: You are back.

MR. FOGLEMAN: I did not bring a name card.

COMMISSIONER BROWN: We all know you.

MR. FOGLEMAN: So the information that's provided on page 36 is going to be -- is based on U.S. Department of Agriculture data. So it essentially is what it is as far as what we have available.

COMMISSIONER BROWN: Do you have any idea why there is a decline?

MR. FOGLEMAN: No. It would be speculative.

COMMISSIONER BROWN: And that's because of the programs SNAP and --

MR. FOGLEMAN: Right. The eligibility criteria is established by the FCC. SNAP is the largest program that the customers sign up for, and usually what we use for our metrics to estimate what our eligibility households are in Florida.

COMMISSIONER BROWN: I think it said something about 19 million wireless users in the state of Florida.

MR. FOGLEMAN: Correct. Right. Yeah.

COMMISSIONER BROWN: Astounding.

MR. FOGLEMAN: And if you look at our Lifeline report, it kind of shows that those customers that

are on the Lifeline program use prepaid wireless.

COMMISSIONER BROWN: So is Lifeline traditionally declining around the country?

MR. FOGLEMAN: I think it depends.

COMMISSIONER BROWN: It's good for the economy.

MR. FOGLEMAN: Right. I think it depends on which state. I mean, there are some states that have a state Lifeline program as well. And I think those states have a larger participation than states like Florida that does have a state matching program.

COMMISSIONER BROWN: Does this coincide with our unemployment rate dropping, do you think?

MR. FOGLEMAN: It could. It could very well.

MR. LONG: And traditionally, the Lifeline participation rate fluctuates between 40 and 50 percent. It got over 50 percent for a couple of years for a number of reasons. The FCC, in their curtailing waste, fraud and abuse efforts implemented some policies that brought that number down, and it's back to fluctuating between 40 and 50 percent.

And this is -- you know, this is a gauge of how many Florida consumers who are eligible to get

Lifeline actually go out and seek it and get it.

COMMISSIONER BROWN: Right. And I mean, there is so many different entities now doing outreach on it, too, that's why I was surprised by the decline, including the Commission doing outreach.

Well, just to move on, Mr. Chairman. On page six, I think you have guys point out a really interesting paragraph above the mergers and acquisitions subsection about in spite of the decline and wireline access lines, wireline telecom companies continue to play an evolving role in the marketplace. I think that is -- the whole paragraph is very interesting, and I think we should underscore that in any place that you think is appropriate.

The other thing I want to talk about, and I think it's the last thing, is really the page 39, under federal activities, the FCC's hurricane response.

So I remember when Hurricane Irma came in September, and this commission opened up a docket shortly thereafter. The FCC, we were told during our Internal Affairs, indicated that they were also going to open up or solicit comments and host a workshop, and do a presentation. And I thought --

at that time, we said, we would like to, you know, know what is a result of that. Could you provide some feedback on that?

MR. WOOTEN: Yes, ma'am.

So for the comments, I mean, that was the first thing -- well, I mean, they did a presentation first. It was just about what they had immediately done, but then this solicited the comments that -- they ended up getting 74 individuals and organizations that sent them comments, and those were --

COMMISSIONER BROWN: Less than what we got.

MR. WOOTEN: Yes, ma'am. 14 of those were from companies, nine for individual associations, nonprofits, interest groups; 49 were from individuals, and then two were from government organizations. That was the City of Houston and Puerto Rico Telecommunications Regulatory Board, and ended up getting 33 reply comments.

So most of the themes were, they were, you know, positive use of the resiliency of -- well, the companies were saying that their own technology was great, you know. Like the satellite companies said satellite is great, and -- so then -- then most of the others said that they appreciate the

different organizations working together. They said prepositioning of assets was good, helped out.

And then some of the things that they wished would have happened is that they should place higher prioritization on restoration after an event. And then some of them also said they wanted more interagency cooperation also. Then they requested more funding for recovery and hardening efforts. You know, in some cases like Puerto Rico --

COMMISSIONER BROWN: They focused a lot on Puerto Rico and the Virgin Islands, right?

MR. WOOTEN: Yes, ma'am, that was the bulk of it.

COMMISSIONER BROWN: Did they do anything for Florida?

MR. WOOTEN: Yes. So for Florida, some of the things that they did that applied to several of the areas like Lifeline, if you don't pay your bill within 30 days, you can get disenrolled. And so they extended those recertification rules for 90 days for people that were being disrupted, and they didn't want to bump peal people out because of this issue. That was in Florida, Puerto Rico and US Virgin Islands.

Then also the E-rate support, which is for schools and libraries is, you know, for adding in broadband services, but they changed that to use some of that money to restore what service was lost, and those two in particular were for Florida.

COMMISSIONER BROWN: What about infrastructure? So what was the data? Did they provide any data on infrastructure hardening efforts? FCC oversees the funding on that for the telecom companies.

MR. WOOTEN: Yeah. They didn't really give us -- or didn't really publish any -- mention any specific numbers on that.

COMMISSIONER BROWN: How do we get that information, or is it even relevant in the overall scheme of our regulation --

MR. WOOTEN: Well --

COMMISSIONER BROWN: -- or data? I mean, you know, we have an item coming up right after on hurricane restoration efforts.

MR. WOOTEN: Well, we may be able to get some data from when they did their critical needs information workshop, which was kind of based off of these comments, the state and local roundtable had an engineer from DMS, their division of

telecommunications, and she mentioned that the 911 coordinators, when there are emergencies, stay in contact with the phone companies, and mentioned some forms that they had that Florida can use with them twice a day when it gets at the worst. And she also mentioned that those companies are willing to cooperate because of confidentiality, so --

COMMISSIONER BROWN: Do they know how many poles they hardened? Do they know how many poles did not survive Hurricane Irma? Do we have any of that information, that data? I thought that's what the -- part of the workshop was going to -- and the presentation was going to be about.

MR. WOOTEN: They didn't really mention any specifics on that in the workshop.

COMMISSIONER BROWN: How would we get that data?

MR. WOOTEN: Well, I don't know if DMS might have it, if they would be willing to share it with us, or -- I don't know.

MR. LONG: We could ask the companies for it, but, you know, that generally falls under the umbrella of service quality which we no longer regulate in our arena so there is no requirement that they provide us with that type of information.

We could ask for it and see if they --

COMMISSIONER BROWN: Or possibly the FCC, wouldn't it be more appropriate, I mean, given what we are going to talk about under the next item to kind of have a whole picture of the grid?

MR. LONG: Yes, certainly, we could ask the FCC if they had the data and would be willing to share it.

COMMISSIONER BROWN: Okay. Well, I want to thank you guys for compiling, again, this information.

I don't really have any other comments, Mr. Chairman. I don't know if the Commissioners do, but I think you have a lot of great information in here, and I appreciate the work.

CHAIRMAN GRAHAM: Guys, I -- my only real comment is on Lifeline. It's always been one of those things that's kind of stuck in my crawl since I got here, that we have been one of those donor states, and they collect so much for Lifeline from us and we use less than half of it, and -- I mean, I am encouraged the fact that not we are using it, it's going down. And I agree with Commissioner Brown. I think the unemployment rate has probably a lot to do that with. I mean, being under four

percent unemployment is pretty good.

But -- I mean, I have asked this question before, and I have asked this question of our people in DC about this before. Have there been any movement at all on that? I mean, it seems ridiculous that we are -- that we donate so much into that program and get so little out of it. And as you can see, we don't necessarily need --

MR. FOGLEMAN: Right. I mean, so the program has been evolving as far as Lifeline, they have been expanding the services to include broadband, so there has been movement in that direction, and there continues to be.

I mean, I guess it was the end of '17 they had put out a public notice seeking comment on, you know, should the funding be focused for some of this only to carriers that have facilities and not include resellers, and we filed comments in that proceeding. The FCC hasn't moved forward with that as far as making a final decision.

The Universal Service Joint Board had a referral that's been pending for a while related to the assessment side, how money is collected from -- and, you know, carriers, which essentially collect it from the users, to look to potentially expand

support. Right now it's just based on interstate and international revenues, and looking towards doing it maybe a completely different way; maybe connections; maybe numbers; maybe something else or a combination. That's still out there.

So I think there is still reforms that could happen that might benefit Florida. It's hard to say.

MR. LONG: But just the way we sit with not a lot of rural areas with a lot because a lot of people like living here, it's not going to qualify for high cost funds, and so we are going to be -- our customers are going to be paying into that piece of it without getting much back, and that's not going to change. And we are -- we keep monitoring it, and maybe things to do to try to mitigate it whenever there is an opportunity for it.

And then I can only encourage, you know, whoever is over the E-rate program in Florida to try to maximize our benefit out of that, because we are paying into the fund. And then hopefully our -- like you said, it's great to see the eligible households going down.

CHAIRMAN GRAHAM: Yeah.

MR. LONG: The participation rate, it would be great if it went up, and the eligible goes down so we know we are getting, you know, more return from our money that's going up to Washington.

CHAIRMAN GRAHAM: It's just a shame.

COMMISSIONER BROWN: It drives me crazy.

CHAIRMAN GRAHAM: All right. So do you just need our blessing on this report?

Yes, Commissioner Polmann.

COMMISSIONER POLMANN: Thank you, Mr. Chairman.

With regard to the eligibility and the utilization, I agree with a the other comments. And thank you, Commissioner Brown, you are very thorough in your remarks, and a lot of your points are appreciated.

With regard to the utilization, I think that's one of the key concerns that I have. I would like to see that those who are eligible really take advantage of this. And to the Chairman's point, how can we ensure that all of the money that is collected that we make the best use of it even though, you know, we don't get to keep a significant part of it?

I am concerned that it's -- the folks who are

eligible don't have -- aren't taking advantage of it. Now, there may be many reasons that they are not, but do we have an opportunity -- do we see anyway that we can learn why that's not the case? I mean, clearly there is social reasons and other things, but what's being done? What could be done? What's being done in other states? Do would have access to that information? Is that worth pursuing?

MR. LONG: We try to, you know, make it -- part of it is a function of how easy it is to sign up for the program. We try to make it as easy as we can given the federal rules that we are under. You know, most of the applicants will be applying for SNAP and various programs, and we try to get it in front of them then relying on other agencies, but, you know, other agencies have their limitations as well.

The easier you make it to sign up, then the easier it becomes for people to abuse it, and the FCC experienced some of that in complaints in that, and so they've made it a little more involved to sign up, and that's going to suppress some legitimate demand, you know, while it gets the waste, fraud and abuse out.

So it's just a little more difficult than you would imagine on its face trying to get it in front of the people who are eligible and easy enough for them to sign up and qualify and requalify for it. But we are trying working with other agencies and trying what we can do under the rules to, you know, try to bump that up a little bit if we can.

COMMISSIONER POLMANN: Do you see any specific effort towards that? I mean, I understand everything you have just said, and I -- I guess I agree with it. I don't -- I don't know if that's -- is there is anything obvious that can be done about that? Do you see a focus on that effort or is it just, well, that's the way it is kind of a feeling about it?

MR. LONG: Do we see Lifeline being promoted by other agencies, agencies that would have these eligible customers? Frankly, I don't see a lot of that promotion. It's just one of many things that they are, you know, trying to offer to these customers. So I don't see --

COMMISSIONER POLMANN: Yeah, okay.

MR. LONG: -- a big effort in promoting it.

MR. WOOTEN: And if you want -- kind of an idea of where we sit. We are about 25th out of 52

states and territories. So, you know, that's where we stand.

COMMISSIONER POLMANN: In terms of --

MR. WOOTEN: Participation?

COMMISSIONER POLMANN: -- utilization?

MR. WOOTEN: Yeah.

COMMISSIONER POLMANN: Okay. Well, it seems like we could be higher. I just -- I don't know how to move us up. Just I would like to see some additional effort. And I can't imagine that part of the funds that are being collected couldn't be spent to raise that up. I don't know if there is authority to do that. Probably not.

MR. WOOTEN: There is not.

MR. FOGLEMAN: The program is structured in such a way that the discounts go to providing service, not for advertisement.

COMMISSIONER POLMANN: Yeah. Yeah. Okay. Well, thank you.

COMMISSIONER BROWN: Just one last comment.

We have to mention this because it's the exciting, the advancement of 5G, and it's rolling out soon, and you all talk about it in the report, and it's an area that I am really interested in, and I know Chair Pai stated that expanding

broadband access is his number one priority. And in the report you talk about access to public rights-of-way to advance these technologies, it's going to be required.

Can you talk about what the FCC is doing to advance that?

MR. WOOTEN: Well, yes, ma'am. The BDAC, the Broadband Development Advisory Committee, has some working groups that -- I think they have four different working groups with members of industry and also municipalities and different level of government that one of them -- I mean, they are trying to work out a model code for states and for municipalities where -- that can be -- get them all to agree to it and then make it easier for, you know, like a document to be based off of for them to adopt to simplify and streamline the process.

Now, there have been some issues with that in that there have been a couple of people that have quit. The Mayor of San Jose quit, and complained that they thought it was industry dominated, too industry friendly, and that the municipality's concerns weren't being heard, in his opinion. But, I mean, there is still people from other municipalities and a commissioner from NARUC that's

on one of the boards, and so they have been, you know, working on it, and --

COMMISSIONER BROWN: Because it's coming down the pipeline, I mean, in the next few months, and obviously these companies and the small sells are be going to need access to the public rights-of-way, so it's going to be so state, local oriented and not federal.

MR. WOOTEN: Well, they are going to need a lot more antennas for, you know, because most of those are --

COMMISSIONER BROWN: Infrastructure --

MR. WOOTEN: -- broadcast at a higher spectrum frequency, and to have all of those antennas, then the argument is the companies say, oh, you are trying to gauge us by charging too much to put the antennas out. And then the municipalities say that we are just charging a fair amount, and it's an argument over that.

And like you say, they will need a lot more antennas to get this rolled out.

COMMISSIONER BROWN: Right, and the fiberoptics.

Is there anything that this commission needs to be doing at this time to help advance the

deployment of 5G?

MR. WOOTEN: Well, I think the State just passed a rights-of-way law recently, but I am not --

MR. BAEZ: I was just going to say, without getting too far into the weeds on it, the fact that the FCC is having all of these working groups is good because, as a general matter, but not to forget that the State of Florida itself, the Legislature has been pretty active in the area for many, many years, and so a lot of the right-of-way issues have been minimized, or at least distilled. There may -- I am sure there is still issues out there but --

COMMISSIONER BROWN: I am sure there are.

MR. BAEZ: Yeah, but to 5G in particular, advanced services in particular, there was legislation that came through, and we would be glad to bring it around for you all for your information.

COMMISSIONER BROWN: Yeah.

Mr. Chairman with that, I would move approval, if there are no other comments, I move approval of the report giving staff administrative authority to make any corrections non-substantive, but also

include the language regarding the relay services that we discussed.

COMMISSIONER POLMANN: Second.

CHAIRMAN GRAHAM: Any further discussion?

All in favor say aye.

(Chorus of ayes.)

CHAIRMAN GRAHAM: All right. We are good to go. Thank you.

Item No. 2. We are not going to beat this thing to death like we did last time.

COMMISSIONER FAY: I will read Commissioner Clark's notes.

COMMISSIONER BROWN: Who did this?

COMMISSIONER POLMANN: I did.

CHAIRMAN GRAHAM: I say, so we don't just drag this thing out forever, let's just go through these things. And this is my list, and I am sure you guys have your own thing that you want to look at.

COMMISSIONER POLMANN: I have a list, too.

CHAIRMAN GRAHAM: And basically, you will propose something, and we will vote it up or down, and we will move on. And the default, if we can't make a change, is whatever is in the current report that's in front of us.

Are you guys paying attention?

COMMISSIONER FAY: Yes.

COMMISSIONER BROWN: Thank you. What did he say?

COMMISSIONER FAY: He said, are you guys paying attention?

COMMISSIONER BROWN: I don't think Clark is going to be too happy about this.

CHAIRMAN GRAHAM: Okay. No. 1, this is on the under key findings.

COMMISSIONER BROWN: Oh, I like yours. Mr. Chairman, I like your -- yours is the one without the -- this one, right?

CHAIRMAN GRAHAM: This is mine, correct.

COMMISSIONER POLMANN: Mine has my name on it. I wrote my name on it.

CHAIRMAN GRAHAM: Let's turn this one upside down for right now so we don't confuse it.

COMMISSIONER BROWN: Just yours?

CHAIRMAN GRAHAM: Yes.

COMMISSIONER POLMANN: Which one are we turning upside down?

CHAIRMAN GRAHAM: Yours.

COMMISSIONER POLMANN: We are going to consider both of them.

CHAIRMAN GRAHAM: We will.

COMMISSIONER BROWN: Yes.

CHAIRMAN GRAHAM: Okay. So the very first point, comments? Concerns? Yes? No?

COMMISSIONER BROWN: I have the same suggestion on the first point. I have it right in my book, so I would support that, too, a change appear to be are.

And there is another place in the recommendation -- in the report on page 37, I think we need to include that exact language, from appear to be working to are. It's on page 37 at the bottom -- in the subparagraph, distribution infrastructure. So let's just mirror that language if we all agree to it.

CHAIRMAN GRAHAM: Bottom of 37?

COMMISSIONER BROWN: Uh-huh.

CHAIRMAN GRAHAM: Where?

COMMISSIONER FAY: First paragraph there, second line.

CHAIRMAN GRAHAM: Appear to be working to are?

COMMISSIONER BROWN: Uh-huh.

CHAIRMAN GRAHAM: Okay.

MR. BALLINGER: I'm sorry, I missed where that is on the page.

COMMISSIONER FAY: Where distribution

infrastructure is, if you go to the second line in that paragraph.

MR. BALLINGER: Got it.

COMMISSIONER FAY: Just a quick comment, Mr. Chairman. I would guess when we make changes in the key findings, we could ask staff to address the changes within the report?

CHAIRMAN GRAHAM: Yeah, how they fall back out to the report.

COMMISSIONER BROWN: Good.

CHAIRMAN GRAHAM: Okay. So for No. 1, yes. Yes. Anybody disagree?

COMMISSIONER POLMANN: I would like to ask staff why they used the words they used to start with, because I -- there is a distinct difference.

MR. BALLINGER: I am sorry, the words appear to be versus are working?

COMMISSIONER POLMANN: Yes.

MR. BALLINGER: I think we didn't have discrete granular data enough to say that is why we said appear, but if you look at a macro level, it appears to be working.

COMMISSIONER BROWN: It is.

MR. BALLINGER: It is, yes. I can live with either one.

COMMISSIONER POLMANN: But you didn't choose it to begin with. You don't have any more data today than you did when you wrote it.

MR. BALLINGER: Correct.

COMMISSIONER POLMANN: Clearly you are not going to argue if we vote it?

MR. BALLINGER: No, sir.

COMMISSIONER POLMANN: I mean -- I'm sorry, you could continue to argue.

CHAIRMAN GRAHAM: Commissioner Polmann, let's not drag this out.

COMMISSIONER BROWN: We got a lot of points.

CHAIRMAN GRAHAM: Three votes, let's move on. We got three votes for the first one, right?

COMMISSIONER FAY: Yes.

CHAIRMAN GRAHAM: Check.

Second one.

COMMISSIONER BROWN: I have the exact -- I have the length of outages has been reduced from 2004 to 2005. I have the same, literally the same thing.

CHAIRMAN GRAHAM: I just thought that we were -- I mean, just get to the point and put it out there. Don't -- sometimes too many words confuses the issue.

COMMISSIONER BROWN: I agree. And then I also agree with Commissioner Fay's comments, that they should be mirrored in the report.

COMMISSIONER FAY: And I also put that change, too.

CHAIRMAN GRAHAM: Okay. I count three. Anybody against that? Okay. That one is done.

Okay. Next thing I propose is moving those two bullets from there further on down, because it seems like it flows better. I mean, you can agree or not. I mean, once again, this stuff is just what we will talk about it. If not, it's not like the report is going to be bad, or it's not going to past. It's just --

COMMISSIONER FAY: I agree. I am fine with moving this one, too.

COMMISSIONER BROWN: Uh-huh.

CHAIRMAN GRAHAM: Was that another yes?

COMMISSIONER BROWN: Uh-huh. Yes.

CHAIRMAN GRAHAM: Okay. Anybody no?

COMMISSIONER CLARK: Oh, I will tell you if I don't agree.

CHAIRMAN GRAHAM: Okay. All right. So that's --

COMMISSIONER BROWN: Like that.

CHAIRMAN GRAHAM: Let's go down to the next red section, despite substantial documented improvements. So that's adding that section in and crossing out those next two lines is what I am proposing. Sure, go ahead.

COMMISSIONER BROWN: I don't have anything. I was just going to -- oh, I was going to -- yeah, it looks good. I would support it.

COMMISSIONER CLARK: Chairman needs positive affirmation. Looks good, Mr. Chairman.

COMMISSIONER BROWN: Love it.

CHAIRMAN GRAHAM: All right.

COMMISSIONER BROWN: Oh, I don't like many, by the way. Many is not correct. So I had a problem with that at the last meeting that we had about despite substantial documentation, many, I think -- we have 21 million people living in the state of Florida. We received 700 comments. I think when you say -- while that's not a bucket in hat half, if you look at the FCC's amount of comments that they had, I think many would be extrapolating and probably be an unfair assessment. I think if you say some customers, that would be more accurate.

COMMISSIONER CLARK: I agree, Mr. Chairman.

COMMISSIONER FAY: So do I.

CHAIRMAN GRAHAM: All right.

MR. BAEZ: Commissioners, forgive me. I know that you all are trying to get some agreement, but with -- along the lines of Commissioner Brown's concerns or comments, I think that even some, that discussion puts that second sentence in play as well. I mean, we have our own independent unease with it, but --

COMMISSIONER BROWN: Are you talking about the bullet point, or are you talking about --

MR. BAEZ: Yeah, the bullet point.

COMMISSIONER BROWN: Do you have a copy of his? Because we --

MR. BAEZ: Yeah --

COMMISSIONER BROWN: Okay, because we just got those.

MR. BAEZ: -- working right off it.

COMMISSIONER POLMANN: I like it was to start with. I wouldn't change it.

CHAIRMAN GRAHAM: All right, we got one no.

COMMISSIONER FAY: I apologize, can you articulate your concern one more time?

MR. BAEZ: Thank you, Commissioner.

I think that because you are acknowledging already that to speak in terms, to use Commissioner

Brown's term, that extrapolate and perhaps create too broad of an inference than a statement that says the public's expectations are rising without actually having dug into the fact of whether they are rising or not. I mean, that's too specific a statement, and too specific an inference to make.

COMMISSIONER POLMANN: That's why I preferred the two bullets that were written separately, not the one that was put in to risk replace the two that was written.

COMMISSIONER FAY: And I also prefer it that way.

COMMISSIONER BROWN: Do you have a problem separating them with the language that is proposed by --

MR. BAEZ: No, I think that the -- my personal issue remains with that second sentence. I mean, you know, some is clearly more accurate, if you will, a statement on that first sentence. The second sentence just seems to engage in more extrapolation of a much larger issue.

COMMISSIONER BROWN: Mr. Chairman.

CHAIRMAN GRAHAM: What if you put -- you can keep many, but many of the responding customers, because if this is a finding of facts and these are

the findings that we got in, so -- and the fact of the matter was, many of the responding customers were dissatisfied.

MR. BAEZ: No, I think -- and again, I want to focus more on the end of the statement, the one that says that resilience and restoration will have to continually improve. I think that's the more -- that's a more general -- too specific a statement for treating this in the limited way that we have in terms of responses.

CHAIRMAN GRAHAM: Okay, let's go --

COMMISSIONER CLARK: Can we change it to is expected?

CHAIRMAN GRAHAM: Let's go with the first sentence. So are we fine with making it many of the responding customers? Does that solve your problem, Commissioner Brown -- I am sorry, your concern?

COMMISSIONER BROWN: That's accurate.

MR. BALLINGER: Well, I --

COMMISSIONER BROWN: Is it not rate?

MR. BALLINGER: I need to jump in here on this one. I don't know that that is. I think if you look at page 36 of the responding customers, only -- look like 12 percent were timely

communication, so I don't think it would be many of even the responding customers.

COMMISSIONER BROWN: Let's go back to some.

COMMISSIONER CLARK: I think some customers.

COMMISSIONER BROWN: Let's go back to some. I like some better.

MR. BAEZ: Some were, yeah.

CHAIRMAN GRAHAM: I mean --

MR. BALLINGER: I didn't mean to get in there, but I --

CHAIRMAN GRAHAM: No. No. That's fine.

MR. BAEZ: Chairman, dissatisfaction should be acknowledged, absolutely.

CHAIRMAN GRAHAM: Well, my focus is more, I mean -- and I guess I am going outside of the workshop. My focus is more, we have all seen the newspaper articles. We have heard all the people, you know, basically come unglued with dissatisfaction, I mean -- but if we are going strictly on the four corners of what happened in the workshop, and the fact that we came in, then I agree with you, then we will go with some. Does that work?

COMMISSIONER BROWN: So you just changed many to some?

CHAIRMAN GRAHAM: Changed many to some.

COMMISSIONER BROWN: Yay. I like that. So that's the first sentence?

CHAIRMAN GRAHAM: That's the first sentence.

Now, the second sentence. Now, what was your suggestion on the second sentence? I apologize.

COMMISSIONER CLARK: Well, Mr. Baez's point was that restoration will have to continually improve. I think you could just say that is expected -- the customer's expectation is that it continually -- that it continually improve.

I don't think there is anything wrong with stating the public's expectations are rising. Anyone that doesn't think that has not followed storm restoration for 30 years.

I think that -- my experience has been there was 25 years ago in working outages, there was an expectation an outage would last four or five hours, it didn't matter where it was. Today, that is an unreasonable expectation that the consumer has. They are not going to tolerate five- and six-hour. History will show you the expectation has risen dramatically. Survey after survey will show you that there is a higher expectation on reliability now than there has ever been.

CHAIRMAN GRAHAM: I agree with you. I think what happened back in '05, you know, people were satisfied -- not satisfied. They were not satisfied with 18 days, and they were also not satisfied with 10, and, you know, so you can probably get down to zero and there are always going to be people not satisfied.

COMMISSIONER BROWN: Like you said, like, four hours.

COMMISSIONER CLARK: I always like to share my story, my favorite one. In cleaning out some records in a records vault about 10 years ago, I found a postcard that was written, it said: Dear Service Manager at West Florida Electric, power has been off a few days. Next time you have someone in the area, please have them stop by.

That's true. That is a true story. And that was a record --

COMMISSIONER BROWN: Stop by.

COMMISSIONER CLARK: -- please have them some stop by, exactly. It's changed.

MR. BAEZ: And forgive me, I think we can -- I think -- not that what I am saying necessarily has to carry the day. I understand that. But I think if -- I think if the continual improvement were

listed as an expec-- were more closely linked to an expectation of a customer, I think that would certainly resolve the uneasiness that I have.

CHAIRMAN GRAHAM: Give me -- help me with this.

MR. BAEZ: Rising customer expectations --

COMMISSIONER BROWN: How about the public has high expectations for reliable service and prompt registration and expectations continue to rise, blah, blah, blah, blah?

MR. BAEZ: Something that says that the expectations, that improvement has to continue, and to -- because I think capturing the notion is important, but capturing the notion as to the expectations of the customer, plainly put, I think that the way this reads, it becomes the continual improvement declaration becomes too much of the Commission's declaration, and I don't think that a report is the appropriate forum to be making those declarations. It should be determined based on our process that -- I can't put it in plainer than that.

COMMISSIONER FAY: Could you just add to the end of that sentence, and to meet the public's expectations, and the public's expectations are

rising indicating resilience and restoration will have to continually improve in order to meet those expectations. Does that work?

MR. BAEZ: No.

COMMISSIONER POLMANN: What you have here is a first sentence that says: Despite substantial documented improvement. That is a key finding. The second sentence is a policy or a statement of opinion, which has nothing to do with the first sentence and should not be within the same bullet. It is not a finding, and I can't support it.

If you want to make an additional point, it's a separate bullet. If it's not a finding, it does not belong under key findings.

MR. BAEZ: The rising customers expectations are that resilience and restoration has to continually improve. That's what -- I think that's what the message is. And if you want to put it in a separate bullet that it's clear that they are rising customers expectations, that ought to suffice.

COMMISSIONER BROWN: Well, I think that is a finding, because we do have data. We have emails upon emails from customers that haven't had service for a couple of hours a day, and we have that

documented that these expect-- and we have data from the prior hurricanes in 2004 and '05 when they were out -- without power for five days. So they are -- it's a -- I think it has to be included in the findings.

MR. BAEZ: I don't have any draw from the data.

CHAIRMAN GRAHAM: Commissioner Fay, what was that you added to the tail end of that second sentence?

COMMISSIONER FAY: In order to meet the public's expectations.

CHAIRMAN GRAHAM: Does that work for you Braulio?

MR. BAEZ: If you will just indulge me and give me two seconds to write --

CHAIRMAN GRAHAM: Sure.

MR. BAEZ: -- something down that way I can capture it.

COMMISSIONER BROWN: In order to meet rising public expectations?

CHAIRMAN GRAHAM: In order to meet the customer's expectations. I don't know if you have to restate that again.

MR. BAEZ: I would suggest this, and in a

separate -- as a separate point: Rising customer expectations are that resilience and restoration will have to continually improve.

CHAIRMAN GRAHAM: Say that again.

MR. BAEZ: Rising customer expectations are that resilience and restoration will have to continually improve.

CHAIRMAN GRAHAM: Does anybody have a problem with that?

COMMISSIONER BROWN: No.

COMMISSIONER CLARK: No.

CHAIRMAN GRAHAM: Then we are done.

MR. BAEZ: Thank you, Commissioners.

CHAIRMAN GRAHAM: Okay.

COMMISSIONER BROWN: Mr. Chairman, I do have a question on one of those bullet points, though.

Hardened, it's not in your -- you didn't make changes to it. It's hardened overhead distribution facilities, it says, had substantially lower failure rates than non-hardened facilities.

I think we should say, performed better. I hate too use the word failure rates. I don't if that's inaccurate, but I think it's clear that they perform better than non-hardened facilities.

CHAIRMAN GRAHAM: We will come back to that on

your turn.

COMMISSIONER BROWN: Cool. That's all. That's all I have.

CHAIRMAN GRAHAM: Trust me, I know that's not all you have.

COMMISSIONER BROWN: I know.

CHAIRMAN GRAHAM: But make that note and we will come back to it.

All right, Section No. 5. This was based on --

COMMISSIONER CLARK: Mr. Chairman, I apologize, I was -- I stepped out when you transitioned from telecom to this. What order are we doing this in? Is each commissioner doing their proposed changes?

CHAIRMAN GRAHAM: Yeah.

COMMISSIONER CLARK: Okay.

CHAIRMAN GRAHAM: We will go through and we will vote it up or down, or just move on.

COMMISSIONER CLARK: So you are going to do all of yours?

CHAIRMAN GRAHAM: Yeah.

COMMISSIONER CLARK: Okay. Got you.

CHAIRMAN GRAHAM: I was just throwing this into the Section 5, because if you see --

COMMISSIONER BROWN: You want this data request in there?

CHAIRMAN GRAHAM: No. I wanted to insert this just -- if you turn over to page 29, I was going to put it right underneath that chart.

COMMISSIONER BROWN: Okay. Just this -- this thing, not this?

CHAIRMAN GRAHAM: No.

COMMISSIONER BROWN: No, okay.

CHAIRMAN GRAHAM: I was just letting you know where that data came from; because this chart, it just talks about outages, but it doesn't -- one of the things the chart doesn't tell you is something that's hardened, it was less time to bring that back up than something that wasn't hardened. And they are talking about the man-hours, it's 50 percent less.

Once again, I just bring this out here for you guys to look at it. You can decide it doesn't add anything; it's not clear; or yes, Art, we love it. We think you are right.

COMMISSIONER BROWN: Can you read it just for the record for everyone in the audience, please?

CHAIRMAN GRAHAM: In addition to the reduction in numbers of outages shown in Table 5-1, hardening

reduced the length of outages, the Construction Man Hours, CMH, to restore hardened feeders were 50 percent less than non-hardened feeders primarily due to hardened feeders experienced less damage than non-hardened feeders.

COMMISSIONER BROWN: I like it.

COMMISSIONER CLARK: I agree.

COMMISSIONER POLMANN: And your reference is to page six, FPL's Second Supplemental --

CHAIRMAN GRAHAM: And that's what I passed around so you could see that's --

COMMISSIONER POLMANN: But was the reference to be included in the document so that people know -- have some understanding of your --

MR. BALLINGER: We can make that a footnote.

MR. BAEZ: We can make it a footnote.

CHAIRMAN GRAHAM: Okay. There you go, we can make it a footnote.

COMMISSIONER POLMANN: I like it.

CHAIRMAN GRAHAM: You're okay?

MR. FUTRELL: And Mr. Chairman, if I may, there is also and additional footnote we can include. There is actual data supplied in FPL's Third Supplemental Amended Response, to Staff's First Data Request. It has additional data that

supports that sentence.

MR. BAEZ: We can make a reference to both.

COMMISSIONER BROWN: Looks good.

CHAIRMAN GRAHAM: All right. One last one and we are done with me. Still on the same page, 29, where it says: Underground transmission is 25 percent. I don't like the way that is, because basically we didn't lose any of the underground transmission. I think that should be zero. The problem was when it hit the substation, the substation went down.

Now, I would prefer having zero percent there, and then the footnote looking down and saying that, but according to the substation, there was no power going through that line. I think it kind of centers the wrong message. It's just doing it opposite than what's currently in front of us. Here, it's just saying, well, where we didn't have power going through 25 percent of it --

COMMISSIONER BROWN: Right. I thought that it was zero. From what we heard during the workshop, I thought it was zero for underground.

COMMISSIONER CLARK: Underground transmission had no failure.

CHAIRMAN GRAHAM: The trans-- the underground

lines didn't have any failure, but when it got to the substation, the substation failed, so they considered all of that line feeding into the substation as failed.

COMMISSIONER FAY: So you would request that as zero percent --

COMMISSIONER BROWN: Right.

COMMISSIONER FAY: -- and then in a footnote, Mr. Chairman, would you -- you would just -- you would point out the fact that some substations went down which could interpret --

COMMISSIONER BROWN: That's more accurate.

CHAIRMAN GRAHAM: That's what I thought.

MR. BAEZ: Commissioners, two things. I think the note as -- if you want to change that number, I think the note is adequate, the note that exists footnote seven captures what you just said.

CHAIRMAN GRAHAM: So we can just change it from zero to 25 -- I mean, from 25 to zero but leave the same --

MR. BAEZ: This was -- and here's the quandary that we fall into. This is just data extrapolated as reported by the company --

CHAIRMAN GRAHAM: Yeah.

MR. BAEZ: -- and so I don't -- I don't know

how to capture your -- what I think is correct without altering data as provided by the company, and I think that's the issue that we are kind of caught in.

COMMISSIONER CLARK: Mr. Chairman, if I may.

CHAIRMAN GRAHAM: Sure.

COMMISSIONER CLARK: Tom, line termination equipment specific to -- is specific to underground equipment. It's very different than overhead. So technically, the failure is basically could be tied back to underground.

: Yes.

COMMISSIONER CLARK: It's termination equipment. If you didn't have underground, it may not have failed, you don't know because it was the termination equipment that failed, and that's tied specifically to and underground line.

MR. BALLINGER: It's where do you put the demarcation between underground and overhead. And like Braulio said, this is exactly what the utility reported. I don't feel comfortable changing --

COMMISSIONER CLARK: They have to do it that way.

MR. BALLINGER: If they wanted to report zero in their data response, they would have said that,

and so --

COMMISSIONER FAY: Can we --

COMMISSIONER BROWN: Mr. Chairman, I have a suggestion.

CHAIRMAN GRAHAM: Sure.

COMMISSIONER BROWN: I think if that is the case, if they think it would be erroneous for us to change it, then I think that we need to make a point in the report that says, the undergrounding was zero, but indicated 25 percent as a result of the line termination equipment in substations.

MR. FUTRELL: Commissioners, could we perhaps entertain just putting a dash through there with a footnote? That way we are not reflecting a number because zero is a number, and so just having some kind of like a dash perhaps --

MR. BAEZ: Not applicable.

MR. FUTRELL: -- to explain why there is no number there, that way --

CHAIRMAN GRAHAM: Instead of a number, just a dash, and then just have the footnote saying --

MR. FUTRELL: Because zero -- the intention is correct.

CHAIRMAN GRAHAM: No, I understand. I --

COMMISSIONER BROWN: No, that's better.

CHAIRMAN GRAHAM: I like that better.

COMMISSIONER BROWN: Good job, Mark.

MR. BAEZ: And then let the -- let the footnote -- zero -- a dash with the footnote. Let the footnote --

COMMISSIONER POLMANN: I would suggest we add a column to the table, because there is -- there are termination equipment above ground for the underground, which is the problem.

MR. BAEZ: Agree, Commissioner.

COMMISSIONER POLMANN: And for above ground there isn't. There is a not applicable case.

MR. BAEZ: I would suggest that we are falling into the same -- we are falling into the same trap that we tried to resolve with an N/A is the thing. We would be creating -- we would be altering information as filed by the company, and I think that's the problem that I see.

CHAIRMAN GRAHAM: I think we can get it done by putting a dash. I think that accomplishes what I was going to do.

COMMISSIONER BROWN: Agreed.

COMMISSIONER FAY: And it's consistent with the data.

CHAIRMAN GRAHAM: Okay.

MR. BAEZ: Thank you, Commissioners.

CHAIRMAN GRAHAM: My page is done.

Commissioner Clark.

COMMISSIONER CLARK: Do we stay on key findings, or can we go anywhere?

CHAIRMAN GRAHAM: Anywhere you want to go.

COMMISSIONER CLARK: All right. I only have -- I do want to take a moment and say to the staff, I think you guys did an outstanding job.

Also, hats off to the Chairman and to his staff. I know you have poured a lot of time and energy into this, and I do respect the amount of effort that's gone in here.

In light of that, we could -- the old saying, too many cooks spoil the stew. We can here and kind of pick this thing to death. I think -- my only focus is one or two very high-level issues, and to me, one of those was critical facilities. And on page 37, I would just ask for consideration of a minor addition that just reemphasizes the importance of critical facilities in this process.

I would also add that -- I don't know if any of you saw the Sun-Sentinel article yesterday, but I think it kind of highlighted the importance and the problem that we actually have between the

counties, municipalities and the utility companies in designating what critical facilities are, looking at the threshold limitations of how much -- I think one of the articles was very key to point out that you can't designate every facility in the county as a critical facility. At some point in time, something becomes not so critical. You can't get to everything first.

And that would be my point in proposing this change. I think it's incumbent upon the counties to take the leading role in establishing what those facilities are. I think that they are -- they should do so within the guidelines of a utility manager's advice and operations knowledge of what can and cannot be done from a physical limitations perspective. And I would like to just make sure we point that out in the report, and I included one small two-sentence change.

COMMISSIONER BROWN: I think it's a good change. Could you please read it into the record here?

COMMISSIONER CLARK: Sure, I would be glad to.

Adding in to paragraph two behind the third sentence: Counties should continue to take the lead in identifying critical facilities for

priority restoration, and utilities should work with counties to provide information and expertise. Restoration priority lists should be based on community priorities balanced with practical realities of restoration.

COMMISSIONER BROWN: Thank you.

COMMISSIONER POLMANN: One suggestion -- thank you, Commissioner Clark. I think this is excellent. I was concerned as well regarding the news media raising the issue.

Does the government unit of counties cover what you are trying to express, or --

COMMISSIONER CLARK: It does, Mr. Polmann.

COMMISSIONER POLMANN: What level of government? Cities? Counties? Anything else?

COMMISSIONER CLARK: I specifically put the burden back on counties because I think that is the direct contact -- point of contact for the State Emergency Operations Center, the county has the official Emergency Operations Center, and I think someone needs to have that final authority on the local level.

COMMISSIONER POLMANN: Thank you.

COMMISSIONER FAY: I will support this.

CHAIRMAN GRAHAM: I do, too.

COMMISSIONER BROWN: Awesome.

CHAIRMAN GRAHAM: Okay. What's your next one?

COMMISSIONER CLARK: That's all I have, Mr. Chairman.

CHAIRMAN GRAHAM: Fantastic.

Commissioner Fay.

COMMISSIONER FAY: All right. I -- out of appreciation for trees, I didn't print any of my recommendations here --

COMMISSIONER BROWN: Yeah, that's right.

COMMISSIONER CLARK: -- they are in my folder.

COMMISSIONER POLMANN: We will all support you.

COMMISSIONER FAY: Thank you. Thank you.

So my specific change related to the discussions we had with consistency and data, and what can be provided to the Commission down the road.

The specific line for the change, if you go into page two, where Commission actions are, we stated in there -- let's see, one, two, three, four, five -- so the fifth bullet down under there, the collection of more uniform performance data for hardened, gross, non-hardened and underground facilities. I know the Chair and almost everybody,

all the Commissioners had some input into trying to create some consistency with data that's provided in the future, understanding the complexities of the large quantities and data and the costs that may apply to obtaining and applying those.

And so my change, in addition to that language that was there, was to include the language that said: Including sampling data where large quantities of data may lead to additional costs.

So I think there are opportunities where the data could be presented to the Commission that would create significant cost and might not give us an actual good perspective of what it is, and so I think there are scenarios where that smaller quantity of data could show us a picture that we maybe would not be able to provide.

MR. BAEZ: Mr. Chairman.

CHAIRMAN GRAHAM: Yes.

MR. BAEZ: A clarifying question. I would just like to ask Tom, do we already contemplate sampling in our data collection as it is now?

MR. BALLINGER: We can do it. We didn't contemplate it in this one. I think this may be a way to skin that cat, because there is a cost if we go to a uniform data and start doing this, this may

be a way to get what we need. And, again, what's the benefits of that?

MR. BAEZ: All right. Thank you.

COMMISSIONER BROWN: Can you read it again, please?

COMMISSIONER FAY: Sure.

So at the end of that sentence, it would state: Including sampling data where large quantities of data may lead to additional costs.

COMMISSIONER CLARK: I don't understand that last part. Could you -- include where large --

COMMISSIONER FAY: Sure. So it's my understanding that -- obviously, each utility is different. There is collection of data, but not necessarily universally in different formats. If we were to today come up with some specific parameter that we wanted and asked to implement it, it's not as easily implemented as it is to say to do it, and so there would be clearly costs --

COMMISSIONER CLARK: To the utility for doing it?

COMMISSIONER FAY: -- to the utility to create --

COMMISSIONER CLARK: Okay. I am with you there.

COMMISSIONER FAY: -- that in whatever format we would need.

MR. BAEZ: A friendly amendment maybe where appropriate.

COMMISSIONER FAY: Sure. Your amendments are always friendly.

MR. BAEZ: No. I guess in order to give you all, and certainly the staff in the end, a little bit more flexibility to sort of implement that principle, because I think we would all be in agreement with it, just use the words, including sampling data where appropriate.

COMMISSIONER FAY: Sure, I am okay with that.

MR. BAEZ: That leaves the full breadth of its use.

COMMISSIONER FAY: Yeah. I want to give staff the option to use that where appropriate.

MR. BAEZ: Thank you.

COMMISSIONER BROWN: We haven't voted on it yet.

MR. BAEZ: Well, I.

COMMISSIONER CLARK: I support it.

COMMISSIONER BROWN: I support it.

COMMISSIONER POLMANN: It's good.

CHAIRMAN GRAHAM: Okay. I think we have three

nods of the head at least.

What else do you have?

COMMISSIONER FAY: That's it.

CHAIRMAN GRAHAM: Fantastic.

COMMISSIONER FAY: Yep, thank you.

CHAIRMAN GRAHAM: Commissioner Brown.

COMMISSIONER BROWN: You were right, I did have a few more.

CHAIRMAN GRAHAM: Of course you did.

COMMISSIONER BROWN: Just three. Just three things.

First, I want to say, I love this process. And I think this is just such a -- it's been a long process, but I think we have a great result as a result all of the data, all the participation by the IOUs, the other stakeholders. Chairman, thank you for your leadership on this. I think this is a really good byproduct of a lot of hard work. And thanks to staff for all of their work on it, too. And I agree with everything that you said, too, Commissioner Clark.

All right. So when we got into the discussion on the last IA on collecting data to the targeted underground projects for those, we said that we were going to be getting information, I guess, from

the utilities, right, Tom? Refresh our memory on the pilot projects.

MR. BALLINGER: Yes, once we are done with this, we are going to have a meeting with the utilities to talk about two things; one, the hardening dockets, when they open, what information can get through there, and also the reliability reports, what they can report there. And part of that will be the targeted undergrounding projects; some dates when they have information and what kind of report -- what they can report, that kind of thing.

COMMISSIONER BROWN: What kind of information do you think that you are going to receive, including costs? I mean, we had a sidebar discussion after -- not a sidebar, a separate conversation here at the table about maybe updating the 2007 Commission Study on the cost of undergrounding. Would we get costs from those pilot programs, too, on the --

MR. BALLINGER: Yes. Yes. Part of the information I would be looking for is the cost of the undergrounding; the cost of improving the overhead as well, so the cost-effectiveness of doing this; what other issues you ran into during

the pilot project. Was it third-party connectors, let's say, things of that nature? Was it the neighborhood issues that cropped up? So, yes, definitely the cost of the undergrounding.

COMMISSIONER BROWN: See, that's the real live data that I was looking for when I made the suggestion at the prior IA about possibly updating the 2007 Commission Report. So thank you, Tom.

I would strike the last sentence. I know we talked about different entities, PURC possibly doing an updated study. I think we are going to get that data and we are going to get that direct annually. And I think that would provide us an accurate cost -- cost, not even an estimate, of what these projects are going to produce. So I would delete updating that study.

CHAIRMAN GRAHAM: So exploring a feasibility and the cost of updating?

COMMISSIONER BROWN: Yes. We are going to get the information anyway, for free, rather than hiring PURC or someone else -- paying for PURC, or whatever third-party entity we come up with.

CHAIRMAN GRAHAM: Is anybody opposed to striking that last bullet on page two?

COMMISSIONER BROWN: Thank you.

CHAIRMAN GRAHAM: Okay.

COMMISSIONER BROWN: All right. Just two more. And again, that language is also on page 12.

CHAIRMAN GRAHAM: Now, do you see Braulio's face over there? Because he has done all of that work already trying to figure out --

COMMISSIONER BROWN: Are you happy or mad? Are you happy or mad?

MR. BAEZ: No.

COMMISSIONER BROWN: Sorry. We are getting the information.

MR. BAEZ: For free.

COMMISSIONER BROWN: For free.

All right. On page 26, storm cost restoration cost recovery.

CHAIRMAN GRAHAM: I thought you said five.

COMMISSIONER BROWN: Oh, no.

CHAIRMAN GRAHAM: Okay.

COMMISSIONER CLARK: I did, too.

COMMISSIONER BROWN: On page 26. I really only have three more points, two more.

I think we need to include language in here, a bullet -- another bullet under that storm cost restoration, a subparagraph that says: A storm damage reserve can address costs associated with

less severe storm damage, some type of paragraph or sentence that talks about storm damage reserve. We don't have that -- we have the storm damage reserve in the bullet point, but I think we need to talk about what that storm damage reserve actually does, and it addresses costs associated with less severe storm damage, I think, would suffice.

CHAIRMAN GRAHAM: So you want to define storm damage reserve?

COMMISSIONER BROWN: Yes, because it talks about the three-part system restoration, and we don't really talk about what the reserve is dedicated towards, and --

MR. BALLINGER: I think it does, the last paragraph 26 onto 27, it talks about the reserve, and if it is depleted, then it can be replenished, but it's not crystal clear.

MR. BAEZ: We can do some work to really clarify the purpose of the reserve, or what role in the process the reserve plays. It may be a couple of sentences.

COMMISSIONER BROWN: Maybe -- that's what I was thinking, something to the affect, just because it is a three-prong process, I think you have to touch on it.

MR. BAEZ: That works.

COMMISSIONER BROWN: Last one, page 36, we talked about this at the beginning.

CHAIRMAN GRAHAM: Wait --

COMMISSIONER FAY: Yeah, I support that, because I think it -- it talks about what happens if it's depleted, but as far as explaining the process of it.

COMMISSIONER BROWN: The process.

COMMISSIONER FAY: Yeah, I agree as well.

COMMISSIONER BROWN: All right. Last one. You see, I'm trying to move swiftly.

Page 36 -- because we have got -- Commissioner Polmann has comments, too. After the Table 6-6, his sentence that says: Despite the widespread impact of Hurricane Irma on the state and the number of customers that were affected, the number of comments the Commission received was nominal.

I hate that language. I think it sounds dismissive of the comments that we actually received because we read all the comments that this commission --

MR. BAEZ: That was not the intent, Commissioner, but I am sure we can excise that language.

COMMISSIONER BROWN: Okay. Yeah, but I would just -- that's a great idea. I would get rid of that language regarding nominal.

MR. BALLINGER: So the whole sentence?

MR. BAEZ: Yeah.

COMMISSIONER BROWN: No, not the --

COMMISSIONER FAY: Just reword it.

CHAIRMAN GRAHAM: Just reword it. You could even write that the Commission -- you know, just repeat the Commission received 700 comments -- 701 comments.

MR. BAEZ: We can restate and do that.

COMMISSIONER BROWN: But I would not characterize it as nominal.

MR. BAEZ: No. No. I don't think the sentence works. I agree.

COMMISSIONER BROWN: Okay. And that's all.

CHAIRMAN GRAHAM: Everybody is okay with changing nominal to --

COMMISSIONER BROWN: I am sorry.

CHAIRMAN GRAHAM: You said three.

COMMISSIONER BROWN: I said is it was yours, though. This one doesn't count. You told me I had to wait.

CHAIRMAN GRAHAM: I understand. Go back to

findings.

COMMISSIONER BROWN: Sorry. This one doesn't count.

Under key findings, my trusty advisor wanted to make sure that I said this because I felt it was born to remind me.

Under the key findings, on page two, I mentioned it, hardened overhead distribution, it says, had substantially lower failure rates than non-hardened. I think we need to reword that and say performed better. I think substantially lower failure rates may not be an accurate way to characterize it. I think we know that they performed better. We have that data.

Everyone is a agreeing.

COMMISSIONER FAY: That was the one you originally raised, right, before? Yeah, okay.

CHAIRMAN GRAHAM: Is everybody all right with that?

Commissioner Clark?

COMMISSIONER CLARK: I can live with it.

COMMISSIONER BROWN: Thank you.

CHAIRMAN GRAHAM: Okay. Now your four points are done.

COMMISSIONER BROWN: Yes.

CHAIRMAN GRAHAM: Okay. All right, Commissioner Polmann.

COMMISSIONER POLMANN: Thank you, Mr. Chairman.

CHAIRMAN GRAHAM: Do you guys have the Polmann edits?

COMMISSIONER POLMANN: Let me follow on first from Commissioner Brown's. She was looking on page two and three. And thank you, Commissioner Brown, for your efforts in -- significantly the effort here for last year when we started this.

And what we've gone through just for the public really to understand, this is -- it looks like the conclusion of trying this amount of effort, and it has been, the data collection and analysis, and the review, and a significant report. We have findings, conclusions, recommendations and everything, but this is not the end. In fact, it's the beginning, and we talk about that here.

Looking at these pages, we have a lot of things just beginning. We are talking about additional reporting, and a significant part of this is the management audits. In fact, twice on page 33, the first time I read it, it looks like we have got redundancy, but, in fact, they are

different.

The outage restoration and transmission, reviewing that, and reviewing the scheduling for transmission structures, do you -- and that's a question here.

The second bullet on page three, I would he like some clarification. Inspect and schedule maintenance on transmission structures. And I mention this because in one of my edits, or questions, we make the distinction between transmission and distribution.

What is it that was your intention on page three, that second bullet from the top? Does transmission mean transmission, or is it all transmission?

MR. BALLINGER: Yes, it is transmission, and it is the fact that we had steel towers -- or a steel tower that collapsed during the storm due to, looked like it appeared to be wind only.

COMMISSIONER POLMANN: Okay.

MR. BALLINGER: That was on an annual inspection. We are wanting to make sure that those inspections done right, maintenance is scheduled correctly and reported to us correctly.

COMMISSIONER POLMANN: Okay.

MR. BALLINGER: And we saw that for all utilities, because transmission is such a critical part of the infrastructure.

COMMISSIONER POLMANN: Okay. So we want to understand exactly what it is that they are doing --

MR. BALLINGER: Yes.

COMMISSIONER POLMANN: -- because that is -- that was an unusual failure?

MR. BALLINGER: Yes.

COMMISSIONER POLMANN: Okay. Well, thank you.

Okay. Well, there have been quite a few other comments throughout here that everybody has addressed, so I won't belabor the other -- the body of the document, just a tremendous effort that staff has gone through.

Specifically on my handout, the second bullet, that's addressed, the Chairman took care of that. The Chairman moved the third and fourth bullet. I don't have any issue with whether to move to -- in my reading on those, this is somewhat of an editorial rewriting, but my suggestion is to kind of turn it around the other way. And what I am trying to bring out in my rewording is that the cause of the power outage is in the third bullet

from the top of the page. The cause comes from outside of the right-of-way, and -- in the third bullet; because you go to the fourth bullet, and the problem is that the utility can't fix the problem that's outside the right-of-way, where they have --

COMMISSIONER BROWN: I will support it.

COMMISSIONER POLMANN: -- their facilities, the two of them linked together --

COMMISSIONER BROWN: Move to support it the, reword.

COMMISSIONER POLMANN: -- is the issue.

CHAIRMAN GRAHAM: Well, I guess the first question I have is, it says the primary cause of power outages came from outside the utility right-of-way. How do we know that? I mean, we had a lot of failure outside the right-of-way, but we also had a lot of failure within the right-of-way.

COMMISSIONER POLMANN: Of course. I am just -- I am taking from the original writing that that's what the staff meant to say. If you look at the original words --

COMMISSIONER BROWN: Section 4.

COMMISSIONER POLMANN: -- that fallen trees, vegetation and other debris outside the

right-of-way were the primary causes of power outages.

COMMISSIONER CLARK: Is it was substantiated in the report.

COMMISSIONER BROWN: It's in Section 4, it's throughout it. He just reworded it.

MR. GOLDFARB: So I am saying, primary causes of outages came from outside the right-of-way. And the problem is, in the next bullet, the utility can't fix that. And we talked about that a lot at the last meeting. And, in fact, it goes to -- Commissioner Clark said, go downtown and tell them to tell their cities and counties to fix the local ordinances and --

COMMISSIONER CLARK: And eliminate some outages.

CHAIRMAN GRAHAM: All right. I see three heads nodding, so it looks fine.

COMMISSIONER POLMANN: Okay.

MR. BALLINGER: So if I understand then, we are going to take Commissioner Polmann's, those two bullets with the red and replace the two grand bullets that were moved.

CHAIRMAN GRAHAM: Move them down to the same spot.

MR. BALLINGER: Put them in the same spot.
COMMISSIONER POLMANN: Yeah.
MR. BALLINGER: I got it.
COMMISSIONER POLMANN: Okay. And then the next one down -- and this is a question for staff, to make sure I understood it, that -- and I don't mean to say this unless, in fact, you agree that it's true. The few transmission structure failures is, in fact, a true statement, but it -- is it? Do you want to say by comparison to the distribution system or is that not necessary?
MR. BALLINGER: I think it's unnecessary or inaccurate. You are always going to have fewer. You have fewer transmission structures than distribution, so it's compared within its own class, the transmission within a group, there were very few when you look at the population of transmission. Yeah, I don't -- it doesn't need to be --
COMMISSIONER POLMANN: It's not necessary?
MR. BALLINGER: No.
COMMISSIONER POLMANN: Just delete, okay, I am fine.
That's all I had, Mr. Chairman. Thank you.
CHAIRMAN GRAHAM: That's unbelievable. I

thought we were going to be here for two hours.

COMMISSIONER BROWN: Oh, my gosh.

COMMISSIONER POLMANN: No, I mean one --

CHAIRMAN GRAHAM: We are not done yet.

MR. BALLINGER: Two minor typos on pages 38 and 39 that I came across. I am sorry.

CHAIRMAN GRAHAM: No, you are fine.

COMMISSIONER BROWN: I missed something.

MR. BALLINGER: And this is just to be consistent with the executive summary and all of that.

COMMISSIONER POLMANN: Tom, excuse me. I had other editorial things, like, you don't need to come here. I gave those to Braulio. I just wanted to be clear, I don't want to disappoint you.

CHAIRMAN GRAHAM: No. No. No. You are disappointing me by any means.

COMMISSIONER BROWN: I don't think that's --

COMMISSIONER POLMANN: If you want to go page by page --

CHAIRMAN GRAHAM: No. This is euphoria.

COMMISSIONER BROWN: Oh, God.

MR. BALLINGER: On page 38, the second action item, that should be non-electric utility poles instead of nonutility poles. It's just a minor one

there. Do you see that?

COMMISSIONER BROWN: Yes.

CHAIRMAN GRAHAM: Yes.

MR. BALLINGER: Okay. On page 39, the third action item, the Commission staff should collect information on how each utility. It should be each IOU prepares for, because that is only on the hardening plants, not the munies and co-ops. That's it.

CHAIRMAN GRAHAM: Hold on a second. You are good with that?

COMMISSIONER CLARK: Oh, yeah.

CHAIRMAN GRAHAM: Oh, good. I thought he was going to comment.

MR. BALLINGER: Thank you.

CHAIRMAN GRAHAM: All right. Braulio, anything?

MR. BAEZ: Well, at the risk of keeping us here longer, I just -- I want to join in thanking not just the staff who worked incalculable hours on this, but to thank the commissioners -- you, the commissioners, and your staffs for all of the input. You know, you -- from where I sit over here, nothing brings -- and I am being modeled, and I know, because I get like that, but nothing brings

a tear of joy to my eye more than the engagement that you all have always showed, but especially on this. And I want to thank you all for your guidance and your help, and your edits, as well.

So there was a lot of hand in this. And I think Commissioner Clark alluded to it, but the stew wasn't spoiled. I think we have got a good product here thanks to all of us, and I am out.

CHAIRMAN GRAHAM: I think -- and the people I think that did the Youmans work on this, along with staff, are our aids, because I know they have spent a lot of time --

COMMISSIONER BROWN: Especially yours.

CHAIRMAN GRAHAM: -- a lot of time sifting through all this stuff, and it becomes -- it becomes tenuous sometimes; and sometimes, you know, tempers push, and attitudes come out, but I think at the end of the day, the sausage is made.

COMMISSIONER POLMANN: I don't know what you are talking about.

CHAIRMAN GRAHAM: And I want to -- I want to thank Commissioner Brown. She's the one that started us down this path. And I will say, it was probably August of last year -- no, May of last year that, you know, we said that we need to have a

workshop, and we need to put all of this together, and so this -- this was your baby, and I want to thank you very much for that.

And, staff, we mentioned -- and I meant to say this earlier and it slipped my mind, when we talked about the pilot programs. If we can bring that information back to an IA sometime in the future just to kind of talk about --

MR. BAEZ: We are already scheduled for September, actually -- August. I apologize. For the August IA.

CHAIRMAN GRAHAM: I like how you anticipate.

MR. BAEZ: Well, we get a lot of help.

CHAIRMAN GRAHAM: All right. Once again, I think this is great, and I appreciate this. I think we need a motion to approve this so we can give staff editorial authority to make the changes that Don has as far as dotting the I's and crossing the T's, and then I guess my office will sign off on the letter and send it out.

MR. FUTRELL: And, Chairman, also to close the docket and to distribute the final report to legislative and executive stakeholders.

CHAIRMAN GRAHAM: I think Commissioner Brown just made all of that in her motion.

COMMISSIONER CLARK: Her baby.

COMMISSIONER FAY: Her motion, yeah.

COMMISSIONER BROWN: Literally verbatim.

CHAIRMAN GRAHAM: And Commissioner Clark seconded it.

Okay. All in favor say aye.

(Chorus of ayes.)

CHAIRMAN GRAHAM: Any opposed.

(No response.)

CHAIRMAN GRAHAM: Fantastic.

Okay. General Counsel report.

MR. HETRICK: I am good, Mr. Chairman.

CHAIRMAN GRAHAM: Executive Director's report.

MR. BAEZ: We've done all we can here today.

CHAIRMAN GRAHAM: Other matters?

I know that two of our Commissioners are going for interviews on Monday.

COMMISSIONER BROWN: Tuesday.

COMMISSIONER CLARK: Tuesday.

CHAIRMAN GRAHAM: I wish you guys well.

COMMISSIONER CLARK: Thank you.

CHAIRMAN GRAHAM: I know we are going to be off at a conference. You are going to the conference?

COMMISSIONER FAY: I am.

CHAIRMAN GRAHAM: You are going to the conference. So the rest of it will be off at a conference. We will be thinking about you.

COMMISSIONER BROWN: We will be thinking about you.

CHAIRMAN GRAHAM: And if anything happens while we are gone, you guys are in charge.

COMMISSIONER CLARK: You got it.

CHAIRMAN GRAHAM: That all being said, for the good of order, we are adjourned.

Thank you very much, travel safe.

COMMISSIONER BROWN: Thank you.

(Whereupon, the proceedings concluded at 12:51 p.m.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, DEBRA KRICK, Court Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED this 19th day of July, 2018.

DEBRA R. KRICK
NOTARY PUBLIC
COMMISSION #GG015952
EXPIRES JULY 27, 2020