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Brent Beal
Government Affairs Director

December 27, 2021

VIA ELECTRONIC and FIRST CLASS MAIL

Chairman, Tennessee Public Utility Commission
c/o Tory Lawless, Dockets and Records Manager
Tennessee Public Utility Commission
502 Deaderick Street, 4th Floor
Nashville, TN 37243

Re: Additional Requested Information for Application for Certificate to Provide
Competing Local Telecommunications Services
Docket No. 21-00113

Dear Ms. Lawless:

Enclosed is a copy of our most recent annual report and the bond form as requested. Please contact me if you have any questions.

Sincerely yours,

/s/ Brent Beal

Brent Beal



Furthering Human Progress Through Technology

**2020 Annual Report
2021 Proxy Statement**

**IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR
THE ANNUAL MEETING OF SHAREHOLDERS TO BE HELD ON MAY 19, 2021**

This proxy statement and related materials are available at www.proxyvote.com.

Dear fellow shareholders:

We made significant progress in 2020 to position the company for the future. The launch of Lumen Technologies and the Lumen Platform is an inflection point in our ongoing transformation. We invested in the business both to meet growing customer demand and to improve the customer experience. Under our three-year transformation plan, we continued to drive efficiencies throughout the business, and achieved our transformation savings goals a full year ahead of schedule. These investments paid off as we saw improvement in our revenue trajectory and Net Promoter scores, a measure of our customer experience. We also continued to execute our capital allocation strategy, further strengthening the balance sheet, reducing interest costs and investing in the business.

Responding to Covid-19

The events of 2020 affected every corner of the world, including our customers, our communities and our employees. Throughout the year, we recognized the importance of our services through what we do best: providing scalable, flexible connectivity to further human progress through technology.

We met customers' urgent needs for a new way to connect securely to their employees. We met frontline workers' needs by connecting emergency hospitals and pop-up medical locations around the world. We evolved our customer support models to achieve more contactless installations than ever before and enabled the growing demand for bandwidth. Finally, we supported our own employees by quickly moving to a largely work-from-home environment and standing up key protocols to ensure the safety of our work-from-work employees, with policies and procedures that remain in place today.

These events highlighted the power, flexibility and scalability of our fiber-based offerings and the responsiveness of our employees to operate in very dynamic environments. The pandemic also brought a heightened focus on digital transformation with our customers that show no signs of slowing down. Our strategy, platform and solutions are fully aligned to these needs, and we see significant opportunity to help our customers digitally transform their businesses as they continue to adapt and operate in new work and technology environments.



Jeff Storey
President and CEO

“Throughout the year, we recognized the importance of our services through what we do best: providing scalable, flexible connectivity to further human progress through technology.”

A Pivotal Year: Lumen and Transformation of the Company

Lumen signals a new era for our company with a focus on delivering digital experiences to our customers that are designed to drive their success. Although we've been in a rapidly changing industry for decades, with the advent of the 4th Industrial Revolution, the pace of change is accelerating, and I believe Lumen is uniquely positioned to enable and benefit from this rapid change. The Lumen Platform – grounded on our broad, fiber-based infrastructure and delivering virtualized network, edge cloud, security, and voice and collaboration services continues to provide essential services to customers, as they augment their capabilities to support emerging technologies. Our Lumen Platform provides:

- Edge Cloud facilities hosting critical applications within 5 milliseconds of digital interactions, enabling IoT and other next-generation use cases for all industries;
- Software-defined networks that create new connections around the world in seconds;
- Network-based threat intelligence designed to protect our customers' data and proactively stop malicious actors; and
- Massive network infrastructure with local and long-haul fiber and deeply interconnected IP networks that connect to private data centers, public data centers, cloud service providers, 5G operators and the array of global networks serving end-users.

With the launch of Lumen, we have also enhanced our go-to-market approach for our small business and residential customers. While Lumen is the name of our company and our flagship brand for serving the enterprise and wholesale markets, we also launched Quantum Fiber. We are investing in Quantum Fiber to deliver fiber-based services to small business and consumer customers, delivered through our simplified, highly digital customer experience.

Driving Growth through the Lumen Platform

We are very optimistic about the opportunity to serve our customers with the Lumen Platform and in turn, continue to improve our revenue growth performance. With solutions like Lumen Edge Bare Metal, Lumen Edge Private Cloud, and Lumen Network Storage, we are driving the next generation of our product and services portfolio.

As of the end of March 2021, we have enabled coverage of more than 85% of U.S. enterprises within 5 milliseconds of our edge infrastructure, with Lumen's Edge Computing Solutions ready to deliver compute and storage services, and we plan to cover more than 95% of enterprises by the end of the year. These investments set us up to deliver the fastest, most-secure platform for next-gen business applications and data. Our approach enables the delivery of a continually-improving platform that will help us improve our customer experience and take advantage of the growing addressable markets for these services to grow revenue.

The reception of our platform strategy by our partners has been amazing. Some of the world's largest technology companies see a natural synergy between the amazing breadth and capability of our platform with their strengths in the hyperscaler and application delivery segments. We have launched significant solutions alongside companies like Zoom, VMware, T-Mobile, SAP and IBM, just to name a few. I am excited about the prospect of these partnerships growing in 2021 to deliver a range of new edge cloud, unified communications & collaboration and security solutions.

ESG and Corporate Governance Initiatives

Lumen has long believed that fostering a diverse and inclusive environment is more than the right thing to do; it is good business. We embrace the rich mix of cultures, viewpoints and backgrounds that come from our diverse global workforce, and we draw from their experiences in all areas of the business – from company culture to customers to the communities we serve.

Our commitment to these ideals was reinforced in 2020 as a result of heightened focus on social justice issues. Over the last year, we expanded our commitment to diversity, inclusion and belonging (DIB), and more broadly, to ESG initiatives. Earlier this year, we launched our first sustainability-linked bond, confirming our longstanding commitment to environmental initiatives. We added a number of key DIB programs, named a Chief Diversity Officer and expanded the accountability and engagement of Lumen's leadership team. While we have a diverse workforce and an inclusive culture, we know we can do better!

Building on the major governance changes implemented in 2019, the Board continued its focus on governance policies and Board composition to ensure we are aligned with the interests of all shareholders. Earlier this year, we added Quincy Allen to our Board of Directors. Quincy brings a wealth of technology and digital transformation experience to the Board and we look forward to his perspectives and guidance as we continue our own transformation.

“We embrace the rich mix of cultures, viewpoints and backgrounds that come from our diverse global workforce, and we draw from their experiences in all areas of the business – from company culture to customers to the communities we serve.”

As you will see in the accompanying proxy statement, Virginia Boulet has elected not to stand for reelection to the Board. Virginia is one of our longest-tenured directors and was among our first female directors. During her 26 years of service to the Board, Virginia stood at the vanguard of our efforts to build a more inclusive organization and a dynamic company. Please join me in thanking Virginia for her longstanding service to our company and the Board of Directors.

Effective with the annual meeting, our average Board tenure will now be 7.6 years, well below our target maximum of 10 years and down from 9 years in 2019 and 12 years in 2018. We are proposing an 11-director slate, within our objective for 10 to 12 directors. We remain committed to our other targets and expectations related to key Board composition and governance policies, including:

- Rotating Board chairs and assignments every five years;
- With the exception of the CEO, having all Board members be independent, which is the case with the director nominees up for election this year; and
- Continually enhancing critical skills for our Board, through both Board refreshment and targeted education programs for current directors.

The Board believes that year-round engagement with our shareholders is a critical component in our efforts to continually enhance our governance practices. We appreciate and value your ongoing feedback.

Annual Meeting

This year, our annual meeting will be held entirely online, on Wednesday, May 19 at noon CT. Details on how to register to participate can be found in the accompanying proxy statement. As always, we encourage you to vote your shares prior to the annual meeting.

In closing, on behalf of the entire Board of Directors, thank you for your investment in and support of Lumen. We are glad to have you along with us on this journey.

Regards,

Jeff Storey

A handwritten signature in black ink, appearing to read "Jeff Storey", written in a cursive style.

President and Chief Executive Officer
Lumen Technologies

Notice of 2021 annual shareholders meeting

Proxy statement notice

2021 Annual Meeting Information



Date and Time

Wednesday
May 19, 2021
12:00 noon CT



Record Date

You can vote if you were a shareholder of record at the close of business on March 25, 2021.



Location

virtualshareholdermeeting.com/
LUMN2021



Proxy Mail Date

April 7, 2021

Proxy voting

Shareholders are invited to attend the live virtual meeting. Even if you expect to attend, we urge you to vote in advance using any of the following methods:

YOUR VOTE IS IMPORTANT TO US. WE URGE YOUR PARTICIPATION.

By Internet

visit proxyvote.com

By phone

1-800-690-6903

By mail

mark, sign, date &
return proxy card

Live virtual meeting

vote electronically at
the virtual
annual meeting

Items of business

Item		Board vote recommendation	Page reference
1	Elect the 11 Director nominees named in this proxy statement	☒ FOR	4
2	Ratify the appointment of KPMG LLP as our independent auditor for 2021	☒ FOR	27
3	Ratify the amendment to our Amended and Restated NOL Rights Plan described in this proxy statement	☒ FOR	29
4	Conduct a non-binding advisory vote to approve our executive compensation	☒ FOR	34
5	Transact other business that may properly come before the annual meeting		

Headquarters: 100 CenturyLink Drive, Monroe, LA 71203

Meeting Details: See "Frequently Asked Questions" in this proxy statement for further details.

Our 2021 Proxy Statement and Annual Report to Shareholders are available on our website at ir.lumen.com.

Stacey W. Goff, Secretary
April 7, 2021

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Forward-looking statements

Except for historical and factual information contained herein, matters set forth in our 2021 proxy materials identified by words such as “expects,” “believes,” “will” and similar expressions are forward-looking statements as defined by the federal securities laws and are subject to the “safe harbor” protection thereunder. These forward-looking statements are not guarantees of future results and are based on current expectations only and are subject to uncertainties. Actual events and results may differ materially from those anticipated by us in those statements due to several factors, including those disclosed in our other filings with the SEC. We may change our intentions or plans discussed in our forward-looking statements without notice at any time and for any reason.

Certain defined terms

All references in this proxy statement or related materials to “we,” “us,” “our,” the “Company” or “Lumen” refer to Lumen Technologies, Inc. In addition, each reference to (i) the “Board” refers to our Board of Directors, (ii) “Voting Shares” refers collectively to our shares of Common Stock (“Common Shares”) and shares of Series L Preferred Stock (“Preferred Shares”), (iii) “Meeting,” “the meeting” “annual shareholders meeting” or “annual meeting” refers to the 2021 annual meeting of our shareholders described further herein, (iv) “named executives,” “named officers,” “named executive officers” or “NEOs” refers to the five current officers listed in the Summary Compensation Table in this proxy statement, (v) “HRCC” refers to the Human Resources and Compensation Committee of our Board, (vi) “NCG Committee” refers to the Nominating and Corporate Governance Committee of our Board, (vii) “SLT,” “senior leadership team” or “senior officers” refers to our executive officers and a limited number of additional officers whose compensation is determined by the HRCC, (viii) “Qwest” refers to Qwest Communications International Inc., which we acquired on April 1, 2011, (ix) “Level 3” refers to Level 3 Parent, LLC and its predecessor, Level 3 Communications, Inc., (x) “Level 3 Combination” refers to our business combination with Level 3, which was consummated on November 1, 2017, (xi) “SEC” refers to the U.S. Securities and Exchange Commission, (xii) “ESG” refers to environmental, social and governance, (xiii) “GAAP” refers to U.S. generally accepted accounting principles, (xiv) “NYSE” refers to the New York Stock Exchange, (xv) “TSR” refers to total shareholder return; (xvi) “LTI” refers to long-term incentive compensation; (xvii) “STI” refers to short-term incentive compensation, (xviii) “CD&A” refers to the “Compensation, Discussion and Analysis” section of this proxy statement, (xix) “SOP” refers to Say on Pay, (xx) “NOL” refers to net operating losses and (xxi) “4IR” refers the 4th Industrial Revolution. Unless otherwise provided, all information is presented as of the date of this proxy statement.

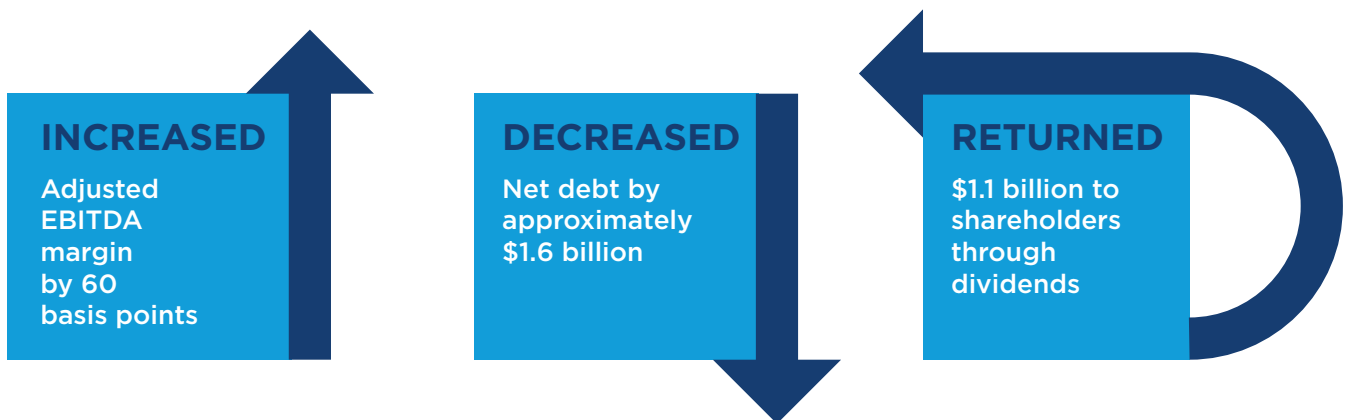
Lumen at a glance

Key 2020 financial highlights

During 2020, we delivered solid results, despite a global pandemic. Specifically, we:

- Improved our total revenue trajectory by 150 basis points, comparing our 2020 year-over-year rate of change to the 2019 rate of change
- Delivered solid profitability and strong cash flow:
 - Expanded our Adjusted EBITDA margin to 42.9%, compared to 42.3% for 2019
 - Adjusted EBITDA was \$8.888 billion for 2020, compared to \$9.070 billion for 2019
 - Reported Free Cash Flow of \$3.131 billion for 2020, compared to \$3.276 billion for 2019
 - Achieved approximately \$830 million of annualized run rate Adjusted EBITDA cost transformation savings as of 4Q20, reaching our targeted savings range more than a year ahead of schedule
- Reduced Net Debt by approximately \$1.6 billion in 2020 and reduced leverage to 3.6x Net Debt to Adjusted EBITDA in 4Q20 from 3.7x in 4Q19
- Refinanced approximately \$13 billion in long-term debt (pro forma for first quarter 2021 activity), further reducing interest expense, extending maturities and strengthening our balance sheet
- All of the above listed financial measures exclude integration and transformation costs and special items.

For information on how our non-GAAP metrics used above reconcile to GAAP measures, see Appendix A. For more complete information on Lumen and our recent performance, see the remainder of this proxy statement, including Appendix B.



Who we are

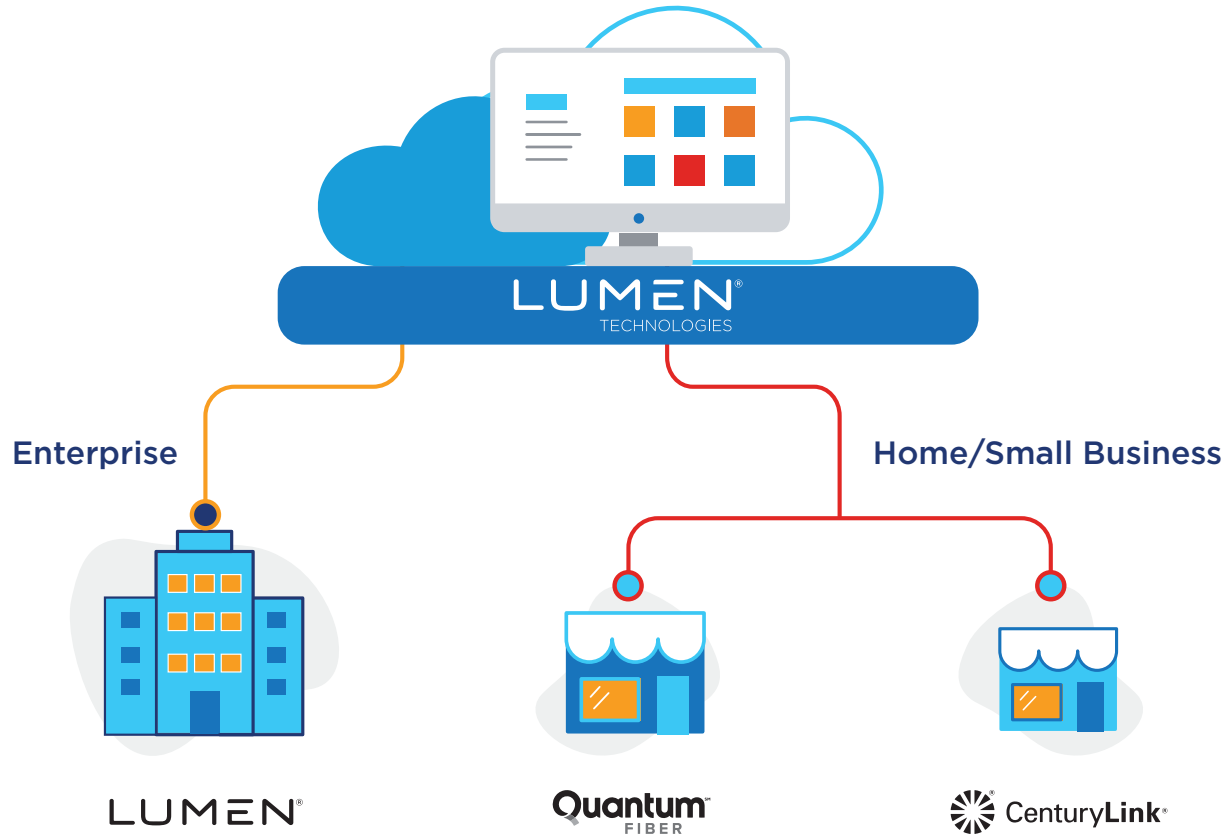
We are an international facilities-based technology and communications company focused on providing our business and residential customers with a broad array of integrated services and solutions necessary to fully participate in our rapidly evolving digital world, which we believe is undergoing the 4th Industrial Revolution (4IR). We believe we are the world's most interconnected network and our platform empowers our customers to rapidly adjust digital programs to meet immediate demands, create efficiencies, accelerate market access and reduce costs – enabling customers to rapidly evolve their information, communications and technology programs to address dynamic changes without distraction from their core competencies. By empowering our customers to rapidly acquire, analyze and act on data, we are furthering human progress through technology and enabling our customers to thrive.

Lumen at a Glance

Who We Are:

In 2020, we launched the Lumen Platform and rebranded from CenturyLink to Lumen Technologies to better position us for the future. The Lumen brand speaks to the way that we interface differently with our customers with a focus on delivering digital experiences that are designed to drive their success as they navigate the 4IR.

As part of the Lumen launch, we refined our marketing approach to better align with our customer base. Lumen is the name of our Company and our flagship brand for serving the enterprise and wholesale markets. We also launched our Quantum Fiber brand and reconfirmed the importance of our expansive CenturyLink platform name. Quantum Fiber is our brand for providing fiber-based services to small business and residential customers. Our CenturyLink brand covers our mass market legacy copper-based services, managed for optimal cost and efficiency.



With approximately 450,000 route miles of fiber optic cable globally, we are among the largest providers of communications services to domestic and global enterprise customers. Our terrestrial and subsea fiber optic long-haul network throughout North America, Europe, Latin America and Asia Pacific connects to the metropolitan fiber networks we operate. We provide services in over 60 countries, with most of our revenue being derived in the United States. We believe our secure global platform plays a central role in facilitating communications worldwide.

COVID-19 response

As a technology and communications company, our COVID-19 response, transition and stakeholder support efforts affected not only our employees and our company but affected how our customers around the world were able to work, learn and live while learning to be “socially distant.” Below is a highlight of Lumen’s COVID-19 responses and considerations.



Employee Welfare

- By end of March 2020, 75% of our workforce was working from home, with 25% “work-from-work”
- Strict social distancing practices and substantially restricted non-essential business travel
- Provided additional 80 hours PTO for COVID-19 issues – extending as needed
- US employee short-term disability program expanded; developed protections for non-US employees



Customer Connectivity

- Safety protocols developed to protect customers and technicians – minimum, if any, contact
- Supported work from home transitions for customers across our businesses
- Our redundant communications capabilities utilized diverse networks and routes to minimize service disruptions
- Automated notification supported rapid solutions for disruptive events
- Delivered key sales and customer support resources



Engaged Leadership

- Regularly issued company-wide communications from internal team leaders, management and executives – sharing information about the Company’s COVID-19 efforts and vaccine availability information
- Business continuity planning (“BCP”) anticipated pandemic risk, enabled rapid response
- Evolved BCP program – ensuring our platform continues to provide secure, reliable communication
- Board updated shareholders during spring and fall engagement
- Form 8-K and COVID-19 website to keep investors informed



Community Care

- As part of the FCC’s Keep America Connected Pledge, we suspended data usage limits for consumer or small business customers and provided relief from late fees and disconnection for those experiencing COVID-19 hardships
- Actively engaged with state, local and national governments around the globe to ensure networking, connectivity and security capabilities needed to respond to the pandemic effectively
- Established a global COVID-19 Relief Campaign focused on supporting frontline healthcare workers and first responders, providing basic necessities to vulnerable populations and supporting small businesses
- Donated high-speed connectivity to emergency field hospitals across the U.S.

Item One – Election of Directors

Lumen’s mission is to further human progress through the power of technology. We believe that strong corporate governance is key to achieving our mission.

We seek to strengthen our governance practices through the way we evaluate, select and refresh the members of our Board of Directors.

Following the NCG Committee’s recommendation, the Board of Directors has nominated the 11 nominees below for a one-year term expiring at our 2022 annual meeting of shareholders, or until his or her successor is duly elected and qualified. Other than Mr. Quincy L. Allen, all of the nominees were elected to the Board at the 2020 annual meeting.

To be elected, each of the 11 nominees must receive an affirmative vote of a majority of the votes cast in the director’s election. Any director failing to receive a majority of votes cast must promptly tender his or her resignation, which will be addressed by us in the manner described in our Bylaws.

Director Nominees:

Quincy L. Allen
Martha Helena Bejar
Peter C. Brown
Kevin P. Chilton
Steven T. “Terry” Clontz
T. Michael Glenn
W. Bruce Hanks
Hal Stanley Jones
Michael Roberts
Laurie Siegel
Jeffrey K. Storey



**THE BOARD UNANIMOUSLY RECOMMENDS A VOTE FOR
EACH OF THE ABOVE NAMED NOMINEES FOR DIRECTOR.**

Board of Directors and Governance

Board composition – qualifications, skills and diversity

Our Board collectively possesses a wide array of skills, experiences and perspectives that we believe strengthen its ability to fulfill its oversight roles in creating and maintaining long-term sustainable shareholder value.

Each year, the Board reviews the skills necessary to effectively discharge its oversight responsibilities on behalf of Lumen’s stakeholders. We strive to maintain a well-rounded and diverse Board. Below please find information about our nominees.

Skills

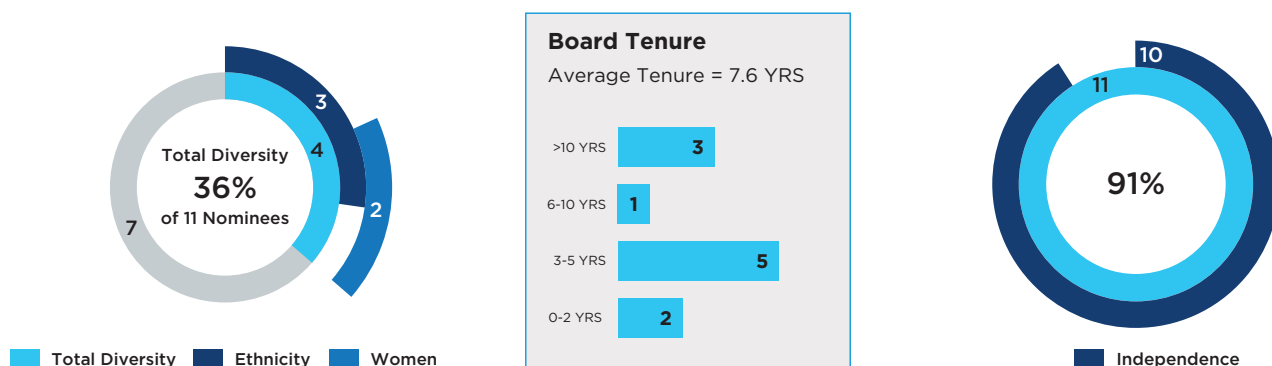
Lumen’s NCG Committee uses a skills matrix as part of the Board’s annual evaluation, succession planning and director nomination process. The goal is to ensure our director nominees collectively possess the relevant skills and backgrounds for effective governance and meaningful strategy oversight that enhances financial performance and builds stakeholder value. The skills listed in this matrix only indicate the most prominent skills that our Board relies upon. This matrix is not a comprehensive reflection of the wide variety of skills that our director nominees possess and routinely contribute to Lumen.

Skill	Allen	Bejar	Brown	Chilton	Clontz	Glenn	Hanks	Jones	Roberts	Siegel	Storey
Customer Experience	●	●	●			●			●		
Digital Transformation	●		●			●		●	●		●
ESG		●								●	
Finance	●	●	●	●		●	●	●			
Global Business Experience	●	●	●		●	●		●	●	●	●
HR Leadership							●		●	●	
Industry Experience		●			●		●				●
M&A Experience/ Legal			●	●	●	●	●	●		●	
Risk Management/ Cybersecurity				●	●		●	●			●
Strategy	●		●	●	●	●	●	●	●	●	●
Technology & Innovation	●	●		●	●						●

Board of Directors and Governance

Board Composition – Qualifications, Skills and Diversity

Board nominee composition



Refreshment

Board and committee refreshment are regularly reviewed by our Nominating and Corporate Governance (NCG) Committee. Our Board periodically receives recommendations from the NCG Committee about possible changes designed to staff the Board and its committees with individuals who have the skills, experiences and perspectives necessary to make meaningful contributions to shaping and implementing Lumen's business strategies.

In 2020 and for our 2021 slate of nominees, the NCG Committee and Board considered a wide range of factors in assessing the composition of the Board, including:

- shareholder input on important elements of Board composition;
- skill sets necessary to oversee the successful development and implementation of our business strategies, including our continued evolution to a digital technology company offering a simpler and improved customer experience;
- balancing fresh, diverse perspectives with institutional and industry knowledge;
- current and long-term needs of the Board; and
- independence and potential conflicts.

Recent Board changes

In 2020, the NCG Committee retained an independent firm to help identify potential candidates with the skills, attributes and experience that matched the current needs of the Board. The search resulted in the appointment of Quincy L. Allen to the Board, effective February 25, 2021.

Earlier this year, one of our longest-tenured directors, Virginia Boulet, advised us that she would not stand for election at the 2021 annual meeting. Ms. Boulet was among our first female directors and for 26 years has stood at the vanguard of our efforts to build a more inclusive and dynamic organization well-equipped to compete for talent and customers.

Effective January 1, 2020, we added Hal Jones to the Board. Mr. Jones was among several director candidates recommended to the Board by Southeastern Asset Management, our fourth largest shareholder at the time of his appointment. In connection with adding Mr. Jones to the Board, we announced the retirement of several directors and various governance changes, which we discussed in our 2020 proxy statement and are summarized elsewhere herein.

Our director nominees

The first item for consideration at the meeting will be the election of the following 11 nominees:

Quincy L. Allen



Director since 2021

Independent

61 years old

Quincy L. Allen has over 35 years of leadership experience in the technology services industry. From 2015 to 2018, he served as IBM Corporation's Go-To-Market Leader of Cognitive Process Services and Chief Marketing Officer for IBM Cloud. From 2012 to 2015, Mr. Allen served as Chief Marketing and Strategy Officer at Unisys Corporation, a global information technology company. From 2009 to 2010, he served as Chief Executive Officer for Vertis Communications, a direct marketing and advertising company. Vertis Communications filed for voluntary bankruptcy under Chapter 11 of the U.S. Bankruptcy Code in November 2010 and emerged from bankruptcy in March 2012. In October 2012, Vertis Communications filed for bankruptcy protection again. Prior to joining Vertis, Mr. Allen held several leadership positions with Xerox Corporation, including President of the Global Services and Strategic Marketing Group and President of Production Systems Group. Mr. Allen currently also serves on the public company boards of Office Depot and ABM Industries, Inc. Mr. Allen is on the board of Launch NY, a not-for-profit supporting startup companies with access to seed capital and business mentoring. He previously served on the boards of NCR Corporation until 2012 and Gateway, Inc. until 2007.

Martha Helena Bejar



Director since 2016

Independent

59 years old

Audit Committee

**Nominating and Corporate
Governance Committee (Chair)**

Martha Helena Bejar is a telecommunications expert with innovative experience as a co-founder of Red Bison Advisory Group, LLC, which provides business advisory services from 2014 to 2019. She served as Chief Executive Officer at Unium, Inc., a Wi-Fi technology provider, from 2016 to 2018; as Chief Executive Officer of Flow Mobile, Inc., a broadband wireless company, from 2012 to 2015; as Chief Executive Officer and Chairperson of Infocrossing, Inc. (a U.S.-based cloud services affiliate of Wipro Limited) from 2011 to 2012; as President of Worldwide Sales and Operations at Wipro's Information Technology Services affiliate from 2009 to 2011; and as Corporate Vice President for the communications sector of Microsoft Corporation from 2007 to 2009. Prior to 2007, Ms. Bejar held diverse executive sales, operations, engineering and R&D positions at Nortel and BellSouth/AT&T. Ms. Bejar currently serves on the public company boards of CommVault Systems; Sportsman's Warehouse Holdings, Inc.; and Quadiant SA (formerly Neopost). In the last five years she served on the public company boards of Mitel Networks Corporation and Polycom, Inc. and her other leadership experience includes serving as a trustee and board member of Rainer Scholars.

Peter C. Brown



Director since 2009

Independent

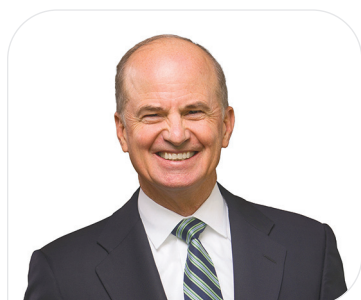
62 years old

Audit Committee

**Nominating and Corporate
Governance Committee**

Peter C. Brown is a business leader with significant, finance, strategy, corporate development, growth and management experience as Chairman and Chief Executive Officer of AMC Entertainment Inc. from 1999 to 2009 and its Chief Financial Officer from 1991 to 1999. Since retiring from AMC, Mr. Brown has served as Chairman of Grassmere Partners, LLC, a private investment firm. In 1997, he founded and was Chairman of the Board of EPR Properties, a NYSE-listed real estate investment trust. He currently serves as a member of EPR's Audit Committee and Chairman of the Finance Committee. Mr. Brown also currently serves on the boards of NASDAQ traded Cinedigm Corporation where he is Chairman of the Nominating and Audit Committees and serves on the Compensation Committee. Past public and private company boards Mr. Brown has served on include CEC Entertainment, Inc.; National CineMedia, Inc.; Midway Games, Inc.; Lab One, Inc.; Protection One, Inc.; CORE Entertainment Holdings; Digital Cinema Implementation Partners and Movietickets.com. He has also served on many non-profit and civic boards.

Kevin P. Chilton



Director since 2017

Independent

66 years old

Audit Committee

**Risk and Security Committee
(Chair)**

Kevin P. Chilton is retired from the U.S. Air Force as a four-star general and contributes considerable cybersecurity, risk management and scientific leadership experience to our Board. During his 34-year military career he also served as Commander, U.S. Strategic Command, from 2007 to 2011, overseeing the U.S. Department of Defense's nuclear, space and cyberspace operations; as Commander, U.S. Air Force, Space Command from 2006 to 2007; as a NASA astronaut from 1987 to 1996, including three space shuttle flights; and as Deputy Program Manager of the International Space Station from 1996 to 1998. He currently serves as President of Chilton & Associates, LLC, a consulting company and on the public company board of AeroJet Rocketdyne. In the last five years he served on the public company boards of Anadarko Petroleum Corp., Level 3 Communications, Inc., Orbital Sciences Corporation and Orbital ATK, Inc. General Chilton serves in leadership roles for several organizations including: The United States Air Force Academy Falcon Foundation; Jewish Institute for the National Security of America; Cobham Advanced Electronic Solutions, Inc.; SEA Adventure Crusade, National Technology and Engineering Solutions of Sandia; and the Los Alamos & Lawrence Livermore National Lab.

Steven T. “Terry” Clontz



Director since 2017

Independent

70 years old

**Human Resources and
Compensation Committee**

Risk and Security Committee

Steven T. “Terry” Clontz is an innovative technology leader with global telecommunications experience developed throughout his career in several executive roles in the telecommunications industry including: Chief Executive Officer of StarHub, Ltd., a Singaporean telecommunications company, from 1999 to 2010; Senior Executive Vice President (International) of Singapore Technologies Telemedia Pte. Ltd. from 2010 to 2017; Chief Executive Officer, President and a Director of IPC Information Systems from December 1995 to December 1998; and various senior executive positions, including President, Asia-Pacific, at BellSouth International, Inc. from 1987 to 1995. Mr. Clontz currently is a corporate advisor to ST Telemedia Pte. Ltd. since January 2018 and Temasek International Advisors Pte. Ltd. since January 2010. He serves on the public company board of StarHub Ltd. and, in the last five years, served on the public company boards of Level 3 Communications, Inc. (2012 to 2017) and InterDigital Wireless, Inc. (1998 to 2015). Mr. Clontz's leadership experience includes various positions with other communications companies, including Cloud9 Technologies LLC; Virgin Mobile Latin America, Inc. and STT GDC Pte. Ltd.

T. Michael Glenn



Director since 2017

Independent

65 years old

Chairman of the Board

**Human Resources and
Compensation Committee**

T. Michael Glenn brings significant market development, customer, communications, strategic development and operational experience to our Board having served in executive leadership roles including Executive Vice President of Market Development and Corporate Communications for FedEx Corp. from 1998 to December 2016. During which he also served as the President and Chief Executive Officer of FedEx Corporate Services and as a member of its five-person Executive Committee responsible for developing and implementing strategic business activities. Prior to 1998 he served as Senior Vice President, Worldwide Marketing, Consumer Service and Corporate Communications for FedEx Express. Mr. Glenn served as a senior advisor to Oak Hill Capital Partners, a private equity firm, from 2017 until 2020. He serves on the public company board of Pentair PLC and previously served on the public company board of Level 3 Communications, Inc. Mr. Glenn's serves in leadership roles for several organizations including: Church Health and Madonna Learning Center.

W. Bruce Hanks



Director since 1992

Independent

66 years old

**Vice Chairman of the Board
Audit Committee (Chair)**

W. Bruce Hanks is a corporate development and planning, finance and public accounting leader with telecommunications expertise. He has held various senior level roles at Lumen from 1980 to 2001, including Chief Operating Officer, Senior Vice President—Corporate Development and Strategy, Chief Financial Officer, Chief Administrative Officer and President—Telecommunication Services. He also served as the Athletic Director of the University of Louisiana at Monroe from 2001 to 2004. He began his career as a Certified Public Accountant with Peat, Marwick & Mitchell. Mr. Hanks currently is a consultant for an investment management and financial planning company based in Monroe, Louisiana and serves in leadership roles for several organizations including board member of the American Football Coaches Foundation and the Edward Via College of Osteopathic Medicine and Advisory Board Member of First Horizon Corporation. Mr. Hanks previously served on the executive boards of several national telecommunications industry associations, private organizations, non-profits and other public companies. He currently serves as Vice Chairman and Audit Chair. He has served on audit, compensation, risk, finance and executive committees during his Board work. He is recognized as a Board Leadership Fellow by the National Association of Corporate Directors. He is a member of the Louisiana State Society of CPAs.

Hal Stanley Jones



Director since 2020

Independent

68 years old

**Risk and Security Committee
Audit Committee**

Hal Stanley Jones brings significant public accounting, financial and controls experience to our Board as the former Chief Financial Officer of Graham Holdings (formerly known as the Washington Post Company) from 2009 to 2013; as Chief Executive Officer and President of Kaplan Professional, a subsidiary of The Washington Post from 2008 to 2009; and through various senior level positions at The Washington Post Company, from 1989 to 2008. Mr. Jones began his career as a Certified Public Accountant at PricewaterhouseCoopers from 1977 to 1988. He currently serves on the public company board of Playa Hotels and Resorts, N.V. since 2013 when it became publicly traded. His other leadership experience includes working with Studio Theatre, a Washington, D.C.-based non-profit theater production company.

Michael Roberts



Michael Roberts has Fortune 500 global executive, marketing and customer service expertise. He has served as the President and Chief Operating Officer of McDonald's Corporation from 2004 to 2006; as the Chief Executive Officer of McDonald's USA during 2004; and, prior to those roles, held various senior level roles at McDonald's USA from 2001 to 2004. Mr. Roberts currently serves as Founder and Chief Executive Officer of Westside Holdings LLC, a marketing and brand development company since 2006 and currently serves on the public company board of W. W. Grainger, Inc.

Director since 2011

Independent

70 years old

**Human Resources and
Compensation Committee**

**Nominating and Corporate
Governance Committee**

Laurie Siegel



Laurie Siegel is a business advisor with expertise in human capital and executive compensation. She has served as Senior Vice President of Human Resources and Internal Communication of Tyco International from 2003 to 2012; held various senior level positions at Honeywell International, Inc. from 1994 to 2002; and in 2012 founded LAS Advisory Services, a business and human resources consultancy. She currently serves as a Senior Advisor to the G100 and as a Chairman of the G100 Talent Consortium. She also serves on the public company board of FactSet Research Systems, Inc. In the last five years she served on the public company boards of California Resources Corporation and Volt Information Sciences, Inc. Ms. Siegel's other leadership experience includes board positions with various non-profit organizations, including Understood; Morristown Festival of Books; and public radio station KCLU.

Director since 2009

Independent

65 years old

**Human Resources and
Compensation Committee
(Chair)**

**Nominating and Corporate
Governance Committee**

Jeffrey K. Storey



Director since 2017

60 years old

Risk and Security Committee

Jeffrey K. Storey is an innovative, transformational telecommunications and cybersecurity leader serving as the President and Chief Executive Officer of Lumen since 2018. He served as the Chief Operating Officer of Lumen in 2017 and 2018 and as the President and Chief Executive Officer of Level 3 Communications, Inc. from 2013 to 2017. He also held the positions of President and Chief Operating Officer of Level 3 Communications, Inc. from 2008 to 2013, President of Leucadia Telecommunications Group (Leucadia National Corporation) from 2006 to 2008, Chief Executive Officer and President of WiTel Communications Group Inc. from 2002 to 2005 and in various other senior level positions with WiTel or its affiliates from 1999 to 2002. He held the title of Vice President of Commercial Services of Cox Communications from 1998 to 1999 and also served as a Vice President and General Manager of Cox Fibernet from 1994 to 1998. Mr. Storey began his career in telecommunications in 1983 with Southwestern Bell Telephone where he held various engineering and operations positions. In the last five years he served on the public company board of Level 3 Communications, Inc. He has been a member of the National Security Telecommunications Advisory Committee since 2016.

How our Board is evaluated and selected

Evaluations

A thoughtful performance evaluation process is an essential component of Board effectiveness. Our NCG Committee leads an annual evaluation of our Board, its members and committees and the Board determines if it has the skills, processes, structure and policies necessary to attain its goals and fulfill its responsibilities. While this formal evaluation is conducted on an annual basis, directors share their perspectives, feedback and suggestions periodically throughout the year. The NCG Committee uses this ongoing and annual feedback when considering Board composition, other governance enhancements and whether to nominate a director for re-election to the Board. The NCG Committee periodically engages nationally recognized firms to assist it with the design and implementation of its director evaluation processes.

Nomination

In considering director nominees, the NCG Committee reviews candidates suggested by Board and committee members, shareholders who comply with our Bylaws and senior management. From time to time, the NCG Committee may engage a third-party search firm to assist in identifying and evaluating qualified candidates.

The NCG Committee assesses each director candidate based on his or her skills, judgment, character, independence, diversity and experience in the context of the needs of the Board. Potential conflicts and overboarding are also evaluated. When evaluating candidates for nomination as new directors, the NCG Committee considers (and asks any search firm that it engages to provide) a pool of candidates that includes women and individuals from diverse backgrounds, in accordance with the “Rooney Rule” the Board adopted in 2019. Our Corporate Governance Guidelines also establish a target average director tenure of no more than ten years, set a goal of all Board members (except our CEO) being independent and express the Board’s general sense that no director should be age 75 or older prior to the next annual shareholders meeting. The NCG Committee may, but has not formally chosen to, establish additional qualifications. The NCG Committee and the Board also evaluate on a periodic basis the effectiveness of its nominating processes and procedures.

Between 2018 and 2020, we nominated Mr. Clontz to serve as a director in accordance with directives we received from affiliates of STT Crossing Ltd. (“STT”) pursuant to a Shareholders Rights Agreement that we entered into on October 31, 2016, with STT in connection with the Level 3 Combination. Although the nomination rights of STT and its affiliates under this agreement lapsed in May 2020, the Board has re-nominated Mr. Clontz to stand for election at the meeting.

Education and orientation

We encourage our directors to participate in continuing education programs focused on our business and industry, their committee roles and responsibilities and the legal and ethical responsibilities of directors. We reimburse our directors for the costs of these programs. We also provide continuing director education during Board and committee meetings and other Board discussions as part of the formal meetings. From time to time, these include presentations from third parties.

Additionally, we encourage our directors to participate in nationally recognized governance organizations, including the National Association of Corporate Directors (“NACD”) and G100.

New directors participate in an orientation program which familiarizes them with the Company’s business, operations, strategies and corporate governance practices and assists them in developing Company and industry knowledge to optimize their service on the Board. New directors also attend meetings with members of our management team to expedite their ability to effectively and fully discharge their responsibilities.

Independence

All directors other than our CEO are independent and the Board regularly meets in executive session with only the independent directors. Each year and prior to nominating a new director, the Board evaluates and affirmatively determines each director nominee’s independence using standards required by the SEC, NYSE and our Corporate Governance Guidelines. Annually, each director nominee completes a detailed questionnaire that solicits information about relationships that could have an impact on independence. Our management delivers reports on those relationships to the NCG and Audit Committees. Both the NCG and Audit Committees evaluate the reports from management and consider any other factors which could influence a nominee’s independence. During this review, the NCG and Audit Committees consider transactions and relationships between the Company, its subsidiaries or affiliates and any directors, executive officers, their immediate family members or an entity in which any of the foregoing have a significant interest. Both the NCG and Audit Committee chairs make reports on these independence evaluations to the Board. In early 2021, the Board reviewed all relationships between the Company and each director and affirmatively determined that all of our director nominees are independent other than Mr. Storey. Mr. Storey is not independent because he is the Company’s President and CEO.

How our Board is organized

Board leadership structure

The NCG Committee periodically reviews the Board’s leadership structure and, when appropriate, recommends changes, taking into consideration the needs of the Board and the Company at the time. Since 2009, we have elected a non-executive chairman.

Effective May 20, 2020, Mr. Glenn became Lumen’s independent, non-executive Chairman, with Mr. Hanks continuing his role as Vice Chairman. As Chairman, Mr. Glenn presides over meetings of the Board, oversees the management, development and functioning of the Board and performs any additional duties the Board may identify. During the three years preceding his retirement on May 20, 2020, Harvey P. Perry served as our Chairman, and for the latter portion of this period, Mr. Hanks served as Lead Outside Director.

Board of Directors and Governance

How Our Board is Organized

We believe that separation of the Chairman and CEO positions has functioned effectively over the past several years. Separating these positions has allowed our CEO to have primary responsibility for the operational leadership and strategic direction of our business, while allowing our Chairman to lead the Board in its fundamental role of providing guidance to and separate oversight of, management.

As noted in our Corporate Governance Guidelines, the Board has decided that the Chairman of the Board and the chairs of our committees should rotate approximately every five years.

Board committees

Each of our four standing Board committees supports the full Board with various risk management, governance and strategic responsibilities. The table below indicates the Board's standing committees and memberships as of the date of this proxy statement:

Committee Assignments				
Director	Audit ¹	Human Resources & Compensation	Nominating & Corporate Governance	Risk & Security
Quincy L. Allen ²				
Martha Helena Bejar	•		Chair	
Virginia Boulet ³			•	•
Peter C. Brown	•		•	
Kevin P. Chilton	•			Chair
Steven T. "Terry" Clontz		•		•
T. Michael Glenn		•		
W. Bruce Hanks	Chair			
Hal Stanley Jones	•			•
Michael Roberts		•	•	
Laurie Siegel		Chair	•	
Jeffrey K. Storey ⁴				•

1. Each member is an "audit committee financial expert."

2. Mr. Allen was appointed to the Board on February 25, 2021, and is expected to be named to committees in May 2021.

3. As noted previously, Ms. Boulet has decided not to stand for re-election at the annual meeting.

4. As President and CEO, Mr. Storey is our only non-independent director.

Audit – 10 meetings in 2020

Key responsibilities:

- Oversees the Company's system of financial reporting
- Reviews and discusses our major financial risks, including matters potentially impacting financial reporting, with management, our internal auditors and our independent auditors
- Assists the Board in fulfilling its oversight responsibilities relating to the adequacy and effectiveness of
 - our internal controls over financial reporting,
 - our internal controls regarding information technology security and
 - our disclosure controls and procedures
- Monitors the qualifications, independence and performance of Lumen's independent auditors

See “Audit—Audit Committee Report” below for additional information.

Human Resources and Compensation – 4 meetings in 2020

Key responsibilities:

- Establishes executive compensation
- Oversees human capital resources strategy, including diversity and inclusion and talent recruiting, development and retention
- Oversees, in consultation with management, our compliance with regulations governing executive and director compensation
- Oversees labor relations
- Monitors compensation risk
- Oversees design and administration of equity incentive plans

See “CD&A” below for additional information.

Nominating and Corporate Governance – 5 meetings in 2020

Key responsibilities:

- Recommends to the Board nominees to serve as directors and officers
- Oversees CEO’s annual performance evaluation
- Oversees the development and implementation of our ESG strategies
- Oversees and recommends improvements to our governance principles, policies and practices
- Assists the Board in fulfilling its oversight responsibilities with respect to the management of risks associated with the Company’s Board leadership structure and corporate governance matters
- Annually leads Board and Committee evaluations
- Evaluates Board composition, skills and director independence
- Reviews political contributions reporting and budget

Risk and Security – 4 meetings in 2020

Key responsibilities:

- Assists the Board in fulfilling its oversight responsibilities with respect to, among others:
 - risks posed by cyberattacks or other casualty events
 - risks related to network reliability, privacy and regulations
 - other key enterprise or operational risks as jointly determined by the Committee and management
 - insurance program reviews
- Oversees our classified activities and facilities through a subcommittee
- Oversees our corporate ethics and compliance and enterprise risk management programs and activities
- Receives periodic reports on various risk exposures. These include quarterly reports on cybersecurity, which typically include reports on recent cyber intrusions, mitigation steps taken in response to those intrusions and ongoing cybersecurity initiatives and periodic reports from outside consultants regarding cyber security
- Coordinates risk oversight functions of other Board committees

Additional information about the responsibilities of our committees is available in the committees’ respective charters, which can be obtained on our website: <https://www.lumen.com/en-us/about/governance/board-committees.html>.

Director meeting attendance

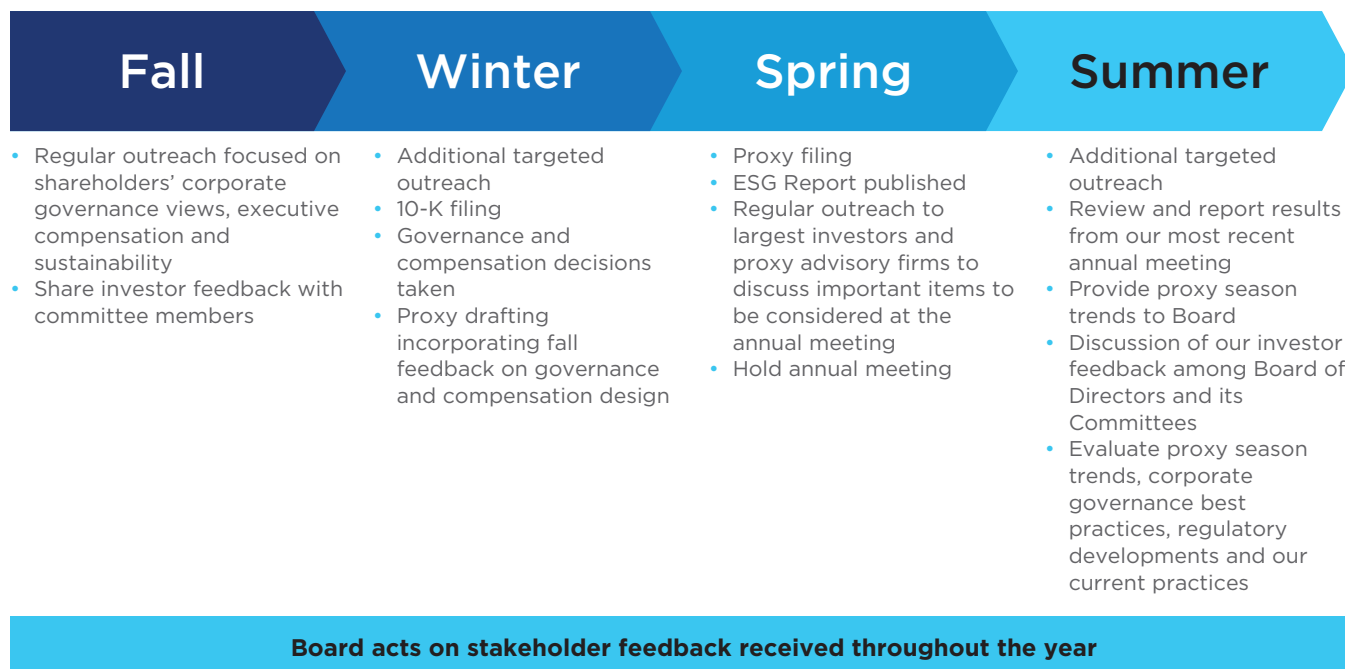
Directors are expected to attend all Board meetings, meetings of committees on which they serve and the annual shareholders meeting. All then current directors attended our 2020 annual meeting. During 2020 there were four regular meetings of the Board, as well as 23 standing committee meetings. Each director attended more than 75% of the total number of the 2020 Board and the respective committee meetings on which he or she served. During 2020, our independent directors met in executive session on a quarterly basis, led either by our Chairman or then-Lead Outside Director.

Our Board's responsibilities & engagement

Our Board and its committees collectively oversee management's development and implementation of our business and strategy through regular meetings and communications with Lumen's executive team. Our governance policies and practices provide a transparent framework for effective governance and compliance with SEC and NYSE requirements. The Board continually reviews our governance practices for alignment with best practices and stakeholder interests and acts to enhance our ability to oversee the execution of strategies that drive value for Lumen, our customers, employees and shareholders. Our Corporate Governance Guidelines, along with other governance documents, including our Code of Conduct, Bylaws and other governance policies are available on our website: <https://www.lumen.com/en-us/about/governance/documentation.html>.

Shareholder engagement

The Board believes that input from shareholders is a critical component in our efforts to continually enhance our governance practices and earn our shareholders' confidence toward improving long-term shareholder value. As illustrated below, members of management and the Board engage on a year-round basis with holders of our equity and debt securities, as well as proxy advisory firms and ESG rating firms, among others.



In 2020, our compensation program received the support of 74% of the total votes cast at our annual meeting. These results were an improvement from the 2019 vote of 41%, but still not the support level we endeavor to achieve. In response to our 2020 vote, we increased our outreach efforts with shareholders throughout the fall, contacting shareholders representing 59% of our outstanding common stock and directly engaging with holders of 25% of our shares.

Our primary purpose for initiating these meetings was to obtain feedback from our shareholders on the changes to our 2020 compensation program design and metrics developed in response to 2019 shareholder engagement, but to also discuss other corporate governance topics important to shareholders including our response to the COVID-19 pandemic, board diversity, human capital management, employee diversity, inclusion and belonging and our ESG initiatives.

During the fall of 2020, each of the shareholder meetings was attended by our Chairman of the Board, our HRCC Chair and our NCG Committee Chair. The input we received was shared with the members of the Board who did not directly engage in our outreach process.

The chart below summarizes engagement topics discussed and governance actions taken over the past several engagement initiatives in response to specific shareholder feedback or voting guidelines published by our shareholders or proxy advisors.

Shareholder Engagement Topics - 2019 to 2021

Long-Term Incentive (LTI) Framework	Short-Term Incentive (STI) Framework	Pay for Performance Alignment
Board Diversity	Governance Practices	ESG
Human Capital Resources	Board Refreshment	COVID-19 Pandemic Response

Actions Taken in Response to Shareholder Input - 2020 to 2021

No Changes to 2020 compensation program design - despite COVID-19	No one-time awards for 2020
Rotated NCG Committee Chair at 2020 annual meeting	Reduced average Board tenure
Independent Chairman named at 2020 annual meeting	All non-CEO directors independent at 2020 annual meeting
Increased disclosure for: • Board diversity • Cyber security/ data privacy • Human capital management • ESG • Incentive design rationale • Rigorous goal setting process	

Actions Taken in Response to Shareholder Input – 2019 to 2020

“Rooney Rule” – adopted for director searches	Board Tenure - commitment to lower overall average years of service
NCG Committee Oversight – clarified political contributions and lobbying policies	Supplemental Proxy Filing – additional context and transparency of goal-rigor considerations
STI – added Revenue weighted at 15%	STI – added a discretionary 20% cap on Individual Performance Modifier for Named Executive Officers (NEOs)
Goal Rigor – supplemental disclosures to explain the compelling business rationale for our incentive compensation design	CEO Pay – increased for “realized” and “realizable” pay disclosure
LTI Performance Period – returned to 3 yr. cumulative	LTI – added Relative TSR modifier
No one-time awards for 2019	

For more information on shareholder engagement impact on executive compensation design and metrics, see the CD&A section below.

Long-term strategic planning

To ensure that our business strategies create long-term, sustainable value for our shareholders, our Board regularly engages in active discussions with management to formulate and implement appropriate strategies for the Company and each of its business segments. The Board and management routinely discuss key initiatives, transformative technologies, innovation, culture and corporate governance opportunities focused on driving long-term value. During 2020, this collaboration resulted in the rebranding and repositioning of the business to align with our core mission of furthering human progress through technology. In addition to regular Board and committee meetings, which include presentations and discussions of strategic and tactical initiatives, the Board participates in an annual in-depth dedicated review of the Company's overall strategy with our management team. The Board and our management team discuss the industry and competitive landscapes, short- and long-term plans, capital allocation strategies and other mission-critical topics.

CEO and executive succession planning

The Board and management recognize the importance of continuously developing our executive talent, identifying potential outside candidates and preparing for emergency situations. Our HRCC, along with management, conducts periodic talent reviews that include succession plans for our senior leadership positions, including 360° peer reviews. In 2018, the NCG Committee engaged a nationally recognized third-party consultant to develop a comprehensive executive management succession planning strategy and since then Lumen has retained the same consultant to continue to advise the Board and the company's leadership with the following objectives:

- View succession planning as an ongoing process, not an “event”
- Develop a succession plan for different scenarios (emergency, accelerated and orderly)
- Link succession planning to strategy by creating a CEO profile that focuses on what is most needed to lead Lumen in the future, not only today
- Understand the external market of CEO-ready talent and update this understanding and benchmark data at regular future intervals
- Assess the readiness of current key Lumen executives to assume the CEO position and Lumen's executive development plans and timeframes for addressing any gaps in readiness

- Ensure that key Lumen executives have clear and actionable development plans, including detailed coaching for key executives and establish a regular and transparent process for leadership and the Board to track progress against development goals as needed



- Initiated our engagement with a third-party regarding succession planning efforts
- Developed CEO success profile
- Began assessment of key Lumen executives
- Approved an emergency succession plan and related communications plan
- Completed assessment of key Lumen executives
- Created development plans for key Lumen executives
- Identified and reviewed potential external CEO candidates
- Refreshed and reviewed potential external CEO candidates
- Implemented actionable development plans, including detailed coaching, for key Lumen executives

Risk oversight

The Board, along with its committees, reviews and oversees Lumen's risk management processes in many ways, including receiving regular reports about our enterprise risk management ("ERM") program, which is designed to comprehensively identify our most significant risks. Under the ERM program, management develops a response plan for prioritized risks, as well as monitoring and mitigation plans for other identified risk focus areas. Management provides regular reports on the risk portfolio and response efforts to the Risk and Security Committee. The Board also works with management to assess our key short-and long-term risks and mitigation efforts relating to, among other things, financial reporting, strategic plans, operations, capital budgets, human capital, corporate functions and business units. Among others, key areas of assessment include:

- **Cybersecurity Risks** – As a technology and communications company that enables global transmission of large amounts of information over our networks, maintaining the security and integrity of information and systems under our control is a priority among our operational risk management efforts. We view cybersecurity risk as an enterprise-wide risk, subject to control and monitoring at various levels of management throughout the Company. The Risk and Security Committee and its Chair review Cybersecurity and Data Privacy quarterly and such topics of review include:
 - risk assessments from information security, privacy and internal audit management teams with respect to cybersecurity, including the adequacy and effectiveness of the Company's internal controls regarding cybersecurity,
 - emerging cybersecurity developments and threats and
 - the Company's strategy to mitigate cybersecurity risks, such as our contingency plans in the event of security breaches or other system disruptions and cyber insurance coverage.

To assess and mitigate cybersecurity risk, we have implemented a global information security management program that includes administrative, technical and physical safeguards and we periodically engage both internal and external auditors and consultants to assess and enhance our program, all of which is subject to oversight by and reporting to the Risk and Security Committee. We engage independent external auditors and consultants who are fully accredited under various information security standards, including those administered by the International Organization for Standardization and the PCI Security Council.

Board of Directors and Governance

Our Board's Responsibilities & Engagement

- **Data Privacy Risks** – In addition to securing our network, we also take steps to protect the content of information Lumen collects, stores, uses and shares. Employee and customer information is encrypted, consistent with industry standards or legal requirements, both at rest and in transmission. We have adopted a data minimization policy designed to comply with and detect breaches of applicable laws and ensure appropriate protections when sharing information with third parties, including vendors. We maintain other plans or programs to manage our data privacy risks, including a privacy policy and a cyber incident response plan. As part of the ERM process, the Risk and Security Committee receives reports on data privacy protection efforts and controls to meet and enhance legal and compliance requirements across the enterprise.
- **Human Capital Management Risks** – The Board and management know our highly competitive business requires skilled and motivated employees and leaders with the necessary expertise to execute our innovation, efficiency and transformation strategies. Recognizing the crucial role employees play in our overall strategy, developing and retaining top talent is a priority. The Board regularly discusses with management Lumen's continuous efforts to attract and retain the caliber of employee with the type of knowledge and skills necessary to realize our goals. Both our directors and management set a "tone at the top" through:
 - regularly meeting with our most senior human resources executive to discuss culture, talent strategy and leadership development and staying ahead of market trends by identifying early the skills needed for our future;
 - designing strategies to support diversity, inclusion and belonging programs; and
 - designing strategies to bridge any gaps in our succession plans by cultivating our in-house talent or engaging third parties.
- **Other Risks and Information** – Our Board committees oversee certain other risks specified in the preceding section " — Board Committees," and our Board and committees further oversee the ESG program and other risks discussed under the heading "ESG Sustainability Leadership" below.

ESG sustainability leadership

Responsible corporate citizenship has long been a part of our governance and business strategy and continues to be a key priority for our Board and management team. The Board and the NCG Committee, in conjunction with designated management teams periodically evaluate our ESG program and seek to identify meaningful opportunities to strengthen our program. Some of our ESG highlights are described below.

Ethics and compliance – Our Code of Conduct sets forth the ethical expectations and standards of conduct required in all business dealings and interactions around the world and applies to all directors, officers and employees alike. Our Ethics and Compliance team is an independent function led by the Company's Chief Ethics and Compliance Officer who maintains full and direct access and makes regular reports to the Risk and Security Committee of the Board of Directors. Specifically, Lumen's program:

- Conducts mandatory Code of Conduct training annually, the scope and content of which is fashioned through risk assessments and reinforced through localized, risk-based and targeted training and compliance strategies.
- Offers employees several confidential avenues to report concerns and allegations of misconduct, including the Company's Integrity Line, our global, multilingual, independent and continuously staffed compliance hotline.
- Maintains a strong multidisciplinary compliance program supported by internal processes and resources, including compliance analysts, attorneys and an investigations team, all of whom are fully trained to evaluate and facilitate the review of allegations and concerns and periodic reporting to our management, our internal and external auditors and our directors, as appropriate.
- Prohibits retaliation against any individual who raises a concern, makes a report, participates in an investigation, refuses to participate in suspected improper or wrongful activity, or exercises rights protected by law.
- Protects human rights by incorporating our own principles and ethics in our business and supplier relationships, through contractual commitments and our Supplier Code of Conduct.

ESG reporting – Since 2010, we have published an annual social responsibility, sustainability or ESG report highlighting our efforts to track our impact on the communities in which we live and operate. Although not part of this proxy statement, our most recent ESG report can be located in the “ESG” section of our website ir.lumen.com.

Environmental sustainability – We have maintained an environmental sustainability program for more than ten years and have been listed in the FTSE4Good index every year during that time. Among others, our recent environmental initiatives and achievements include:

- In January of 2021, we sold our inaugural series of sustainability-linked notes in alignment with our established science-based targets and became the second domestic company to issue this type of instrument.
- Reducing our absolute carbon emissions and carbon intensity by purchasing renewable energy and investing in facility efficiency improvements and new technologies in our data centers and network facilities around the world.
- Maintaining or expanding the number of company locations with third-party certified Energy, Environmental and Safety Management Systems.

Customer experience – We strive to continually improve the experience we provide to our customers, including their interactions with our employees. We believe that an excellent experience not only leads to satisfied customers but also will improve our sales and revenue results, boost employee engagement and reduce costs. We have dedicated teams responsible for evaluating the best approach to the customer experience from our largest enterprise customers to our residential customers, coupled with frequent, transparent and informative communication processes.

An essential element of delivering on our commitment is listening to our customers by offering several channels for communication including voice, text, email, chat and social media, among others. In 2019 we launched Lumen's inaugural customer experience (CX) event, during which we invited customers to our headquarters to collaborate directly with our management team.

While listening to customers is the best source of customer experience feedback, we believe overlaying it with employee feedback is the most effective way to continuously improve. Consequently, we regularly invite our front-line employees to provide feedback on opportunities to improve the experience and to make it easier to do their jobs.

Community impact – We support the passions and interests of our employees and empower them to be a positive influence in the world. This year we were proud to provide many opportunities to be good neighbors even through the challenges of COVID-19 by volunteering time, money and talent to support the causes that matter most to our employees. We seek to strengthen the communities in which we live and work through philanthropy, local community initiatives and global initiatives. Among our efforts are:

- In support of STEM Education, Lumen partnered with organizations such as Pathways in Technology (P-TECH) to provide underserved youth with an innovative education opportunity with a direct pathway to college attainment and career readiness
- As we adjusted to the changing needs for COVID-19, employees were provided opportunities to participate in over 30 virtual volunteering events
- Employees were also encouraged to actively volunteer individually in their communities and were supported through our Dollars for Doers grants program
- We offered employees the ability to participate in continual giving to causes that matter to them, while maximizing their contribution with our corporate match
- Our employees are encouraged to volunteer and donate through our annual Campaign to Fight Hunger to support hunger relief efforts around the globe

Board of Directors and Governance

Our Board's Responsibilities & Engagement

Political and lobbying contributions oversight and disclosure – Our Board and NCG Committee engage in the oversight of our political initiatives and annually review Lumen's political and lobbying activities and related budgets. We strive to advocate public policy solutions that best serve our stakeholders. Our semi-annual Political Contributions Reports provide transparency in this process, demonstrating ethical corporate governance and promoting confidence in the democratic process. Specifically, our Reports disclose our corporate political contributions and those of our political action committees in accordance with applicable federal and state campaign finance laws and contributions to trade associations and 501(c)(4) organizations. Although not part of this proxy statement, our most recent Political Contributions Reports can be located on our website at lumen.com.

Positive corporate culture – The Board and management believe that engaged and satisfied employees are essential to creating shareholder value. From the Board on down, we have carefully developed and deployed employee engagement plans to create a thriving culture throughout the organization focusing on our company's overall purpose of furthering human progress through technology. When employees understand how their work fits in to the overall company strategy, it drives their engagement and ownership within each and every employee leading to stronger results. We measure employee engagement in how connected they feel to the culture through an engagement survey distributed approximately every four months. The survey is sent to all employees and has been a great success, receiving an approximate 85% participation rate.

Promoting diversity – We believe that understanding and respecting another's perspective, experience, background and beliefs provides an opportunity to expand horizons, challenge complacency and foster empathy. For Lumen, diversity of perspective, experience, background and beliefs fuels our innovative, collaborative and engaged workplace. Realizing greater ethnic, racial and gender diversity across all levels of an organization is and will continue to be, an on-going journey.

Our Diversity & Inclusion Steering Committee, comprised of a cross-functional team of senior executives and led by our Chief Diversity & Inclusion Officer, regularly evaluates and seeks to refine our diversity, inclusion and belonging strategy. We aim for the highest standards of fairness and equal opportunity, in recruitment, hiring, promotions, job assignments and compensation. Efforts include (i) recruiting and outreach designed to attract diverse talent; (ii) management led listening circles; and (iii) employee resource groups – some active for more than 40 years – to support employee engagement, awareness, career development and training.

Recognition for our diversity and inclusion efforts include:

- **Human Rights Campaign** – received in February 2021, for the third year in a row, the top score of 100% from Corporate Equality Index, a national report by the Human Rights Campaign on corporate policies and practices related to lesbian, gay, bisexual, transgender and queer workplace equality
- **Disability Equality Index** – received a 100% score on Disability Equality Index as a “Best Place to Work” for people with disabilities
- **Forbes**, January 2020 distinguished list of the top 500 employers in the area of Diversity

Commitment to pay equity – In 2020, we conducted a pay equity review of our U.S., non-union employees to determine whether employees of color who perform similar work at the same level are receiving “equal pay for equal work.” In 2019 we conducted a similar review for gender pay equity. In assessing pay equity, these reviews considered factors such as employees' role, tenure, experience and performance. Following these reviews, we made pay adjustments where needed. As part of our commitment to fair and equitable compensation, we plan to continue regular gender and race/ethnicity pay equity studies of our U.S., non-represented employees and making pay adjustments where warranted. We also have implemented various processes to review compensation decisions, as they are made, for pay equity.

Director compensation

Overview

The Board believes that each of our non-employee directors (whom we also refer to as outside directors or non-management directors) should be compensated through a mix of cash and equity-based compensation. Our HRCC, consisting entirely of independent directors, has primary responsibility for periodically reviewing and considering any revisions to director compensation. In recent years, the HRCC has reviewed director compensation annually with assistance from its independent compensation consultant, including conducting annual benchmarking to help assess the appropriateness and competitiveness of our director compensation programs. The Board reviews the HRCC's recommendations, discusses those recommendations with the compensation consultant and determines the amount of director compensation.

The table and the discussion below summarize how we compensated our outside directors in 2020. This table does not include compensation paid to our President and CEO, Jeff Storey, who does not receive any additional compensation for his service as a director. Please see the "Summary Compensation Table" below for details regarding all compensation paid to Mr. Storey during fiscal 2020.

2020 compensation of outside directors

Directors' Compensation				
Name	Fees Earned or Paid in Cash	Stock Awards ^{1, 2}	All Other Compensation ³	Total
Continuing Directors⁴				
Martha Helena Bejar	\$ 136,250	\$162,746	\$4,000	\$302,996
Peter C. Brown	131,500	162,746	4,000	298,246
Kevin P. Chilton	135,500	162,746		298,246
Steven T. Clontz	103,000	162,746	4,000	269,746
T. Michael Glenn	253,000	162,746		415,746
W. Bruce Hanks	236,000	162,746	7,345	406,091
Hal Stanley Jones	86,250	162,746	4,000	252,996
Michael Roberts	103,000	162,746		265,746
Laurie Siegel	128,000	162,746	1,060	291,806
Non-Returning Director⁵				
Virginia Boulet	\$ 108,750	\$162,746		\$ 271,496
Departed Directors⁶				
Mary L. Landrieu	\$ 51,500			\$ 51,500
Glen Post III	47,500			47,500
Harvey Perry	97,500		3,709	101,209

1. For fiscal 2020, the HRCC granted each outside director an award of restricted shares or restricted stock units valued at \$165,000 based upon the volume-weighted average closing price of our Common Shares over a 15-day trading period ending prior to the May 20, 2020, grant date. However, as required by SEC rules, the dollar value reported in this column reflects the grant date fair value of that award based upon the closing stock price of our Common Shares on the grant date in accordance with FASB ASC Topic 718. These awards vest on May 20, 2021 (subject to accelerated vesting or forfeiture in certain limited circumstances). See " — Cash and Stock Payments."

2. As of December 31, 2020, outside directors held the following unvested equity-based awards: Ms. Boulet and Siegel and Messrs. Brown, Clontz, Hanks, Jones and Roberts each held 16,439 shares of restricted stock, Messrs. Chilton and Glenn each held 16,439 RSUs and Ms. Bejar held 8,220 shares of restricted stock and 8,219 RSUs. In addition, Ms. Bejar and Messrs. Glenn and Roberts held 14,706 vested RSUs deferred under the Non-Employee Director Deferred Compensation Plan (the Deferred RSUs). For further information on our directors' stock ownership, see "Other Matters—Ownership of Executive Officers & Directors," and for information on certain deferred equity and cash fee arrangements, see " — Non-Qualified Deferred Compensation."

Board of Directors and Governance

Director Compensation

3. Includes (i) reimbursements for the cost of annual physical examinations and related travel of \$3,345 for Mr. Hanks, \$3,709 for Mr. Perry and \$1,060 for Ms. Siegel, (ii) the payments related to the attendance of the KPMG Conference of \$4,000 for Mr. Jones, and (iii) payments related to the attendance of the NACD Global Board Leaders' Summit of \$4,000 for each of Messrs. Hanks and Clontz and the payments related to the attendance of the G100 Conference of \$4,000 for each of Ms. Bejar and Mr. Brown. Except as otherwise noted in the prior sentence, the table above does not reflect reimbursements for travel expenses).
4. Excludes Quincy L. Allen, who was added to the Board in February 2021.
5. Ms. Boulet's term will end immediately following the 2021 annual shareholders' meeting.
6. The terms of each of these Directors ended immediately following the 2020 annual shareholders' meeting.

Cash and stock payments

Cash fees – Each outside director is paid an annual fee of \$75,000 plus \$2,000 for attending each regular Board meeting, special Board meeting (including each day of the Board's annual planning session), committee meeting and separate director education program.

Commencing with his appointment in May 2020, Mr. Glenn, in his capacity as the non-executive Chairman of the Board, received annual supplemental Board fees of \$200,000 payable in cash (which were prorated for 2020). The Chairman's duties are set forth principally in our Corporate Governance Guidelines. See "How Our Board is Organized—Board Leadership Structure." Mr. Perry received the same supplemental fees at the same rate, prorated for his service as non-executive Chairman through May 2020.

During 2020, Mr. Hanks, in his capacity as non-executive Vice Chairman of the Board is entitled to receive annual supplemental Board fees of \$100,000 payable in cash. Under our Bylaws, the Vice Chairman is charged with the responsibility of assisting the Chairman and performing such other duties as may be assigned to him by the Board or the Bylaws.

We also pay annual supplemental Board fees to the chairs of each of the following committees as follows: (i) the chair of the Audit Committee receives \$25,000, (ii) the chair of the HRCC receives \$25,000, (iii) the chair of the NCG Committee receives \$15,000 and (iv) the chair of the Risk and Security Committee receives \$12,500.

Equity grant – During 2020, the HRCC awarded an annual equity grant valued at \$165,000 to each outside director, with the number of shares determined by dividing this target value by the volume-weighted average closing price of our Common Shares over a 15-day trading period ending prior to the grant date and rounding to the nearest whole share.

This grant was awarded to each director in the form of time-vested shares of restricted stock unless the director made an election to defer all or a portion of the award under our Non-Employee Directors Deferred Compensation Plan (discussed below). For those directors who elected to defer any portion of the grant, the portion deferred was issued to the director as time-vested restricted stock units. These awards are scheduled to vest on May 20, 2021 (one year after their grant), with vesting accelerated in certain circumstances as described in the award agreement.

Dividends (or, for restricted stock units, dividend equivalents) on these awards are not paid currently but rather accrue from the grant date through the date of vesting (for restricted stock) or the date of issuance of the underlying shares (for restricted stock units) and are subject to the same vesting terms as the related award. Dividends on shares of restricted stock are paid to the director upon vesting while dividend equivalents on restricted stock units are paid to the director at the same time as the underlying shares are issued to him or her.

Non-Qualified Deferred Compensation

Non-employee director deferred compensation plan – In March 2019, the Board adopted a deferred compensation plan for our non-employee directors. Under this plan, our non-employee directors may defer up

to 100% of their cash and equity compensation, effective for (1) equity compensation-granted to non-employee directors for service after May 17, 2019 and (2) cash compensation earned by non-employee directors after December 31, 2019.

Participants in the Non-Employee Director Deferred Compensation Plan may elect to receive payment of their account balances in either two to five annual installments or a lump sum upon a fixed date, separation from service, or up to five years following separation from service, subject to any deferrals mandated by federal law.

All cash amounts deferred under this deferred compensation plan by non-employee directors are allocated among deemed investments that follow the performance of a broad array of funds and are reflected in the market value of each participant's account. Distribution amounts will include investment returns (positive or negative).

If a non-employee director elects to defer all or a portion of the director's annual equity award under this plan, as noted above, the portion of the award subject to the deferral election will be issued as restricted stock units instead of shares of restricted stock. Four of our current directors participate in this plan.

Legacy Qwest deferred compensation plan – closed to new participants and contributions – In connection with our 2011 merger with Qwest, we assumed the Qwest Deferred Compensation Plan for Non-Employee Directors. Under this plan, Qwest outside directors could elect to defer all or a portion of their cash directors' fees, which were then converted to a number of "phantom units" based on the value of a share of Qwest stock, with credit for dividends paid to shareholders "reinvested" in additional phantom units. Plan balances attributable to amounts deferred on or after January 1, 2005, by Qwest directors who joined our Board following the merger were converted, based on the merger exchange ratio, to phantom units based on the value of one of our Common Shares. Other than the crediting and "reinvestment" of dividends for outstanding phantom units, the Company does not make any contributions to and no additional elective deferrals are permitted under this plan. Subject to the terms of the plan, each participant's account will be distributed as a lump sum in cash as soon as practicable following the end of his or her service as a director. As of December 31, 2020, Michael Roberts was the only remaining participant in this plan, with a balance of 8,283 phantom units with an aggregate value of approximately \$80,759 as of such date.

Other benefits

Each outside director is entitled to be reimbursed: (i) for expenses incurred in attending Board and committee meetings, (ii) for expenses incurred in attending director education programs and (iii) up to \$5,000 per year for the cost of an annual physical examination, plus related travel expenses. We supply company-owned tablets to certain of our outside directors for use in reviewing materials posted to a dedicated portal that permits management to communicate with the Board.

Directors may use our aircraft in connection with company-related business. However, we generally do not permit either our directors or their family members to use our aircraft for personal trips (except when such use can be accommodated at no incremental cost to us or on terms generally available to all of our employees in connection with a medical emergency).

Our Bylaws require us to indemnify our directors and officers so that they will be free from undue concern about personal liability in connection with their service to the Company. We have signed agreements with each of those individuals contractually obligating us to provide these indemnification rights. We also provide our directors with customary directors and officers liability insurance.

Audit Committee Report

Our Audit Committee has oversight authority over Lumen's financial reporting function, including our internal controls over financial reporting ("ICFR") and our external independent audit process. In carrying out its oversight responsibilities, the Audit Committee:

- monitors management's responsibility for fairly presenting our financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") by maintaining accurate and reliable financial information through our ICFR processes;
- appoints our independent auditor; and
- regularly communicates with our independent auditor regarding the scope and status of its annual audit of our consolidated financial statements, including our ICFR.

As part of the Committee's oversight of the Company's financial statements, the Committee reviews and discusses with management, the Internal Audit team and the Company's independent auditor, management's key initiatives and programs aimed at maintaining and improving ICFR, the effectiveness of the Company's internal and disclosure control structure and the scope and adequacy of the Company's internal auditing program.

The Committee met 10 times in 2020 and included, whenever appropriate, executive sessions in which the Committee met separately with KPMG, our independent auditor, as well as representatives of our Internal Audit group and management. During 2020, the Committee discussed with KPMG: (i) those matters required to be discussed by the applicable requirements of the SEC and the Public Company Accounting Oversight Board ("PCAOB"), including the quality of the Company's accounting principles, the reasonableness of significant judgments and the clarity of disclosures in the financial statements; (ii) the written disclosures required by PCAOB regarding the independent auditor's communications with audit committees concerning independence; (iii) KPMG's independence and considered the effects that the provision of non-audit services may have on KPMG's independence; and (iv) various other matters pertaining to the audit and other matters handled by KPMG.

Among other matters, over the course of the past year, the Committee also:

- discussed the impact of COVID-19 on the Company's financial statements as a whole, including short-term and long-term liquidity, credit losses, revenue, reserves, intangible assets and related ICFRs;
- emphasized the continued importance of an environment supporting the integrity of the financial reporting process;
- reviewed the scope of and overall plans for the annual audit and the internal audit program, including a review of critical accounting policies, critical accounting estimates and significant unusual transactions;
- reviewed KPMG's report describing its quality control procedures and its report included in the Company's Annual Report on Form 10-K;
- reviewed the performance of KPMG's lead engagement partner;
- reviewed and discussed each quarterly and annual financial statements and related earnings press releases before issuance, including reviewing the Company's issuance of guidance and use of non-GAAP financial information, the adequacy of disclosures and management's ICFR report and discussion and analysis;
- received quarterly reports from the Director of Internal Audit, including the Company's work regarding ICFR and met with other members of the Internal Audit staff;
- received periodic reports pursuant to our policy for the submission of confidential communications from employees and others about accounting, internal controls and auditing matters and conducted certain follow-up inquiries as necessary;
- reviewed and discussed the effectiveness of our disclosure controls and procedures;
- discussed our 2020 Critical Accounting Matters with KPMG, including the work performed;
- discussed SEC regulatory changes, including amendments to Regulation S-K and related disclosure enhancements;

- discussed Company capital allocation, investment and tax planning strategies;
- reviewed the Company's debt compliance process, including primary debt covenants, debt agreement restrictions, maintenance covenant calculations and liquidity implications;
- received reports on the Company's goodwill impairment testing;
- received and evaluated a report concerning the Company's major financial risks along with the Company's mitigating actions;
- oversaw the implementation of new accounting standards, including "Credit Losses on Financial Instruments," ASC 326 and appropriate related internal controls;
- received detailed analyses on the Company's accounting for income taxes;
- received detailed analyses on the Company's accounting for pension assets and liabilities;
- received updates on and reviewed planning, for transition from LIBOR to new interest rate benchmarks;
- received an annual report with regard to any hiring of former employees of KPMG;
- met quarterly in separate executive sessions, including private sessions with the Company's independent auditors, internal auditors and top executives; and
- coordinated with other committees of the Board to oversee the Company's risk management function, especially with respect to matters that could impact the Company's financial results or financial position.

Taking all of these reviews and discussions into account and subject to the limitations on the role and responsibilities of the Committee referred to in its charter, the undersigned Committee members recommended that the Board include the Company's audited consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2020.

In addition to the Company's corporate compliance program and integrity line, the Audit Committee has established procedures for the receipt and evaluation, on a confidential basis, of any complaints or concerns regarding our accounting, auditing, financial reporting or related matters. To report such matters, please send written correspondence to Audit Committee Chair, c/o Post Office Box 4364, Monroe, Louisiana 71211.

Submitted by the Audit Committee of the Board of Directors.

W. Bruce Hanks (Chair)

Martha Helena Bejar

Peter C. Brown

Kevin P. Chilton

Hal Stanley Jones

Item Two - Ratify KPMG as our 2021 Independent Auditor

The Audit Committee of the Board has appointed KPMG LLP as our independent auditor for the fiscal year ending December 31, 2021 and we are submitting that appointment to our shareholders for ratification on an advisory basis at the meeting. Although shareholder ratification of KPMG's appointment is not legally required, we are submitting this matter to the shareholders, as in the past, as a matter of good corporate practice. In determining whether to reappoint KPMG as our independent auditor, the Audit Committee considered a number of factors, including, among others, the firm's qualifications, industry expertise, prior performance, control procedures, proposed staffing and the reasonableness of its fees on an absolute basis and as compared with fees paid by comparable companies.

If the shareholders fail to vote on an advisory basis in favor of the appointment, the Audit Committee will reconsider whether to retain KPMG and may appoint that firm or another without re-submitting the matter to the shareholders. Even if the shareholders ratify the appointment, the Audit Committee may, in its discretion, select a different independent auditor at any time during the year if it determines that such a change would be in the Company's best interests.

Audit

Item Two- Ratify KPMG as Our 2021 Independent Auditor

In connection with the audit of the 2020 financial statements, we entered into an engagement letter with KPMG which sets forth the terms by which KPMG will provide audit services to us. Any future disputes between KPMG and us under that letter will be subject to certain specified alternative dispute resolution procedures, none of which are intended to restrict the remedies that our shareholders might independently pursue against KPMG.

The following table lists the aggregate fees and costs billed to us by KPMG and its affiliates for the 2019 and 2020 services identified below:

Fees		
	2019	2020
Audit Fees ¹	\$17,639,702	\$ 14,750,818
Audit-Related Fees ²	153,203	126,705
Tax Fees ³	119,098	65,470
Other	—	—
Total Fees	\$ 17,912,003	\$ 14,942,993

1. Includes the cost of services rendered in connection with (i) auditing our annual consolidated financial statements, (ii) auditing our internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act of 2002, (iii) reviewing our quarterly financial statements, (iv) auditing the financial statements of several of our subsidiaries, (v) reviewing our registration statements and issuing related comfort letters, (vi) statutory audits for certain of our foreign subsidiaries and (vii) consultations regarding accounting standards.
2. Includes the cost of preparing agreed upon procedures reports and providing general accounting consulting services.
3. Includes costs associated with general tax planning, consultation and compliance (which were approximately \$100,000 in 2019 and approximately \$65,000 in 2020).

The Audit Committee maintains written procedures that require it to annually review and pre-approve the scope of all services to be performed by our independent auditor. This review includes an evaluation of whether the provision of non-audit services by our independent auditor is compatible with maintaining the auditor's independence in providing audit and audit-related services. The Committee's procedures prohibit the independent auditor from providing any non-audit services unless the service is permitted under applicable law and is pre-approved by the Audit Committee or its Chairman. The Chairman is authorized to pre-approve projects if the total anticipated cost of all projects pre-approved by him during any fiscal quarter does not exceed \$250,000. The Audit Committee has pre-approved the Company's independent auditor to provide up to \$75,000 per quarter of miscellaneous permitted tax services that do not constitute discrete and separate projects. The Chairman and the Chief Financial Officer are required periodically to advise the full Committee of the scope and cost of services not pre-approved by the full Committee. Although applicable regulations permit us to waive these pre-approval requirements in certain limited circumstances, the Audit Committee did not use these waiver provisions in either 2019 or 2020.

KPMG has advised us that one or more of its partners will be present at the meeting. We understand that these representatives will be available to respond to appropriate questions and will have an opportunity to make a statement if they desire to do so.

Ratification of KPMG's appointment as our independent auditor for 2021 will require the affirmative vote of a majority of the votes cast on the proposal at the meeting.



**THE BOARD UNANIMOUSLY RECOMMENDS
A VOTE FOR THIS PROPOSAL.**

Item Three – Ratify the Amendment to our Amended & Restated NOL Rights Plan

Our Board is inviting shareholders to vote to ratify that certain First Amendment effective as of December 1, 2020 (the “First Amendment”) to the Company’s Amended and Restated Section 382 Rights Agreement, dated as of May 9, 2019 (the “Restated Plan”), between the Company and Computershare Trust Company, N.A., as rights agent.

The Restated Plan was originally adopted to diminish the risk that the Company could experience an “ownership change” as defined under Section 382 of the Internal Revenue Code of 1986, which could substantially limit the Company’s ability to use its net operating loss carryovers (collectively, the “NOLs”) to reduce anticipated future tax liabilities. The Restated Plan was approved by our shareholders at the Company’s 2019 Annual Meeting of Shareholders by approximately 90% of the votes cast.

Description of the amendment

The First Amendment, which was unanimously approved by the Company’s Board of Directors, (1) extends the expiration date of the Restated Plan from December 1, 2020 to December 1, 2023, (2) provides for early termination of the Restated Plan if the Company fails to obtain shareholder approval of the First Amendment by December 1, 2021, (3) removes certain procedural requirements governing additional acquisitions of the Company’s common stock by STT Crossing Ltd. and its affiliates and (4) otherwise retains all other terms and provisions of the Restated Plan, as set forth below.

The First Amendment extended the Restated Plan’s expiration date through December 1, 2023 to protect the Company’s NOLs of approximately \$5.1 billion as of December 31, 2020, which for U.S. federal income tax purposes can be used to offset future taxable income. Despite the extension of the expiration date, the Company cannot provide assurance as to whether, when or in what amounts it will be able to use its NOL carryforwards. The Restated Plan, as amended by the First Amendment, serves only as a deterrent through the threat of dilution, not a prohibition, to share accumulations that could result in the occurrence of an “ownership change” as defined under Section 382 of the Internal Revenue Code. Any such “ownership change” would substantially limit the Company’s ability to use its NOL carryforwards to reduce anticipated future tax payments.

If our shareholders do not ratify the First Amendment at the meeting (or a special meeting of shareholders held by December 1, 2021), by its terms the Restated Plan will expire on December 1, 2021.

Description of the restated plan

The Restated Plan is intended to act as a deterrent to any person or group seeking to acquire “beneficial ownership” of 4.9% or more of the Company’s outstanding shares of common stock, without the approval of the Board. The following description of the Restated Plan, as amended by the First Amendment, is qualified in its entirety by reference to the text of the Restated Plan and the First Amendment, which are attached to this proxy statement as Appendix C-1 and Appendix C-2, respectively. We urge you to read the Restated Plan and First Amendment carefully in their entirety as the discussion below is only a summary.

General. Under the Restated Plan, since February 25, 2019, each of our Common Shares has carried with it one preferred share purchase right (each, a “Right”), until the earlier of the Distribution Date (as defined below)

NOL Rights Plan

Item Three – Ratify the Amendment to Our Amended & Restated NOL Rights Plan

or expiration of the Rights, as described below. In general, any person that, together with all Affiliates and Associates (each as defined in the Restated Plan), acquires 4.9% or more of our outstanding common stock after February 13, 2019, will be subject to significant potential dilution, at the discretion of the Independent Directors. In addition, the Restated Plan provides that shareholders that owned 5.0% of the Company's common stock on February 13, 2019, will not trigger the Restated Plan as long as they do not (i) acquire additional shares of common stock representing one-half of one percent (0.5%) or more of the Common Shares outstanding at the time of such acquisition or (ii) fall under 4.9% ownership of the Common Shares but then re-acquire Common Shares that in the aggregate equal 4.9% or more of the Common Shares. To the Company's knowledge, STT Crossing Ltd. was the only holder of 5.0% or more of the Company's outstanding shares of common stock on February 13, 2019, for purposes of Section 382 of the Code. The Restated Plan permits STT Crossing Ltd. and its affiliates to acquire additional Common Shares subject to certain conditions and restrictions and to transfer such shares among themselves. By removing certain procedural requirements, the First Amendment affords greater flexibility to STT Crossing Ltd. and its affiliates to acquire additional Common Shares in accordance with rights we previously afforded to them under our 2016 shareholder agreement with STT Crossing Ltd.

The Board may, in its sole discretion prior to the Distribution Date, exempt any person or group for purposes of the Restated Plan if it determines the acquisition by such person or group will not jeopardize tax benefits or is otherwise in the Company's best interests. Any person that acquires shares of common stock in violation of these limitations is known as an "Acquiring Person." Notwithstanding the foregoing, a Person shall not be an "Acquiring Person" if the Independent Directors (as defined in the Restated Plan) determine at any time that a Person who would otherwise be an "Acquiring Person," has become such without intending to become an "Acquiring Person," and such Person divests as promptly as practicable (or within such period of time as the Independent Directors determine is reasonable) a sufficient number of shares of common stock of the Company so that such Person would no longer be an "Acquiring Person," as defined pursuant to the Restated Plan. The Restated Plan is not expected to interfere with any merger or other business combination approved by our Board.

The rights. From the record date of February 25, 2019, until the Distribution Date or earlier expiration of the Rights, the Rights will trade with and will be inseparable from, the common stock. New Rights will also accompany any new shares of common stock that we issue after February 13, 2019, until the Distribution Date or earlier expiration of the Rights.

Exercise price. Each Right will allow its holder to purchase from our Company one ten-thousandth of a share of Series CC Junior Participating Preferred Stock ("NOL Preferred Share") for \$28, subject to adjustment (the "Exercise Price"), once the Rights become exercisable. This fraction of a NOL Preferred Share will give the shareholder approximately the same dividend, voting and liquidation rights as would one share of common stock. Prior to exercise, the Right does not give its holder any dividend, voting, or liquidation rights.

We refer to the date when the Rights become exercisable as the "Distribution Date." Until that date or earlier expiration of the Rights, the common stock certificates will also evidence the Rights and any transfer of shares of common stock will constitute a transfer of Rights. After that date, the Rights will separate from the common stock and be evidenced by book-entry credits or by Rights certificates that we will mail to all eligible holders of common stock. Any Rights held by an Acquiring Person, or any Affiliates or Associates of the Acquiring Person, are void and may not be exercised.

Consequences of a person or group becoming an acquiring person. If a person or group becomes an Acquiring Person, all holders of Rights except the Acquiring Person, or any Affiliates or Associates of the Acquiring Person, may, upon payment of the Exercise Price, purchase Common Shares with an aggregate market value of twice the Exercise Price, based on the "current per share market price" of the common stock (as defined in the Restated Plan) on the date of the acquisition that resulted in such person or group becoming an Acquiring Person.

Exchange. After a person or group becomes an Acquiring Person, our Independent Directors in their sole discretion may extinguish the Rights by exchanging one share of common stock or an equivalent security for each Right, other than Rights held by the Acquiring Person or any Affiliates or Associates of the Acquiring Person.

Preferred share provisions. Each one ten-thousandth of a NOL Preferred Share, if issued:

- will not be redeemable.
- will entitle holders to dividends equal to the dividends, if any, paid on one share of common stock will entitle holders upon liquidation either to receive \$1.00 per share or an amount equal to the payment made on one share of common stock, whichever is greater.
- will vote together with the common stock as one class on all matters submitted to a vote of shareholders of the Company and will have the same voting power as one share of common stock, except as otherwise provided by law.
- will entitle holders to a per share payment equal to the payment made on one share of common stock, if shares of our common stock are exchanged via merger, consolidation, or a similar transaction.

Exercisability. The Rights will not be exercisable until 10 business days (as may be extended in the discretion of the Independent Directors) after the public announcement that a person or group has become an Acquiring Person unless the Restated Plan is theretofore terminated or the Rights are theretofore redeemed (as described below).

Redemption. Our Board may redeem the Rights for \$0.0001 per Right at any time before the Distribution Date. If our Board redeems any Rights, it must redeem all of the Rights. Once the Rights are redeemed, the only right of the holders of Rights will be to receive the redemption price of \$0.0001 per Right. The redemption price will be adjusted if we have a stock split or stock dividends of our common stock.

Expiration. After giving effect to the First Amendment, the Rights will expire on the earliest of (i) December 1, 2023, (ii) the time at which the Rights are redeemed, (iii) the time at which the Rights are exchanged, (iv) the time at which the Board determines that the Company's NOLs are utilized in all material respects or that an ownership change under Section 382 of the Code would not adversely impact in any material respect the time period in which the Company could use the NOLs, or materially impair the amount of the NOLs that could be used by the Company in any particular time period, for applicable tax purposes, (v) December 1, 2021 if approval of the First Amendment by the affirmative vote of a majority of the votes cast at a duly called meeting has not been obtained prior to such date, or (vi) a determination by the Board, prior to the Distribution Date, that the Restated Plan and the Rights are no longer in the best interests of the Company and its shareholders.

Anti-Dilution Provisions. Our Board may adjust the Exercise Price, the number of NOL Preferred Shares issuable and the number of outstanding Rights to prevent dilution that may occur from a stock dividend, a stock split, or a reclassification of the NOL Preferred Shares or common stock.

Amendments. The terms of the Restated Plan may be amended by our Board without the consent of the holders of the Rights, including to effect additional extensions of the expiration date of the Rights in the future. After any Distribution Date, our Board may not amend the agreement in a way that adversely affects holders of the Rights (other than an Acquiring Person, or an Affiliate or Associate of an Acquiring Person).

Certain Factors Shareholders Should Consider

Our Board believes that continuing to take measures to safeguard the Company's NOLs through December 1, 2023, is in our shareholders' best interests. However, you should consider the factors below when making your decision with respect to the ratification of the First Amendment.

NOL Rights Plan

Item Three – Ratify the Amendment to Our Amended & Restated NOL Rights Plan

Continued Risk of Ownership Change. Although the Restated Plan is a deterrent measure intended to reduce the likelihood of an “ownership change,” we cannot assure you that it will be effective. The amount by which an ownership interest may change in the future could be affected by many factors, including purchases and sales of shares by shareholders holding 5% or more of our outstanding common stock notwithstanding the deterrent effects of the Restated Plan, decisions over which we have little or no effective control.

Anti-Takeover Effect. While the Restated Plan is not intended to prevent, or even discourage, a proposal to acquire the Company, it may have a potential anti-takeover effect because an Acquiring Person may have his ownership interest diluted upon the occurrence of a triggering event. Accordingly, the overall effects of the Restated Plan may be to render more difficult or discourage a merger, tender offer, or assumption of control by a substantial holder of our securities. However, as is the case with traditional shareholder rights plans, the Restated Plan should not interfere with any merger or other business combination approved by the Board.

Potential Impact on Value. The Restated Plan could have a negative impact on the trading price and intrinsic value of our common stock by deterring persons or groups of persons from acquiring our common stock, including in acquisitions for which some shareholders might receive a premium above market value.

Potential Effects on Liquidity. The Restated Plan is intended to deter persons or groups of persons from acquiring beneficial ownership of our common stock in excess of the specified limitations. A shareholder’s ability to dispose of our common stock may be limited if the Restated Plan reduces the number of persons willing to acquire our common stock or the amount they are willing to acquire. A shareholder may become an Acquiring Person upon actions taken by persons related to, or affiliated with, them. Shareholders are advised to carefully monitor their ownership of our common stock and consult their own legal advisors and/or us to determine whether their ownership of the shares approaches the proscribed level.

Vote required

Approval of this proposal will require the affirmative vote of the holders of a majority of the votes cast on the proposal at the meeting.



**THE BOARD UNANIMOUSLY RECOMMENDS
A VOTE FOR THIS PROPOSAL.**

Our Executive Officers

We currently have five executive officers. Biographical information for each of them (other than Mr. Storey, who also serves as a director and whose biography may be found under “Board of Directors and Governance – Our Director Nominees”) is found below:

SHAUN ANDREWS



Executive Vice President, Chief Marketing Officer
Since 2019

48 years old

Shaun Andrews is Lumen’s Executive Vice President, Chief Marketing Officer. With nearly 25 years of experience in technology, Mr. Andrews is responsible for Lumen’s product and solutions strategy and go-to-market approach. He also has oversight of global marketing, including the brand, global messaging and digital campaigns and marketing technology. Mr. Andrews previously served as Lumen’s Executive Vice President, Product Management. Prior to Lumen’s combination with Level 3 Communications, Inc. in 2017, Mr. Andrews held progressive leadership and strategy roles in Product Management as a Senior Vice President, starting with Level 3 in 2006. Mr. Andrews became Lumen’s Executive Vice President and Chief Marketing Officer in 2019.

INDRANEEL DEV



Executive Vice President, Chief Financial Officer
Since 2018

49 years old

Indraneel Dev is the Executive Vice President, Chief Financial Officer for Lumen, with global responsibility for financial planning, accounting, tax, treasury, investor relations, procurement and supply chain management and the global real estate portfolio. Mr. Dev served as Level 3’s Group Vice President, Finance from 2004 to November 2017, when he joined Lumen as a result of the Level 3 business combination. He became Lumen’s CFO in September 2018.

STACEY W. GOFF



Executive Vice President, General Counsel and Secretary
Since 2009

55 years old

Stacey W. Goff is Executive Vice President, General Counsel and Secretary for Lumen. Mr. Goff is responsible for Lumen’s legal function, as well as the communications, community relations and public policy functions. Mr. Goff joined Lumen in 1998 and has served as General Counsel since 2009.

SCOTT TREZISE



Executive Vice President, Human Resources
Since 2013

52 years old

Scott Trezise is Lumen’s Executive Vice President, Human Resources. In this role, Mr. Trezise is responsible for the global employee experience, including talent acquisition, employee engagement, recognition, training and development, compensation and benefits, payroll, labor relations for represented employees and contingent labor. Mr. Trezise joined Lumen in 2013 in his current role.

Item Four - Advisory Vote on Executive Compensation – “Say-on-Pay”

Each year, we provide our shareholders the opportunity to vote on a non-binding, advisory resolution to approve the compensation of our named executive officers (NEOs) as disclosed in our annual proxy statements in accordance with SEC rules.

Under our executive compensation programs, our NEOs are rewarded for achieving specific annual and long-term goals, as well as increased shareholder value. We believe this structure aligns executive pay with our financial performance and the creation of sustainable shareholder value. The Human Resources and Compensation Committee of our Board (HRCC) continually reviews our executive compensation programs to ensure they achieve the goals of aligning our compensation with both current market practices and your interests as shareholders.

As discussed in greater detail elsewhere in this proxy statement, the HRCC spends considerable time and effort to ensure that not only do we have the right leadership in place, but also that our executive compensation programs continue to appropriately incentivize and reward each key member of the team in a manner that aligns with shareholder interests. Over the last two years, this has included a significant emphasis on shareholder outreach and taking action in response to the input we received from shareholders, including making changes to our 2020 compensation programs. For additional information on our executive compensation programs generally and our recent compensation actions specifically, we urge you to read the “Compensation Discussion & Analysis” and “Compensation Tables” sections of this proxy statement.

At the meeting, we will ask you to vote, in an advisory manner, to approve the overall compensation of our NEOs, as described in this proxy statement, including the Compensation Discussion & Analysis, the Summary Compensation Table and the other related tables and disclosures. This proposal, commonly known as a “say-on-pay” proposal, gives you the opportunity to express your views. This advisory vote is not intended to address any specific element of compensation, but rather relates to the overall compensation of our named executive officers and our executive compensation policies and practices as described in this proxy statement. Accordingly, your vote will not directly affect or otherwise limit any existing compensation or award arrangement of any of our NEOs.

While this “say-on-pay” vote is advisory and will not be binding on our Company or the Board, it will provide valuable information for future use by our HRCC regarding shareholder sentiment about our executive compensation. We understand that executive compensation is an important matter for our shareholders. Accordingly, we invite shareholders who wish to communicate with our Board on executive compensation or any other matters to contact us as provided under “Board of Directors and Governance–Shareholder Engagement.”

Approval of this proposal will require the affirmative vote of the holders of a majority of the votes cast on the proposal at the meeting.



**THE BOARD UNANIMOUSLY RECOMMENDS
A VOTE FOR THIS PROPOSAL.**

Letter from our HRCC Chair

Fellow shareholders,

At Lumen, we value the contributions of every employee. Never was this more important than in 2020; COVID-19 and social unrest presented unprecedented challenges to nearly every aspect of our business and impacted all of our employees. As Chair of the Human Resources and Compensation Committee (HRCC), our priority throughout has been the health and wellbeing of our employees and we are proud of how Lumen – and our employees – responded.

As detailed in our COVID-19 response highlights above, we were able to move 75% of our staff to remote work in March 2020, while providing strong health and safety protocols to safeguard our front-line, essential workers who have been dedicated to keeping our customers connected. While we have always emphasized that one of our strengths is the diversity of our people, recent events have brought to light the nature of social injustice within our society which has impacted our communities, our Company and individual employees. We remain committed to fostering a diverse and inclusive culture. In 2020 our Chief Diversity & Inclusion Officer and our executive Diversity & Inclusion Steering Committee worked closely with the HRCC to promote an inclusive culture and opportunities for all employees.

In response to the pandemic and societal shifts, management as a whole and individual leaders dramatically increased the cadence and scope of employee communication, including personal messages, regular enterprise-wide updates and Employee Resource Group participation.

In the midst of this rapidly-changing environment, we continued to pursue the strategic transformation for our business – including launching our new “Lumen” brand. As we continue to evolve from a telecommunications company into a technology company, our current revenue and margins are still declining from our legacy business. We are focusing on developing and offering products and services that are more sustainable technology solutions on our “Platform for Amazing Things” – the shift is deliberate but not immediate.

Our transformation has caused unique complications for executive compensation. Forecasting how the downward curve of traditional wireline business revenue and profit will intersect with the projected upward curve of technology solution revenue and profit is difficult to assess; we believe that the metrics and goals that we set in the 2020 executive compensation program are rigorous but reasonable and hold our management team accountable for managing our strategic transformation. We feel that the management team is on or ahead of pace for our long-term strategy since the Level 3 Combination in November 2017 – especially given the impacts of the pandemic on 2020 operations – for executing on this transition and their compensation payouts reflect this assessment.

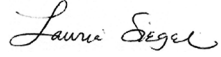
While we were heartened that our say-on-pay vote support increased dramatically at our 2020 annual meeting, we continue to strive to build compensation programs and related disclosure that are more broadly supported. We remain keenly interested in the feedback of investors regarding our executive compensation program; we take that feedback into account when designing future compensation programs. In 2020, we contacted investors representing 59% of shares outstanding; and other directors participated in these engagements as appropriate.

Letter from our HRCC Chair

With shareholder feedback in mind, we have made a series of changes to our compensation program over the last several years, including extending our performance period to three years in 2020 and adding a relative TSR modifier to our LTI plan.

Thank you for your investment in Lumen and we look forward to a brighter 2021.

Laurie Siegel

A handwritten signature in cursive script that reads "Laurie Siegel".

Director and Chair, HRCC

Compensation Discussion & Analysis

The CD&A is divided into five sections: (1) Executive Summary; (2) Compensation Philosophy and Oversight; (3) Pay and Performance Alignment; (4) Compensation Design, Awards and Payouts for 2020; and (5) HRCC Engagement and Compensation Governance. Please refer to the roadmap below in order to navigate this portion of the proxy.

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Compensation Discussion & Analysis

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Section one - Executive Summary

The HRCC oversees and provides direction to management on compensation programs for all employees with the goal of attracting and retaining the skilled talent needed for Lumen to reach its strategic objectives. The HRCC seeks to continuously improve our compensation program based on changing market conditions, an evolving business environment and deep engagement with shareholders. This CD&A reflects the HRCC's overall philosophy on employee compensation with a focus on disclosing compensation for our five named executive officers (NEOs).



Jeffrey K. Storey
President & Chief
Executive Officer



Indraneel Dev
Executive Vice
President, Chief
Financial Officer



Stacey W. Goff
Executive Vice
President, General
Counsel & Secretary



Shaun C. Andrews
Executive Vice
President, Chief
Marketing Officer



Scott A. Trezise
Executive Vice
President, Human
Resources

When reviewing 2020 compensation, the HRCC considered several factors. A year ago, the Company was in the midst of responding to the COVID-19 pandemic that was just beginning to affect the nation and the world. In real time, we adjusted our operational priorities while continuing to focus on the long-term execution of our business. Our employees quickly pivoted to a new remote environment while empowering our customers to meet their own rapidly changing environments.

Lumen business highlights

Despite the pressure of these adjustments on our business, we delivered solid results during 2020 as we continued to advance our strategic initiatives, investing through the cycle, returning over \$1 billion to shareholders and de-risking our balance sheet. Fiscal 2020 highlights include:

- Made solid progress toward our revenue growth objectives
 - Improved our total revenue trajectory by 150 basis points, comparing our 2020 year-over-year rate of change to the 2019 rate of change
 - Grew Enterprise FY20 revenue (0.5% growth)
 - Grew Consumer Broadband revenue
- Launched new products and brands, including the Lumen Platform, Lumen Edge Cloud, Security, Collaboration and Quantum Fiber
- Achieved our objective for \$800 million to \$1 billion of transformation savings a year ahead of schedule
 - Increased Adjusted EBITDA margins by over 300 basis points since announcing our transformation savings target (44.5% in 4Q20 vs. 41.5% in 4Q18)
- Delivered solid Adjusted EBITDA and Free Cash Flow results
 - Adjusted EBITDA: \$8.9 billion
 - Free Cash Flow: \$3.1 billion
- Continued to improve the balance sheet
 - Reduced net debt by \$1.6 billion
 - Refinanced and extended maturities for more than \$13 billion (pro forma for the first quarter 2021 activity)
 - Lowered net cash interest by approximately \$400 million
- Improved Net Promoter Scores across strategic areas of the business

Section one - Executive Summary

Lumen Business Highlights

- Improved fourth quarter Adjusted EBITDA results, exceeded run rate target and offset revenue decline from 4Q18 to 4Q20
 - Adjusted EBITDA run rate: 1.4% from 4Q18 to 4Q20
 - Revenue: declined by 7.7% from 4Q18 to 4Q20
- Achieved cumulative Adjusted EBITDA¹ results of \$27.0 billion, exceeding target, for the three years ending December 31, 2020
- For the three years ending December 31, 2020, Lumen's TSR exceeded TSR Peer Group median, achieving 57th percentile

1. Adjusted EBITDA as used in our LTI plan as further described within "2019 Annual LTI Grant - Performance Results."

COVID-19 pandemic impact on pay

In evaluating the effects of the COVID-19 pandemic on our 2020 results, the HRCC conducted a thoughtful review of its impact on our incentive plans. Management presented a detailed review of COVID-19 impacts on annual results. The COVID-19-related negative financial impacts include, but are not limited to, increased bad debt reserve, delay or cancellation of customer orders, cancelled sales for live events, delay in planned re-rates, delays in off-to-on net savings initiatives, increased call center costs related to work from home conditions of our employees, personal protection equipment for our front-line employees and offices and costs associated with enhanced paid-time off for our employees. These costs were partially offset by the positive financial impact related to emergency bandwidth upgrade services, increased usage of our services and tax credits. The aggregate impact to Adjusted EBITDA and Free Cash Flow, if excluded from our results as a special non-recurring item as permitted under our Guidelines on Administering Compensation (Guidelines), would have resulted in an upward adjustment of approximately 8% to our STI company performance funding of 91%.

For the approximately 26,000 employees who participate in our STI plan, excluding the senior officers as described below, it was decided to apply an upward discretion of 2% for a total payout of 93%. This was in recognition of the challenges and sacrifices that our employees experienced to ensure that business commitments were met, despite the considerable challenges involved in service delivery, disrupted supply chains and personal hardships associated with the pandemic. For more information on Lumen's response to the COVID-19 pandemic, enhanced services provided to our customers and communities and support provided to our employees, see "COVID-19 Response."

Given each member of our senior leadership team supported our response to COVID-19 in different ways, depending on their responsibilities and roles, the decision was made to not apply unilateral positive discretion to the financial metric results for the 2020 STI awards for the NEOs and broader senior leadership team. As described below, our 2020 STI plan has a mechanism for rewarding employees based on individual performance. For each senior leader, we captured these considerations in their respective individual performance modifier and tailored the magnitude of the adjustment as appropriate. Some senior leaders had a greater role in protecting our customers and employees and assuring business continuity as the COVID-19 pandemic evolved, while other senior leaders were focused on leading their teams toward strategic goals in a work-from-home environment. For more information regarding our 2020 STI plan payouts to our NEOs, including individual performance modifiers, see the section entitled "2020 Bonus Program" below.

Shareholder engagement and 2020 compensation enhancements

At our 2020 annual meeting, we received support from approximately 74% of shares voted on our say-on-pay proposal. Both before and following these results, we engaged with shareholders to solicit their views on a wide range of topics, including executive compensation.

Specifically, on the topic of executive compensation, before our annual meeting in spring 2020 we invited shareholders representing 52% of our outstanding shares to engage and discuss our compensation program changes. Following our 2020 annual meeting, we increased our outreach program, inviting shareholders representing 59% of our outstanding shares to engage, resulting in 14 meetings with holders representing 25% of our outstanding shares. Our Chairman of the Board (who is also a member of HRCC), HRCC Chair, NCG Committee Chair and, as appropriate, members of management, participated in these engagements.

During these conversations, we gained a better perspective of the factors that led to shareholders having reservations about our executive compensation program and, in turn, many of our shareholders have gained a better understanding of the challenges of recruiting, retaining and motivating top executive talent in a complex, rapidly changing industry that continues to face the challenges of declining, high-margin revenue related to legacy voice and copper-based wireline services. We have been encouraged by both the constructive feedback and support received during these shareholder engagements. In this year's CD&A, we have focused our efforts to more effectively explain these challenges, their impact on our strategic priorities and how we design executive compensation to incentivize our long-term success.

In addition, with the feedback of our shareholders in mind, we implemented numerous changes to our 2020 incentive plans responsive to shareholder feedback, including:

- ✓ Revised our STI plan metrics for 2020
 - Reduced the Adjusted EBITDA weighting from 65% to 50%
 - Added Revenue weighted at 15% as an additional measure of strategic progress
 - Maintained Free Cash Flow and Customer Experience components at same weight as 2019
- ✓ Revised our LTI plan metrics and lengthened performance period for 2020 awards
 - Returned to 3-year cumulative period, reflecting strategic shift from integration to long-term vision
 - Maintained Adjusted EBITDA element
 - Added Relative TSR Modifier to reflect performance in light of industry trends and to further strengthen alignment with shareholders

We have benefited from these conversations and look forward to continuing to engage in productive dialogue with our stakeholders on all governance and stewardship matters, including compensation.

Section two - Compensation Philosophy and Oversight

Compensation is important to Lumen's overall business strategy for attracting, developing and retaining skilled and motivated executives and key employees who possess the right skill sets and leadership expertise to execute on our long-term vision. We design our compensation programs to reward executives and employees alike who are critical to our success.

Role of Human Resources and Compensation Committee

Lumen's highly competitive business requires attracting, developing and retaining a motivated team inspired by leadership, engaged in meaningful work, motivated by growth opportunities and thriving in a culture that embraces diversity, inclusion and belonging. Understanding and anticipating the priorities of our current and future employees is important to realizing Lumen's purpose to further human progress through technology. The HRCC supports the full Board with various aspects of human capital resources management, including employee and executive compensation. The HRCC is responsible for overseeing Lumen's human resources strategies, prioritizing Lumen's efforts to attract and retain employees and leaders with the skills and experience needed to achieve our strategic objectives in dynamic market conditions and creating an environment promoting equity and diversity. During 2020, the HRCC engaged with management on several issues impacting Lumen's human capital strategy, including: effective employee engagement, diversity, inclusion and belonging, positive corporate culture, pay equity, executive and employee succession and recruiting and retention.

Compensation objectives and design

Our compensation programs are designed to be market competitive and fiscally responsible. We strive to pay competitive compensation to all employees, considering the job market in which they work and peer compensation within Lumen. Our programs are designed to reward those employees for their performance and contribution to our success. Although this CD&A provides insight into compensation awarded and paid to our NEOs, it is important to note that the incentive compensation framework and metrics apply to all Lumen employees participating in our incentive programs. For 2020, approximately 1,600 Lumen employees received equity incentives or LTI and approximately 26,000 participated in our STI program. As with our NEOs, each participant's target compensation is determined based on the availability of talent, the criticality of skills, market compensation benchmarks and internal equity.

Year-round engagement informs compensation design and awards

The HRCC's processes are both cyclical and ongoing.

- At-least quarterly engagement with independent compensation consultant, discussing compensation trends, our performance against peers and market influences;
- Spring and fall shareholder engagement discussing executive compensation (or more often if the opportunity arises);
- Quarterly review of year-to-date results and projected performance for the various eligible outstanding incentive programs;
- Quarterly review of anticipated individual eligible award values, including individual NEO tally sheets; and
- In the fourth quarter, discussions about possible program design changes for the following fiscal year in light of compensation trends, performance against peers, market influences and shareholder feedback, independent compensation consultant observations and anticipated current year anticipated award values.

Performance objectives align with strategy

HRCC selects short-term and long-term plan performance objectives designed to drive execution of our overall business strategy. This process includes engagement with independent compensation consultant, discussing compensation trends, our performance against peers and market influences throughout the year as well as feedback from shareholder engagement regarding executive compensation and incentive design.

- **Incentive Compensation Design**

- Align performance objectives and metrics with company near and long-term strategy
- Set ambitious short-and long-term targets at challenging but reasonably achievable levels that reflect priorities and drive progress toward our long-term vision
- Prior year design, targets and performance
- Performance-based compensation rewards performance over multiple time horizons and aligns with long-term shareholder value while discouraging excessive risk taking
- Incorporate shareholder input - including SOP results
- Allow for limited adjustments, positive or negative, as may be appropriate
- Monitor share expense rate and dilution

- **Target Compensation**

- Balance between cash and equity incentive compensation
- Align pay with market – target total compensation at the 50th percentile
- Balance between individual contribution and company performance
- Retain employees with essential expertise and skill
- Offer comparable pay to employees who make similar contributions and have comparable skill sets and expertise - internal equity

Rigorous design and target setting process

Each year over the course of several meetings, the HRCC evaluates our incentive designs for the upcoming plan year and establishes rigorous threshold, target and maximum performance levels for the selected objectives that are rooted in our annual budget, public guidance and long-range strategic plan.

Our incentive design and targets are influenced by:

- Board reviewed and approved annual and long-range financial plan, which are used to set our STI and LTI targets and inform our external outlook
 - Detailed financial and operational goals and timelines by our market segments and corporate support functions
 - Anticipated timing for execution of our strategic initiatives, new product launches and any acquisition or divestiture activity
 - Cash flow plan to execute on our capital allocation priorities, deleveraging plan, dividends to be returned to shareholders and maximizing our approximately \$5.1 billion of NOLs, as of December 31, 2020
 - Prior year strategic goals and actual financial performance
 - Industry and competitive trends, such as: wireline industry trends, competitive landscape, product lifecycle
 - Other company-specific and external factors that influence our business
- Declining high margin, residual voice and copper-based wireline revenue than the digital services in increasing customer demand
 - Legacy copper telecommunications services' margin is greater than the technology and fiber broadband services margin – requiring us to simultaneously expand our customer base and services portfolio at a faster rate than the declining telecommunications services
 - Flat or negative revenue growth coupled with an improved revenue trajectory is a challenge as we continue our transformation into a technology company in light of decreasing demand for our legacy copper telecommunications services and the shift in our products and services mix to include more lower-margin items.

Section two - Compensation Philosophy and Oversight

Compensation Objectives and Design

- Adapting to the legacy copper telecommunications revenue declines requires us to adjust our cost structure annually
 - Using Adjusted EBITDA as a key financial metric in both our STI and LTI plans, with performance measured over different time horizons, incentivizes management to rapidly adjust our operations to achieve strategic priorities
- In addition to the degree of difficulty and stretch discussed during Board review of our annual and long-range plan, the Chair of Audit (also Vice Chairman of the Board) works closely with our CEO and CFO to understand the detailed assumptions and participates in HRCC meetings when incentive targets are approved
- The payout curves for each metric are reviewed and recalibrated as appropriate based on the degree of difficulty and stretch in our annual and long-range plans and historic payout levels compared to performance
- Shareholder feedback and independent compensation consultant observations

Since NEO compensation includes a higher proportion of performance-based compensation (specifically LTI), it provides for greater alignment with shareholder interests.

Our pay elements

The three core elements of our executive compensation program are base salary, STI opportunity and LTI grants in the form of equity awards. Our LTI awards are structured as mix of performance-based restricted stock or RSUs (PBRs) and time-based restricted stock or RSU (TBRS), with heavier weighting on the PBRs portion for our senior leader team. Each element is described below and includes the performance metrics selected for our 2020 incentive programs that align with and help us realize, our multi-dimensional long-term business strategy.

Base Salary

As with most companies, base salary is annual fixed cash compensation that provides a competitive and stable component of income to our executives.

Short-Term Incentive Bonus

STI bonus is annual variable cash compensation based on the achievement of annual performance measures.

Alignment to Compensation Philosophy:

STI provides competitive short-term incentive opportunities for our executives to earn annual bonuses, typically paid in cash, based on performance objectives that, if attained, can reasonably be expected to (i) promote our business and strategic objectives and (ii) correspond to those paid to similarly situated and comparably-skilled executives at peer companies. The HRCC retains discretionary authority over determining any and all amounts to be paid under the STI plan.

Performance Objectives Aligned with Strategy:

For 2020, the HRCC approved certain changes to our STI metrics, informed by discussions with our shareholders and the evolution of our business strategy after the Level 3 Combination to position our company to provide more technology driven products and services. Specifically, during 2018 and 2019, a critical post-combination integration period, our STI metrics were Adjusted EBITDA, Free Cash Flow and Customer Experience – reflecting management’s priority to rapidly assess and act on integration and transformation opportunities. For 2020, our focus shifted from strategy to implementation and the HRCC once again selected Adjusted EBITDA but reduced its weighting from 65% to 50% and added Revenue weighted at 15% to emphasize top line growth. Free Cash Flow and Customer Experience remain critical to our strategy and were retained as metrics in 2020 at similar weightings as 2019.

2020 Weighting	Metric
50%	Adjusted EBITDA measures the operational performance and profitability of our businesses and is commonly used by industry investors to evaluate our total enterprise value.
25%	Free Cash Flow is a comprehensive measure of the company’s overall financing position.
15%	Revenue generation is critical to our goal of increasing our strategic revenue growth in amounts sufficient to offset our continuing and systemic legacy revenue losses.
10%	Customer Experience is critical to maintain and grow our revenue base.
Individual Performance Modifier	A positive or negative adjustment for individual performance based on “line of sight” for their specific areas of responsibility and individual objectives. Since 2019, we have limited any positive adjustments for a NEO’s individual performance to 20% of the company performance funding under the plan.

Long-Term Incentive Compensation

Annual LTI is variable compensation awarded in equity that vests over three years from the date of grant, with at least 60% based on the achievement measured against pre-established performance measures and up to 40% based on three years of continued service.

Alignment to Compensation Philosophy:

LTI fosters a culture of ownership, aligns the long-term interests of our executives with our shareholders and helps to retain executives through stock price growth and the creation of long-term value. In addition, the number of shares vesting under our performance-based awards is dependent upon our performance measured against key business objectives over a multi-year period, further strengthening the alignment between executive pay, company performance and shareholder value creation. The amount of LTI compensation that is ultimately realized depends on how successfully we execute our strategic goals and our overall stock performance.

Section two - Compensation Philosophy and Oversight

Our Pay Elements

Performance Objectives Aligned with Strategy:

Time-Vested LTI Awards (TBRS): Our grants of TBRS are intended to reinforce the link of interests between our executives and our shareholders by focusing on the long-term value of our common stock.

Performance-Based LTI Awards (PBRS): As with our 2020 STI program, the HRCC made certain changes to the performance metrics of our 2020 PBRS grants to reflect discussions with shareholders as well as the maturation of our company and business strategy including returning to a three-year performance cycle. For 2020, the HRCC changed to a Cumulative Adjusted EBITDA metric and, to further strengthen the alignment of executive and shareholder interests, added a relative TSR modifier.

2020 Weighting	Metric
100%	Adjusted EBITDA measures the operational performance and profitability of our businesses and is commonly used by industry investors to evaluate our total enterprise value. Cumulative Adjusted EBITDA measures sustained, cumulative EBITDA performance over a three-year period.
+/-20% Modifier	Relative TSR (3-year) rewards for achieving stock price growth relative to our TSR peer group over a three-year period.

For a discussion of how the HRCC allocates compensation between the three key components, see section below entitled “Pay and Performance Alignment.”

Section three – Pay and Performance Alignment

In allocating NEO target pay opportunities among the different compensation elements, the HRCC does not adhere to a prescribed formula but generally emphasizes performance-based and at-risk elements. The total target cash compensation opportunity (base salary plus target STI) represents less of our NEOs total target compensation than the total target LTI opportunity, in order to increase alignment with shareholders' interests and motivate performance that creates sustainable long-term shareholder value.

Goal setting

As noted above, STI and LTI payouts are determined at the end of a performance period based on our achievement of pre-established goals. In order to ensure compensation elements are aligned with both company performance and the evolution of corporate strategy, incentive goals and targets are not automatically carried forward from one year to the next. Rather, the HRCC reevaluates performance goals in the first quarter each year, in order to establish goals that are:

- challenging and sufficiently rigorous, based on the information available to us at the time,
- appropriately tailored to our current business conditions as well as the prevailing business environment more broadly,
- aligned with shareholder interests, and
- designed to incentivize our executives to drive our key strategic objectives over the relevant performance period.

Incentive program guidelines

While our incentive goals, targets and payout criteria are designed to measure objective performance over a specified period of time, the HRCC does have the ability to make certain adjustments to our performance calculations. To provide structure and promote consistency in addressing such situations, the HRCC has adopted the Guidelines to aid its goal of reaching balanced STI and LTI payout decisions that align performance with our targets and corporate strategy. The Guidelines provide three types of potential adjustments that can affect the overall payout. The first two address adjustments made to the calculation of financial metrics and the third applies to an adjustment based on the terms of the STI plan.

For the first type, this occurs after completion of each performance period and in conjunction with our annual external reporting process when we review the financial information and assumptions in order to make certain mandatory adjustments to eliminate the effects of any unanticipated, material and non-recurring events. Generally, these adjustments have corresponded with the "Non-GAAP Integration, Transformation Costs and Special Items" supplemental schedule included in our earnings releases during the corresponding performance period.

The second type provides the HRCC with discretionary authority to adjust STI and LTI performance metrics based on any other "extraordinary, unusual, or non-recurring transactions or items." In either case, the adjustments may be positive or negative but will only be made if the events were not known on the date the performance goals were established or were not reflected in the forward-looking financial information used to set such goals.

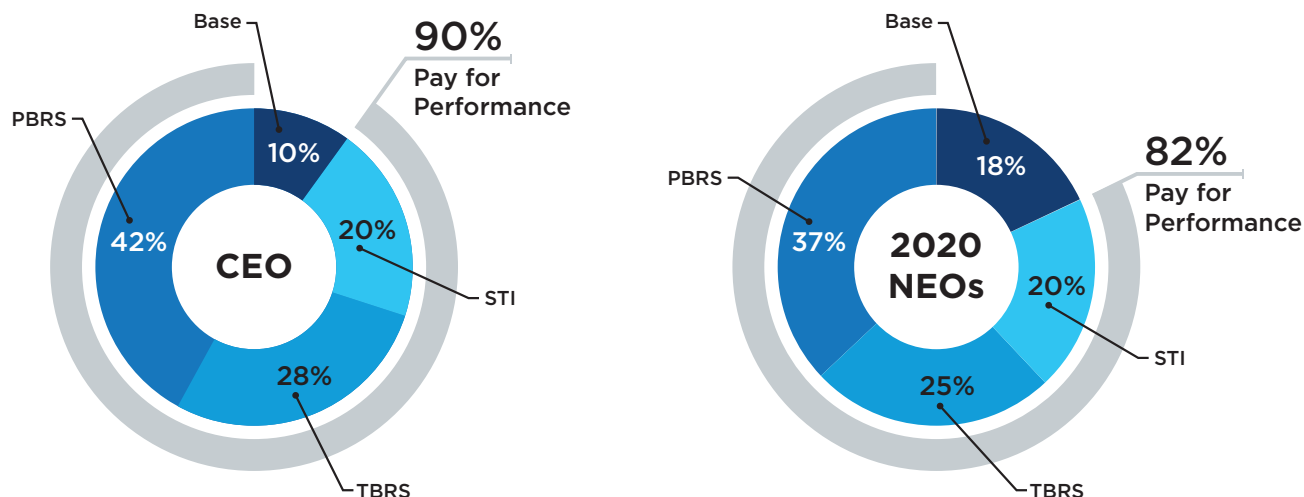
The third type, as discussed in greater detail below under "2020 STI Program" the HRCC has additional discretionary authority under the terms of the STI plan to adjust STI payouts. These discretionary adjustments may be included as a specific component of a given year's STI plan design (for example, the 20% cap on upward adjustments for NEO individual performance included in our 2020 plan design) but under the terms of the STI plan, the HRCC retains overall authority over the STI plan and its payouts.

Section three – Pay and Performance Alignment

Pay Mix

Pay mix

The following chart illustrates the approximate allocation of the total target compensation opportunity for our current CEO and named executive officers (shown as CEO and 2020 NEOs, respectively, below) between elements that are fixed and variable or performance-based pay that is “at risk.” As a result, the actual (or take home) pay that our CEO realizes in a given year may be more or less than his total target compensation for that year. This is shown as realized and realizable pay in the table below.



A fixed annual salary (“base”) represents 10% of our CEO’s total target compensation and 18% of our other NEOs’ average target total compensation.

Variable pay, consisting of an STI bonus opportunity and LTI awards, represents 90% of our CEO’s total target compensation and 82% of our other current NEOs’ average target total compensation. This portion of pay is considered at-risk since the receipt or value of the award is subject to the attainment of certain performance goals, vesting requirements and overall stock performance.

Realized and realizable pay for our CEO

The chart below illustrates the realized and realizable pay for our CEO, 90% of which was at-risk variable compensation (STI, TBRS and PBRS) in each the last three years.

2018 ¹	2019 ¹	2020
STI – Payout 107.0%	STI – Payout 97.0%	STI – Payout 91.0%
TBRS – Realized 68.2%	TBRS – Realizable 89.7%	TBRS – Realizable 89.1%
PBRS – Realized 105.2%	PBRS – Realizable 133.6%	PBRS – Realizable 89.1%
• 2 Year Performance Period • Adjusted EBITDA run rate – 157.1%	• 2 Year Performance Period • Adjusted EBITDA run rate – 149.9%	• 3 Year Performance Period • Cumulative Adjusted EBITDA – TBD • Relative TSR – TBD
2018 Realized Pay² 94.7%	2019 Realizable Pay³ 110.6%	2020 Realizable Pay³ 90.5%

- For further information on our 2018 and 2019 STI performance and 2018 PBRS performance, please see our 2019 and 2020 proxy statements. For further discussion on our 2020 STI payout and 2019 PBRS payout, see “Performance Periods Ending December 31, 2020.” “TBD” means to be determined upon completion of the performance period.
- Realized Pay* measures the actual pay realized by Mr. Storey, excluding one-time awards, by adding together (i) actual salary paid during the year, (ii) STI bonus that was ultimately paid for that year and (iii) the value of time- and performance-based LTI awards that vested.
- Realizable Pay* measures the actual pay realizable for Mr. Storey, excluding one-time awards, for a given year by adding together the (i) realized pay, as describe in note (2) and (ii) the value of unvested time- and performance-based LTI, at “target” levels, based on stock price as of March 1, 2021.

Section four – Compensation Design, Awards and Payouts for 2020

As described in Sections two and three above, we believe that a forward-thinking, performance-based approach to executive pay is critical to ensure that Lumen has the right talent with the right skills to execute on our business strategy and deliver value to our shareholders.

As Lumen continues to evolve into a leading technology-focused company, our employee base and our compensation programs must also evolve. Although in years past we had considerable success in attracting and retaining talent with fiscally prudent market-based pay packages, we now compete with software and other technology-focused companies for a more limited pool of executive talent.

As a result, the individuals in that limited candidate pool, who have unique talents and expertise, are able to command much higher levels of compensation than what we have paid historically, making executive recruitment and retention more challenging. In making decisions regarding our 2020 executive pay programs, the HRCC engaged in extensive discussions with shareholders and, with the guidance of its compensation consultant, conducted a comprehensive review of peer practices. The HRCC's deliberate approach to setting pay, as described under "Role of Peer Companies" is intended to ensure that our executive compensation program is appropriately calibrated to achieving the complementary goals of delivering value to shareholders and attracting, rewarding and retaining the talent necessary to lead us through the next phase of execution on our business strategy.

Target Compensation

As noted previously, the three key elements of our executive compensation program are base salary, STI bonus opportunity and LTI awards (at least 60% of which are PBRs). The HRCC has established target compensation levels for each of our senior officers on each of these three elements, reviewing the pay mix and pay levels at least annually. As of December 31, 2020, the total target compensation opportunities for our NEOs were as follows:

Total Target Compensation for Fiscal 2020¹

NEO	Salary	STI Target Bonus %	STI Target Bonus Opportunity	Total Target Cash	LTI Target ²	Total Target Compensation ³
Mr. Storey	\$1,800,011	200%	\$3,600,022	\$5,400,033	\$12,600,000	\$18,000,033
Mr. Dev	750,000	125%	937,500	1,687,500	4,000,000	5,687,500
Mr. Goff	600,018	120%	720,022	1,320,040	2,000,000	3,320,040
Mr. Andrews	525,000	100%	525,000	1,050,000	1,400,000	2,450,000
Mr. Trezise	500,011	90%	450,010	950,021	1,000,000	1,950,021

- For more complete information presented in accordance with the SEC's rules, see the Summary Compensation Table below.
- The LTI target in this table represents the value of the target levels of equity awards to be granted as of December 31, 2020, which differ from amounts reported in the Summary Compensation Table, which are calculated in accordance with FASB ASC Topic 718.
- The Total Target Compensation for Messrs Goff and Storey was at the 50th percentile of our compensation benchmarking data, between the 25th and 50th percentile for Messrs Andrews and Dev, and below the 25th percentile for Mr. Trezise.

Each of these elements is discussed in greater detail below. For more information on how we determined specific pay levels in 2020, see further discussion under the heading "— Compensation Benchmarking Peer Group."

Section four – Compensation Design, Awards and Payouts for 2020

Salary

Salary

Early each year, the HRCC takes a number of steps in connection with setting annual salaries, including the review of (i) compensation tally sheets and benchmarking data, (ii) each senior officer's pay and performance relative to other senior officers, (iii) the scope and complexity of the role relative to benchmark data, (iv) the experience and proficiency in the role, (v) the criticality and skill set needed to execute the role and (vi) when the officer last received a pay increase.

Annual review process (February 2020). During its annual review of executive compensation in February 2020, the HRCC reviewed the compensation benchmarking data for each senior officer, comparing the officer's pay to our peer group for the combined Company. Following this review and discussion, the HRCC increased Mr. Dev's annual salary to \$750,000 and left unchanged the salary for our other NEOs.

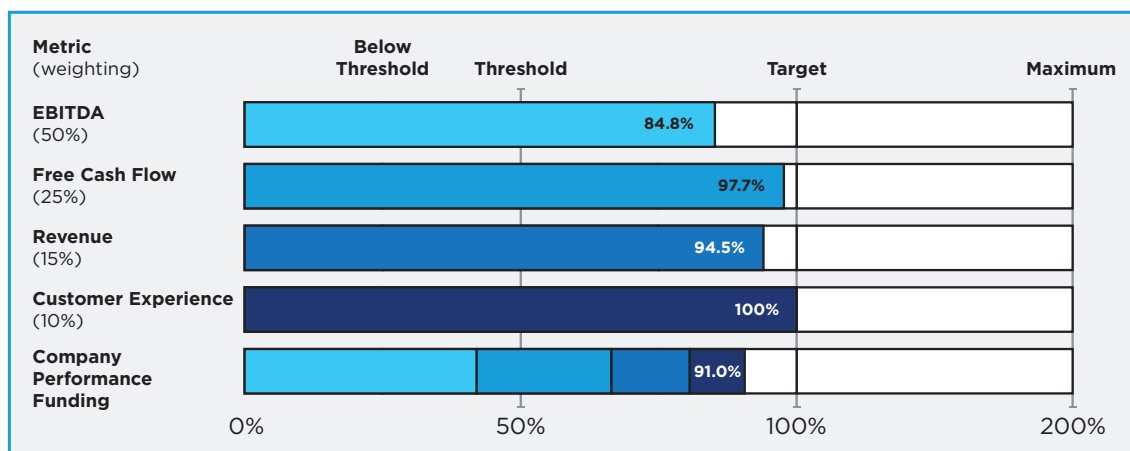
Recent actions (February 2021). In February 2021, the HRCC reviewed the compensation benchmarking data for all executive officers and increased the salary of Mr. Andrews to \$550,000 and left unchanged the salary for our other NEOs.

2020 Short-term Incentive program

As described below, the 2020 STI design incorporates three components in determining the calculated STI bonus amount (payout) for our NEOs:

$$\text{Target Bonus Opportunity} \times \text{Company Performance Funding} \times \text{Individual Performance Modifier} = \text{Calculated STI Bonus Amount}$$

This chart below shows our overall level of achievement (company performance funding) on the financial and qualitative metrics in our 2020 STI plan (before the application of any individual performance modifiers as discussed below):



2020 STI performance metrics

In February 2020, the HRCC approved the 2020 STI plan metrics and set the “threshold,” “target” and “maximum” target goals for each. The 2020 metrics were similar to those used in 2019 although to better align the 2020 STI plan with our corporate strategy, the HRCC approved a reduction in the weighting for Adjusted EBITDA and the addition of Revenue, as discussed below.

Adjusted EBITDA ¹ (weighted 50%)

Alignment to Strategy:

Adjusted EBITDA remains our largest financial performance objective (we reduced the weighting in our STI from 65% to 50% for 2020). We believe this metric is aligned with our shareholders’ best interests and our corporate strategy of profitable growth. As described elsewhere, in light of the revenue decline for our legacy services which are at higher margins, we need to adjust our cost structure every year - requiring a disciplined focus on Adjusted EBITDA and margins. The metric of Adjusted EBITDA is designed to incentivize and reward our senior officers to focus on the combination of cost savings and profitable revenue growth.

Rigor of Goal Setting:

As in prior years, the HRCC based its performance goals and targets on the Company’s Board-approved 2020 annual budget and long-range plan.

Specifically, our 2020 Adjusted EBITDA target of \$9,100 million remains unchanged from our 2019 target and slightly above 2019 results of \$9,070 million. The HRCC believes our performance targets are rigorous, even if they are the same as last year’s targets, after taking into consideration the various factors that influence our business, annual budget and long-range plan, including, but not limited to, the year-over-year wireline revenue declines as reported in our periodic reports with the SEC and the significant pressure it exerts on achieving the same or higher EBITDA year-over-year.

	Target	Payout as a % of Target Award
Above Target	≥ \$9,600 million	200%
Target	\$9,100 million	100%
Threshold	\$8,800 million	50%
Below Threshold	< \$8,800 million	0%

Results:

The Adjusted EBITDA results of \$8,953 million, below target of \$9,100 million, achieved a payout of 84.8%.

Achieved Payout of 84.8% ²

- As used in our 2020 STI plan, adjusted earnings before interest, taxes, depreciation, amortization and stock-based compensation expense and impairments (“Adjusted EBITDA”) excludes (i) integration and transformation costs and special items (see Appendix A for more information) and (ii) certain one time or non-recurring charges or credits.
- The achieved payout percentage is calculated for each financial performance objective based on a corresponding payout scale approved by the HRCC. If the threshold performance level with respect to any particular financial performance objective under our STI program is not attained, the bonus payable to the participating officer with respect to that portion of his or her targeted bonus opportunity will be calculated as zero. If threshold performance is met on any particular metric, each participating officer will earn a reduced portion of his or her target bonus amount for that portion of the award. If the maximum performance level with respect to any particular metric is met or exceeded, each participating officer will earn a maximum of 200% of his or her target bonus amount. Measurement of the attainment of any particular metric is interpolated if actual performance is between (i) the “threshold” and the “target” performance levels or (ii) the “target” and the “maximum” performance levels.

Section four – Compensation Design, Awards and Payouts for 2020

2020 Short-term Incentive Program

Free Cash Flow³ (weighted 25%)

Alignment to Strategy:

Free Cash Flow is critical to supporting our key strategic initiatives and our commitment to supporting our dividend and investing in our growth segments.

Rigor of Goal Setting:

In February 2020, the HRCC set Free Cash Flow targets for our 2020 STI commensurate with our annual budget and our publicly disclosed guidance as established for the year.

Our 2020 Free Cash Flow target of \$3,200 million is slightly below our 2019 target of \$3,260 and results of \$3,276 million.

	Target	Payout as a % of Target Award
Above Target	≥ \$3,840 million	200%
Target	\$3,200 million	100%
Threshold	\$2,560 million	50%
Below Threshold	< \$2,560 million	0%

Results:

The Free Cash Flow results of \$3,161 million, just below target of \$3,200 million, achieved a payout of 97.7%.

Achieved Payout of 97.7%

- As used in our 2020 STI plan, Free Cash Flow is a non-GAAP measure of net cash from operating activities less capital expenditures and before dividends. See Appendix A for more information.

Revenue (weighted 15%)

Alignment to Strategy:

The generation of revenue is critical to our goal of increasing our strategic revenue in amounts sufficient to offset our continuing and systemic legacy revenue losses. Thus, we added Revenue as a metric for 15% for our 2020 STI plan.

The HRCC believes our senior officers are appropriately incentivized to achieve our 2020 revenue targets with a balanced approach, since the majority of our 2020 STI is based on Adjusted EBITDA and Free Cash Flow, which rewards our senior officers for achieving profitable revenue growth.

Rigor of Goal Setting:

In February 2020, the HRCC set Revenue targets for our 2020 STI commensurate with our annual budget as established for the year.

	Target	Payout as a % of Target Award
Above Target	≥ \$22,779 million	200%
Target	\$21,903 million	100%
Threshold	\$21,027 million	50%
Below Threshold	< \$21,027 million	0%

Results:

The Revenue results of \$20,756 million achieved 98.8% of target of \$21,903 million for a payout of 94.5%.

Achieved Payout of 94.5%

Customer Experience ⁴ (weighted 10%)**Alignment to Strategy:**

Meeting the needs of all our customers, improving customer satisfaction and service scores, reducing customer inconveniences and decreasing repair times are critical to supporting our goal of improving our revenue trajectories.

We believe the ease of doing business is a top driver of customer loyalty, which will be reflected in Net Promoter Score (“NPS”). Customer experience research suggests increased promotor scores will drive increase in customer spend within 24 months. As such, the primary measures for Customer Experience performance are NPS and Customer Ease Score (“CES”).

Rigor of Goal Setting:

Although there are quantitative metrics involved in Customer Experience, the overall metric is qualitative in nature. Each business unit is charged with improving relationships with our customers and is part of the annual planning process. Our customer experience goals and transformation programs are informed and prioritized using customer data trends and insights. Using regression analysis, we can model which programs drive the greatest improvements for the greatest number of customers. For goal setting, we consider historical Lumen performance trends and industry benchmarks to ensure that we are setting appropriate growth targets by segment.

Targets:

In February 2020, the HRCC approved the following goals and objectives for our 2020 STI plan:

- Execute companywide on transformative programs that truly improve the way we operate in order to improve NPS and CES for each of our business units
- Improve relationship Net Promoter Scores by four points and relationship Customer Ease Scores by 6% in all segments

Performance Results:

Our overall customer satisfaction performance for 2020 showed year over year improvement as follows:

Transformative Programs

- Integrate customer experience and employee experience in Lumen brand story
- Listen to understand and act, not just measure
- Mobilize “Customer First” culture
- Execute through “Journeys”
- Deliver “Digital Experiences”

Business Unit Results**Consumer Results**

- Ranked #1 for Customer Service in Newsweek / Statista poll
- Overall relationship NPS slightly improved
- Relationship CES improved year over year
- Onboarding NPS declined, while relationship CES and transactional NPS improved year over year

Enterprise Results

- Enterprise relationship survey results
- Transactional NPS improved year over year

Network Operations Performance

- Exceeded target goals for both Enterprise and Consumer for transactional NPS and CES

Achieved Target Goals - 100% payout ⁵

Section four – Compensation Design, Awards and Payouts for 2020

2020 Short-term Incentive Program

4. As used in our 2020 STI plan, customer experience is a qualitative objective is composed of performance year over year, quarter over quarter and against internal targets for net promoter scores (both relationship and transactional) as well as scores regarding customer's ease of doing business with us for our Enterprise and Consumer business.
5. The achieved payout percentage is determined based on the HRCC's qualitative review of certain criteria and performance metrics, as described under "Customer Experience - Performance Results" above.

HRCC STI award oversight

In February 2021, the HRCC reviewed audited results of the Company's performance as compared to the financial and operational performance targets and respective weighting for the established metrics for our 2020 STI plan and determined that the Company Performance Funding was 91.0% (as confirmed by our Internal Auditors), based on the financial metrics detailed above, before considering each NEO's individual performance modifier as discussed below.

The HRCC has adopted a cap of 20% to any upward adjustments to STI for individual performance and for 2020, no individual adjustment exceeded this percentage.

Bonus amounts

As contemplated by the STI plan and the Guidelines, the HRCC reserves the right to increase or decrease the STI bonus payout level based on their qualitative assessments for each senior officer's performance against certain specific objectives and benchmarks, as well as overall company and individual performance during the year. For 2020, these adjustments are indicated in the "Individual Performance Modifier" heading in the table below. In certain circumstances, the HRCC may apply discretion to modify senior officer compensation, with any upward adjustments for NEOs capped at 20% (or 120% of company performance funding). The HRCC discussed each NEO's 2020 performance and leadership accomplishments and approved the following adjustments to their Individual Performance Modifier, as quantified in the table below.

For **Mr. Storey**, the HRCC approved an individual performance modifier of 109.9%, keeping his overall STI bonus at target amount. This is higher than any previous performance modifier the HRCC has given to him but 2020 was an unusual year with enduring challenges. During a tumultuous year, Mr. Storey demonstrated exceptional leadership and remained focused on the wellbeing of our employees, keeping our customers connected, delivering financial results, and driving our ongoing business transformation.

Focusing on the health and safety of our employees, the company moved 75% of our global workforce to work from home, with agility and decisiveness in early March of 2020. Consistent with Lumen's business continuity planning and after a year of operating with a predominantly distributed workforce, the Company continues to perform efficiently and effectively, delivering services that have been instrumental in our customers' ability to maintain their businesses, work from home, and participate in remote learning. As our awareness around racial and social justice issues heightened, Mr. Storey focused Lumen's opportunities for change by meeting with frontline employees, listening to their concerns and ideas and implementing a number of initiatives to ensure Lumen builds on our diversity, inclusion and belonging expectations.

Financially, the Company continued to turn our revenue trajectory from declining, high-margin legacy revenue by evolving our services portfolio to both meet customer needs and attract new customers. Specifically, Lumen reduced the revenue rate of decline from 5% in 4Q18 to 3.5% in 4Q20 while delivering solid 2020 Adjusted EBITDA excluding integration, transformation costs and special items and Free Cash Flow excluding integration, transformation costs and special items, of \$8.9 billion and \$3.1 billion, respectively, in spite of the loss of approximately \$750 million in high-margin revenue from declining legacy products. In addition, we increased Adjusted EBITDA excluding integration, transformation costs and special items margins to 44.5% in 4Q20 and improved our balance sheet throughout the year with our deleveraging plan, reducing net debt by \$1.6 billion and refinancing \$13 billion reducing cash interest expense and extending maturities.

Mr. Storey continued to successfully lead the Company toward his long-term vision of digital transformation, but 2020 was a significant year toward our goals. Under Mr. Storey's leadership in 2020, we:

- repositioned the Company and expanded our market opportunities with new services such as the Lumen Platform and the Lumen Edge Cloud;
- established "Lumen" as our flagship Enterprise brand;
- clearly articulated value propositions by segment of the market, including launching our Quantum Fiber brand for our Mass Markets fiber-based services; and
- reorganized our customer facing organizations into Enterprise Sales, Customer Success and Mass Markets to better align our sales and support teams to serve our customers within distinct market segments.

As a result of Mr. Storey's performance in 2020, we are positioned to continue to create greater efficiencies and further improve our customer satisfaction scores.

Mr. Dev received an individual performance modifier of 105% based on his successful implementation of our deleveraging plan. In addition to reducing net debt by approximately \$1.6 billion, we refinanced approximately \$13 billion in debt. Our 2020 net cash interest is approximately \$500 million lower than 2018. Mr. Dev also helped us deliver solid results on our other financial metrics as we achieved approximately \$830 million of annualized run rate adjusted EBITDA transformation savings by the end of 2020, putting us in our targeted range a year earlier than planned.

Under **Mr. Goff's** leadership and individual performance, the HRCC approved an individual performance modifier of 103% based on his achievements in leading regulatory, corporate compliance, litigation and corporate communication. Specific achievements included, CAF II extension, emergency 911 support, litigation and dispute resolution, shareholder outreach, simplification and automation of contracting processes, procurement of IP rights to Lumen name change, reduction of operating expense spend for his areas of responsibility and leading the company's communication strategies including responses to COVID-19 pandemic and social unrest.

Mr. Andrews received an individual performance modifier of 103% based on a successful launch of the Lumen brand and quickly pivoting the organization to focus on 'becoming Lumen' through cultural, process and organizational changes. His team improved the customer experience as measured by both NPS and CES by focusing on the digital experience and releasing new customer focused capabilities such as: BMaaS on the edge, Zoom, VmWare, global SdWAN expansion, MS Teams, HyperWAN, DDOS Hyper and more. Through his partnership with our internal IT and transformation functions he advanced our effort to become an agile development model as shown by the high volume of quality launches throughout the year.

For **Mr. Trezise**, the HRCC approved an individual performance modifier of 105% based on his achievements in his efforts in leading the Human Resources function at Lumen. Mr. Trezise played a significant role in the Company's proactive responses to both the COVID-19 pandemic and issues of social unrest. Mr. Trezise led numerous initiatives that enabled the organization to successfully and rapidly move 75% of employees to a remote working environment, while maintaining productivity levels consistent with pre-pandemic levels. As part of overall work in the area of engagement and culture building, Mr. Trezise continued to strengthen our programs to promote diversity, inclusion and belonging. Mr. Trezise has performed at the highest level in leading the organization in areas of compensation, training, benefits, talent acquisition, talent management, labor relations and overall HR functional excellence.

Section four – Compensation Design, Awards and Payouts for 2020

2020 Short-term Incentive Program

The HRCC approved each NEO's STI bonus as summarized in the table below.

2020 STI Bonus Amounts							
NEO	Target Bonus Opportunity ¹		Company Performance Funding ²		Individual Performance Modifier ³		Calculated STI Bonus Amount
Mr. Storey	\$3,600,022	X	91%	X	109.9%	=	\$3,600,022
Mr. Dev	913,402	X	91%	X	105%	=	872,756
Mr. Goff	720,021	X	91%	X	103%	=	674,876
Mr. Andrews	525,000	X	91%	X	103%	=	492,083
Mr. Trezise	450,010	X	91%	X	105%	=	429,985

1. Determined based on earned salary and applicable STI target bonus percentage during 2020. The amount for Mr. Dev reflects a pro-rated amount based on an increase in both salary (from \$650,000 to \$750,000) and STI target bonus percentage (120% to 125%), each effective as of February 26, 2020.
2. Calculated or determined as discussed above under “ — 2020 Performance Results.”
3. The plan allows for positive or negative adjustment based on the individual's overall performance and contributions. For NEOs, the HRCC has a policy in place to cap the adjustment to 120% (20% upward adjustment).

Recent STI Actions (February 2021). During its February 2021 meeting, the HRCC decided not to make any design changes to the STI plan. Consequently, the 2021 STI plan is substantially similar to the overall design of our 2020 STI plan. In connection with establishing financial targets for the 2021 STI program, consistent with our publicly disclosed guidance, the HRCC increased Mr. Trezise's STI target to 100%. The target STI opportunity for each of our other NEOs remained unchanged.

2020 Long-term incentive compensation

For 2020, our annual LTI grants consist of a mix of time- and performance-based equity awards, as described below.

Form of LTI Award	Mix	Vesting and Performance Period
Time-Based Restricted Stock or RSUs (TBRS)	40%	One-third vesting each year over three-years; subject to continued service on vesting date.
Performance-Based Restricted Stock or RSUs (PBRs)	60%	Three-year performance period with vesting on March 1, 2023, with payout ranging from 0% to 200% based on achievement as measured against performance metrics subject to continued service through vesting date.

2020 Annual LTI grants

Except for Messrs. Dev, Trezise and Andrews, the HRCC granted annual LTI awards to our named executives in February 2020 at amounts substantially similar to the awards granted to them in 2019. Mr. Andrews' 2020 LTI target was increased to \$1,400,000 in August 2019, following his promotion to Chief Marketing Officer and the HRCC's review of compensation benchmarking data. In February 2020, the HRCC reviewed the compensation benchmarking data for all executive officers and increased Mr. Dev's LTI target to \$4,000,000 and Mr. Trezise's LTI target to \$1,000,000 and left unchanged the LTI target for our other NEOs. See further discussion under the heading “Role of Peer Companies” below.

On February 26, 2020, the HRCC granted the LTI awards detailed below.

2020 Annual LTI Grants

Named Officer	Time-Vested Restricted Shares or RSUs		Performance-Based Restricted Shares or RSUs		Total Grant Value ⁴
	No. of Shares ^{1,3}	Grant Value ⁴	No. of Shares ^{2,3}	Grant Value ⁴	
Mr. Storey ⁵	358,772	\$5,040,000	538,159	\$7,560,000	\$12,600,000
Mr. Dev	113,896	1,600,000	170,844	2,400,000	4,000,000
Mr. Goff	56,948	800,000	85,422	1,200,000	2,000,000
Mr. Andrews	39,863	560,000	59,796	840,000	1,400,000
Mr. Trezise	28,474	400,000	42,711	600,000	1,000,000

- Represents the number of restricted shares or RSUs granted in 2020.
- As discussed under "2020 Annual LTI Performance Metrics" below, the actual number of shares that vest in the future may be lower or higher, depending on the level of performance achieved.
- Dividends on the shares of restricted stock (or, with respect to RSUs, dividend equivalents) will not be paid on unvested awards but will accrue and be paid or be forfeited in tandem with the vesting of the related shares or RSUs.
- For purposes of these grants, we determined both the number of time-vested and performance-based restricted shares or RSUs by dividing the total grant value granted to the executive by the volume-weighted average closing price of a share of our common stock over the 15-trading-day period ending five trading days prior to the grant date ("VWAP"), rounding to the nearest whole share. However, as noted previously, for purposes of reporting these awards in the Summary Compensation Table, our shares of time-vested restricted stock or RSUs are valued based on the closing price of our common stock on the date of grant and our shares of performance-based restricted stock or RSUs are valued as of the grant date based on probable outcomes, as required by applicable accounting and SEC disclosure rules. See footnote 1 to the Summary Compensation Table for more information.
- Mr. Storey's annual grant was in the form of RSUs.

2020 Annual LTI performance metrics

Following the end of the three-year performance period, the number of shares vesting under the PBRS will be calculated in two-steps: (i) determining achievement of the three-year Cumulative Adjusted EBITDA target and (ii) applying the Relative TSR modifier, with the ultimate payout ranging between 0%-200% of the number granted. Any shares earned under the PBRS will vest in full on March 1, 2023, subject to the holder's continued employment through that date (except as otherwise provided in the applicable award agreement).

Step 1 – Cumulative Adjusted EBITDA:

Cumulative Adjusted EBITDA ¹ (payout opportunity of 0%-200%)

Alignment to Strategy:

As described elsewhere, in light of the revenue decline for our high-margin, legacy voice and copper wireline services, we annually adjust our cost structure, requiring a disciplined focus on Adjusted EBITDA and margins. The metric of Adjusted EBITDA incentivizes our senior officers to focus on the combination of cost savings and profitable revenue growth.

While Adjusted EBITDA is a performance metric in both our STI and LTI plans, the performance targets are differentiated by the time horizon and underlying financial supporting targets. Adjusted EBITDA is weighted at 50% in our STI plan based on one-year targets generally based on internal budgets and aligned with external guidance. In our LTI plan, Adjusted EBITDA is weighted at 100% and based on a three-year cumulative target informed by our long-range plan.

Section four – Compensation Design, Awards and Payouts for 2020

2020 Long-term Incentive Compensation

Rigor of Goal Setting:

The HRCC based the three-year Cumulative Adjusted EBITDA targets on our long-range plan, which includes significant stretch goals and alignment with market consensus.

The HRCC believes that these targets were set at levels that were both appropriate and sufficiently rigorous, particularly when viewed in light of: (i) the impact of the industry operating environment, (ii) wireline industry trends, (iii) competitive landscape, (iv) product lifecycles, (v) operational initiatives, (vi) capital allocation priorities and (vii) several other company-specific items that influence our business.

Performance Level Attainment	Target	Payout as a % of Target Award ²
Maximum	≥ Maximum Amount	200%
Target	Target Amount ³	100%
Threshold	Threshold Amount	50%
Below Threshold	< Threshold	0%

1. Cumulative Adjusted EBITDA is the sum of our Adjusted EBITDA excluding integration, transformation costs and special items (except with adjustments to reflect a 100% bonus accrual for each year) for 2020, 2021 and 2022. See Appendix A for more information.
2. Payouts interpolated between defined performance levels.
3. We do not feel it is appropriate to disclose our Cumulative Adjusted EBITDA target as it would constitute forward-looking guidance. The Company employed a rigorous process to establish its annual budget and long-range plan. To further align this grant with our shareholders' best interests, we also considered the consensus for the same three-year period when setting the threshold, target and maximum amounts which affirmed that our long-range plan, used to set targets, is rigorous.

Step 2 – Relative TSR Modifier:

Relative TSR Modifier (+/-20%)

Alignment to Strategy:

A relative metric is an important way to ensure that performance is measured appropriately relative to peers. Our Relative TSR Modifier is measured on our percentile rank versus the other 16 companies in our TSR peer group over three-years, which could result in a positive or negative adjustment (+/- 20%) to our 2020 annual PBRS grant for senior officers. As noted previously, there will be no positive adjustment if Lumen's TSR is negative over the three-year period nor can total payout, regardless of TSR Modifier, exceed 200%.

For information regarding our TSR peer group, see further discussion under the heading "TSR Peer Group" below.

Rigor of Goal Setting:

The TSR peer group comprises telecommunications, cable and other communications companies that are generally comparable to us in terms of size, markets and operations. For information regarding our TSR peer group, see further discussion under the heading "TSR Peer Group" below.

The structure of our TSR modifier provides for a positive adjustment of 20% in the case of stretch performance whereby our TSR exceeds the 75th percentile performance for our TSR peer group for the three-year performance period. However, there will be no positive adjustment if Lumen's TSR is negative over the three-year period, even if our TSR performance exceeds the 50th percentile for our TSR peer group. This ensures our executives are aligned with shareholders and not rewarded if our TSR is negative over the three-year performance period.

	Target	Payout as a % of Target Award
Maximum	≥ 75 th Percentile	+20%
Target	50 th Percentile	0%
Threshold	≤ 25 th Percentile	-20%

Share dilution, burn rate and stock-based compensation expense

As part of their governance and oversight function, the HRCC approves the LTI grant values for our officers and, under delegated authority, approximately 1,600 eligible employees who participated in our 2020 annual LTI program. The HRCC also closely monitors our share usage, burn rate, dilution and overhang levels.

The annual LTI award value approved and granted by the HRCC, or under delegated authority, has declined by approximately \$30 million from 2018 to 2020. As described elsewhere, our LTI awards have graded vesting and are expensed over a three-year period. The share-based compensation expense reported in our 10-K (see Appendix B) reflects expense for outstanding awards during that period, generally covering three different annual LTI awards and, to lesser degree, other awards for our LTI participants that were granted upon hire or promotion throughout the year.

On a quarterly basis, the HRCC reviews our share usage and burn rate projections. For the last three years, our burn rate, dilution and overhang levels have been within or below industry benchmark levels.

Recent LTI actions (February 2021)

In February 2021, the HRCC reviewed the compensation benchmarking data for all executive officers and increased the target LTI grant values for each of Messrs. Storey, Dev Andrews and Trezise to \$14,000,000, \$4,250,000, \$1,600,000 and \$1,200,000 respectively. The HRCC granted annual LTI awards to our NEOs in February 2021 at a similar mix to the awards granted to them in 2020, except for Mr. Storey. For Mr. Storey, the increase in his target LTI grant value was allocated entirely to the performance-based portion of his award, meaning that PBRS now composes 64% of his target LTI grant value with the remaining 36% delivered as TBRS.

Over the course of several meetings in February and March 2021, the HRCC reviewed the metrics and design for our 2021 annual LTI awards. HRCC maintained the three-year performance period and two performance metrics as our 2020 annual LTI awards, however the HRCC changed the weight of each as follows:

- **Cumulative Adjusted EBITDA** – 50% weighting. Adjusted EBITDA measures the operational performance and profitability of our businesses as we continue to make progress on our telecommunications to technology transformation strategy.
- **Relative TSR** – 50% weighting. Relative TSR was used as a modifier in our 2020 annual LTI awards, however for our 2021 awards we made it equally weighted with our Adjusted EBITDA metric – improving alignment with shareholder interests by rewarding for our stock performance relative to our peers, subject to a cap of 100% payout if Lumen's TSR is negative, even if our performance exceeds the median of our TSR peer group.

Each metric provides an opportunity to earn a payout of 0-200%. We believe the 2021 LTI design continues to strike the right balance between performance incentives and long-term shareholder interests.

Performance periods ending December 31, 2020

While these award payouts relate to compensation decisions made in prior years, we did have two different awards of PBRS for which the performance period ended on December 31, 2020 – our 2019 annual LTI granted to participating employees, including our senior officers and a special grant made to Mr. Storey upon his promotion to CEO in 2018. For each type of award, we discuss below the: (i) alignment of the award to our strategy, (ii) rigor of goal setting and payout scale, (iii) performance results versus targets, (iv) earned payout level that represents the percentage of the target number of shares that ultimately vested (or will vest), with any unearned shares forfeited and (v) for our CEO, the ultimate realized, or estimated realizable, LTI value compared to original grant value.

Section four – Compensation Design, Awards and Payouts for 2020

Performance Periods ending December 31, 2020

2019 Annual LTI grant

2019 was the last year that our LTI plan had a two-year performance period and was measured only on Adjusted EBITDA run rate. As part of the plan design, 50% of the PBRs vested on March 1, 2021, after the end of the performance period and the remaining 50% will vest on March 1, 2022, subject to the executive's continued employment through the vesting date or as otherwise provided in the award agreement. For greater detail regarding the goal setting process and rationale for this plan, see our additional proxy soliciting materials filed with the SEC on May 4, 2020.

Adjusted EBITDA Run Rate

Alignment to Strategy:

To align this grant with our shareholders' best interests and our long-term strategy of profitable growth, our annual LTI award in 2019 for our senior officers was based on Adjusted EBITDA run rate for the two-year performance period, which provided for the opportunity to earn 0% to 200% of the target number of PBRs.

As described elsewhere, in light of the revenue decline for our legacy services which are at higher margins, we need to adjust our cost structure every year – requiring a disciplined focus on Adjusted EBITDA and margins. The metric of Adjusted EBITDA is designed to incentivize and reward our senior officers to focus on the combination of cost savings and profitable revenue growth.

The HRCC determined that the framework to measure performance by Adjusted EBITDA run rate, rather than cumulative target and over a two-year, rather than three-year, performance period, was appropriate during the critical and complex integration period following the Level 3 Combination. During this portion of our long-term strategy, under our long-range plan we knew the Adjusted EBITDA performance level we wanted to attain at the end of the two-year performance period. By comparing fourth quarter Adjusted EBITDA performance at the beginning and end of the two-year performance period (run rate), we were able to provide the flexibility to integrate and transform two global companies while focusing on a single goal of fourth quarter Adjusted EBITDA performance at the end of the two-year performance period.

Rigor of Goal Setting:

Consistent with its historic practice, the HRCC set the performance goal and the specific threshold, target and maximum performance levels for this award based on the Company's 2019 Board-approved annual budget and long-range plan.

At the time these awards were granted, the HRCC believed that the performance target levels were both appropriate and sufficiently rigorous, particularly when viewed in light of: (i) the impact of the industry operating environment, (ii) wireline industry trends, (iii) competitive landscape, (iv) product lifecycles, (v) operational initiatives, (vi) capital allocation priorities and (vii) several other company-specific items that influence our business.

Specifically, our long-range plan as of the first quarter 2019, the time these targets were set, reflected the overall wireline industry revenue pressure from legacy services and estimated decline in revenues of \$220 million each year. The Company established strategic goals to offset the declining high margin legacy voice and copper-based revenue declines by continued cost savings from transformation initiatives that would hold Adjusted EBITDA unchanged or a 0% Adjusted EBITDA run rate for the two-year performance period from fourth quarter of 2018 to fourth quarter of 2020.

	Target ¹	Payout as a % of Target Award ²
Above Target	≥ 2.8%	200%
Target	0.0%	100%
Threshold	(2.8%)	50%
Below Threshold	< (2.8%)	0%

Performance Results:

The performance period ended on December 31, 2020. Our expectations on revenue decline were aligned with actual results, which reflect a decrease in total revenue from fourth quarter 2018 to fourth quarter 2020 of -7.7%. From 4Q18 to 4Q20, we improved fourth quarter Adjusted EBITDA results and achieved our run rate target of 1.4%, offsetting the revenue decline during the same time – which resulted in a payout of 149.9%. In essence, the improvement in Adjusted EBITDA surpassed our expectations for this period which drove the above-target payout.

Earned Payout of 149.9%³

CEO Realized Pay:

As of March 1, 2021, the projected realizable LTI value (for both TBRS and PBRS) was 116% of grant value, which reflects the impact of above target performance vesting of 149.9% for Adjusted EBITDA run rate and stock performance decline of 10.9% over the first two years of the three-year vesting period.

- Mr. Storey's projected realizable LTI value of \$14.6M (116%) compared to his grant value of \$12.6M, based on a March 1, 2021 closing share price.
1. Determined by dividing (i) the Adjusted EBITDA actually attained for the fourth quarter of 2020 minus the Adjusted EBITDA actually attained for the fourth quarter of 2018 by (ii) the Adjusted EBITDA actually attained for the fourth quarter of 2018. See Appendix A for information on how Adjusted EBITDA is calculated.
 2. Linear interpolation is used when our Adjusted EBITDA Run Rate performance is between the threshold, target and maximum amounts to determine the corresponding percentage of target award earned.
 3. The earned shares vest in two equal installments on March 1 of each of 2021 and 2022, subject to continued employment through the applicable vesting date or as otherwise provided in the award agreement.

2018 Promotion grant for Mr. Storey

As an additional incentive for him to accept promotion to CEO in 2018, the HRCC awarded Mr. Storey a special LTI grant. Consistent with the structure of our annual LTI grants, this promotion grant consisted of 60% PBRS and 40% TBRS. The three-year performance period for this award ended on December 31, 2020, and the number of earned shares was determined on a two-step payout calculation based on Adjusted EBITDA and our relative TSR. As detailed below, the overall payout to Mr. Storey will be 128.6% of target. The earned shares will be issued to Mr. Storey on May 24, 2021, subject to his continued employment through such date or as otherwise provided in his award agreement.

Performance Achievement Level	Step 1: Cumulative Adjusted EBITDA Performance ¹	Step 2: Relative TSR Performance ²	Payout as % of Target Number of Performance-Based Restricted Shares ³
Maximum	N/A	75 th Percentile	200%
Stretch	N/A	63 rd Percentile	152%
Slightly Above Target	N/A	51 st Percentile	104%
Target	≥\$26.8 billion	N/A	100%
Threshold	\$26.2 billion	N/A	50%
Below Threshold	<\$26.2 billion	N/A	0%

1. See the discussion of the Step 1 calculation below, together with Appendix A.
2. See the discussion of the Step 2 calculation below.
3. Payouts interpolated between defined performance levels.

Section four – Compensation Design, Awards and Payouts for 2020

Performance Periods ending December 31, 2020

Step 1: Cumulative Adjusted EBITDA Performance

Cumulative Adjusted EBITDA (payout opportunity of 0-100%)

Alignment to Strategy:

To align this grant with our shareholders' best interests and our long-term strategy of profitable growth, the first part of Mr. Storey's special promotion award was based on Cumulative Adjusted EBITDA for the three-year performance period, which provided the opportunity to earn 0% to 100% of the target number of PBRS.

The metric of Adjusted EBITDA is designed to incentivize and reward our senior officers to focus on the combination of cost savings and profitable revenue growth.

The use of a three-year cumulative framework in this special award to Mr. Storey was intended to complement the PBRS portion of our annual LTI plans for 2018 and 2019, which was also based on Adjusted EBITDA performance but measured as a two-year run rate, rather than a three-year cumulative, goal in our 2018 and 2019 LTI plans.

Rigor of Goal Setting:

To directly align this grant with our shareholders, Mr. Storey's award was designed to track the same targets publicly disclosed to our shareholders. The three-year Cumulative Adjusted EBITDA target is the sum of annual Adjusted EBITDA targets, for 2018, 2019 and 2020, at 99% of the mid-point of our publicly disclosed guidance range as established in the first quarter for each year.

Consistent with prior practice and as discussed in greater detail above, the Company employed a rigorous process to establish its annual budget and long-range plan, which directly supported the Company's long-term strategic objectives and was the basis for developing our publicly disclosed guidance ranges.

Performance Results:

The three-year performance period ended on December 31, 2020 and the Company achieved three-year Cumulative Adjusted EBITDA results of \$27.0 billion which exceeded our Cumulative Adjusted EBITDA target of \$26.8 billion; therefore achieving 100% for Step 1.

Step 1 – Attainment of 100%

Step 2: Relative TSR Performance

Relative TSR (payout opportunity 101-200%)

Alignment to Strategy:

To directly align this grant with our shareholders' interests, the second part of Mr. Storey's promotion grant was based on Lumen's TSR performance relative to TSR peer group for the three-year performance period, directly aligning this part of the grant with our shareholders' interests and value. This portion of the award, which represented the opportunity to earn between 101% and 200% of target, could only be earned if the performance target in Step 1 (Cumulative Adjusted EBITDA target) was met or exceeded and Lumen's relative TSR performance for the three-year period exceeded the 50th percentile.

Rigor of Goal Setting:

With the aid of its compensation consultant, the HRCC set a TSR peer group for Mr. Storey's promotion grant focused principally on broader universe of companies we believe investors are considering when they decide whether to invest in us or our industry. The TSR peer group is comprised of telecommunications, cable and other communications companies that are generally comparable to us in terms of size, markets and operations. For information regarding our TSR peer group, see further discussion under the heading " – TSR Peer Group" below and in our 2019 proxy " – Performance Benchmarking Peer Group."

Results:

The three-year TSR performance period ended on December 31, 2020, and the Company's TSR was -16.13%, ranked number seven out of 15 peers, representing 57th percentile of our TSR peer group and yielding an additional earned payout of 28.6% above the 100% earned in Step 1.

Step 2 – Earned Payout of 128.6%

CEO Realized Pay:

As of March 1, 2021, the projected realizable LTI value was 74.1% of grant value, which reflects the combined earned payout of 128.6% and stock performance decline of 33.7% over 32 months out of the three-year vesting and performance period.

- Mr. Storey's projected realizable LTI value of \$5.5 million (74.1%) compared to his grant value of \$7.4 million, based on a March 1, 2021 closing share price.

Other benefits

As a final component of executive compensation, we provide a broad array of benefits designed to be competitive, in the aggregate, with similar benefits provided by our peers. We summarize these additional benefits below.

Retirement plans

We maintain traditional broad-based qualified defined benefit and defined contribution retirement plans for our employees who meet certain eligibility requirements. With respect to these qualified plans, we maintain nonqualified plans that permit our officers to receive or defer supplemental amounts in excess of federally imposed caps that limit the amount of benefits highly compensated employees are entitled to receive under qualified plans. Additional information regarding our retirement plans is provided in the tables and accompanying discussion included below under the heading "Compensation Tables."

Change of control arrangements

We have agreed to provide cash and other severance benefits to each of our executive officers who are terminated under certain specified circumstances following a change of control of Lumen. If triggered, benefits under these change of control agreements include payment of: (i) a lump sum cash severance payment equal to a multiple of the officer's annual cash compensation, (ii) the officer's annual bonus, based on actual performance and the portion of the year served, (iii) certain welfare benefits are continued for a limited period and (iv) the value or benefit of any long-term equity incentive compensation, if and to the extent that the exercisability, vesting or payment thereof is accelerated or otherwise enhanced upon a change of control pursuant to the terms of any applicable long-term equity incentive compensation plan or agreement.

Under these agreements, change of control benefits are payable to our executive officers if within a certain specified period following a change in control (referred to as the "protected period"), the officer is terminated

Section four – Compensation Design, Awards and Payouts for 2020

Other Benefits

without cause or resigns with “good reason,” which is defined to include a diminution of responsibilities, an assignment of inappropriate duties and a transfer of the officer exceeding 50 miles.

The table below shows (i) the length of the “protected period” afforded to officers following a change of control and (ii) the multiple of salary and bonus payment and years of welfare benefits to which officers will be entitled if change of control benefits become payable under our agreements and related policies:

	Protected Period	Multiple of Annual Cash Compensation	Years of Welfare Benefits
CEO	2 years	3 times	3 years
Other Executives	1.5 years	2 times	2 years
Other Officers	1 year	1 time	1 year

For more information on change of control arrangements applicable to our executives, including our rationale for providing these benefits, see “Compensation Tables – Potential Termination Payments – Payments Made Upon a Change of Control.” For information on change of control severance benefits payable to our junior officers and managers, see “ – Severance Benefits” in the next subsection below.

Severance benefits

Our executive severance plan provides cash severance payments equal to two years of total targeted cash compensation (defined as salary plus the targeted amount of annual incentive bonus) for our CEO or one year of total targeted cash compensation for any other senior officer in the event that the senior officer is involuntarily terminated by us without cause in the absence of a change of control.

The table below shows (i) the multiple of salary and bonus payment and (ii) years of welfare benefits to which officers will be entitled if a senior officer is involuntarily terminated by us without cause in the absence of a change of control:

	Multiple of Annual Cash Compensation	Years of Welfare Benefits
CEO	2 times	2 years
Other Executives and Senior Officers	1 time	1 year

Under our executive severance plan, subject to certain conditions and exclusions, more junior officers or managers receive certain specified cash payments and other benefits if they are either (i) involuntarily terminated without cause in the absence of a change of control or (ii) involuntarily terminated without cause or resign with good reason in connection with a change of control. Our full-time non-represented employees not covered by our executive severance plan may, subject to certain conditions, be entitled to certain specified cash severance payments in connection with certain qualifying terminations.

Under a policy that we adopted in 2012, we are required to seek shareholder approval of any future senior executive severance agreements providing for cash payments, perquisites and accelerated health or welfare benefits with a value greater than 2.99 times the sum of the executive’s base salary plus target bonus.

Life insurance benefits

We sponsor a long-standing supplemental life insurance premium reimbursement plan that has been closed to new participants for nearly a decade. Only one of our current senior officers (Mr. Goff) holds supplemental life insurance policies for which we are obligated to pay the premiums. For 2020, we reimbursed Mr. Goff a total of \$10,957 for these premiums.

Perquisites

Officers are entitled to be reimbursed for the cost of an annual physical examination, plus related travel expenses.

Our aircraft usage policy permits the CEO to use our aircraft for personal travel up to \$250,000 per year without reimbursing us and permits each other executive officer to use our aircraft for personal travel only if he or she pays for cost in advance of flight. In all such cases, personal travel is permitted only if aircraft is available and not needed for superseding business purposes. Periodically, the HRCC reviews the cost associated with the personal use of aircraft by senior management and determines whether or not to alter our aircraft usage policy. In connection with electing to retain this policy, the HRCC has determined that the policy: (i) provides valuable and cost-effective benefits to our executives that reside or frequently travel into our corporate headquarters that is located in a small city with limited commercial airline service, (ii) enables our executives to travel in a manner that we believe is more expeditious than commercial airline service and (iii) is being used responsibly by the executives.

For purposes of valuing and reporting the use of our aircraft, we determine the incremental cost of aircraft usage on an hourly basis, calculated in accordance with applicable guidelines of the SEC. The incremental cost of this usage, which may be substantially different than the cost as determined under alternative calculation methodologies, is reported in the Summary Compensation Table appearing below. For more information on the items under this heading, see the Summary Compensation Table appearing on page 75.

Other employee benefits

We maintain certain broad-based employee welfare benefit plans in which the executive officers are generally permitted to participate on terms that are either substantially similar to those provided to all other participants or which provide our executives with enhanced benefits upon their death or disability.

Section five – HRCC engagement and compensation governance

HRCC human capital resources priorities

Although core to the HRCC agenda is compensation and specifically executive compensation, each of the functions described in its charter contribute to its ability to effectively oversee human capital resources. In light of that responsibility, in 2017 the HRCC changed its name from the “Compensation Committee” to the Human Resources and Compensation Committee.” HRCC human capital management priorities include:

Talent management and development

The HRCC is focused on growing and developing talent that is well positioned to meet the business’ strategic priorities. Specific activities that the HRCC oversees include ensuring that robust processes in the areas of goal setting, differentiated talent assessments, individual development planning and skill transformation programing are supported by a wide array of technical, sales, product and leadership training programs.

Culture shaping and engagement

The HRCC reviews management efforts and metrics to ensure that culture and engagement promote efficiency. At least twice a year, a detailed survey is completed to measure employee engagement and is reviewed with the HRCC. The latest results of the survey continued a three-year increasing trend of both overall engagement (77% positive) with the highest level of employee participation (87%).

Talent acquisition

In order to continually improve our overall talent base, the HRCC monitors and reviews our ability to recruit talent into the Company. Performance in this area has consistently been strong, and this year was positively recognized by Gartner Talent Index citing Lumen Technology Talent function as 35th among their top 200 organizations assessed.

Labor relations

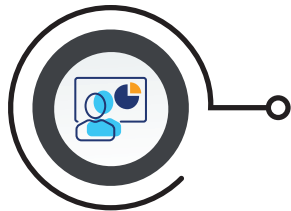
With 23% of Lumen’s workforce unionized, it is important that proactive efforts are deployed to manage this strategic relationship. In 2020, Lumen was able to negotiate 12 expiring collective bargaining agreements and did not see any expansion of the union-represented workforce. Lumen constructively partners with union representatives where representation exists and aims to remain union-free where representation does not currently exist.

Diversity, inclusion and belonging

In 2020, Lumen was proud to receive positive recognition for our efforts in the area of diversity and inclusion by being included in Forbes Americas Best Employers for Diversity and for once again receiving a 100% perfect score on the prominent Human Rights Campaign Index, which evaluates the LGBTQ climate in an organization. The prominent social injustice activities of 2020 caused the HRCC to place even greater focus on ensuring that all management practices are positively impacting diversity, inclusion and belonging in the Lumen culture.

HRCC executive compensation review process

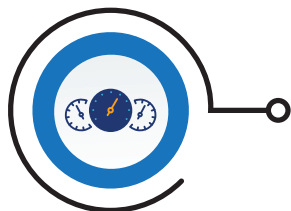
The HRCC's annual process for compensation oversight, design and decisions includes:



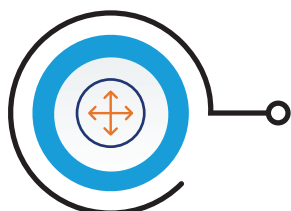
- **Performance objectives align with strategy** – HRCC selects short-term and long-term plan performance objectives designed to drive execution of our overall business strategy. This includes engaging an independent compensation consultant, discussing compensation trends, our performance against peers and market influences throughout the year as well as feedback from shareholder engagement regarding executive compensation and incentive design.



- **Rigorous design and target setting process** – HRCC establishes rigorous threshold, target and maximum performance levels for the selected objectives that are rooted in our annual budget, public guidance and long-range strategic plan. The HRCC evaluates possible program design changes for the upcoming plan year in light of shareholder feedback, independent compensation consultant observations and anticipated award values in light of past design and objectives.



- **Monitor interim performance** – Throughout the performance period, HRCC monitors actual performance and real-time projected payouts of our selected metrics through quarterly updates.



- **Application of Guidelines to administer incentive awards** – After the end of the performance period, initial payout projections, as adjusted under the HRCC's long-standing Guidelines, are compared against Company performance for the entirety of the performance period. The HRCC may make further adjustments for extraordinary events or, with respect to the STI program, any other discretionary adjustments it deems necessary and appropriate. The HRCC reviews award values in light of the Guidelines and determines if positive or negative adjustments are necessary to mitigate the impact of extraordinary events.



- **Performance results and calculated payouts** – Upon completion of each fiscal year, after our actual financial performance results are determined, including any adjustments or discretion applied under our Guidelines, the incentive payouts are calculated and reviewed by Internal Audit. Then, individual bonus and equity payouts are determined for our officers based on our LTI and STI programs and the related performance and relevant individual performance considerations.

Role of CEO and management

The HRCC regularly reviews the compensation programs for our senior leadership team including our NEOs and the broader participating employees of Lumen, to ensure they achieve our compensation objectives, including aligning executive compensation with our long-term strategy and shareholder interests. This includes using our incentive compensation awards to support our strategic and operating plans. The HRCC closely monitors the compensation programs and pay levels of executives from companies of similar size and complexity, to gauge our compensation programs against market practices and trends to support our efforts to retain and incentivize our executive talent.

Section five – HRCC Engagement and Compensation Governance

Role of CEO and Management

Also, the HRCC discusses directly with our CEO in executive session, as appropriate, his performance reviews for our senior leadership team as well as his recommendations regarding their compensation (including adjustments to base salary, target annual cash incentives and equity incentive levels).

Role of compensation consultants

Since 2015 the HRCC engaged Meridian Compensation Partner, LLC (“Meridian”) as its independent compensation consultant to assist in the design and review of executive compensation programs, to determine whether the HRCC’s philosophy and practices are reasonable and compatible with prevailing practices and to provide guidance on specific compensation levels based on industry trends and practices.

For 2020, representatives of Meridian actively participated in the design and development of our executive compensation programs and attended all of the HRCC’s meetings. Meridian provides no other services to the Company and has no prior relationship with any of our NEOs. As required by SEC rules and NYSE listing standards, the HRCC has assessed the independence of Meridian and concluded that its work has not raised any conflicts of interest.

Role of peer companies

Each year, with assistance from its independent consultant, the HRCC reviews “peer groups” of other companies comparable to Lumen for purposes of assessing the compensation for our NEOs and other members of senior leadership team (Compensation Benchmarking Peer Group) and, as applicable, our total shareholder return performance (TSR Peer Group).

Compensation benchmarking peer group

Annually, with the assistance of its compensation consultant and management, the HRCC reviews and approves, the Compensation Benchmarking Peer Group – a list of peer companies comprised we use in the competitive market analyses of compensation for our NEOs and senior officers.

Our Compensation Benchmarking Peer Group should reflect Lumen’s industry, organizational complexity and market for executive talent. However, because we do not believe many companies compete directly with us and are also similarly sized, the list of direct peers is limited. To address the challenge, the HRCC reviews and approves the list of companies that compose our Compensation Benchmarking Peer Group during a two-step process for use in the competitive market analyses of compensation for our NEOs and senior officers.

In the first step, we identify public companies within our Global Industry Classification Standards (“GICS”) industry and sub-industry, diversified telecommunications services, cable and satellite and various high technology industries. The following attributes were reviewed and screened in order of importance:

- Revenues (target between one-half and two times our revenue);
- Reasonably sized enterprise value;
- Reasonably sized assets;
- Market capitalization (target between one-fourth and three and one-half times our market cap);
- Disclosed peer of peers and reverse peers; and
- Peer group disclosed by proxy advisors.

In order to satisfy the goal of a peer group between 15 and 20 companies, the HRCC believes the continued inclusion of Verizon Communications Inc. (“Verizon”) is appropriate as they continue to be aligned to many aspects of our business. Verizon is also included in the peer of peers and proxy advisor peer screens, which further supports their inclusion in our Compensation Benchmarking Peer Group. Additionally, the HRCC reviewed the results of market capitalization screening and concluded that eliminating companies that are significantly larger or smaller than us would leave us with an insufficient number of peers.

And last, the HRCC reviewed additional lists of companies that were identified as peer of peers, reverse peers or proxy advisor peers and for various reasons did not change the previous year’s peer group.

Compared to the 2020 Compensation Benchmarking Peer Group, Lumen is ranked at the 57th percentile of revenue, the 65th percentile of assets, the 48th percentile of enterprise value and below the 25th percentile of market capitalization, each as illustrated below.



In the second step, the HRCC’s compensation consultant prepares competitive market analyses using compensation data publicly disclosed by the 2020 Compensation Benchmarking Peer Group and, for executive positions with no publicly disclosed compensation data, the HRCC reviews compensation survey data for companies in the telecommunications industry and general industry that are generally similar in size to Lumen. Based on the median, the HRCC compares our current NEO and SLT compensation to the Compensation Benchmarking Peer Group to determine the relative market value for each position.

The HRCC believes the use of the median and not the average, for competitive market data mitigates the inclusion of larger peer companies, such as Verizon and Comcast Corporation, with smaller peer companies, such as Frontier Communications Corporation and Motorola Solutions, Inc. Excluding the two largest and two smallest peer companies would result in a 15-member Compensation Benchmarking Peer Group whereas median compensation benchmarking data would be the same. Therefore, the HRCC deemed it was appropriate to continue and include all 19 peer companies.

Section five – HRCC Engagement and Compensation Governance

Role of Peer Companies

As a result of the above-described screening process and based on input from Meridian, the HRCC reviewed the 19 companies making up the 2019 compensation benchmarking peer group and made no changes to the 2020 Compensation Benchmarking Peer Group. Once established, we believe that a well-selected peer group for compensation benchmarking should remain fairly stable for several years to help inform reliable and consistent market positioning, longer-term pay trends and market practices. Our Compensation Benchmarking Peer Group is summarized in the table following discussion of our TSR Peer Group below.

TSR Peer Group

As discussed above, our Compensation Benchmarking Peer Group is somewhat constrained by the number of companies based on revenue, enterprise value and market cap size. However, our TSR Peer Group is composed of a broader universe of companies we believe investors are considering when evaluating whether to invest in Lumen or our industry because risk profile is likely to be more important to an investor than company size.

Meridian led an evaluation process to identify and screen relevant public companies to determine our TSR Peer Group, with a goal range of 15 to 20 peer companies, as follows:

- Start with a universe of potential similar industry peers with technology, telecommunications, cable and satellite services and various technology industries within our GICS industry and sub-industry
- Conduct a historical stock price correlation between Lumen and a potential peer universe based on the industry sectors identified
- Perform back-testing on historical stock performance (i.e., TSR and Beta and impacts of macroeconomic factors that would impact all companies similarly)

As discussed earlier in this CD&A, at its February 2020 meeting, the HRCC changed the metrics and performance period for our 2020 LTI plan, which included the addition of a Relative TSR Modifier over a three-year performance period. A primary consideration when selecting our TSR Peer Group for 2020 was the need to have peers with similar industry, business and risk profile as Lumen.

During the second half of 2019, in preparation for the 2020 annual LTI grant, the HRCC reviewed the TSR Peer Group described in our 2019 proxy statement for Mr. Storey's one-time promotion grant that was awarded in 2018. Our 2020 TSR Peer Group includes 13 of the TSR peers used in Mr. Storey's one-time promotion grant supplemented by three large, international integrated telecommunications companies based outside the U.S. (BT Group plc, Orange S.A. and Telefonica S.A.). The three non-U.S. companies were selected to maintain a robust sample of peers (of at least 15 to 20 peer companies) and because the companies are large, complex and provide services similar to ours. The 2020 TSR Peer Group is summarized in the table below.

Company	Our Compensation Benchmarking Peer Group	Our TSR Peer Group
BCE Inc.	●	
Charter Communications	●	
CISCO Systems Inc	●	●
Cognizant Technology Solutions Corp	●	
Comcast Corporation	●	●
DISH Network Corp.	●	●
DXC Technology Corp	●	
Frontier Communications Corporation	●	●
HP Inc	●	
Liberty Global plc	●	●
Motorola Solutions, Inc.	●	●

Company	Our Compensation Benchmarking Peer Group	Our TSR Peer Group
Oracle Corp	•	
QUALCOMM Inc.	•	
Seagate Technology plc	•	
Sprint Corporation	•	
Telus Corporation	•	•
T-Mobile	•	
Verizon	•	•
Western Digital Corp	•	
Unique TSR Peers		
AT&T, Inc.		•
BT Group, plc		•
Orange, S.A.		•
Telefonica S.A.		•
Telephone & Data Systems Inc.		•
United States Cellular Corporation		•
Viasat, Inc.		•
Zayo Group Holdings, Inc.		•
Totals	19	16

Our governance of executive compensation

The HRCC and management stay abreast of market trends and best practices through regular consultation with Meridian and by attending various training programs and forums. In addition to other practices described elsewhere in this proxy, below is a summary and brief descriptions of certain compensation policies and practices.

What We Do

- ✓ Focus on performance-based compensation weighted heavily towards long-term incentive awards
- ✓ Benchmark generally against 50th percentile peer compensation levels
- ✓ Maintain robust stock ownership guidelines applicable to our executive officers and outside directors
- ✓ Annually review our compensation programs to avoid encouraging excessive risk taking
- ✓ Conduct an annual succession planning process for our CEO
- ✓ Conduct an annual “say-on-pay” vote
- ✓ Discuss our executive compensation program during shareholder engagement
- ✓ Maintain a compensation “clawback” policy
- ✓ Impose compensation forfeiture covenants broader than those mandated by law
- ✓ Review the composition of our peer groups at least annually

Section five – HRCC Engagement and Compensation Governance

Our Governance of Executive Compensation

- ✓ Conduct independent and intensive performance reviews of our senior officers
- ✓ Cap the number of relative TSR performance-based shares that may vest if our own TSR is negative
- ✓ Review realizable pay of our senior officers and total compensation “tally” sheets
- ✓ Require shareholders to approve any future severance agreements valued at more than 2.99 times the executive’s target cash compensation

What We Don’t Do

- ✗ Maintain a supplemental executive retirement plan
- ✗ Permit our directors or employees to hedge our stock, or our directors or senior officers to pledge our stock
- ✗ Pay dividends on unvested restricted stock
- ✗ Permit the HRCC’s compensation consultant to provide other services to Lumen
- ✗ Pay, provide or permit:
 - (i) excessive perquisites,
 - (ii) excise tax “gross-up” payments, or
 - (iii) single-trigger change of control equity acceleration benefits.

Forfeiture of prior compensation

For approximately 20 years, all recipients of our LTI grants have been required to contractually agree to forfeit certain of their awards (and to return to us any cash, securities or other assets received by them upon the sale of Common Shares they acquired through certain prior equity awards) if at any time during their employment with us or within 18 months after termination of employment they engage in activity contrary or harmful to our interests. The HRCC is authorized to waive these forfeiture provisions if it determines in its sole discretion that such action is in our best interests. Our STI plan contains substantially similar forfeiture provisions.

Our Corporate Governance Guidelines authorize the Board to recover, or “clawback,” compensation from an executive officer if the Board determines that any bonus, incentive payment, equity award or other compensation received by the executive was based on any financial or operating result that was impacted by the executive’s knowing or intentional fraudulent or illegal conduct. Certain provisions of the Sarbanes-Oxley Act of 2002 would require our CEO and CFO to reimburse us for incentive compensation paid or trading profits earned following the release of financial statements that are subsequently restated due to material noncompliance with SEC reporting requirements caused by misconduct.

Use of employment agreements

We have a long-standing practice of not providing traditional employment agreements to our officers and none of our executives has an employment agreement. However, we do from time to time enter into initial employment offer letters with prospective new employees, including executive officers, some of which include future commitments on our part. Mr. Storey’s offer letter, as amended and restated in 2018, does contain future commitments by the Company, as described in greater detail under “Potential Termination Payments.”

Anti-hedging and anti-pledging policies

Under our insider trading policy, our employees and directors may not:

- purchase or sell short-term options with respect to Lumen shares,
- engage in “short sales” of Lumen shares, or

- engage in hedging transactions involving Lumen shares which allow employees to fix the value of their Lumen shareholdings without all the risks of ownership or cause them to no longer have the same interests or objectives as our other shareholders (including, but not limited to, financial instruments such as prepaid variable forward contracts, equity swaps, collars and exchange funds).

In addition, under our insider trading policy, our senior officers and directors are prohibited from holding our securities in a margin account or otherwise pledging our securities as collateral.

To our knowledge, all of our senior officers and directors are currently in compliance with our anti-hedging and anti-pledging policies.

Deductibility of executive compensation

Section 162(m) of the Code limits the amount of compensation paid to certain covered officers that we may deduct for federal income tax purposes to \$1 million per covered officer per year.

Historically, compensation that qualified as “performance-based compensation” within the meaning of Section 162(m) was not subject to the \$1 million limitation. As recently as 2017, largely due to the availability of this performance-based exemption, the deductibility of various payments and benefits was one factor among many considered by the HRCC in determining executive compensation. However, federal tax reform legislation passed in December 2017 included significant changes to Section 162(m). Among these changes were an expansion of the scope of covered officers subject to the Section 162(m) deduction limitation and the elimination of the performance-based compensation exemption.

For taxable years beginning after December 31, 2017, compensation paid to a covered officer in excess of \$1 million will not be deductible unless it qualifies for transition relief applicable to certain performance-based arrangements in place as of November 2, 2017. Among other things, this means that all compensation paid to each covered officer in 2018 and beyond will be subject to the \$1 million deduction limitation, regardless of whether it is structured as performance-based compensation, unless the transition relief applies.

Section 162(m) is highly technical and complex. Because of ambiguities as to the application and interpretation of Section 162(m), including the uncertain scope of the transition relief for “grandfathered” performance-based compensation, we can give no assurance that compensation intended to satisfy the requirements for performance-based exemption from the Section 162(m) deduction limit will, in fact, satisfy the exemption. Further, the HRCC reserves the right to modify compensation that was initially intended to be exempt from Section 162(m) if it determines that such modifications are consistent with the Company’s business needs.

Human Resources and Compensation Committee Report

The HRCC has reviewed and discussed with management the report included above under the heading “Compensation Discussion & Analysis.” Based on this review and discussion, the HRCC recommended to the Board that the Compensation Discussion & Analysis report be included in this proxy statement and incorporated into our Annual Report on Form 10-K for the year ended December 31, 2020.

Submitted by the Human Resources and Compensation Committee of the Board of Directors.

Laurie Siegel (Chair)
T. Michael Glenn
Steven T. “Terry” Clontz
Michael Roberts

Compensation tables

Summary compensation table

The following table sets forth the compensation paid to each of our NEOs in all capacities in which they served for fiscal years 2018, 2019 and 2020.

Summary Compensation Table								
Name and Principal Position	Year	Salary	Bonus	Stock Awards ¹	Non-equity Incentive Plan Compensation ²	Change in Pension Value ³	All Other Compensation ⁴	Total
Jeffrey K. Storey President and CEO	2020	\$ 1,800,011	\$ 0	\$ 11,435,870	\$3,600,022	\$ 0	\$ 123,330	\$ 16,959,233
	2019	1,800,011	-	11,834,226	3,492,021	-	108,850	17,235,108
	2018	1,683,299	5,842,000	24,262,040	3,790,772	-	77,535	35,655,646
Indraneel Dev EVP and CFO	2020	\$ 734,700	\$ 0	\$ 3,630,435	\$ 872,756	\$ 0	\$ 11,400	\$ 5,249,291
	2019	650,000	-	2,535,909	832,260	-	11,200	4,029,369
	2018	463,770	227,027	1,588,732	438,427	-	11,000	2,728,956
Stacey W. Goff EVP, General Counsel and Secretary	2020	\$ 600,018	\$ 0	\$ 1,815,218	\$ 674,876	\$138,543	\$ 22,657	\$ 3,251,312
	2019	600,018	-	1,878,454	698,420	251,876	17,189	3,445,957
	2018	600,018	-	2,070,386	847,465	-	57,586	3,575,455
Shaun C. Andrews EVP, Chief Marketing Officer	2020	\$ 525,000	\$ 0	\$ 1,270,652	\$ 492,083	\$ 0	\$ 11,400	\$ 2,299,135
	2019	461,442	-	704,412	492,359	-	19,095	1,677,308
Scott A. Trezise EVP, Human Resources	2020	\$ 500,011	\$ 0	\$ 907,609	\$ 429,985	\$ 0	\$ 11,400	\$ 1,849,005
	2019	496,312	-	751,382	469,111	-	14,350	1,731,155
	2018	475,010	-	724,646	467,600	-	194,048	1,861,304

- For 2020, the amounts shown in this column reflect the fair value of annual grants of restricted stock or restricted stock unit awards made to our named executives under LTI program.

For additional information about these equity grants, see the section entitled, "Long-Term Incentive Compensation" in our CD&A.

The fair value of the time-vested and performance-based awards presented in the table above has been determined in accordance with FASB ASC Topic 718, based on the closing trading price of our Common Shares on the day of grant. See Note 11 titled "Share-based Compensation" of the notes to our audited financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 for an explanation of material assumptions that we used to calculate the fair value of these stock awards.

The aggregate value of the LTI awards granted to each named executive in 2020, assuming maximum payout of his performance-based award, would be as follows: Mr. Storey, \$18,297,398 Mr. Dev, \$5,808,696 Mr. Goff, \$2,904,348 Mr. Andrews, \$2,033,051 and Mr. Trezise, \$1,452,174.

- The amounts shown in this column reflect cash payments made under our short-term incentive program for actual performance in the respective years. For additional information, see the section entitled, "— 2020 Short-term incentive program" in our CD&A."
- Reflects the net change during each of the years reflected in the present value of Mr. Goff's accumulated benefits under the defined benefit plans discussed below under the heading "— Pension Benefits."

Compensation Tables

Grant of Plan Based Awards

4. For fiscal 2020, the amounts shown in this column are comprised of (i) personal use of our aircraft; (ii) contributions or other allocations to our defined contribution plans; and (iii) payments of life insurance premiums under a legacy reimbursement plan, in each case for and on behalf of the named executives as follows:

All Other Compensation — 2020

NEO	Aircraft Use	Contributions to Plans	Insurance Premiums	Total 2020 All Other Compensation
Mr. Storey	\$111,930	\$11,400	\$ 0	\$123,330
Mr. Dev	0	11,400	0	11,400
Mr. Goff	0	11,700	10,957	22,657
Mr. Andrews	0	11,400	0	11,400
Mr. Trezise	0	11,400	0	11,400

For additional information regarding perquisites, see “— Other benefits” in our CD&A.

Grant of plan based awards

The following table presents additional information regarding all equity and non-equity incentive plan awards granted to our NEOs in fiscal 2020.

2020 Grant of Plan Based Awards

NEO	Type of Award and Grant Date	Range of Payouts Under Non-Equity Incentive Plan Awards ¹			Estimated Future Share Payouts Under Equity Incentive Plan Awards ²			All other Stock Awards: Unvested Shares ³ (#)	Grant Date Fair Value Awards ⁴
		Threshold (\$)	Target (\$)	Maximum (\$)	Threshold (#)	Target (#)	Maximum (#)		
Mr. Storey	Bonus	\$1,800,011	\$3,600,022	\$7,200,044					
	TBRS							358,772	\$4,574,343
	PBRS				269,080	538,159	1,076,318		6,861,527
Mr. Dev	Bonus	\$ 456,701	\$ 913,402	\$ 1,826,804					
	TBRS							113,896	\$ 1,452,174
	PBRS				85,422	170,844	341,688		2,178,261
Mr. Goff	Bonus	\$ 360,011	\$ 720,021	\$ 1,440,042					
	TBRS							56,948	\$ 726,087
	PBRS				42,711	85,422	170,844		1,089,131
Mr. Andrews	Bonus	\$ 262,500	\$ 525,000	\$ 1,050,000					
	TBRS							39,863	\$ 508,253
	PBRS				29,898	59,796	119,592		762,399
Mr. Trezise	Bonus	\$ 225,005	\$ 450,010	\$ 900,020					
	TBRS							28,474	\$ 363,044
	PBRS				21,356	42,711	85,422		544,565

1. Represents potential payouts under the annual STI bonus program for 2020 for our named executives. The actual amounts paid for 2020 performance are reported in the “Non-Equity Incentive Plan Compensation” column of the Summary Compensation Table. Failure to meet the “threshold” level of performance would result in no payout to the executive.
2. Represents the performance-based portion of our annual LTI grants, which were issued to our NEOs on February 26, 2020. Payout under these awards (restricted stock or RSUs) may range between 0-200%. For information regarding the performance metric on which vesting is contingent, please see note 9 to the “Outstanding Equity Awards” table.

3. Represents the time-based portion of our annual LTI grants, which were issued to our NEOs on February 26, 2020. These awards (restricted stock or RSUs) will vest one-third per year on March 1 of 2021, 2022 and 2023, subject to the executive's continued employment through the vesting date or as otherwise provided in the award agreement.
4. Calculated in accordance with FASB ASC Topic 718 in the manner described in Note 1 to the Summary Compensation Table above.

STI compensation. All of our named executives participated in the Lumen Short-Term Incentive ("STI") program for 2020. For more information regarding this program, including the specific performance metrics, see "Compensation Discussion & Analysis – Section four – Compensation Design, Awards and Payouts for 2020."

Annual grants of LTI compensation. We make annual grants of LTI awards to our executive officers, typically at the HRCC's February meeting. For the past several years, these awards have been 60% performance-based and 40% time-vested, granted in the form of RSUs to Mr. Storey and restricted stock to each other named executive. For our 2020 program, the time-vested awards will vest one-third per year on March 1 of 2021, 2022 and 2023. The performance-based awards will vest on March 1 of 2023, depending upon our achievement of a three-year Cumulative Adjusted EBITDA target and TSR modifier. For more information, see " – Section four – Compensation Design, Awards and Payouts for 2020" in our CD&A.

For information regarding LTI grants made in prior years, see the disclosure in our proxy statement for the year following the date of grant.

Acceleration of vesting of equity awards. All of the equity awards granted in 2020 will vest upon the death or disability of the named executive. In addition, the HRCC may, in its discretion, vest or waive the continued service requirement for a named executive's outstanding equity awards upon his or her retirement (at early or normal retirement age), in whole or in part. Mr. Storey's equity awards may accelerate under certain additional scenarios, as memorialized in his amended and restated offer letter. For more information on these vesting acceleration triggers, see " – Potential Termination Payments – Equity Acceleration Provisions of Mr. Storey's Amended and Restated Offer Letter." In addition, we have entered into change of control agreements with each named executive, which provide that, upon certain terminations of employment following a change of control of the Company, any continued employment requirements to the officer's outstanding LTI awards will be waived, all as described in greater detail below under " – Potential Termination Payments – Payments Made Upon a Change of Control."

Dividends and voting rights. All dividends or dividend equivalents related to our LTI awards will be paid to the holder only upon the vesting or issuance of such shares or units. Unless and until forfeited, any shares of restricted stock may be voted by the NEOs. However, holders of RSUs have no voting rights unless and until they are issued shares in settlement of those awards.

Forfeiture. All of these above-described equity awards are subject to forfeiture if the officer competes with us or engages in certain other activities harmful to us, all as specified further in the forms of incentive agreements that we have filed with the SEC. For more information, see " – Potential Termination Payments."

Outstanding equity awards

The following table summarizes information about all outstanding unvested equity awards held by our named executives as of December 31, 2020.

Outstanding Awards at December 31, 2020⁽¹⁾					
NEOs	Grant Date	Stock Awards		Equity Incentive Awards⁽²⁾	
		Number of Unvested Shares or Units (#)	Market Value of Shares that Have Not Vested (\$)	Number of Unvested Shares or Units (#)	Market Value of Unvested Shares or Units (\$)
Mr. Storey	5/24/2018	89,035 ⁽³⁾	\$ 868,091	200,328 ⁽⁵⁾	\$ 1,953,198
	5/24/2018	52,290 ⁽⁴⁾	509,828	235,306 ⁽⁶⁾	2,294,234
	2/28/2019	239,256 ⁽³⁾	2,332,746	538,328 ⁽⁸⁾	5,248,698
	2/26/2020	358,772 ⁽³⁾	3,498,027	538,159 ⁽⁹⁾	5,247,050
Mr. Dev	2/19/2018	6,593 ⁽³⁾	\$ 64,282	9,889 ⁽⁵⁾	\$ 96,418
	8/7/2018	0	0	22,532 ⁽⁷⁾	219,687
	2/28/2019	51,270 ⁽³⁾	499,883	115,356 ⁽⁸⁾	1,124,721
	2/26/2020	113,896 ⁽³⁾	1,110,486	170,844 ⁽⁹⁾	1,665,729
Mr. Goff	2/21/2018	15,422 ⁽³⁾	\$ 150,365	34,700 ⁽⁵⁾	\$ 338,325
	2/28/2019	37,978 ⁽³⁾	370,286	85,449 ⁽⁸⁾	833,128
	2/26/2020	56,948 ⁽³⁾	555,243	85,422 ⁽⁹⁾	832,865
Mr. Andrews	2/21/2018	3,856 ⁽³⁾	\$ 37,596	8,675 ⁽⁵⁾	\$ 84,581
	2/28/2019	14,242 ⁽³⁾	138,860	32,043 ⁽⁸⁾	312,419
	2/26/2020	39,863 ⁽³⁾	388,664	59,796 ⁽⁹⁾	583,011
Mr. Trezise	2/21/2018	5,398 ⁽³⁾	\$ 52,631	12,145 ⁽⁵⁾	\$ 118,414
	2/28/2019	15,191 ⁽³⁾	148,112	34,180 ⁽⁸⁾	333,255
	2/26/2020	28,474 ⁽³⁾	277,622	42,711 ⁽⁹⁾	416,432

1. All information presented in this table is as of December 31, 2020 and does not reflect vesting of outstanding equity awards or issuance of additional awards since such date.
2. Represents performance-based equity awards, payouts of which may range between 0-200%. The table above assumes that, as of December 31, 2020, we would perform at "target" levels, such that all performance-based shares granted to each named executive would vest at 100%.
3. Represents an annual grant of time-vested restricted stock (for Messrs. Dev, Goff, Andrews and Trezise) or restricted stock units (for Mr. Storey) that will vest in three equal installments on the first three years following the grant date subject to the executive's continued employment through the applicable vesting date.

Vesting Dates

Grant Date	Vesting Date
February 19, 2018	February 19, 2021 for Mr. Dev
February 21, 2018	February 21, 2021 for Messrs. Goff & Trezise
May 24, 2018	May 24, 2021 for Mr. Storey
February 28, 2019	Two equal installments on March 1 of 2021 & 2022 for all
February 26, 2020	Three equal installments on March 1 of 2021, 2022, & 2023 for all

4. Represents a promotion grant of time-vested restricted stock granted to Mr. Storey that will vest in three equal installments on the first three anniversaries of the grant date (May 24 of 2018), subject to the executive's continued employment through the applicable vesting date.

5. Represents the performance-based portion of our 2018 annual restricted stock or restricted stock unit awards. These awards will vest on February 21, 2021, subject to continued employment through the vesting date. Based on our performance from 2018 to 2019, 157.1% of the first installment of the performance-based restricted stock or units paid out and vested in February 2020 and 157.1% of the second installment will pay out and vest on February 21, 2021.
6. Represents the performance-based portion of a promotion grant to Mr. Storey. The number of shares earned will range between 0 to 200% of the number granted, with the number earned determined using a two-step process: (1) between 0 to 100% of target will be earned depending on the Company's cumulative Adjusted EBITDA results for the three-year period from 2018 to 2020 and (2) provided that target performance is met or exceeded under step (1), Mr. Storey may earn above target (up to a maximum 200% of target) based on the Company's relative total shareholder return over the same period against the performance of a peer group of companies in the telecommunications industry.
7. Represents a special performance-based award granted to Mr. Dev before he was appointed an executive officer. This award is divided into two equal tranches, with payout under each tranche ranging from 0 to 200% depending upon our achievement against a two-year Adjusted EBITDA Run Rate target. The first tranche is defined and calculated in the same manner as the performance-based portion of our 2018 annual grants and the performance period covers fiscal years 2018 and 2019 (vesting date of February 28, 2020), while the second tranche is defined in the same manner as the performance-based portion of our 2019 annual LTI grants and covers fiscal years 2019 and 2020 (vesting date of August 7, 2021). Based on our performance from 2018 to 2019, 157.1% of the performance-based restricted stock for the first tranche vested in February 2020.
8. Represents the performance-based portion of our 2019 annual restricted stock or restricted stock unit awards. These awards will vest in two equal installments on March 1 of 2021 and 2022, depending upon our achievement of a two-year Adjusted EBITDA Run Rate target. For more information on these grants, see "— 2020 Short-term Incentive program" and "— Performance periods ending December 31, 2020 – 2019 Annual LTI grant." in our CD&A.
9. Represents the performance-based portion of our 2020 annual restricted stock or restricted stock unit awards. The number of shares earned will range between 0 to 200% of the number granted, with the number earned determined using a two-step process: (1) between 0 to 200% of target will be earned depending on the Company's cumulative Adjusted EBITDA results for the three-year period from 2020 to 2022 and (2) provided that target performance is met or exceeded under step (1), the executives may earn above target (up to a maximum 200% of target) based on the Company's relative total shareholder return over the same period against the performance of a peer group of companies in the telecommunications industry. For more information, see "Compensation Discussion & Analysis – Section four – 2020 Long-Term Incentive Compensation." These awards will vest on March 1, 2023, subject to continued employment through the vesting date.

Stock vesting table

The following table provides details regarding the equity awards held by our named executives that vested during 2020. Restricted stock and restricted stock units were the only equity awards held by our named executives during 2020.

Stock Vested During 2020		
NEOs	Number of Shares Acquired on Vesting ¹	Value Realized on Vesting ²
Mr. Storey	630,125	\$7,501,635
Mr. Dev	115,562	1,345,313
Mr. Goff	183,699	2,176,152
Mr. Andrews	31,247	386,324
Mr. Trezise	97,371	1,113,315

1. Represents both time-vested and performance-based equity awards that vested during 2020.
2. Based on the closing trading price of the Common Shares on the applicable vesting date.

Compensation Tables

Pension Benefits

Pension benefits

The following table and discussion summarize pension benefits payable to one of our named officers under (i) the Lumen Component of the CenturyLink Combined Pension Plan, qualified under Internal Revenue Code Section 401(a), which permits eligible participants (including officers) who have completed at least five years of service to receive a pension benefit upon attaining early or normal retirement age and (ii) our nonqualified supplemental defined benefit plan, which is designed to pay supplemental retirement benefits to certain officers in amounts equal to the benefits such officers would otherwise forego due to federal limitations on compensation and benefits under qualified plans. We refer to these particular defined benefit plans below as our “Qualified Plan” and our “Supplemental Plan,” respectively and as our “Pension Plans,” collectively.

Pension benefits				
NEOs ¹	Plan Name	Number of Years of Credited Service	Present Value of Accumulated Benefit as of 12/31/20 ²	Payments During Last Fiscal Year
Mr. Goff	Qualified Plan	22	\$810,034	\$0
	Supplemental Plan	22	716,653	0

1. None of Messrs. Storey, Dev, Andrews or Trezise are eligible to participate in these plans since they joined us after both of our Pension Plans were closed to new participants.
2. These figures represent accumulated benefits as of December 31, 2020 based on several assumptions, including the assumption that the executive remains employed by us and begins receiving retirement benefits at the normal retirement age of 65, with such accumulated benefits being discounted from the normal retirement age to December 31, 2020 using discount rates ranging between 2.43% and 2.6%. See Note 10 titled “Employee Benefits” of the notes to our audited financial statements included in *Appendix B* for additional information.

Pension Plans. With limited exceptions specified in the Pension Plans, we “froze” our Qualified Plan and Supplemental Plan as of December 31, 2010, which means that no additional monthly pension benefits have accrued under such plans since that date (although service after that date continues to count towards vesting and benefit eligibility and a limited transitional benefit for eligible participants continued to accrue through 2015).

Prior to this freezing of benefit accruals, the aggregate amount of these named officers’ total monthly pension benefit under the Qualified Plan and Supplemental Plan was equal to the participant’s years of service since 1999 (up to a maximum of 30 years) multiplied by the sum of (i) 0.5% of his final average pay plus (ii) 0.5% of his final average pay in excess of his Social Security covered compensation, where “final average pay” was defined as the participant’s average monthly compensation during the 60 consecutive month period within his last ten years of employment in which he received his highest compensation. Effective December 31, 2010, the Pension Plans were amended to cease all future benefit accruals under the above formula (except where a collective bargaining agreement provides otherwise). In lieu of additional accruals under the above-described formula, each affected participant’s accrued benefit as of December 31, 2010 were increased 4% per year, compounded annually through the earlier of December 31, 2015 or the termination of the participant’s employment.

Under both Pension Plans, “average monthly compensation” is determined based on the participant’s salary plus annual cash incentive bonus. Although the retirement benefits described above are provided through separate plans, we have in the past transferred benefits from the Supplemental Plan to the Qualified Plan and reserve the right to make further similar transfers to the extent allowed under applicable law. The value of benefits transferred to the Qualified Plan, which directly offset the value of benefits in the Supplemental Plan, will be payable to the recipients in the form of enhanced annuities or supplemental benefits and are reflected in the table above under the “Present Value of Accumulated Benefits” column.

The normal form of benefit payment under both of our Pension Plans is (i) in the case of unmarried participants, a monthly annuity payable for the life of the participant and (ii) in the case of married participants, an actuarially equivalent monthly annuity payable for the lifetime of the participant and a survivor annuity payable for the lifetime of the spouse upon the participant's death. Participants may elect optional forms of annuity benefits under each Pension Plan and, in the case of the Qualified Plan, an annuity that guarantees ten years of benefits, all of which are actuarially equivalent in value to the normal form of benefit. The enhanced annuities described in the prior paragraph may be paid in the form of a lump sum, at the participant's election.

The normal retirement age is 65 under both of the Pension Plans. Participants may receive benefits under both of these plans upon "early retirement," which is defined as attaining age 55 with five years of service. Under both of these plans, the benefit payable upon early termination is calculated under formulas that pay between 60% to 100% of the base plan benefit and 48% to 92% of the excess plan benefit, in each case with the lowest percentage applying to early retirement at age 55 and proportionately higher percentages applying to early retirement after age 55. For additional information on early retirement benefits, please see the applicable early retirement provisions of the Pension Plans, copies of which are filed with the SEC.

Deferred compensation

The following table and discussion provide information on (i) our Supplemental Dollars & Sense Plan, under which certain named officers may elect to defer a portion of their salary in excess of the amounts that may be deferred under federal law governing qualified 401(k) plans and (ii) the deferred compensation arrangement we have with Mr. Storey, which is described in more detail in the text following the table below. For 2020, only Mr. Dev has elected to participate in our Supplemental Dollars & Sense Plan.

Deferred compensation						
NEOs	Aggregate Balance on December 31, 2019 ¹	Executive Contributions in 2020 ²	Company Contributions in 2020 ³	Aggregate Earnings in 2020 ⁴	Aggregate Withdrawals / Distributions ⁵	Aggregate Balance on December 31, 2020 ¹
Mr. Storey	\$1,235,597	\$ 0	\$ 0	(\$ 192,595)	\$1,043,002	\$ 0
Mr. Dev	0	34,615	23,077	7,690	0	65,382
Mr. Goff	2,531,672	0	0	445,577	0	2,977,249
Mr. Andrews	19,234	0	0	4,601	0	23,834
Mr. Trezise	0	0	0	0	0	0

- For each of Messrs. Dev, Goff and Andrews, this figure represents the aggregate balance of his Supplemental Dollars & Sense Plan account. For Mr. Storey, this figure represents the value of RSUs that were converted to Lumen RSUs and accelerated immediately following the Level 3 Combination, but which continue to pay out in Common Shares according to their original payout schedule (the "Deferred RSUs").
- For participants in the Supplemental Dollars & Sense Plan, the amounts in this column reflect contributions under the Supplemental Dollars & Sense Plan by the officer of salary paid in 2020 and reported as 2020 salary compensation in the Summary Compensation Table.
- For participants in the Supplemental Dollars & Sense Plan, this column includes our partial match of the officer's contribution under the terms of that plan, all of which were included as 2020 compensation in the column of the Summary Compensation Table labeled "All Other Compensation."
- For participants in the Supplemental Dollars & Sense Plan, this column represents aggregate earnings in 2020 including interest, dividends and distributions earned with respect to deferred compensation invested by the officers in the manner described in the text below. For Mr. Storey, this figure represents the change in value of his Deferred RSUs during 2020 (realized gain or loss on Deferred RSUs paid out during 2020).
- For Mr. Storey, this figure represents the value of Deferred RSUs paid out to him during 2020 (valued based on the closing price of a Common Share on the scheduled payout date).

Compensation Tables

Potential Termination Payments

Supplemental Dollars & Sense Plan. Under this plan, certain of our senior officers may defer up to 50% of their salary in excess of the federal limit on annual contributions to a qualified 401(k) plan. For every dollar that an eligible participant contributes to this plan up to 6% of his or her excess salary, we add an amount equal to the total matching percentage then in effect for matching contributions made by us under our qualified 401(k) plan (which for 2018 equaled the sum of all of the initial 1% contributed and half of the next 5% contributed). All amounts contributed under this supplemental plan by the participants or us are allocated among deemed investments that follow the performance of the same broad array of funds offered under our qualified 401(k) plan. This is reflected in the market value of each participant's account. Participants may change their deemed investments in these funds at any time. We reserve the right to transfer benefits from the Supplemental Dollars & Sense Plan to our qualified 401(k) or retirement plans to the extent allowed under Treasury regulations and other guidance. The value of benefits transferred to our qualified plans directly offsets the value of benefits in the Supplemental Dollars & Sense Plan. Participants in the Supplemental Dollars & Sense Plan normally receive payment of their account balances in a lump sum once they cease working full-time for us, subject to any deferrals mandated by federal law.

Deferred RSUs for Mr. Storey. As provided in Mr. Storey's original offer letter, upon the closing of the Level 3 Combination, we accelerated the vesting of a portion of his outstanding RSUs (which had originally been granted to him by Level 3 and were converted to Lumen RSUs in the Level 3 Combination), although they will continue to pay out in shares in accordance with its original payment schedule. In accordance with that schedule, the following vested and deferred RSUs held by Mr. Storey settled in Common Shares on the following dates: 54,460 RSUs on March 1, 2020 and 39,075 RSUs on July 1, 2020.

Potential termination payments

The materials below discuss payments and benefits that our officers are eligible to receive if they: (i) resign or retire, (ii) are terminated by us, with or without cause, (iii) die or become disabled, or (iv) become entitled to termination benefits following a change of control of Lumen.

Notwithstanding the information appearing below, you should be aware that our officers have agreed to forfeit their equity compensation awards (and profits derived therefrom) if they compete with us or engage in other activity harmful to our interests while employed with us or within 18 months after termination. Certain other compensation might also be recoverable by us under certain circumstances after termination of employment. See "Compensation Discussion & Analysis — Our Governance of Executive Compensation — Forfeiture of Prior Compensation" for more information.

Payments made upon all terminations

Regardless of the manner in which our employees' employment terminates prior to a change of control, they are entitled to receive amounts earned during their term of employment (subject to the potential forfeitures discussed above). With respect to each such terminated employee, such amounts include his or her:

- salary through the date of termination, payable immediately following termination in cash;
- annual incentive bonus, but only if such employee served for the entire bonus period or through the date such bonus is payable (unless this service requirement is waived, or more favorable treatment is applicable in the case of retirement, death or disability);
- equity awards that have vested;
- benefits accrued and vested under our qualified and supplemental defined benefit pension plans, with payouts generally occurring at early or normal retirement age;
- vested account balance held in our qualified and supplemental defined contribution plans, which the employee is generally free to receive at the time of termination; and
- rights to continued health care benefits to the extent required by law.

Payments made upon voluntary or involuntary terminations

In addition to benefits described under the heading immediately above, employees involuntarily terminated by us without cause prior to a change of control are also entitled, subject to certain conditions, to:

- payment of their annual incentive bonus or a pro rata portion thereof, depending on their termination date;
- if approved by the HRCC in its discretion, the terminated employee will (i) receive accelerated vesting of all, or a portion of, unvested time-vested equity awards, (ii) be permitted to retain all or a portion of his or her unvested performance-based restricted stock for the remainder of the applicable performance period or (iii) a combination of both; and
- a cash severance payment in the amount described under “Compensation Discussion & Analysis — Section four — Other Benefits — Severance Benefits” plus the receipt of any short-term incentive bonus payable under their applicable bonus plan and outplacement assistance benefits.

None of the benefits listed immediately above are payable if the employee resigns or is terminated for cause.

Payments made upon retirement

Employees who retire in conformity with our retirement plans and policies are entitled, subject to certain conditions, to:

- payment of their annual incentive bonus or a pro rata portion thereof, depending on their retirement date;
- post-retirement life, health and welfare benefits; and
- all of the benefits described under the heading “ — Payments Made Upon All Terminations.”

In addition, the HRCC has discretion to accelerate the vesting of all, or a portion of, unvested time-vested equity awards or to permit an employee who retires from the Company to retain all or a portion of his or her unvested performance-based equity awards for the remainder of the applicable performance period.

Payments made upon death or disability

Upon death or disability, officers (or their estates) are generally entitled to (without duplication of benefits):

- payments under our disability or life insurance plans, as applicable;
- keep all of their time-vested equity awards, whether vested or unvested;
- retain a pro rata portion of their performance-based equity awards, which would remain subject to performance and vesting conditions;
- payment of their annual incentive bonus or a pro rata portion thereof, depending on their date of death or disability;
- continued rights to receive (i) life, health and welfare benefits at early or normal retirement age, in the event of disabilities of employees with ten years of prior service, or (ii) health and welfare benefits payable to surviving eligible dependents, in the event of death of employees meeting certain age and service requirements; and
- all of the benefits described under the heading “ — Payments Made Upon All Terminations,” except that (i) upon death benefits under our retirement plans are generally available only to surviving spouses and (ii) benefits payable to mentally disabled employees under our nonqualified defined benefit retirement plans may be paid prior to retirement age.

Equity acceleration provisions of Mr. Storey's amended and restated offer letter

In conjunction with appointing Mr. Storey as our CEO, we amended and restated our offer letter with him that provides that certain outstanding, unvested equity awards will accelerate upon a "qualifying termination" or, subject to certain conditions, his retirement. A "qualifying termination" is defined in his amended and restated offer letter to include death, "disability," termination by us without "cause," or termination by Mr. Storey with "good reason" (each as further defined in the offer letter). Upon a qualifying termination, vesting of all unvested time-vested awards is accelerated and, with respect to performance-based awards, Mr. Storey will be permitted to retain all such awards although they will remain subject to their original performance conditions and payout schedule (except upon his death, when the awards would pay out at target). In addition, upon his retirement, provided that he has given us 90 days' notice of his intent to retire, Mr. Storey is entitled to receive full-service vesting as well with respect to his annual LTI grants (not including the promotion grant he was awarded upon his appointment as CEO), with any performance-based awards remaining subject to their original performance and vesting conditions.

Payments made upon a change of control

We have entered into agreements that entitle each of our executive officers who are terminated without cause or resign under certain specified circumstances within certain specified periods following any change in control of Lumen to receive (i) a lump sum cash severance payment equal to a multiple of such officer's annual cash compensation (defined as salary plus the average annual incentive bonus over the past three years) and (ii) the other benefits described under "Compensation Discussion & Analysis – Our Compensation Program and Components of Pay – Other Benefits – Change of Control Arrangements."

Under Lumen's above-referenced agreements, a "change in control" of Lumen would be deemed to occur upon: (i) any person (as defined in the Securities Exchange Act of 1934) becoming the beneficial owner of 30% or more of the outstanding Common Shares, (ii) a majority of our directors being replaced, (iii) consummation of certain mergers, substantial asset sales or similar business combinations, or (iv) approval by the shareholders of a liquidation or dissolution of Lumen.

The above-referenced agreements provide the benefits described above if we terminate the officer's employment without cause or the officer resigns with "good reason," which we describe further under the heading "Compensation Discussion & Analysis – Our Compensation Program and Components of Pay – Other Benefits – Change of Control Arrangements." We have filed copies or forms of these agreements with the SEC.

Participants in our supplemental defined benefit plan whose service is terminated within two years of the change in control of Lumen will receive a cash payment equal to the present value of their plan benefits (after providing age and service credits of up to three years if the participant is terminated by us without cause or resigns with "good reason"), determined in accordance with actuarial assumptions specified in the plan. Certain account balances under our qualified retirement plans will also fully vest upon a change of control of Lumen.

Under the terms of our equity incentive plans, incentives granted under those plans will not vest, accelerate, become exercisable or be deemed fully paid unless otherwise provided in a separate agreement, plan or instrument. None of our equity award agreements provide for any such accelerated recognition of benefits solely upon a change of control. Instead, our award agreements provide that any holder of incentives who is terminated by us or our successor without cause or resigns with good reason following a change of control will be entitled to receive full vesting of his or her time-vested restricted shares and continued rights under his or her performance-based restricted shares (on the same terms as if he or she had not been terminated).

We believe the above-described change of control benefits enhance shareholder value because:

- prior to a takeover, these protections help us to recruit and retain talented officers and to help maintain the productivity of our workforce by alleviating concerns over economic security and
- during or after a takeover, these protections (i) help our personnel, when evaluating a possible business combination, to focus on the best interests of Lumen and its shareholders and (ii) reduce the risk that personnel will accept job offers from competitors during takeover discussions.

Estimated potential termination payments

The table below provides estimates of the value of payments and benefits that would become payable if our current named executives were terminated in the manner described below, in each case based on various assumptions, the most significant of which are described in the table's notes.

Potential termination payments						
Name	Type of Termination Payment ²	Type of Termination of Employment ¹				Termination Upon a Change of Control ⁵
		Involuntary Termination Without Cause ³	Retirement ⁴	Disability	Death	
Mr. Storey	Annual Bonus	\$ 3,600,022	\$ 3,600,022	\$ 3,600,022	\$ 3,600,022	\$ 3,600,022
	Equity Awards ⁶	21,951,872	19,147,811	21,951,872	21,951,872	21,951,872
	Pension and Welfare ⁷	60,500	0	0	0	166,500
	Cash Severance ⁸	10,800,067	0	0	0	16,200,101
	Total	\$ 36,412,461	\$ 22,747,833	\$ 25,551,894	\$ 25,551,894	\$ 41,918,495
Mr. Dev	Annual Bonus	\$ 872,756	n/a	\$ 872,756	\$ 872,756	\$ 714,481
	Equity Awards ⁶	0	n/a	4,781,205	4,781,205	4,781,205
	Pension and Welfare ⁷	29,350	n/a	0	0	59,100
	Cash Severance ⁸	1,687,500	n/a	0	0	3,375,000
	Total	\$ 2,566,314	n/a	\$ 5,653,961	\$ 5,653,961	\$ 8,929,786
Mr. Goff	Annual Bonus	\$ 674,876	\$ 674,876	\$ 674,876	\$ 674,876	\$ 740,254
	Equity Awards ⁶	0	0	3,080,210	3,080,210	3,080,210
	Pension and Welfare ⁷	35,300	n/a	0	0	63,100
	Cash Severance ⁸	1,320,039	n/a	0	0	\$ 2,640,077
	Total	\$ 2,030,215	n/a	\$ 3,755,086	\$ 3,755,086	\$ 6,523,641
Mr. Andrews	Annual Bonus	\$ 492,083	n/a	\$ 492,083	\$ 492,083	\$ 445,174
	Equity Awards ⁶	0	n/a	1,545,131	1,545,131	1,545,131
	Pension and Welfare ⁷	33,300	n/a	0	0	59,100
	Cash Severance ⁸	1,050,000	n/a	0	0	2,100,000
	Total	\$ 1,575,383	n/a	\$ 2,037,214	\$ 2,037,214	\$ 4,149,405
Mr. Trezise	Annual Bonus	\$ 429,985	n/a	\$ 429,985	\$ 429,985	\$ 455,565
	Equity Awards ⁶	0	n/a	1,346,465	1,346,465	1,346,465
	Pension and Welfare ⁷	33,300	n/a	0	0	59,100
	Cash Severance ⁸	950,021	n/a	0	0	1,900,043
	Total	\$ 1,413,306	n/a	\$ 1,776,450	\$ 1,776,450	\$ 3,761,173

Compensation Tables

CEO Pay Ratio Disclosure

1. All data in the table reflects our estimates of the value of payments and benefits assuming the named officer was terminated on December 31, 2020. The closing price of the Common Shares on such date was \$9.75. The table reflects only estimates of amounts earned or payable through or at such date based on various assumptions. Actual amounts can be determined only at the time of termination. If a named officer voluntarily resigns or is terminated with cause, he will not be entitled to any special or accelerated benefits but will be entitled to receive various payments or benefits that vested before the termination date. The table reflects potential payments based upon a physical disability; additional benefits may be payable in the event of a mental disability.
2. As further described above, upon termination of employment, the named officers may become entitled to receive certain special, accelerated or enhanced benefits, including, subject to certain exceptions, the right to receive payment of their annual cash incentive bonus, an acceleration under certain circumstances of the vesting of their outstanding equity awards, current or enhanced pension and welfare benefits, or cash severance payments. The table excludes (i) payments or benefits made under broad-based plans or arrangements generally available to all salaried full-time employees and (ii) benefits, awards or amounts that the officer was entitled to receive prior to termination of employment.
3. The amounts listed in this column reflect payments to which the named officer would be entitled to under our executive severance plan if involuntarily terminated by us without cause (including, for Mr. Storey, by him with good reason, as provided in his amended and restated offer letter) prior to a change of control. The amounts listed in this column would not be payable if the officer voluntarily resigns (for Mr. Storey, without good reason) or is terminated for cause.
4. The amounts listed in this column reflect payments to which (i) Mr. Storey and Goff would be entitled to under the provisions our STI plan and (ii) equity that would be accelerated for Mr. Storey per his amended and restated offer Letter (provided he has given us 90 days' notice of his intent to retire). Mr. Goff is eligible to retire early under Lumen's defined benefit pension plans described above under the heading "Executive Compensation – Pension Benefits." The amounts reflected in this column do not reflect the amount of lifetime annuity payments payable upon early retirement, which as of December 31, 2020, Mr. Goff would have been entitled to monthly annuity payments of approximately \$6,439 over his lifetime.
5. The information in this column assumes each named officer became entitled on December 31, 2020 to the benefits under Lumen's agreements in existence on such date described above under "— Payments Made Upon a Change of Control" upon an involuntary termination without cause or resignation with good reason. All amounts are based on several assumptions.
6. The information in this row (i) reflects the benefit to the named officer arising out of the accelerated vesting of some or all of his restricted stock or RSUs triggered by the termination of employment and (ii) assumes that the HRCC would not approve the acceleration of the restricted stock or RSUs of any named officer in the event of an involuntary termination.
7. The information in this row reflects only the incremental benefits that accrue upon an event of termination and excludes benefits that were vested on December 31, 2020. For information on the present value of the named officers' accumulated benefits under our defined benefit pension plans, see "— Pension Benefits," and for information on the aggregate balances of the named officers' non-qualified deferred compensation, see "— Deferred Compensation." As indicated above, the named officer would also be entitled to receive a distribution of his 401(k) benefits and various other broad-based benefits.
8. The information in this row excludes, in the case of disability or death, payments made by insurance companies.

CEO Pay Ratio disclosure

As mandated by federal law and related SEC rules, we are required to disclose a ratio of the pay of our CEO to that of our median employee. For 2020, the total compensation of our CEO, Mr. Storey was \$16,959,233, while the annual total compensation for our median employee was \$73,091. As a result, the ratio of CEO pay to median employee pay was approximately 232 to 1.

We calculated our 2020 pay ratio using the following assumptions:

- Median employee determination. The median employee was determined by reviewing the annual total target compensation (the sum of base salary, target short-term incentive and target long-term incentive awards) as of December 31, 2020 for approximately 39,103 active employees employed on that date, excluding our CEO and employees in Venezuela.
- Median employee identification. The median employee was identified as a transmission equipment person, located in the U.S. and with the company for twenty-nine years.
- Median employee total compensation calculation. To determine the median pay ratio, we calculated the median employee's pay using the same pay elements and calculation methodology as used in determining the CEO's pay for purposes of disclosure in the Summary Compensation Table.

As the SEC rules permit companies to choose between different methodologies for median pay calculations, our ratio should not be used as a basis for comparison with other companies. Other public companies may calculate their pay ratio using a different methodology than ours.

Stock ownership guidelines

Under our current stock ownership guidelines, our executive officers are required to beneficially own Lumen stock in market value equal to a multiple of their annual salary, as outlined in the table below and each outside director must beneficially own Lumen stock equal in market value to five times the annual cash retainer payable to outside directors.

Stock ownership guidelines		
Party	Guideline	Value ^{1,2}
CEO	6X Base Salary	\$10,800,066
Other Executive Officers	3X Base Salary	\$ 1,781,272
Outside Directors	5X Annual Cash Retainer	\$ 375,000

1. Value for CEO of \$10.8M is based on Mr. Storey's annual salary as of December 31, 2020.

2. Value \$1.78M based on average annual salary for all other executive officers as of December 31, 2020.

Each executive officer and outside director have three and five years, respectively, to attain these targets. For any year during which an executive or outside director does not meet his or her ownership target, the executive or director is required to hold 65% of the Lumen stock that he or she acquires through our equity compensation programs, excluding shares sold to pay related taxes.

Except as noted below, as of December 31, 2020, all of our executive officers and all of our outside directors were in compliance with and in most cases significantly exceeded, our stock ownership guidelines. The two exceptions are Mr. Allen and Mr. Jones. Mr. Allen who joined our Board on February 25, 2021, has until February 25, 2026 to comply with these guidelines. Mr. Jones who joined our Board on January 1, 2020, has until January 1, 2025 to comply with these guidelines.

Other Matters

Stock ownership

The following table sets forth information regarding ownership of our Common Shares by the persons known to us to have beneficially owned more than 5% of the outstanding Common Shares on December 31, 2020 (the “investors”), unless otherwise noted.

Stock Ownership		
Name and Address	Amount and Nature of Beneficial Ownership of Common Shares ⁽¹⁾	Percent of Outstanding Common Shares ⁽¹⁾
The Vanguard Group 100 Vanguard Blvd. Malvern, PA 19355	126,367,933 ⁽²⁾	11.5%
Temasek Holdings (Private) Limited 60B Orchard Road #06-18 Tower 2 Singapore 238891	97,259,407 ⁽³⁾	9.8%
Blackrock, Inc. 55 East 52nd Street New York, NY 10055	91,055,627 ⁽⁴⁾	8.3%
Southeastern Asset Management, Inc. 6410 Poplar Avenue, Suite 900 Memphis, TN 38119	65,248,347 ⁽⁵⁾	6.0%
State Street Corporation State Street Financial Center One Lincoln Street Boston, MA 02111	60,459,284 ⁽⁶⁾	5.5%

- The figures and percentages in the table above have been determined in accordance with Rule 13d-3 of the SEC based upon information furnished by the investors, except that we have calculated the percentages in the table based on the actual number of Common Shares outstanding on the dates as to which the investors have reported their holdings (as noted in notes 2 through 6), as opposed to the estimated percentages set forth in the reports of such investors referred to below in such notes. In addition to Common Shares, we have outstanding Preferred Shares that vote together with the Common Shares as a single class on all matters. One or more persons beneficially own more than 5% of the Preferred Shares; however, the percentage of total voting power held by such persons is immaterial. For additional information regarding the Preferred Shares, see “Frequently Asked Questions — How many votes may I cast?”
- Based on information contained in a Schedule 13G/A Report dated as of February 10, 2021, that this investor filed with the SEC. In this report, the investor indicated that, as of December 31, 2020, it (i) held sole voting power with respect to none of these shares, (ii) shared voting power with respect to 1,600,939 of these shares, (iii) held sole dispositive power with respect to 121,852,872 of these shares and (iv) shared dispositive power with respect to 4,515,061 of these shares.
- Based on information contained in a Form 13F-HR Report dated as of February 16, 2021, that this investor filed with the SEC. In this report, the investor indicated that, as of December 31, 2020, it shared with eight of its subsidiaries or affiliates investment power and held sole voting power with respect to all of the above-listed shares.
- Based on information contained in a Schedule 13G/A Report dated as of January 29, 2021, that this investor filed with the SEC. In this report, the investor indicated that, as of December 31, 2020, it held sole voting power with respect to 82,260,962 of these shares and sole dispositive power with respect to all of the above-listed shares.
- Based on information contained in a Schedule 13D Report dated as of December 7, 2020, that this investor filed with the SEC. In this report, the investor indicated that, as of December 3, 2020, it (i) shared voting power with respect to 42,906,307 of these shares, (ii) held sole voting power with respect to 12,705,377 of these shares, (iii) had no voting power with respect to 9,636,663 of these shares, (iv) shared dispositive power with respect to 37,286,651 of these shares and (v) held sole dispositive power with respect to 27,961,696 of these shares.
- Based on information contained in a Schedule 13D Report dated as of February 5, 2021, that this investor filed with the SEC. In this report, the investor indicated that, as of December 31, 2020, it (i) shared voting power with respect to 44,869,296 of these shares and (ii) shared dispositive power with respect to 60,450,151 of these shares.

Ownership of executive officers & directors

The following table sets forth information, as of the record date, regarding the beneficial ownership of our common stock by our executive officers and directors. Except as otherwise noted, all beneficially owned shares are held with sole voting and investment power and are not pledged to third parties.

Ownership of executive officers & directors

	Components of Total Shares Beneficially Owned		Total Shares Beneficially Owned ^{3,4}	Vested Deferred Stock Units ^{12,13}
	Unrestricted Shares Beneficially Owned ¹	Unvested Restricted Stock ²		
Named Executive Officers				
Mr. Storey ⁵	3,100,893	376,631	3,477,524	
Mr. Dev	357,292	749,388	1,106,680	
Mr. Goff	406,167	374,301	780,468	
Mr. Andrews	66,981	251,813	318,794	
Mr. Trezise	141,090	195,635	336,725	
Outside Directors				
Mr. Allen ⁶	0	0	0	
Ms. Bejar	24,735	8,220	32,955	22,925
Mr. Brown ⁷	53,629	16,439	70,068	
Mr. Chilton	67,512	0	67,512	16,439
Mr. Clontz ⁸	264,540	16,439	280,979	
Mr. Glenn ⁹	129,362	0	129,362	31,145
Mr. Hanks	102,172	16,439	118,611	
Mr. Jones	0	16,439	16,439	
Mr. Roberts	49,256	16,439	65,695	14,706
Ms. Siegel	59,358	16,439	75,797	
Non-returning Director				
Ms. Boulet ¹⁰	60,090	16,439	76,529	
All current executive officers and directors as a group (16 persons) ¹¹				
Overall Total	4,883,077	2,071,061	6,954,138	85,215

1. This column includes the following number of shares allocated to the individual's account under one of our qualified 401(k) plans: Mr. Storey — 6,595; Mr. Dev — 5,204; Mr. Goff — 9,313; and Mr. Andrews — 2,546. Participants in these plans are entitled to direct the voting of their plan shares, as described in greater detail elsewhere herein.
2. Reflects (i) for all shares listed, unvested shares of restricted stock over which the person holds sole voting power but no investment power and (ii) with respect to our performance-based restricted stock granted to our executive officers, the number of shares that will vest if we attain target levels of performance.
3. Excludes (i) shares that might be issued under restricted stock units and (ii) "phantom units" held by Mr. Roberts that are payable in cash upon the termination of his service as a director, as described further under "Item No. 1 – Election of Directors – Director Compensation – Other Benefits."
4. None of the persons named in the table beneficially owns more than 1% of the outstanding Common Shares. The shares beneficially owned by all current directors and executive officers as a group constituted 0.6% of the outstanding Common Shares as of the record date.
5. Includes 89,035 restricted stock units held by Mr. Storey that are scheduled to vest on May 24, 2021, but none of his other restricted stock units.
6. As noted above, Mr. Allen was appointed to the Board effective February 25, 2021.
7. Includes 24,297 shares held by a tax-exempt charitable foundation, as to which Mr. Brown has voting and dispositive powers by virtue of his control of the foundation.
8. Includes 500 shares held by Mr. Clontz's son, as to which Mr. Clontz disclaims beneficial ownership.
9. Includes 77,143 shares held indirectly by Mr. Glenn in a trust.
10. As noted above, Ms. Boulet's term will end immediately following the 2021 annual shareholders' meeting.
11. As described further in the notes above, includes (i) 24,297 shares held beneficially through a foundation, (ii) 77,143 shares held indirectly by trust and (iii) 500 shares held beneficially by family members of these individuals, as to which beneficial ownership is disclaimed.

Other Matters

Ownership of Executive Officers & Directors

12. Reflects vested equity awards deferred by outside directors, which will settle in shares at a future date according to the director's election.
13. This column includes the following number of deferred stock units scheduled to vest on May 20, 2021, but will not settle in shares until the director's elected deferral date: Ms. Bejar – 8,219; Mr. Chilton – 16,439; Mr. Glenn – 16,439.

Transactions with related parties

Review Procedures. Early each year, our management distributes to the Audit and NCG Committees a written report listing payments to vendors and billings to customers that exceed a materiality threshold that have been identified as related parties by our officers and directors through the completion of an annual questionnaire and a listing of investees and affiliates. These transactions do not include regular compensation paid to the officers and directors but would include any payments to the officers and directors outside of regular compensation arrangements. This annual report permits the independent directors to assess and discuss our material related party transactions.

Recent Transactions. Lumen employs several personnel related by birth or marriage throughout our organization. During 2020, we paid H. Parnell Perry, Jr., Manager Technology Management, total gross compensation of approximately \$144,712 consisting of approximately \$120,204 in salary, \$19,700 in annual incentive bonuses and \$4,808 in matching contributions to his qualified 401(k) plan account. He has been a Lumen employee since 1987 and is the son of Harvey P. Perry, our former Chairman of the Board who retired in May 2020. He is the only related party whose 2020 compensation was in excess of the \$120,000 threshold that would require detailed disclosures under the federal proxy rules.

Delinquent section 16(a) reports

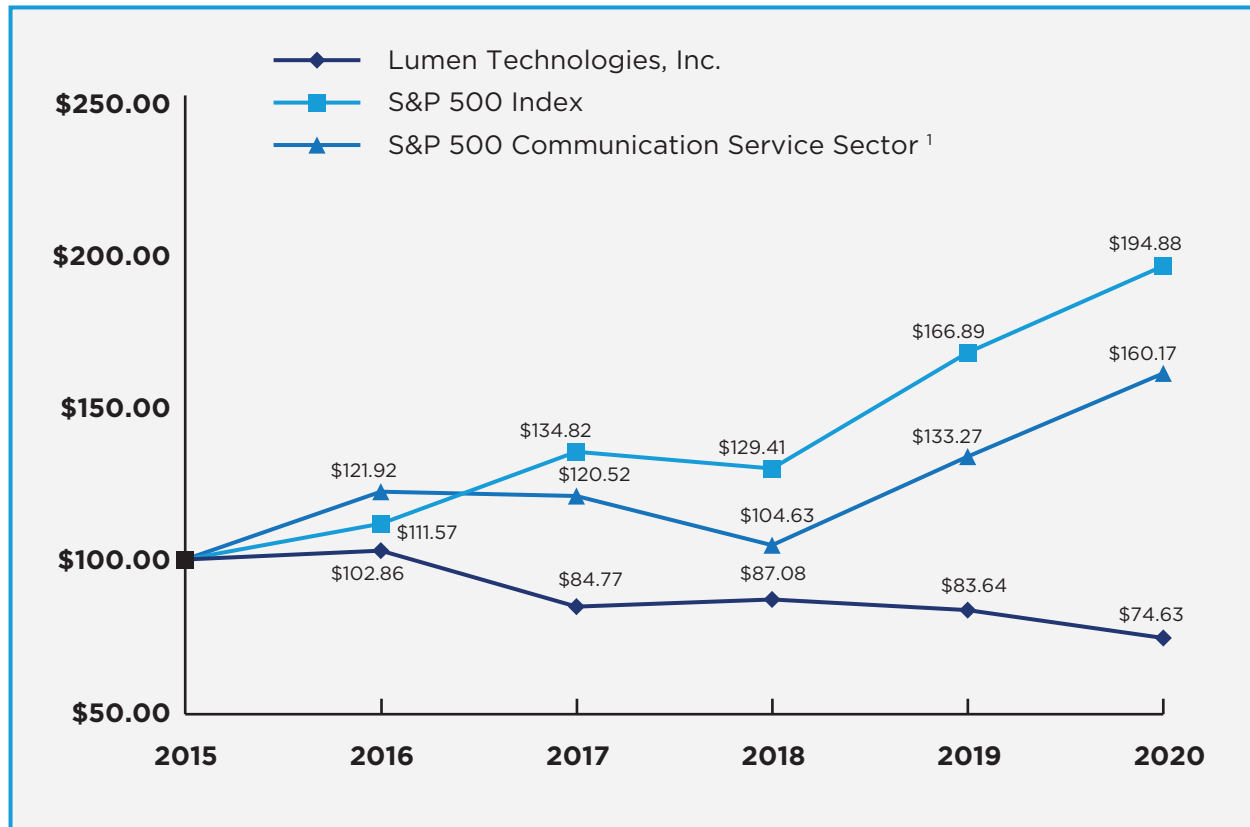
Section 16(a) of the Securities Exchange Act of 1934 requires Lumen's directors, certain officers and greater than 10% shareholders to file with the SEC certain reports regarding their beneficial ownership of our common stock. To our knowledge, based solely on a review of SEC filings and written representations from our officers and directors, we believe that, between January 1, 2020, through the date of this proxy statement, all such reports were filed timely except for one such report for Mr. Storey, reporting two transactions that occurred on February 26, 2021, which was filed one day late due to an administrative error.

Compensation Committee interlocks and insider participation

During the last fiscal year, our HRCC included Laurie Siegel, Virginia Boulet (through May 20, 2020), Steven T. "Terry" Clontz, T. Michael Glenn, and Michael Roberts. No member of the HRCC served as an officer or employee of the Company or any of our subsidiaries prior to or while serving on the HRCC.

Lumen performance history

The graph below compares the cumulative total shareholder return on our Common Shares with the cumulative total return of the S&P 500 Index and the S&P 500 Communication Services Sector Index for the period from December 31, 2015 to December 31, 2020, in each case assuming (i) the investment of \$100 on January 1, 2016, at closing prices on December 31, 2015 and (ii) reinvestment of dividends.



	2015	2016	December 31,		2019	2020
			2017	2018		
Lumen	\$100.00	\$102.86	\$ 84.77	\$ 87.08	\$ 83.64	\$ 74.63
S&P 500 Index	100.00	111.57	134.82	129.41	166.89	194.88
S&P 500 Communication Services Sector Index ¹	100.00	121.92	120.52	104.63	133.27	160.17

1. As of December 31, 2020, the S&P 500 Communications Service Sector Index consisted of Omnicom Group, Inc., Twitter Inc., Verizon Communications, Inc., The Walt Disney Company, DISH Network Corp., Alphabet Inc., AT&T Inc., Charter Communications Inc., Netflix Inc., Lumen Technologies, Inc., Discovery Inc., Comcast Corp., Activision Blizzard Inc., ViacomCBS Inc., Electronic Arts Inc., Facebook Inc., Take-Two Interactive Software Inc., News Corp., Interpublic Group, Live Nation Entertainment, Inc., T-Mobile US, Inc. and Fox Corp.

Frequently asked questions

Why am I receiving these proxy materials?

Our Board of Directors is soliciting your proxy to vote at our 2021 annual meeting of shareholders because you owned shares of our stock at the close of business on March 25, 2021, the record date for the meeting and are entitled to vote those shares at the annual meeting. This proxy statement was first made available to shareholders on or about April 7, 2021. It is furnished in connection with the solicitation of proxies by our Board to be voted during the annual meeting for the purposes set forth in the accompanying Notice of Annual Meeting.

Other Matters

Frequently Asked Questions

When and how will the meeting be held?

Date: May 19, 2021

Time: 12:00 noon Central Time

Virtual Meeting Location: virtualshareholdermeeting.com/LUMN2021

How may I access these materials?

We are furnishing proxy materials to our shareholders primarily via the Internet instead of mailing printed copies of those materials to each shareholder. By doing so, we save costs and reduce the environmental impact of our annual meeting. On April 7, 2021, we commenced mailing a Notice of Internet Availability of Proxy Materials to most of our shareholders. The Notice contains instructions about how to access our proxy materials and vote online or by telephone. If you previously chose to receive our proxy materials electronically, you will continue to receive access to these materials via email unless you elect otherwise. If you would like to receive a paper copy of our proxy materials, please follow the instructions included in the Notice of Internet Availability of Proxy Materials.

What matters will be considered at the meeting?

The following table summarizes the votes required for passage of each proposal and the effect of abstentions and uninstructed shares held by brokers.

Items for Consideration						
	Item	Board Voting Recommendation	Vote Required for Approval	Effect of Abstentions	Effect of Uninstructed Shares ¹	Page Reference
Item 1	Election of the 11 director nominees named herein	FOR	Affirmative vote of a majority of the votes cast	Not cast	Not cast	4
Item 2	Ratify KPMG LLP as our independent auditor for 2021	FOR	Affirmative vote of a majority of the votes cast	Not cast	Discretionary voting	27
Item 3	Ratify the amendment to our Amended and Restated NOL Rights Plan	FOR	Affirmative vote of a majority of the votes cast	Not cast	Not cast	29
Item 4	Non-binding advisory vote to approve our executive compensation	FOR	Affirmative vote of a majority of the votes cast	Not cast	Not cast	34

1. "Uninstructed Shares" refers to shares as to which a broker or custodian receives no voting instructions from the shares' beneficial owner and which, other than as noted below for Item 2, cannot be voted under applicable NYSE standards.

What vote is required to approve these matters?

For each proposal submitted to the shareholders for a vote, approval requires a vote of the majority of the votes cast. A majority of votes cast means the number of shares cast "for" a proposal exceeds the number of votes cast "against" that proposal. Abstentions will not be counted as votes cast. Uninstructed shares will not

be counted as votes cast except with respect to Item #2, Ratifying KPMG as our Independent Auditor, for which brokers and custodians have discretion to vote.

Additionally, unless otherwise directed, all votes attributable to voting shares represented by each duly executed and delivered proxy will be cast for the election of each of the above-named nominees. If you wish to give specific instructions with respect to voting for directors, you may do so by indicating your instructions on your proxy or voting instruction card. Under our Bylaws nominating procedures, these nominees are the only individuals who may be elected at the meeting. If for any reason any such nominee should decline or become unable to stand for election as a director, which we do not anticipate, the persons named as proxies may vote instead for another candidate designated by the Board, without re-soliciting proxies.

How many votes may i cast?

You may cast one vote for every share of our Common Stock or Series L Preferred Stock that you owned on the record date, which vote together as a single class on all matters. In this proxy statement, we refer to these shares as our “Common Shares” and “Preferred Shares,” respectively and as our “Voting Shares,” collectively.

What is the difference between holding shares as a shareholder of record and as a beneficial owner?

If shares are registered in your name with our transfer agent, Computershare Investor Services L.L.C., you are the “shareholder of record” of those shares and you may directly vote these shares, together with any shares credited to your account if you are a participant in our automatic dividend reinvestment and stock purchase service.

If your shares are held on your behalf in a stock brokerage account or by a bank or other nominee, you are the “beneficial owner” of shares held in “street name.” We have requested that our proxy materials be made available to you by your broker, bank or nominee, who is considered the shareholder of record of those shares.

If I am a shareholder of record, how do I vote?

If you are a shareholder of record, you may vote yourself or by proxy in any of the following four ways:

- By Internet: visit proxyvote.com and follow the instructions at that site
- By phone: call 1-800-690-6903 and follow the instructions provided;
- By mail: request a paper copy of our proxy materials and, following receipt thereof, mark, sign and date your proxy or voting instructions card and return it to Broadridge Financial Solutions, Inc.
- By Live virtual meeting: vote electronically at the virtual annual meeting - virtualshareholdersmeeting.com/LUMN2021

Prior to the live meeting, if you need additional help with voting, please call proxy support at 866-232-3037 (Toll-free) or 720-358-3640 (International Toll). If you encounter any difficulties accessing the virtual Meeting webcast, please call the technical support number that will be posted on the annual meeting website log-in page.

Unless otherwise noted below, you may vote by telephone or the Internet up until 11:59 p.m. Eastern Time on May 18, 2021, but not thereafter.

If I am a beneficial owner of shares held in street name, how do I vote?

As the beneficial owner, you have the right to instruct your broker, bank or nominee how to vote your shares by using any voting instruction card supplied by them or by following their instructions for voting by telephone, the Internet, or live during the virtual meeting.

Other Matters

Frequently Asked Questions

If I am a benefit plan participant, how do I vote?

If you beneficially own any of our Common Shares by virtue of participating in our retirement plan, then you will receive separate voting instructions that will enable you to direct the voting of these shares. You are entitled, on a confidential basis, to instruct the trustees how to vote the shares allocated to your plan account. The plans require you to act as a “named fiduciary,” which requires you to exercise your voting rights prudently and in the interests of all plan participants. Plan participants who wish to vote should instruct the trustees how to vote the shares allocated to their plan accounts in accordance with the voting instructions. If you elect not to vote the shares allocated to your accounts, your shares will be voted in the same proportion as voted shares regarding each of the items submitted to a vote at the meeting. Plan participants that wish to revoke their voting instructions must contact the trustee and follow its procedures.

To be counted, your voting instructions for shares held in our retirement plan must be received by 11:59 p.m. Eastern Time on May 16, 2021.

How do I participate in the annual meeting?

This year’s annual meeting will be held in a virtual format through a live webcast.

You are entitled to participate in the annual meeting if you were a shareholder as of the close of business on March 25, 2021, the record date, or hold a valid proxy for the meeting. To be admitted to the annual meeting at proxyvote.com, you must enter the 16-digit control number found next to the label “Control Number” on your Notice of Internet Availability, proxy card, or voting instruction form, or in the email sending you the proxy statement. If you are a beneficial shareholder, you may contact the broker, bank or other institution with whom you hold your account if you have questions about obtaining your Control Number.

The question and answer session will include questions submitted in advance of and questions submitted live during the annual meeting. You may also submit a question in advance of the meeting at proxyvote.com after logging in with your Control Number. Questions may be submitted during the live virtual annual meeting.

We encourage you to access the annual meeting before it begins. Online check-in will start approximately 15 minutes before the meeting on May 19, 2021.

What can I do if I need technical assistance during the annual meeting?

The virtual meeting platform is fully supported across browsers (Internet Explorer, Firefox, Chrome and Safari) and devices (desktops, laptops, tablets and cell phones) running the most updated version of applicable software and plugins. If you encounter any difficulties accessing the virtual Meeting webcast, please call the technical support number that will be posted on the annual meeting website log-in page.

Who sets the rules regarding conduct at the meeting?

The Chairman has broad responsibility and legal authority to conduct the meeting in an orderly and timely manner. This authority includes establishing rules for shareholders who wish to address the meeting. Copies of these rules will be available prior to the meeting in the “Events & Presentations” section of our website ir.lumen.com and during the meeting. The Chairman may also exercise broad discretion regarding (i) recognizing shareholders who wish to speak, (ii) determining the extent of discussion on each item of business and (iii) consolidating the Company’s response to similar questions. In light of the need to conduct all necessary business and to conclude the meeting within a reasonable period of time, we cannot assure you that each question submitted will be addressed.

What is the quorum requirement for the meeting?

Our Bylaws provide that the presence at the meeting, including by proxy, of a majority of the outstanding Voting Shares constitutes a quorum to organize the meeting. For these purposes, abstentions and unvoted uninstructed shares are counted as being present.

Can I revoke or change my voting instructions after I deliver them?

Shareholders of record may revoke their proxy or change their votes at any time before their proxy is voted at the meeting by giving a written revocation notice to our secretary, by timely delivering a proxy bearing a later

date or by voting during the virtual meeting. Beneficial shareholders may revoke or change their voting instructions by contacting the broker, bank or nominee that holds their shares.

Who pays the cost of soliciting proxies?

The Board is soliciting the proxy accompanying this proxy statement. Proxies may be solicited by Lumen officers, directors and employees, none of whom will receive any additional compensation for their services. Georgeson LLC may solicit proxies at a cost we anticipate will not exceed \$30,000. These solicitations may be made personally or by mail, telephone, messenger, email, or other electronic transmission. Lumen will pay persons holding shares of common stock in their names or in the names of nominees, but not owning such shares beneficially, such as brokerages, banks and other fiduciaries, for the expense of forwarding solicitation materials to their principals. Lumen will pay all proxy solicitation costs.

Could other matters be considered and voted upon at the meeting?

Our Board does not expect to bring any other matter before the meeting. Further, management has not timely received any notice that a shareholder desires to present any matter for action at the meeting in accordance with our Bylaws (which are described below under “Frequently Asked Questions — What is the deadline to propose actions for consideration at the 2022 annual meeting of shareholders or to nominate individuals to serve as directors?”) and is otherwise unaware of any matter to be considered by shareholders at the meeting other than those matters specified in the accompanying notice of the meeting. Our proxy and voting instruction cards, however, will confer discretionary voting authority with respect to any other matter that may properly come before the meeting. It is the intention of the persons named therein to vote in accordance with their best judgment on any such matter.

What happens if the meeting is postponed or adjourned?

The Chairman may postpone or adjourn the meeting. Your proxy will still be valid and may be voted at the postponed or adjourned meeting. You will still be able to change or revoke your proxy until it is voted in the manner noted above.

What is the deadline to propose actions for consideration at the 2022 annual meeting of shareholders or to nominate individuals to serve as directors?

You may submit proposals, including director nominations, for consideration at future annual meetings of shareholders.

Proxy Statement Proposals. To be eligible for inclusion in our 2022 proxy materials, any shareholder proposal to elect shareholder-nominated candidates as directors or to take any other action at such meeting must be received by December 8, 2021 and must comply with applicable federal proxy rules and our Bylaws. See “Frequently Asked Questions – What information needs to be included in a shareholder notice nominating a director or proposing other action?” These shareholder proposals must be in writing and received by the deadline described above at our principal executive offices at 100 CenturyLink Drive, Monroe, Louisiana 71203, Attention: Stacey W. Goff, Secretary. If we do not receive a shareholder proposal by the deadline described above, we may exclude the proposal from our proxy materials for our 2022 annual meeting.

Other Proposals and Nominations. In addition, our Bylaws require shareholders to furnish timely advance written notice of their intent to nominate a director or bring any other matter before a shareholders’ meeting, whether or not they wish to include their candidate or proposal in our proxy materials. In general, notice must be received in writing by our Secretary, addressed in the manner specified in the immediately-preceding paragraph, between November 20, 2021 and February 18, 2022 and must contain various information specified in our Bylaws. (If the date of the 2022 annual meeting is more than 30 days before or more than 60 days after May 19, 2022, please consult our Bylaws to determine the applicable deadline.) Notices that are not delivered in

Other Matters

Frequently Asked Questions

accordance with our Bylaws may be disregarded by us. For additional information on these procedures, see “Frequently Asked Questions – What information needs to be included in a shareholder notice nominating a director or proposing other action?”

Our above-described advance notice Bylaw provisions are in addition to and separate from, the requirements that a shareholder must meet in order to have a candidate or proposal included in our proxy materials.

Proxies granted by a shareholder will give discretionary authority to the proxy holders to vote on any matters introduced pursuant to the above-described advance notice bylaw provisions, subject to applicable rules of the SEC.

General. The summaries above are qualified in their entirety by reference to the full text of our Bylaws. You may obtain a full copy of our Bylaws by reviewing our reports filed with the SEC, by accessing our website at lumen.com or by contacting our Secretary in the manner specified below.

What information needs to be included in a shareholder notice nominating a director or proposing other action?

If timely notice is provided, our Bylaws permit shareholders to nominate a director or bring other matters before a shareholders' meeting. The written notice required to be sent by any shareholder nominating a director must include various information, including, as to the shareholder giving the notice and the beneficial owner, if any, on whose behalf the nomination is being made: (i) the name and address of such shareholder, any such beneficial owner and any other parties affiliated, associated or acting in concert therewith, (ii) their beneficial ownership interests in our Voting Shares, including disclosure of arrangements that might cause such person's voting, investment or economic interests in our Voting Shares to differ from those of our other shareholders, (iii) certain additional information concerning such parties required under the federal proxy rules, (iv) a description of all agreements with respect to the nomination among the nominating shareholder, any beneficial owner, any person acting in concert with them, each proposed nominee and certain other persons and (v) a representation whether any such person intends to solicit proxies or votes in support of their proposed nominees. With respect to each proposed nominee, the written notice must also, among other things, (i) set forth biographical and other data required under the federal proxy rules and a description of various compensation or other arrangements or relationships between each proposed nominee and the nominating shareholder and its affiliated parties and (ii) furnish both a completed and duly executed questionnaire and a duly executed agreement designed to disclose various aspects of the proposed nominee's background, qualifications and certain specified arrangements with other persons, as well as to receive the proposed nominee's commitment to abide by certain specified agreements and undertakings. We may require a proposed nominee to furnish other reasonable information or certifications. Shareholders interested in bringing before a shareholders' meeting any matter other than a director nomination should consult our Bylaws for additional procedures governing such requests. We may disregard any nomination or submission of any other matter that fails to comply with these Bylaw procedures.

In addition, our Bylaws provide that under certain circumstances a shareholder or group of shareholders may include director candidates that they have nominated in our annual meeting proxy materials. These proxy access provisions of our Bylaws provide, among other things, that a shareholder or group of up to ten shareholders seeking to include director candidates in our annual meeting proxy materials must own 3% or more of our outstanding Common Shares continuously for at least the previous three years. The number of shareholder-nominated candidates appearing in any of our annual meeting proxy materials cannot exceed 20% of the number of directors then serving on the Board. If 20% is not a whole number, the maximum number of shareholder-nominated candidates would be the closest whole number below 20%. Based on the 11 directors constituting our Board immediately following the meeting, two is the maximum number of proxy access candidates that we would be required to include in our 2022 proxy materials for the 2022 annual meeting. The nominating shareholder or group of shareholders also must deliver the information required by our Bylaws and each nominee must meet the qualifications required by our Bylaws.

Shareholder requests to nominate directors or to bring any other matter before our 2022 annual shareholders' meeting, whether or not they wish to include their candidate or proposal in our proxy materials, must be received by our Secretary by the deadlines specified in the response to the preceding question.

The summaries above of the advance notification and proxy access provisions of our Bylaws are qualified in their entirety by reference to the full text of Section 5 of Article IV of our Bylaws. You may obtain a full copy of our Bylaws by reviewing our reports filed with the SEC, by accessing our website at lumen.com, or by contacting our Secretary in the manner specified below under "Other Information."

Other Information

Proxy materials

As described further above, shareholders will receive only a written notice of how to access our proxy materials and will not receive printed copies of the proxy materials unless requested. If you would like to receive a paper copy of our proxy materials, you should follow the instructions for requesting the materials in the notice.

The full set of our materials include:

- the notice and proxy statement for the meeting,
- a proxy or voting instruction card, and
- our 2020 annual report furnished in the following two parts: (1) our 2020 Annual Financial Report, which constitutes Appendix B to this proxy statement and (2) our CEO's letter appearing at the beginning of this document.

Annual financial report

Appendix B includes our 2020 Annual Financial Report, which is excerpted from portions of our Annual Report on Form 10-K for the year ended December 31, 2020, that we filed with the SEC on February 25, 2021. In addition, we have provided you with a copy of or access to our CEO's letter, which precedes this proxy statement at the beginning of this document. Neither of these documents is a part of our proxy soliciting materials.

You may obtain a copy of our Form 10-K report without charge by writing to Stacey W. Goff, Secretary, Lumen Technologies, Inc., 100 CenturyLink Drive, Monroe, Louisiana 71203, or by visiting our website at lumen.com.

You may view online this proxy statement and related materials at proxyvote.com.

By Order of the Board of Directors



Stacey W. Goff

Secretary

April 7, 2021

Appendix A

Non-GAAP Reconciliations

Description of non-GAAP metrics

Pursuant to Regulation G, the company is hereby providing (i) definitions of non-GAAP financial metrics that are used in the sections of the proxy statement under the headings “Lumen At a Glance,” “Compensation Discussion & Analysis — Executive Summary — Lumen Business Highlights” and “Compensation Discussion & Analysis — Compensation Design, Awards and Payouts for 2020-2020 STI Program — Bonus Amounts” and (ii) reconciliations of these metrics to the most directly comparable GAAP measures.

The following describes and reconciles those financial measures as reported under accounting principles generally accepted in the United States (GAAP) with those financial measures as adjusted by the items detailed below. These calculations are not prepared in accordance with GAAP and should not be viewed as alternatives to GAAP.

We use the term *Special Items* as a non-GAAP measure to describe items that impacted a period’s statement of operations for which investors may want to give special consideration due to their magnitude, nature or both. We do not call these items non-recurring because, while some are infrequent, others may recur in future periods.

In connection with setting performance targets for purposes of executive compensation, the company from time to time uses modified versions of the non-GAAP metrics referred to below. For further information of such modifications, see “Compensation Discussion & Analysis — Compensation Design, Awards and Payouts for 2020.”

Adjusted EBITDA (\$) is defined as net income (loss) from the Statements of Operations before income tax (expense) benefit, total other income (expense), depreciation and amortization, share-based compensation expense and impairments.

Adjusted EBITDA Margin (%) is defined as Adjusted EBITDA divided by total revenue.

Management believes that Adjusted EBITDA and Adjusted EBITDA Margin are relevant and useful metrics to provide to investors, as they are an important part of Lumen’s internal reporting and are key measures used by management to evaluate profitability and operating performance of Lumen and to make resource allocation decisions. Management believes such measures are especially important in a capital-intensive industry such as telecommunications. Management also uses Adjusted EBITDA and Adjusted EBITDA Margin (and similarly uses these terms excluding Integration and Transformation Costs and Special Items) to compare Lumen’s performance to that of its competitors and to eliminate certain non-cash and non-operating items in order to consistently measure from period to period its ability to fund capital expenditures, fund growth, service debt and determine bonuses. Adjusted EBITDA excludes non-cash stock compensation expense and impairments because of the non-cash nature of these items. Adjusted EBITDA also excludes interest income, interest expense and income taxes, and in our view constitutes an accrual-based measure that has the effect of excluding period-to-period changes in working capital and shows profitability without regard to the effects of capital or tax structure. Adjusted EBITDA also excludes depreciation and amortization expense because these non-cash expenses primarily reflect the impact of historical capital investments, as opposed to the cash impacts of capital expenditures made in recent periods, which may be evaluated through cash flow measures. Adjusted EBITDA excludes the gain (or loss) on extinguishment and modification of debt and other, net, because these items are not related to the primary operations of Lumen.

Appendix A to Proxy Statement

Non-GAAP Reconciliations

There are material limitations to using Adjusted EBITDA as a financial measure, including the difficulty associated with comparing companies that use similar performance measures whose calculations may differ from Lumen's calculations. Additionally, this financial measure does not include certain significant items such as interest income, interest expense, income taxes, depreciation and amortization, non-cash stock compensation expense, the gain (or loss) on extinguishment and modification of debt and net other income (expense). Adjusted EBITDA and Adjusted EBITDA Margin (either with or without Integration and Transformation Costs adjustments and Special Items) should not be considered a substitute for other measures of financial performance reported in accordance with GAAP.

Free Cash Flow is defined as net cash provided by (used in) operating activities less capital expenditures as disclosed in the Statements of Cash Flows. Management believes that Free Cash Flow is a relevant metric to provide to investors, as it is an indicator of Lumen's ability to generate cash to service its debt. Free Cash Flow excludes cash used for acquisitions, principal repayments and the impact of exchange rate changes on cash and cash equivalents balances.

There are material limitations to using Free Cash Flow to measure Lumen's performance as it excludes certain material items such as principal payments on and repurchases of long-term debt and cash used to fund acquisitions. Comparisons of Lumen's Free Cash Flow to that of some of its competitors may be of limited usefulness since Lumen does not currently pay a significant amount of income taxes due to net operating loss carryforwards, and therefore, generates higher cash flow than a comparable business that does pay income taxes. Additionally, this financial measure is subject to variability quarter over quarter as a result of the timing of payments related to interest expense, accounts receivable, accounts payable, payroll and capital expenditures. Free Cash Flow (either with or without Integration and Transformation Costs adjustments and Special Items) should not be used as a substitute for net change in cash, cash equivalents and restricted cash on the Consolidated Statements of Cash Flows.

Net Debt is defined as total long-term debt, excluding unamortized discounts, premiums and other, net and unamortized debt issuance costs, **minus** cash and cash equivalents.

Net Debt-to-Adjusted EBITDA Ratio is defined as Net Debt, divided by Adjusted EBITDA.

Non-GAAP integration and transformation costs and special items

(Unaudited; \$ in millions)

Integration and Transformation Costs and Special Items Impacting Adjusted EBITDA	2020	2019	2018
Consumer litigation settlement	\$ 24	\$ 65	\$ 0
OTT/Stream impairment of content commitment and hardware, software, and internal labor	0	0	60
Total Special Items impacting Adjusted EBITDA	24	65	60
Plus: Integration and Transformation Costs impacting Adjusted EBITDA	375	234	378
Total Integration and Transformation Costs and Special Items impacting Adjusted EBITDA	\$ 399	\$ 299	\$ 438

Adjusted EBITDA reconciliation

(Unaudited; \$ in millions)

	2020	2019	2018
Net loss	\$ (1,232)	\$ (5,269)	\$ (1,733)
Income tax expense	450	503	170
Total other expense, net	1,744	2,040	2,133
Depreciation and amortization expense	4,710	4,829	5,120
Share-based compensation expenses	175	162	186
Goodwill impairment	2,642	6,506	2,726
Adjusted EBITDA	8,489	8,771	8,602
Exclude: Integration and Transformation Costs ¹	375	234	378
Exclude: Special Items ¹	24	65	60
Adjusted EBITDA excluding Integration and Transformation Costs and Special Items	\$ 8,888	\$ 9,070	\$ 9,040
Total revenue	\$20,712	\$21,458	\$22,580
Adjusted EBITDA Margin	41.0%	40.9%	38.1%
Adjusted EBITDA Margin, excluding Integration and Transformation Costs and Special Items	42.9%	42.3%	40.0%

1. Refer to *Non-GAAP Integration and Transformation Costs and Special Items* table.

Free cash flow reconciliation

(Unaudited; \$ in millions)

	2020	2019	2018
Net cash provided by operating activities	\$ 6,524	\$ 6,680	\$ 7,032
Capital expenditures	(3,729)	(3,628)	(3,175)
Free Cash Flow	2,795	3,052	3,857
Add back: cash Integration and Transformation Costs ¹	289	223	341
Add Back: Special Items ¹	47	1	17
Free Cash Flow, excluding Integration and Transformation Costs and Special Items	\$ 3,131	\$ 3,276	\$ 4,215

1. Refer to *Non-GAAP Integration and Transformation Costs and Special Items* table.

Net debt-to-adjusted EBITDA ratio calculation

(Unaudited; \$ in millions)

	2020	2019	2018
Total long-term debt	\$31,837	\$34,694	\$36,061
Exclude: unamortized discounts, premiums and other, net and unamortized debt issuances costs	315	345	291
Minus: cash and cash equivalents	(406)	(1,690)	(488)
Net debt	\$31,746	\$33,349	\$35,864
Adjusted EBITDA excluding Integration and Transformation Costs and Special Items ¹	\$ 8,888	\$ 9,070	\$ 9,040
Net Debt-to-Adjusted EBITDA Ratio	3.6	3.7	4.0

1. Refer to *Non-GAAP Integration and Transformation Costs and Special Items* table.

Appendix B

LUMEN TECHNOLOGIES, INC. ANNUAL FINANCIAL REPORT December 31, 2020

INDEX TO ANNUAL FINANCIAL REPORT December 31, 2020

The materials included in this Appendix B are excerpted from Items 5, 6, 7 and 8 of our Annual Report on Form 10-K for the year ended December 31, 2020. We filed the Form 10-K with the Securities and Exchange Commission on February 25, 2021, and have not updated any of the following excerpted materials for any changes or developments since such date. Please see the Form 10-K for additional information about our business and operations.

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* All references to "Notes" in this Appendix B refer to these Notes.

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is listed on the New York Stock Exchange ("NYSE") and the Berlin Stock Exchange and is traded under the symbol LUMN and CYTH, respectively.

At February 23, 2021, there were approximately 89,000 stockholders of record, although there were significantly more beneficial holders of our common stock.

As described in greater detail in "Risk Factors" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020, the declaration and payment of dividends is at the discretion of our Board of Directors, and will depend upon our financial results, cash requirements, future prospects and other factors deemed relevant by our Board of Directors.

Issuer Purchases of Equity Securities

The following table contains information about shares of our previously-issued common stock that we withheld from employees upon vesting of their stock-based awards during the fourth quarter of 2020 to satisfy the related tax withholding obligations:

Period	Total Number of Shares Withheld for Taxes	Average Price Paid Per Share
October 2020	30,741	\$ 10.12
November 2020	165,096	9.00
December 2020	13,514	10.59
Total	209,351	

Equity Compensation Plan Information

See Item 12 of our Annual Report on Form 10-K for the year ended December 31, 2020.

ITEM 6. SELECTED FINANCIAL DATA

Not applicable.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

All references to "Notes" in this Item 7 of Part II refer to the Notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2020. Certain statements in our Annual Report on Form 10-K for the year ended December 31, 2020 constitute forward-looking statements. See "Special Note Regarding Forward-Looking Statements" immediately prior to Item 1 of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020 for factors relating to these statements and "Risk Factors" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020 for a discussion of certain risk factors applicable to our business, financial condition, results of operations, liquidity or prospects.

Overview

We are an international facilities-based technology and communications company focused on providing our business and residential customers with a broad array of integrated services and solutions necessary to fully participate in our rapidly evolving digital world. We believe we are the world's most inter-connected network and our platform empowers our customers to rapidly adjust digital programs to meet immediate demands, create efficiencies, accelerate market access, and reduce costs - allowing customers to rapidly evolve their IT programs to address dynamic changes without distraction from their core competencies. With approximately 450,000 route miles of fiber optic cable globally, we are among the largest providers of communications services to domestic and global enterprise customers. Our terrestrial and subsea fiber optic long-haul network throughout North America, Europe, Latin America and Asia Pacific connects to metropolitan fiber networks that we operate. We provide services in over 60 countries, with most of our revenue being derived in the U.S.

Impact of COVID-19 Pandemic

In response to the safety and economic challenges arising out of the COVID-19 pandemic and in an attempt to mitigate the negative impact on our stakeholders, we have taken a variety of steps to ensure the availability of our network infrastructure, to promote the safety of our employees and customers, to enable us to continue to adapt and provide our products and services worldwide to our customers, and to strengthen our communities. These steps have included:

- taking the FCC's "Keep Americans Connected Pledge," under which we waived certain late fees and suspended the application of data caps and service terminations for non-payment by certain consumer and small business customers through the end of the second quarter of 2020;
- establishing new protocols for the safety of our on-site technicians and customers, including our "Safe Connections" program;
- adopting a rigorous employee work-from-home policy and substantially restricting non-essential business travel, each of which remains in place;
- continuously monitoring our network to enhance its ability to respond to changes in usage patterns;
- donating products or services in several of our communities to enhance their abilities to provide necessary support services; and
- taking steps to maintain our internal controls and the security of our systems and data in a remote work environment.

As the pandemic continues and vaccination rates increase, we expect to revise our responses or take additional steps to adjust to changed circumstances.

Social distancing, business and school closures, travel restrictions, and other actions taken in response to the pandemic have impacted us, our customers and our business since March 2020. In particular, during the second half of 2020, we rationalized our lease footprint and ceased using 16 leased property locations that were underutilized due to the COVID-19 pandemic. The Company determined that they no longer needed the leased space and, due to the limited remaining term on the contracts, concluded that the Company had neither the intent nor ability to sublease the properties. As a result, we incurred accelerated lease costs of approximately \$41 million. In conjunction with our plans to continue to reduce costs, we expect to continue our real estate rationalization efforts and incur additional costs in 2021. Additionally, as discussed further elsewhere herein, we are tracking pandemic impacts such as: (i) increases in certain revenue streams and decreases in others (including late fee revenue), (ii) increases in allowances for credit losses each quarter since the start of the pandemic, (iii) increase in overtime expenses and (iv) delays in our cost transformation initiatives. Thus far, these changes have not materially impacted our financial performance or financial position. This could change, however, if the pandemic intensifies or economic conditions deteriorate. The impact of the pandemic during 2021 will materially depend on additional steps that we may take in response to the pandemic and various events outside of our control, including the pace of vaccinations worldwide, the length and severity of the health crisis and economic slowdown, actions taken by governmental agencies or legislative bodies, and the impact of those events on our employees, suppliers and customers. For additional information, see the risk factor disclosures set forth or referenced in Item 1A of Part II of our Annual Report on Form 10-K for the year ended December 31, 2020.

For additional information on the impacts of the pandemic, see the remainder of this item, including "- Liquidity and Capital Resources - Overview of Sources and Uses of Cash," and "- Pension and Post-retirement Benefit Obligations."

Reporting Segments

Our reporting segments are organized by customer demographics. At December 31, 2020, they consisted of:

- *International and Global Accounts Management ("IGAM") Segment.* Under our IGAM segment, we provided our products and services to approximately 200 global enterprise customers and three operating regions: Europe Middle East and Africa, Latin America and Asia Pacific;
- *Enterprise Segment.* Under our enterprise segment, we provided our products and services to large and regional domestic and global enterprises, as well as the public sector, which includes the U.S. Federal Government, state and local governments and research and education institutions;
- *Small and Medium Business ("SMB") Segment.* Under our SMB segment, we provided our products and services to small and medium businesses directly and indirectly through our channel partners;
- *Wholesale Segment.* Under our wholesale segment, we provided our products and services to a wide range of other communication providers across the wireline, wireless, cable, voice and data

center sectors. Our wholesale customers range from large global telecom providers to small regional providers; and

- *Consumer Segment.* Under our consumer segment, we provided our products and services to residential customers. Additionally, certain state support payments, Connect America Fund (“CAF”) federal support revenue, and other revenue from leasing and subleasing, including 2018 rental income associated with the 2017 failed-sale-leaseback are reported in our consumer segment as regulatory revenue. At December 31, 2020, we served 4.5 million consumer broadband subscribers. Our methodology for counting consumer broadband subscribers may not be comparable to those of other companies.

See Note 16-Segment Information for additional information.

At December 31, 2020, we categorized our products and services revenue among the following four categories for the IGAM, Enterprise, SMB and Wholesale segments:

- *IP and Data Services*, which include primarily VPN data networks, Ethernet, IP, content delivery and other ancillary services;
- *Transport and Infrastructure*, which includes wavelengths, dark fiber, private line, colocation and data center services, including cloud, hosting and application management solutions, professional services and other ancillary services;
- *Voice and Collaboration*, which includes primarily local and long-distance voice, including wholesale voice, and other ancillary services, as well as VoIP services; and
- *IT and Managed Services*, which include information technology services and managed services, which may be purchased in conjunction with our other network services.

At December 31, 2020, we categorized our products and services revenue among the following four categories for the Consumer segment:

- *Broadband*, which includes high speed, fiber-based and lower speed DSL broadband services;
- *Voice*, which include local and long-distance services;
- *Regulatory Revenue*, which consist of (i) CAF and other support payments designed to reimburse us for various costs related to certain telecommunications services and (ii) other operating revenue from the leasing and subleasing of space; and
- *Other*, which include retail video services (including our linear TV services), professional services and other ancillary services.

Additionally, beginning in the first quarter of 2021, we plan on making changes to the product category reporting to better reflect product life cycles and the company’s marketing approach. These changes will include both the creation of new product categories and the realignment of products and services within previously reported product categories. For Business segment revenue, we will report the following product categories: Compute & Application Services, IP & Data Services, Fiber Infrastructure Services and Voice & Other, by customer-facing sales channel. For Mass Markets segment revenue, we will report the following product categories: Consumer Broadband, Small Business Group (“SBG”) Broadband, Voice & Other and CAF Phase II.

Trends Impacting Our Operations

In addition to the above-described impact of the pandemic, our consolidated operations have been, and are expected to continue to be, impacted by the following company-wide trends:

- Customers’ demand for automated products and services and competitive pressures will require that we continue to invest in new technologies and automated processes to improve the customer experience and reduce our operating expenses.
- The increasingly digital environment and the growth in online video require robust, scalable network services. We are continuing to enhance our product capabilities and simplify our product portfolio based on demand and profitability to enable customers to have access to greater bandwidth.
- Businesses continue to adopt distributed, global operating models. We are expanding and enhancing our fiber network, connecting more buildings to our network to generate revenue opportunities and reducing our reliance upon other carriers.
- Industry consolidation, coupled with changes in regulation, technology and customer preferences, are significantly reducing demand for our traditional voice services and are pressuring some other revenue streams through volume or rate reductions, while other advances, such as the need for lower latency provided by Edge computing or the implementation of 5G networks, are expected to create opportunities.

- The operating margins of several of our newer, more technologically advanced services, some of which may connect to customers through other carriers, are lower than the operating margins on our traditional, on-net wireline services.
- Declines in our traditional wireline services have necessitated right-sizing our cost structures to remain competitive.

Results of Operations

In this section, we discuss our overall results of operations and highlight special items that are not included in our segment results. In “Segment Results of Operations” we review the performance of our five reporting segments in more detail.

Consolidated Revenue

The following table summarizes our consolidated operating revenue recorded under each of our eight above described revenue categories:

	Years Ended December 31,			Years Ended December 31,		
	2020	2019	% Change	2019	2018	% Change
	(Dollars in millions)			(Dollars in millions)		
IP and Data Services	\$ 6,372	6,621	(4)%	6,621	6,614	-%
Transport and Infrastructure	4,989	5,019	(1)%	5,019	5,256	(5)%
Voice and Collaboration	3,621	3,766	(4)%	3,766	4,091	(8)%
IT and Managed Services	479	535	(10)%	535	625	(14)%
Broadband	2,909	2,876	1%	2,876	2,824	2%
Voice	1,622	1,837	(12)%	1,837	2,127	(14)%
Regulatory	615	632	(3)%	632	727	(13)%
Other	105	172	(39)%	172	316	(46)%
Total operating revenue	\$ 20,712	21,458	(3)%	21,458	22,580	(5)%

Our consolidated revenue decreased by \$746 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019 largely due to revenue declines in most of our revenue categories. See our segment results below for additional information.

Our consolidated revenue decreased by \$1.1 billion for the year ended December 31, 2019 compared to the year ended December 31, 2018 largely due to revenue declines in most of our revenue categories. See our segment results below for additional information.

Operating Expenses

The following tables summarize our operating expenses:

	Years Ended December 31,			Years Ended December 31,		
	2020	2019	% Change	2019	2018	% Change
	(Dollars in millions)			(Dollars in millions)		
Cost of services and products (exclusive of depreciation and amortization)	\$ 8,934	9,134	(2)%	9,134	9,999	(9)%
Selling, general and administrative	3,464	3,715	(7)%	3,715	4,165	(11)%
Depreciation and amortization	4,710	4,829	(2)%	4,829	5,120	(6)%
Goodwill impairment	2,642	6,506	(59)%	6,506	2,726	139%
Total operating expenses	\$ 19,750	24,184	(18)%	24,184	22,010	10%

Cost of Services and Products (exclusive of depreciation and amortization)

Cost of services and products (exclusive of depreciation and amortization) decreased by \$200 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019. The decrease in costs of services and products (exclusive of depreciation and amortization) was primarily due to reductions in

(i) salaries and wages and employee-related expense from lower headcount directly related to operating and maintaining our network and from lower medical costs from the COVID-19 pandemic, (ii) professional fees from contractors and consultants, (iii) facility costs from lower space and power expenses, and (iv) lower commissions due to increased commission deferrals. These reductions were partially offset by increases in severance expense, higher network expense as a result of project impairments and higher voice usage from conferencing sales.

Cost of services and products (exclusive of depreciation and amortization) decreased by \$865 million for the year ended December 31, 2019 as compared to the year ended December 31, 2018. The decrease in costs of services and products (exclusive of depreciation and amortization) was primarily due to reductions in (i) salaries and wages and employee-related expenses from lower headcount directly related to operating and maintaining our network, (ii) network expenses and voice usage costs, (iii) customer premises equipment costs from lower sales, (iv) content costs from Prism TV, and (v) lower space and power expenses. These reductions were partially offset by increases in direct taxes and fees, professional services, customer installation costs and right of way and dark fiber expenses.

Selling, General and Administrative

Selling, general and administrative expenses decreased by \$251 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019. The decrease in selling, general and administrative expenses was primarily due to reductions in salaries and wages and employee-related expenses from lower headcount and lower medical costs from the COVID-19 pandemic, lower workers compensation expenses and lower professional fees. These reductions were partially offset by increases in the allowance for credit losses related to the impact of the COVID-19 pandemic and property and other taxes.

Selling, general and administrative expenses decreased by \$450 million for the year ended December 31, 2019 as compared to the year ended December 31, 2018. The decrease in selling, general and administrative expenses was primarily due to reductions in salaries and wages and employee-related expenses from lower headcount, contract labor costs, lower rent expense in 2019 and from higher exited lease obligations in 2018, hardware and software maintenance costs, marketing and advertising expenses, bad debt expense, property and other taxes and an increase in the amount of labor capitalized or deferred and gains on the sale of assets. These reductions were slightly offset by higher professional fees, network infrastructure maintenance expenses and commissions.

Depreciation and Amortization

The following tables provide detail of our depreciation and amortization expense:

	Years Ended December 31,			Years Ended December 31,		
	2020	2019	% Change	2019	2018	% Change
	(Dollars in millions)			(Dollars in millions)		
Depreciation	2,963	3,089	(4)%	3,089	3,339	(7)%
Amortization	1,747	1,740	-%	1,740	1,781	(2)%
Total depreciation and amortization	\$ 4,710	4,829	(2)%	4,829	5,120	(6)%

Depreciation expense decreased by \$126 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019 primarily due to a \$239 million reduction attributable to the impact of annual rate depreciable life changes, partially offset by \$156 million of higher depreciation expense associated with net growth in depreciable assets.

Depreciation expense decreased by \$250 million for the year ended December 31, 2019 as compared to the year ended December 31, 2018, primarily due to the impact of the full depreciation in 2018 of plant, property, and equipment assigned a one year life at the time we acquired Level 3 of \$200 million, the impact of annual rate depreciable life changes of \$108 million, and the discontinuation of depreciation on failed-sale-leaseback assets on \$69 million. These decreases were partially offset by higher depreciation expense of \$93 million associated with net growth in depreciable assets and increases associated with changes in our estimates of the remaining economic life of certain network assets of \$34 million.

Amortization expense increased by \$7 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019 primarily due to increases associated with the net growth in amortizable assets of \$54 million and the accelerated amortization for a decommissioned applications of \$31 million. These increases were partially offset by a decrease of \$70 million from the use of accelerated amortization methods for a portion of the customer intangibles.

Amortization expense decreased by \$41 million for the year ended December 31, 2019 as compared to the year ended December 31, 2018. The decrease in amortization expense was primarily due to a \$71 million

decrease associated with the use of accelerated amortization methods for a portion of the customer intangibles and a \$25 million decrease associated with annual rate amortizable life changes of software for the period. These decreases were partially offset by an increase in amortization of \$55 million associated with net growth in amortizable assets for the period.

Goodwill Impairments

We are required to perform impairment tests related to our goodwill annually, which we perform as of October 31, or sooner if an indicator of impairment occurs.

When we performed our annual impairment test in the fourth quarter of 2020 we concluded that the estimated fair value of our consumer, wholesale, small and medium business and EMEA reporting units were less than our carrying value of equity for such reporting units and we recorded a non-cash non-tax-deductible goodwill impairment charge of approximately \$2.6 billion in the fourth quarter of 2020. When we performed our impairment tests during the first quarter of 2019, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity as of the date of each of our impairment tests during the first quarter of 2019. As a result, we recorded non-cash, non-tax-deductible goodwill impairment charges aggregating to \$6.5 billion in the quarter ended March 31, 2019. Additionally, when we performed our annual impairment test in the fourth quarter of 2018 we concluded that the estimated fair value of our consumer reporting unit was less than our carrying value of equity for such reporting unit and we recorded a non-cash non-tax-deductible goodwill impairment charge of approximately \$2.7 billion in the fourth quarter of 2018.

See Note 2-Goodwill, Customer Relationships and Other Intangible Assets for further details on these tests and impairment charges.

Other Consolidated Results

The following tables summarize our total other expense, net and income tax expense:

	Years Ended December 31,		% Change	Years Ended December 31,		% Change
	2020	2019		2019	2018	
	(Dollars in millions)			(Dollars in millions)		
Interest expense	\$ (1,668)	(2,021)	(17)%	(2,021)	(2,177)	(7)%
Other (expense) income, net	(76)	(19)	nm	(19)	44	nm
Total other expense, net	\$ (1,744)	(2,040)	(15)%	(2,040)	(2,133)	(4)%
Income tax expense	\$ 450	503	(11)%	503	170	196%

nm Percentages greater than 200% and comparison between positive and negatives values or to/from zero values are considered not meaningful.

Interest Expense

Interest expense decreased by \$353 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019. The decrease in interest expense was primarily due to a decrease in average long-term debt from \$35.4 billion to \$33.3 billion and a decrease in the average interest rate of 5.75% to 5.23%.

Interest expense decreased by \$156 million for the year ended December 31, 2019 as compared to the year ended December 31, 2018. The decrease in interest expense was primarily due to a decrease in long-term debt from an average of \$36.9 billion in 2018 to \$35.4 billion in 2019.

Other (Expense) Income, Net

Other (expense) income, net reflects certain items not directly related to our core operations, including losses and gains on extinguishments of debt, our share of income from partnerships we do not control, interest income, gains and losses from non-operating asset dispositions, foreign currency gains and losses and components of net periodic pension and postretirement benefit costs.

	Years Ended December 31,			Years Ended December 31,		
	2020	2019	% Change	2019	2018	% Change
	(Dollars in millions)			(Dollars in millions)		
(Loss) gain on extinguishment of debt	\$ (105)	72	nm	72	(7)	nm
Pension and postretirement net periodic expense	(31)	(165)	(81)%	(165)	(15)	nm
Foreign currency gain	30	8	nm	8	10	(20)%
Other	30	66	(55)%	66	56	18%
Total other (expense) income, net	\$ (76)	(19)	nm	(19)	44	nm

nm Percentages greater than 200% and comparison between positive and negatives values or to/from zero values are considered not meaningful.

The significant decline in pension and post retirement net periodic expense for the year ended December 31, 2020 as compared to the year ended December 31, 2019 is driven by a decline in interest cost due to lower discount rates. The increase of \$150 million in this expense for the year ended December 31, 2019 as compared to the year ended December 31, 2018 reflects a corresponding increase in interest costs due to higher discount rates in that period, as discussed further in Note 10-Employee Benefits.

Income Tax Expense

For the years ended December 31, 2020, 2019 and 2018, our effective income tax rate was (57.5)%, (10.6)%, and (10.9)%, respectively. The effective tax rate for the years ended December 31, 2020, December 31, 2019 and December 31, 2018 include a \$555 million, \$1.4 billion and a \$572 million unfavorable impact of non-deductible goodwill impairments, respectively. Additionally, the effective tax rate for the year ended December 31, 2018 reflects the impact of purchase price accounting adjustments resulting from the Level 3 acquisition and from the tax reform impact of those adjustments of \$92 million. The 2018 unfavorable impacts were partially offset by the tax benefit of a 2017 tax loss carryback to 2016 of \$142 million. See Note 15-Income Taxes and "Critical Accounting Policies and Estimates-Income Taxes" below for additional information.

Segment Results

General

Reconciliation of segment revenue to total operating revenue is below:

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions)		
Operating revenue			
International and Global Accounts	\$ 3,405	3,476	3,543
Enterprise	5,722	5,696	5,765
Small and Medium Business	2,557	2,727	2,918
Wholesale	3,777	4,042	4,360
Consumer	5,251	5,517	5,994
Total operating revenue	\$ 20,712	21,458	22,580

Reconciliation of segment EBITDA to total adjusted EBITDA is below:

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions)		
Adjusted EBITDA			
International and Global Accounts	\$ 2,228	2,295	2,354
Enterprise	3,334	3,383	3,354
Small and Medium Business	1,769	1,869	2,012
Wholesale	3,221	3,449	3,731
Consumer	4,612	4,799	5,021
Total segment EBITDA	15,164	15,795	16,472
Operations and Other EBITDA	(6,675)	(7,024)	(7,870)
Total adjusted EBITDA	\$ 8,489	8,771	8,602

For additional information on our reportable segments and product and services categories, see Note 16-Segment Information.

International and Global Accounts Management Segment

	Years Ended December 31,			Years Ended December 31,		
	2020	2019	% Change	2019	2018	% Change
	(Dollars in millions)			(Dollars in millions)		
Revenue:						
IP and Data Services	\$ 1,556	1,627	(4)%	1,627	1,682	(3)%
Transport and Infrastructure	1,265	1,268	-%	1,268	1,230	3%
Voice and Collaboration	\$ 368	354	4%	354	365	(3)%
IT and Managed Services	216	227	(5)%	227	266	(15)%
Total revenue	3,405	3,476	(2)%	3,476	3,543	(2)%
Total expense	1,177	1,181	-%	1,181	1,189	(1)%
Total adjusted EBITDA	\$ 2,228	2,295	(3)%	2,295	2,354	(3)%

Year Ended December 31, 2020 compared to the same periods ended December 31, 2019 and December 31, 2018

Segment revenue decreased \$71 million for the year ended December 31, 2020 compared to December 31, 2019 and decreased \$67 million for the year ended December 31, 2019 compared to December 31, 2018. Excluding the impact of foreign currency fluctuations, segment revenue decreased \$23 million, or 1%, for the year ended December 31, 2020 compared to December 31, 2019. These changes are primarily due to the following factors:

- IT and managed services revenue declined due to lower volumes of legacy managed hosting services;
- IP and data services revenue declined mostly due to reduced rates and lower traffic;
- Voice and collaboration revenue increased due to higher usage and call volumes; and, for the period ended 2019 compared to 2018, the decrease was driven by stronger non-recurring revenue in 2018 that did not reoccur in 2019;
- Transport and infrastructure revenue increased for the period ended 2019 compared to 2018 due to expanded services for large customers and higher rates.

Segment expenses decreased by \$4 million for the year ended December 31, 2020 compared to December 31, 2019 primarily due to lower headcount related costs, partially offset by higher cost of sales. Segment expenses decreased by \$8 million for the year ended December 31, 2019 compared to December 31, 2018, primarily due to lower cost of sales in line with lower revenue.

Segment adjusted EBITDA as a percentage of revenue was 65% for the year ended December 31, 2020 and 66% for both the years ended December 31, 2019 and 2018, respectively.

Enterprise Segment

	Years Ended December 31,			Years Ended December 31,		
	2020	2019	% Change	2019	2018	% Change
	(Dollars in millions)			(Dollars in millions)		
Revenue:						
IP and Data Services	\$2,474	2,538	(3)%	2,538	2,485	2%
Transport and Infrastructure	1,608	1,479	9%	1,479	1,484	-%
Voice and Collaboration	1,424	1,423	-%	1,423	1,495	(5)%
IT and Managed Services	216	256	(16)%	256	301	(15)%
Total revenue	5,722	5,696	-%	5,696	5,765	(1)%
Total expense	2,388	2,313	3%	2,313	2,411	(4)%
Total adjusted EBITDA	\$3,334	3,383	(1)%	3,383	3,354	1%

Year Ended December 31, 2020 Compared to the same periods Ended December 31, 2019 and December 31, 2018

Segment revenue increased by \$26 million for the year ended December 31, 2020 compared to December 31, 2019 and decreased \$69 million for the year ended December 31, 2019 compared to December 31, 2018, due to the following factors:

- For the year ended 2020 compared to 2019, IP and data services revenue decreased, primarily driven by customers migrating from traditional wireline services to more technologically advanced lower rate services, and, for the period ended 2019 compared to 2018, revenue increased due to rate increases.
- for both periods, IT and managed services revenue declined mainly due to churn in legacy managed services;
- for the year ended 2019 compared to 2018, the decline in voice and collaboration revenue was due to a combination of customers discontinuing traditional voice TDM products and lower rates on customers transitioning to VoIP; and
- for the year ended 2020 compared to 2019, transport and infrastructure revenue increased due to strength in our Federal business, mainly in professional services, equipment and managed security services, and for the year ended 2019 compared to 2018, the decline was due to lower professional services and data center and colocation services, partially offset by increased managed security revenue.

Segment expenses increased by \$75 million for the year ended December 31, 2020 compared to December 31, 2019 and decreased \$98 million for the year ended December 31, 2019 compared to December 31, 2018, primarily due to:

- For the year ended 2020 compared to 2019, segment expenses increased due to higher cost of sales in line with revenue increases, partially offset by lower headcount related costs;
- for the year ended 2019 compared to 2018, segment expenses decreased due to lower headcount related costs and external commissions.

Segment adjusted EBITDA as a percentage of revenue was 58%, 59% and 58% for the year ended December 31, 2020, 2019 and 2018, respectively.

Small and Medium Business Segment

	Years Ended December 31,			% Change	Years Ended December 31,		
	2020	2019	2019		2018	% Change	
	(Dollars in millions)		(Dollars in millions)				
Revenue:							
IP and Data Services	\$	1,062	1,091	(3)%	1,091	1,078	1%
Transport and Infrastructure		352	365	(4)%	365	424	(14)%
Voice and Collaboration		1,098	1,226	(10)%	1,226	1,366	(10)%
IT and Managed Services		45	45	-%	45	50	(10)%
Total revenue		2,557	2,727	(6)%	2,727	2,918	(7)%
Total expense		788	858	(8)%	858	906	(5)%
Total adjusted EBITDA	\$	1,769	1,869	(5)%	1,869	2,012	(7)%

Year Ended December 31, 2020 Compared to the same periods Ended December 31, 2019 and December 31, 2018

Segment revenue decreased \$170 million for the year ended December 31, 2020 compared to December 31, 2019 and decreased \$191 million for the year ended December 31, 2019 compared to December 31, 2018, primarily due to the following factors:

- For both periods, voice and collaboration revenue decreased due to continued declines in demand for traditional voice TDM services;
- for the year ended 2020 compared to 2019, transport and infrastructure revenue decreased primarily due to continued reductions in demand for our low-speed broadband, and for the year ended 2019 compared to 2018, transport and infrastructure declined primarily due to lower equipment sales and lower demand for broadband services; and
- for the year ended 2020 compared to 2019, IP and data services decreased due to lower VPN revenue and customers transitioning from Ethernet solutions to lower-rate IP services, and for the year ended 2019 compared to 2018, IP and data services increased due to strength in VPN revenue.

Segment expenses decreased by \$70 million for the year ended December 31, 2020 compared to December 31, 2019 and decreased \$48 million for the year ended December 31, 2019 compared to December 31, 2018, primarily due to:

- For the year ended 2020 compared to 2019 due to lower cost of sales in line with lower revenue and lower headcount related costs; and
- for the year ended 2019 compared to 2018 due to lower network costs driven by declines in customer demand, and network expense synergies.

Segment adjusted EBITDA as a percentage of revenue was 69% for the years ended December 31, 2020, 2019 and 2018.

Wholesale Segment

	Years Ended December 31,			Years Ended December 31,		
	2020	2019	% Change	2019	2018	% Change
	(Dollars in millions)			(Dollars in millions)		
Revenue:						
IP and Data Services	\$ 1,280	1,365	(6)%	1,365	1,369	-%
Transport and Infrastructure	1,764	1,907	(7)%	1,907	2,118	(10)%
Voice and Collaboration	731	763	(4)%	763	865	(12)%
IT and Managed Services	2	7	(71)%	7	8	(13)%
Total revenue	3,777	4,042	(7)%	4,042	4,360	(7)%
Total expense	556	593	(6)%	593	629	(6)%
Total adjusted EBITDA	\$ 3,221	3,449	(7)%	3,449	3,731	(8)%

Year Ended December 31, 2020 Compared to the same periods Ended December 31, 2019 and December 31, 2018

Segment revenue decreased \$265 million for the year ended December 31, 2020 compared to December 31, 2019 and decreased \$318 million for the year ended December 31, 2019 compared to December 31, 2018, primarily due to the following factors:

- For both periods, transport and infrastructure revenue decreased due to continued declines in traditional private line services and customer network consolidation and grooming efforts;
- for both periods, voice and collaboration revenue decreased due to market rate compression and lower customer volumes; and
- for the year ended 2020 compared to 2019, IP and data services decreased due to customer churn.

Segment expenses decreased by \$37 million for the year ended December 31, 2020 compared to December 31, 2019, primarily due to lower cost of sales and continued network grooming efforts, partially offset by higher employee related costs, and decreased by \$36 million for the year ended December 31, 2019 compared to December 31, 2018, due to lower cost of sales and network grooming and operating synergies.

Segment adjusted EBITDA as a percentage of revenue was 85%, 85% and 86% for the year ended December 31, 2020, 2019 and 2018, respectively.

Consumer Segment

	Years Ended December 31,			Years Ended December 31,		
	2020	2019	% Change	2019	2018	% Change
	(Dollars in millions)			(Dollars in millions)		
Revenue:						
Broadband	\$ 2,909	2,876	1%	2,876	2,824	2%
Voice	1,622	1,837	(12)%	1,837	2,127	(14)%
Regulatory	\$ 615	632	(3)%	632	727	(13)%
Other	105	172	(39)%	172	316	(46)%
Total revenue	5,251	5,517	(5)%	5,517	5,994	(8)%
Total expense	639	718	(11)%	718	973	(26)%
Total adjusted EBITDA	\$ 4,612	4,799	(4)%	4,799	5,021	(4)%

Year Ended December 31, 2020 Compared to the same periods Ended December 31, 2019 and December 31, 2018

Segment revenue decreased by \$266 million for the year ended December 31, 2020 compared to December 31, 2019 and decreased by \$477 million for the year ended December 31, 2019 compared to December 31, 2018, primarily due to the following factors:

- For both periods, decreases in our voice and other revenue were driven by continued legacy voice customer losses and our de-emphasis of Prism video product;
- for the year ended December 31, 2019, regulatory revenue declined due to the derecognition of the failed-sales-leaseback described in our prior reports. For the year ended December 31, 2020, regulatory revenue declined due to lower state support revenue;
- for both periods, an increase in Broadband revenue driven by increased demand for higher-speed services and higher rates;

Segment expenses decreased by \$79 million for the year ended December 31, 2020 compared to December 31, 2019 and decreased by \$255 million for the year ended December 31, 2019 compared to December 31, 2018. Expenses decreased for both periods due to lower Prism content costs, headcount related costs and marketing expenses.

Segment adjusted EBITDA as a percentage of revenue was 88%, 87% and 84% for the year ended December 31, 2020, 2019 and 2018, respectively.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with accounting principles that are generally accepted in the United States. The preparation of these consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of our assets, liabilities, revenue and expenses. We have identified certain policies and estimates as critical to our business operations and the understanding of our past or present results of operations related to (i) goodwill, customer relationships

and other intangible assets; (ii) pension and post-retirement benefits; (iii) loss contingencies and litigation reserves and (iv) income taxes. These policies and estimates are considered critical because they had a material impact, or they have the potential to have a material impact, on our consolidated financial statements and because they require us to make significant judgments, assumptions or estimates. We believe that the estimates, judgments and assumptions made when accounting for the items described below were reasonable, based on information available at the time they were made. However, actual results may differ from those estimates, and these differences may be material.

Goodwill, Customer Relationships and Other Intangible Assets

We have a significant amount of goodwill and indefinite-lived intangible assets that are assessed at least annually for impairment. At December 31, 2020, goodwill and intangible assets totaled \$27.1 billion, or 46%, of our total assets. The impairment analyses of these assets are considered critical because of their significance to us and our segments.

We have assigned our goodwill balance to our segments at December 31, 2020 as follows:

	International and Global Accounts	Enterprise	Small and Medium Business	Wholesale	Consumer	Total
	(Dollars in millions)					
As of December 31, 2020	\$ 2,555	4,738	2,808	3,114	5,655	18,870

Intangible assets arising from business combinations, such as goodwill, customer relationships, capitalized software, trademarks and tradenames, are initially recorded at estimated fair value. We amortize customer relationships primarily over an estimated life of 7 to 15 years, using either the sum-of-years-digits or the straight-line methods, depending on the customer. We amortize capitalized software using the straight-line method primarily over estimated lives ranging up to 7 years. We amortize our other intangible assets using the sum-of-years-digits or straight-line method over an estimated life of 4 to 20 years. Other intangible assets not arising from business combinations are initially recorded at cost. Where there are no legal, regulatory, contractual or other factors that would reasonably limit the useful life of an intangible asset, we classify the intangible asset as indefinite-lived and such intangible assets are not amortized.

Our long-lived intangible assets, other than goodwill, with indefinite lives are assessed for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be an impairment. These assets are carried at the estimated fair value at the time of acquisition and assets not acquired in acquisitions are recorded at historical cost. However, if their estimated fair value is less than the carrying amount, we recognize an impairment charge for the amount by which the carrying amount of these assets exceeds their estimated fair value.

Our goodwill was derived from numerous acquisitions where the purchase price exceeded the fair value of the net assets acquired.

We are required to reassign goodwill to reporting units whenever reorganizations of our internal reporting structure changes the composition of our reporting units. Goodwill is reassigned to the reporting units using a relative fair value approach. When the fair value of a reporting unit is available, we allocate goodwill based on the relative fair value of the reporting units. When fair value is not available, we utilize an alternative allocation methodology that represents a reasonable proxy for the fair value of the operations being reorganized. For additional information on our segments, see Note 16-Segment Information.

We are required to assess goodwill at least annually, or more frequently, if an event occurs or circumstances change that indicates it is more likely than not the fair values of our reporting units were less than their carrying values. In assessing goodwill for impairment, we may first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carry value.

Our annual impairment assessment date for goodwill is October 31, at which date we assess our reporting units. At October 31, 2020, our international and global accounts segment was comprised of our North America global accounts ("NA GAM"), Europe, Middle East and Africa region ("EMEA"), Latin America region ("LATAM") and Asia Pacific region ("APAC") reporting units. At October 31, 2020, our reporting units were consumer, small and medium business, enterprise, wholesale, NA GAM, EMEA, LATAM, and APAC.

Our reporting units are not discrete legal entities with discrete full financial statements. Our assets and liabilities are employed in and relate to the operations of multiple reporting units and are allocated to individual reporting units based on their relative revenue or earnings before interest, taxes depreciation and amortization ("EBITDA"). For each reporting unit, we compare its estimated fair value of equity to its carrying value of equity that we assign to the reporting unit. If the estimated fair value of the reporting unit is equal or greater than the carrying value, we conclude that no impairment exists. If the estimated fair value of the reporting unit is less

than the carrying value, we record an impairment equal to the difference. Depending on the facts and circumstances, we typically estimate the fair value of our reporting units by considering either or both of (i) a discounted cash flow method, which is based on the present value of projected cash flows over a discrete projection period and a terminal value, which represents the expected normalized cash flows of the reporting units beyond the cash flows from the discrete projection period, and (ii) a market approach, which includes the use of multiples of publicly-traded companies whose services are comparable to ours. With respect to our analysis used in the discounted cash flow method, the timing and amount of projected cash flows under these forecasts require estimates developed from our long-range plan, which is informed by wireline industry trends, the competitive landscape, product lifecycles, operational initiatives, capital allocation priorities and other company-specific and external factors that influence our business. These cash flows consider recent historical results and are consistent with the Company's short-term financial forecasts and long-term business strategies. The development of these cash flows, and the discount rate applied to the cash flows, is subject to inherent uncertainties, and actual results could vary significantly from such estimates. Our determination of the discount rate is based on a weighted average cost of capital approach, which uses a market participant's cost of equity and after-tax cost of debt and reflects certain risks inherent in the future cash flows. With respect to a market approach, the fair value of a reporting unit is estimated based upon a market multiple applied to the reporting unit's revenue and EBITDA, adjusted for an appropriate control premium based on recent market transactions. The fair value of reporting units estimated using revenue and EBITDA market multiples are equally weighted to determine the estimated fair value under the market approach. We also reconcile the estimated fair values of the reporting units to our market capitalization to conclude whether the indicated implied control premium is reasonable in comparison to recent transactions in the marketplace. A decline in our stock price could potentially cause an impairment of goodwill. Changes in the underlying assumptions that we use in allocating the assets and liabilities to reporting units under either the discounted cash flow or market approach method can result in materially different determinations of fair value. We believe the estimates, judgments, assumptions and allocation methods used by us are reasonable, but changes in any of them can significantly affect whether we must incur impairment charges, as well as the size of such charges.

At October 31, 2020, we estimated the fair value of our eight above-mentioned reporting units by considering both a market approach and a discounted cash flow method. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2020 and concluded that the indicated control premium of approximately 33.0% was reasonable based on recent market transactions. Due to the decline in our stock price at October 31, 2020 and our assessment performed with respect to the reporting units described above, we concluded that our consumer, wholesale, small and medium business and EMEA reporting units were impaired resulting in a non-cash, non-tax-deductible goodwill impairment charge of \$2.6 billion. As of October 31, 2020, the estimated fair value of equity exceeded the carrying value of equity for our enterprise, NA GAM, LATAM, and APAC reporting units by 2%, 46%, 74% and 23%, respectively. Based on our assessments performed, we concluded that the goodwill for our enterprise, NA GAM, LATAM, and APAC reporting units was not impaired as of October 31, 2020.

At October 31, 2019, we estimated the fair value of our eight above-mentioned reporting units by considering both a market approach and a discounted cash flow method. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2019 and concluded that the indicated control premium of approximately 44.7% was reasonable based on recent market transactions. As of October 31, 2019, based on our assessment performed with respect to our eight reporting units, the estimated fair value of our equity exceeded the carrying value of equity for our consumer, small and medium business, enterprise, wholesale, NA GAM, EMEA, LATAM, and APAC reporting units by 44%, 41%, 53%, 46%, 55%, 5%, 63% and 38%, respectively. Based on our assessments performed, we concluded that the goodwill for our eight reporting units was not impaired as of October 31, 2019.

Both our January 2019 internal reorganization and the decline in our stock price indicated the carrying values of our reporting units were more likely than not in excess of their fair values, requiring an impairment test in the first quarter of 2019. Consequently, we evaluated our goodwill in January 2019 and again as of March 31, 2019. Because our low stock price was a key trigger for impairment testing in early 2019, we estimated the fair value of our operations using only the market approach. Applying this approach, we utilized company comparisons and analyst reports within the telecommunications industry which have historically supported a range of fair values derived from annualized revenue and EBITDA multiples between 2.1x and 4.9x and 4.9x and 9.8x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units within this range. We reconciled the estimated fair values of the reporting units to our market capitalization as of the date of each of our impairment tests during the first quarter and concluded that the indicated control premiums of approximately 4.5% and 4.1% were reasonable based on recent market transactions. In the quarter ended March 31, 2019, based on our assessments performed with respect to the reporting units as described above, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity as of the date of each of our impairment tests during the first quarter. As a result, we recorded non-cash, non-tax-deductible goodwill impairment charges aggregating to \$6.5 billion in the quarter ended March 31, 2019.

At October 31, 2018, we estimated the fair value of our then five reporting units, which we determined to be consumer, medium and small business, enterprise, international and global accounts and wholesale and indirect, by considering both a market approach and a discounted cash flow method. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2018 and concluded that the indicated control premium of approximately 0.1% was reasonable based on recent transactions in the marketplace. As of October 31, 2018, based on our assessment we concluded that the estimated fair value of our consumer reporting unit was less than our carrying value of equity for such unit by approximately \$2.7 billion. As a result, we recorded a non-cash, non-tax deductible goodwill impairment charge of \$2.7 billion for goodwill assigned to our consumer segment during the fourth quarter of 2018.

We plan to make changes to our segment and customer-facing sales channel reporting categories in 2021 to align with operational changes designed to better support our customers. Beginning in the first quarter of 2021, the company plans to report two segments: Business and Mass Markets. The Business segment will include four sales channels: International & Global Accounts, Large Enterprise, Mid-Market Enterprise and Wholesale. The Mass Markets segment will include both our Consumer and Small Business Group sales channels. As a result of the organization changes noted above, we will perform a goodwill impairment analysis during the first quarter of 2021.

For additional information on our goodwill balances by segment, see Note 2-Goodwill, Customer Relationships and Other Intangible Assets.

Pension and Post-retirement Benefits

We sponsor a noncontributory qualified defined benefit pension plan (referred to as our qualified pension plan) for a substantial portion of our current and former employees in the United States. In addition to this tax-qualified pension plan, we also maintain several non-qualified pension plans for certain eligible highly compensated employees. We also maintain post-retirement benefit plans that provide health care and life insurance benefits for certain eligible retirees. Due to the insignificant impact of these non-qualified plans on our consolidated financial statements, we have excluded them from the following pension and post-retirement benefits disclosures for 2020, 2019 and 2018.

In 2020, approximately 59% of the qualified pension plan's January 1, 2020 net actuarial loss balance of \$3.0 billion was subject to amortization as a component of net periodic expense over the average remaining service period of 9 years for participating employees expected to receive benefits for the plan. The other 41% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2020. The entire beginning net actuarial loss of \$175 million for the post-retirement benefit plans was treated as indefinitely deferred during 2020.

In 2019, approximately 60% of the qualified pension plan's January 1, 2019 net actuarial loss balance of \$3.0 billion was subject to amortization as a component of net periodic expense over the average remaining service period of 9 years for participating employees expected to receive benefits for the plan. The other 40% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2020. The entire beginning net actuarial gain of \$7 million for the post-retirement benefit plans was treated as indefinitely deferred during 2019.

In 2018, approximately 55% of the qualified pension plan's January 1, 2018 net actuarial loss balance of \$2.9 billion was subject to amortization as a component of net periodic expense over the average remaining service period of participating employees expected to receive benefits, which ranges from 8 to 9 years for the plan. The other 45% of the qualified pension plan's beginning net actuarial loss balance was treated as indefinitely deferred during 2018. The entire beginning net actuarial loss of \$248 million for the post-retirement benefit plans was treated as indefinitely deferred during 2018.

In computing our pension and post-retirement health care and life insurance benefit obligations, our most significant assumptions are the discount rate and mortality rates. In computing our periodic pension and post-retirement benefit expense, our most significant assumptions are the discount rate and the expected rate of return on plan assets.

The discount rate for each plan is the rate at which we believe we could effectively settle the plan's benefit obligations as of the end of the year. We selected each plan's discount rate based on a cash flow matching analysis using hypothetical yield curves from U.S. corporate bonds rated high quality and projections of the future benefit payments that constitute the projected benefit obligation for the plans. This process establishes the uniform discount rate that produces the same present value of the estimated future benefit payments as is generated by discounting each year's benefit payments by a spot rate applicable to that year. The spot rates used in this process are derived from a yield curve created from yields on the 60th to 90th percentile of U.S. high quality bonds.

Mortality rates help predict the expected life of plan participants and are based on historical demographic studies by the Society of Actuaries ("SOA"). The SOA publishes new mortality rates (mortality

tables and projection scales) on a regular basis which reflect updates to projected life expectancies in North America. Historically, we have adopted the new projection tables immediately after publication. In 2020, we adopted the revised mortality tables and projection scale released by the SOA, which decreased the projected benefit obligation of our benefit plans by approximately \$3 million. The change in the projected benefit obligation of our benefit plans was recognized as part of the net actuarial loss and is included in accumulated other comprehensive loss, a portion of which is subject to amortization over the remaining estimated life of plan participants, which was approximately 9 years as of December 31, 2020.

The expected rate of return on plan assets is the long-term rate of return we expect to earn on the plans' assets in the future, net of administrative expenses paid from plan assets. The rate of return is determined by the strategic allocation of plan assets and the long-term risk and return forecast for each asset class. The forecasts for each asset class are generated primarily from an analysis of the long-term expectations of various third-party investment management organizations, to which we then add a factor of 50 basis points to reflect the benefit we expect to result from our active management of the assets. The expected rate of return on plan assets is reviewed annually and revised, as necessary, to reflect changes in the financial markets and our investment strategy.

To compute the expected return on pension and post-retirement benefit plan assets, we apply an expected rate of return to the fair value of the applicable plan assets adjusted for contribution timing and for projected benefit payments to be made from the plan assets. Annual market volatility for these assets (higher or lower than expected return) is reflected in the net actuarial losses.

Changes in any of the above factors could significantly impact operating expenses in the consolidated statements of operations and other comprehensive loss in the consolidated statements of comprehensive income as well as the value of the liability and accumulated other comprehensive loss of stockholders' equity on our consolidated balance sheets.

Loss Contingencies and Litigation Reserves

We are involved in several potentially material legal proceedings, as described in more detail in Note 17-Commitments, Contingencies and Other Items. On a quarterly basis, we assess potential losses in relation to these and other pending or threatened tax and legal matters. For matters not related to income taxes, if a loss is considered probable and the amount can be reasonably estimated, we recognize an expense for the estimated loss. To the extent these estimates are more or less than the actual liability resulting from the resolution of these matters, our earnings will be increased or decreased accordingly. If the differences are material, our consolidated financial statements could be materially impacted.

For matters related to income taxes, if we determine in our judgment that the impact of an uncertain tax position is more likely than not to be sustained upon audit by the relevant taxing authority, then we recognize in our financial statements a benefit for the largest amount that is more likely than not to be sustained. No portion of an uncertain tax position will be recognized if we determine in our judgment that the position has less than a 50% likelihood of being sustained. Though the validity of any tax position is a matter of tax law, the body of statutory, regulatory and interpretive guidance on the application of the law is complex and often ambiguous, particularly in certain of the non-U.S. jurisdictions in which we operate. Because of this, whether a tax position will ultimately be sustained may be uncertain.

Income Taxes

Our provision for income taxes includes amounts for tax consequences deferred to future periods. We record deferred income tax assets and liabilities reflecting future tax consequences attributable to (i) tax credit carryforwards, (ii) differences between the financial statement carrying value of assets and liabilities and the tax basis of those assets and liabilities and (iii) tax net operating loss carryforwards, or NOLs. Deferred taxes are computed using enacted tax rates expected to apply in the year in which the differences are expected to affect taxable income. The effect on deferred income tax assets and liabilities of a change in tax rate is recognized in earnings in the period that includes the enactment date.

The measurement of deferred taxes often involves the exercise of considerable judgment related to the realization of tax basis. Our deferred tax assets and liabilities reflect our assessment that tax positions taken in filed tax returns and the resulting tax basis are more likely than not to be sustained if they are audited by taxing authorities. Assessing tax rates that we expect to apply and determining the years when the temporary differences are expected to affect taxable income requires judgment about the future apportionment of our income among the states in which we operate. Any changes in our practices or judgments involved in the measurement of deferred tax assets and liabilities could materially impact our financial condition or results of operations.

In connection with recording deferred income tax assets and liabilities, we establish valuation allowances when necessary to reduce deferred income tax assets to amounts that we believe are more likely

than not to be realized. We evaluate our deferred tax assets quarterly to determine whether adjustments to our valuation allowance are appropriate in light of changes in facts or circumstances, such as changes in tax law, interactions with taxing authorities and developments in case law. In making this evaluation, we rely on our recent history of pre-tax earnings. We also rely on our forecasts of future earnings and the nature and timing of future deductions and benefits represented by the deferred tax assets, all of which involve the exercise of significant judgment. At December 31, 2020, we established a valuation allowance of \$1.5 billion primarily related to foreign and state NOLs, based on our determination that it was more likely than not that this amount of these NOLs would expire unused. If forecasts of future earnings and the nature and estimated timing of future deductions and benefits change in the future, we may determine that existing valuation allowances must be revised or eliminated or new valuation allowances created, any of which could materially impact our financial condition or results of operations. See Note 15-Income Taxes.

Liquidity and Capital Resources

Overview of Sources and Uses of Cash

We are a holding company that is dependent on the capital resources of our subsidiaries to satisfy our parent company liquidity requirements. Several of our significant operating subsidiaries have borrowed funds either on a standalone basis or as part of a separate restricted group with certain of its subsidiaries or affiliates. The terms of the instruments governing the indebtedness of these borrowers or borrowing groups may restrict our ability to access their accumulated cash. In addition, our ability to access the liquidity of these and other subsidiaries may be limited by tax, legal and other considerations.

At December 31, 2020, we held cash and cash equivalents of \$406 million, and we also had approximately \$2.0 billion of borrowing capacity available under our revolving credit facility. We typically use our revolving credit facility as a source of liquidity for operating activities and our other cash requirements. We had approximately \$98 million of cash and cash equivalents outside the United States at December 31, 2020. We currently believe that there are no material restrictions on our ability to repatriate cash and cash equivalents into the United States, and that we may do so without paying or accruing U.S. taxes. We do not currently intend to repatriate to the United States any of our foreign cash and cash equivalents from operating entities outside of Latin America.

In response to COVID-19, the U.S. Congress passed the CARES Act on March 27, 2020. The CARES Act favorably increased our liquidity in 2020 by \$41 million as a result of allowing us to receive a full refund of the alternative minimum tax credit carryforward in 2020, as compared to receiving the refund in phases over the next few years in accordance with the Tax Cuts and Jobs Act. Under the CARES Act, we also deferred \$134 million of our 2020 payroll taxes, which under current law will be required to be repaid in installments over 2021 and 2022.

Our executive officers and our Board of Directors periodically review our sources and potential uses of cash in connection with our annual budgeting process. Generally speaking, our principal funding source is cash from operating activities, and our principal cash requirements include operating expenses, capital expenditures, income taxes, debt repayments, dividends, periodic securities repurchases, periodic pension contributions and other benefits payments.

Based on our current capital allocation objectives, during 2021 we project expending approximately \$3.5 billion to \$3.8 billion of cash for capital investment in property, plant and equipment and approximately \$1.1 billion of cash for dividends on our common stock (based on the assumptions described below under "Dividends").

For the 12 month period ending December 31, 2021, we project that our fixed commitments will include (i) \$125 million of scheduled term loan amortization payments, (ii) \$24 million of finance lease and other fixed payments and (iii) \$2.3 billion of debt maturities (excluding issuances made after December 31, 2020). We do not anticipate that the COVID-19 pandemic will interfere with our ability to discharge these obligations over the next year.

For additional information, see "Risk Factors-Financial Risks" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020.

Capital Expenditures

We incur capital expenditures on an ongoing basis to expand and improve our service offerings, enhance and modernize our networks and compete effectively in our markets. We evaluate capital expenditure projects based on a variety of factors, including expected strategic impacts (such as forecasted impact on revenue growth, productivity, expenses, service levels and customer retention) and our expected return on investment. The amount of capital investment is influenced by, among other things, current and projected demand for our services and products, cash flow generated by operating activities, cash required for other purposes and regulatory considerations (such as our CAF Phase II or RDOF infrastructure buildout requirements).

Our capital expenditures continue to be focused on enhancing network operating efficiencies and supporting new service developments. For more information on our capital spending, see (i) “-Overview of Sources and uses of Cash” above, (ii) “Historical Information-Investing Activities” below and (iii) Item 1 of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020.

Debt and Other Financing Arrangements

Subject to market conditions, we expect to continue to issue debt securities from time to time in the future to refinance a substantial portion of our maturing debt, including issuing debt securities of certain of our subsidiaries to refinance their maturing debt to the extent feasible. The availability, interest rate and other terms of any new borrowings will depend on the ratings assigned by credit rating agencies, among other factors.

As of the date of our Annual Report on Form 10-K for the year ended December 31, 2020, the credit ratings for the senior secured and unsecured debt of Lumen Technologies, Level 3 Financing, Inc. and Qwest Corporation were as follows:

Borrower	Moody's Investors Service, Inc.	Standard & Poor's	Fitch Ratings
Lumen Technologies:			
Unsecured	B2	BB-	BB
Secured	Ba3	BBB-	BB+
Level 3 Financing, Inc.:			
Unsecured	Ba3	BB	BB
Secured	Ba1	BBB-	BBB-
Qwest Corporation:			
Unsecured	Ba2	BBB-	BB+

Our credit ratings are reviewed and adjusted from time to time by the rating agencies. Any future downgrades of the senior unsecured or secured debt ratings of us or our subsidiaries could impact our access to capital or further raise our borrowing costs. See “Risk Factors-Financial Risks” in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020.

Net Operating Loss Carryforwards

As of December 31, 2020, Lumen Technologies had approximately \$5.1 billion of federal net operating loss carryforwards. (“NOLs”), which for U.S. federal income tax purposes can be used to offset future taxable income. These NOLs are primarily related to federal NOLs we acquired through the Level 3 acquisition on November 1, 2017 and are subject to limitations under Section 382 of the Internal Revenue Code and related U.S. Treasury Department regulations. We maintain a Section 382 rights agreement designed to safeguard through late 2023 our ability to use those NOLs. Assuming we can continue using these NOLs in the amounts projected, we expect to reduce our federal cash taxes for the next several years. The amounts of our near-term future tax payments will depend upon many factors, including our future earnings and tax circumstances and results of any corporate tax reform. Based on current laws and our current assumptions and projections, we estimate our cash income tax liability related to 2021 will be approximately \$100 million.

We cannot assure you we will be able to use our NOL carryforwards fully. See “Risk Factors-Financial Risks-We may not be able to fully utilize our NOLs” in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020.

Dividends

We currently expect to continue our current practice of paying quarterly cash dividends in respect of our common stock subject to our Board of Directors’ discretion to modify or terminate this practice at any time and for any reason without prior notice. Our current quarterly common stock dividend rate is \$0.25 per share, as approved by our Board of Directors, which we believe is a dividend rate per share which enables us to balance our multiple objectives of managing our business, investing in the business, de-leveraging our balance sheet and returning a substantial portion of our cash to our shareholders. Assuming continued payment during 2021 at this rate of \$0.25 per share, our average total dividend paid each quarter would be approximately \$277 million based on the number of our current outstanding shares (which figure (i) assumes no increases or decreases in the number of shares, except in connection with the anticipated vesting of currently outstanding equity awards, and (ii) excludes dividend costs we periodically incur in connection with releasing dividend payments upon the vesting of equity incentive awards, which was \$31 million during the year ended December 31, 2020). See Risk Factors-Business Risks” in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020.

Revolving Facilities and Other Debt Instruments

At December 31, 2020, we had \$12.5 billion of outstanding consolidated secured indebtedness, \$19.3 billion of outstanding consolidated unsecured indebtedness and \$2.0 billion of unused borrowing capacity under our revolving credit facility, as discussed further below.

On January 31, 2020, we amended and restated our credit agreement dated June 19, 2017 (as so amended and restated, the “Amended Credit Agreement”). At December 31, 2020, we maintained senior secured credit facilities under the Amended Credit Agreement consisting of (i) a \$2.2 billion revolving credit facility, under which we owed \$150 million as of December 31, 2020, and (ii) \$6.4 billion of term loan facilities.

At December 31, 2020, we had \$97 million of letters of credit outstanding under our \$225 million uncommitted letter of credit facility.

Additionally, as of December 31, 2020, we had outstanding letters of credit, or other similar obligations, of approximately \$18 million of which \$11 million is collateralized by cash that is reflected on our consolidated balance sheets as restricted cash.

In addition to its indebtedness under the Amended Credit Agreement, Lumen Technologies is indebted under its outstanding senior notes, and several of its subsidiaries are indebted under separate credit facilities or senior notes.

For additional information on the terms and conditions of our consolidated debt instruments, including financial and operating covenants, see Note 6-Long-Term Debt and Credit Facilities. For a discussion of certain intercompany obligations, see “-Other Matters.”

Future Contractual Obligations

Our estimated future obligations as of December 31, 2020 include both current and long term obligations. For our long-term debt as noted in Note 6-Long-Term Debt and Credit Facilities, we have a current obligation of \$2.4 billion and a long-term obligation of \$29.7 billion. Under our operating leases as noted in Note 4-Leases, we have a current obligation of \$469 million and a long-term obligation of \$1.7 billion. As noted in Note 17-Commitments, Contingencies and Other Items, we have a current obligations related to right-of-way agreements and purchase commitments of \$624 million and a long-term obligation of \$1.6 billion. Additionally, we have a current obligation for asset retirement obligation of \$28 million and a long-term obligation of \$171 million. Finally, our pension and post-retirement benefit plans have a current obligation of \$232 million and a long-term obligation of \$4.5 billion.

Pension and Post-retirement Benefit Obligations

We are subject to material obligations under our existing defined benefit pension plans and post-retirement benefit plans. At December 31, 2020, the accounting unfunded status of our qualified and non-qualified defined benefit pension plans and our qualified post-retirement benefit plans was \$1.7 billion and \$3.0 billion, respectively. For additional information about our pension and post-retirement benefit arrangements, see “Critical Accounting Policies and Estimates - Pensions and Post-Retirements Benefits” in Item 7 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2020 and see Note 10-Employee Benefits.

Benefits paid by our qualified pension plan are paid through a trust that holds all of the plan’s assets. Based on current laws and circumstances, we do not expect any contributions to be required for our qualified pension plan during 2021. The amount of required contributions to our qualified pension plan in 2022 and beyond will depend on a variety of factors, most of which are beyond our control, including earnings on plan investments, prevailing interest rates, demographic experience, changes in plan benefits and changes in funding laws and regulations. We occasionally make voluntary contributions in addition to required contributions. We last made a voluntary contribution to the trust for our qualified pension plan during 2018. Based on current laws and circumstances, we do not anticipate making a voluntary contribution to the trust for our qualified pension plan in 2021.

Substantially all of our post-retirement health care and life insurance benefits plans are unfunded and are paid by us with available cash. In the past, we maintained several trusts that helped cover some of those costs, but the trust funds are almost completely depleted and currently cover an immaterial amount of our annual plan costs. As described further in Note 10-Employee Benefits, aggregate benefits paid by us under these plans (net of participant contributions and direct subsidy receipts) were \$211 million, \$241 million and \$249 million for the years ended December 31, 2020, 2019 and 2018, respectively. For additional information on our expected future benefits payments for our post-retirement benefit plans, please see Note 10-Employee Benefits.

The capital markets have been volatile during 2020, primarily as a result of uncertainties related to the COVID-19 outbreak. U.S. federal governmental actions to stimulate the economy have significantly impacted

interest rates. These events could ultimately affect the funding levels of our pension plans and calculations of our liabilities under our pension and other post-employment benefit plans.

For 2020, our expected annual long-term rates of return on the pension plan and post-retirements health care and life insurance benefit plan assets, net of administrative expenses, were 6.0% and 4.0%, respectively. For 2021, our expected annual long-term rates of return on these assets are 5.5% and 4.0%, respectively. However, actual returns could be substantially different.

Our pension plan contains provisions that allow us, from time to time, to offer lump sum payment options to certain former employees in settlement of their future retirement benefits. We record an accounting settlement charge, consisting of the recognition of certain deferred costs of the pension plan, associated with these lump sum payments only if, in the aggregate, they exceed the sum of the annual service and interest costs for the plan's net periodic pension benefit cost, which represents the settlement accounting threshold. As of December 31, 2020, the settlement threshold was not reached. In the event of workforce reductions in the future, the annual lump sum payments may trigger settlement accounting.

Connect America Fund & Rural Digital Opportunity Fund

Since 2015, we have been receiving over \$500 million annually through Phase II of the CAF, a program that will end this year. In connection with the CAF funding, we must meet certain specified infrastructure buildout requirements in 33 states which requires substantial capital expenditures. While we are on track to meet the requirements this year, we cannot provide any assurances that we will be able to timely meet our mandated buildout requirements. In accordance with the FCC's January 2020 order, we elected to receive an additional year of CAF Phase II funding in 2021.

In early 2020, the FCC created the RDOF, which is a new federal support program designed to replace the CAF Phase II program. On December 7, 2020, the FCC allocated in its RDOF Phase I auction \$9.2 billion in support payments over 10 years to deploy high speed broadband to over 5.2 million unserved locations. We won bids for RDOF Phase I support payments of \$26 million, annually. These RDOF Phase I support payments are expected to begin January 1, 2022.

For additional information on these programs, see "Business-Regulation" in Item 1 of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020 and see "Risk Factors-Financial Risks" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2020.

Historical Information

The following tables summarize our consolidated cash flow activities:

	Years Ended December 31,		Increase /
	2020	2019	(Decrease)
	(Dollars in millions)		
Net cash provided by operating activities	\$ 6,524	6,680	(156)
Net cash used in investing activities	(3,564)	(3,570)	(6)
Net cash used in financing activities	(4,250)	(1,911)	2,339

	Years Ended December 31,		Increase /
	2019	2018	(Decrease)
	(Dollars in millions)		
Net cash provided by operating activities	\$ 6,680	7,032	(352)
Net cash used in investing activities	(3,570)	(3,078)	492
Net cash used in financing activities	(1,911)	(4,023)	(2,112)

Operating Activities

Net cash provided by operating activities decreased by \$156 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019 primarily due to increased payments on accounts payable and other current liabilities, increases in cash payments for retirement benefits and increases in payments for prepaid assets, partially offset by increased collections on accounts receivable. Cash provided by operating activities is subject to variability period over period as a result of timing differences, including with respect to the collection of receivables and payments of interest expense, accounts payable and bonuses.

Net cash provided by operating activities decreased by \$352 million for the year ended December 31, 2019 as compared to the year ended December 31, 2018 primarily due to an increase in net loss after adjusting for non-cash items, increases in payments on accounts payable and other noncurrent liabilities and increases in payments for prepaid assets, primarily offset by a decrease in retirement benefit contributions.

For additional information about our operating results, see "Results of Operations" above.

Investing Activities

Net cash used in investing activities decreased by \$6 million for the year ended December 31, 2020 as compared to the year ended December 31, 2019 primarily due to an increase in proceeds from the sale of property, plant and equipment and other assets, partially offset by an increase in capital expenditures.

Net cash used in investing activities increased by \$492 million for the year ended December 31, 2019 as compared to the year ended December 31, 2018. The change in investing activities is primarily due to increased capital expenditures on property, plant and equipment and decreased proceeds from the sale of property, plant and equipment and other assets.

Financing Activities

Net cash used in financing activities increased by \$2.3 billion for the year ended December 31, 2020 as compared to the year ended December 31, 2019 primarily due to an increase in payments of long-term debt, partially offset by increases in net proceeds from issuance of long-term debt and net proceeds from our revolving line of credit.

Net cash used in financing activities decreased by \$2.1 billion for the year ended December 31, 2019 as compared to the year ended December 31, 2018 primarily due to net proceeds from the issuance of long-term debt and the decrease in dividends paid, partially offset by higher levels of payments on our long-term debt and revolving line of credit.

See Note 6-Long-Term Debt and Credit Facilities for additional information on our outstanding debt securities.

Other Matters

We have cash management and loan arrangements with a majority of our income-generating subsidiaries, in which a substantial portion of the aggregate cash of those subsidiaries' is periodically advanced or loaned to us or our service company affiliate. Although we periodically repay these advances to fund the subsidiaries' cash requirements throughout the year, at any given point in time we may owe a substantial sum to our subsidiaries under these arrangements. In accordance with generally accepted accounting principles, these arrangements are reflected in the balance sheets of our subsidiaries, but are eliminated in consolidation and therefore not recognized on our consolidated balance sheets.

We also are involved in various legal proceedings that could substantially impact our financial position. See Note 17-Commitments, Contingencies and Other Items for additional information.

Market Risk

As of December 31, 2020, we are exposed to market risk from changes in interest rates on our variable rate long-term debt obligations and fluctuations in certain foreign currencies. We seek to maintain a favorable mix of fixed and variable rate debt in an effort to limit interest costs and cash flow volatility resulting from changes in rates.

Management periodically reviews our exposure to interest rate fluctuations and periodically implements strategies to manage the exposure. From time to time, we have used derivative instruments to (i) swap our exposure to changing variable interest rates for fixed interest rates or (ii) to swap obligations to pay fixed interest rates for variable interest rates. We have established policies and procedures for risk assessment and the approval, reporting and monitoring of derivative instrument activities. As of December 31, 2020, we did not hold or issue derivative financial instruments for trading or speculative purposes.

In 2019, we executed swap transactions that reduced our exposure to floating rates with respect to \$4.0 billion principal amount of floating rate debt. See Note 14-Derivative Financial Instruments for additional disclosure regarding our hedging arrangements.

As of December 31, 2020, we had approximately \$9.9 billion floating rate debt potentially subject to LIBOR, \$4.0 billion of which was subject to the above-described hedging arrangements. A hypothetical increase of 100 basis points in LIBOR relating to our \$5.9 billion of unhedged floating rate debt would, among other things, decrease our annual pre-tax earnings by approximately \$59 million.

We conduct a portion of our business in currencies other than the U.S. dollar, the currency in which our consolidated financial statements are reported. Our European subsidiaries and certain Latin American subsidiaries use the local currency as their functional currency, as the majority of their revenue and purchases are transacted in their local currencies. Certain Latin American countries previously designated as highly inflationary economies use the U.S. dollar as their functional currency. Although we continue to evaluate strategies to mitigate risks related to the effect of fluctuations in currency exchange rates, we will likely recognize gains or losses from international transactions. Accordingly, changes in foreign currency rates relative to the U.S. dollar could adversely impact our operating results.

Certain shortcomings are inherent in the method of analysis presented in the computation of exposures to market risks. Actual values may differ materially from those disclosed by us from time to time if market conditions vary from the assumptions used in the analyses performed. These analyses only incorporate the risk exposures that existed at December 31, 2020.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information in “Management’s Discussion and Analysis of Financial Condition and Results of Operations-Market Risk” in Item 7 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2020 is incorporated herein by reference.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Lumen Technologies, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Lumen Technologies, Inc. and subsidiaries (the Company) as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive loss, cash flows, and stockholders' equity for each of the years in the three-year period ended December 31, 2020, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 25, 2021 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Changes in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for the presentation of taxes assessed by a governmental authority as of January 1, 2020.

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for leases as of January 1, 2019 due to the adoption of Accounting Standards Codification Topic 842, Leases.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Testing of revenue

As discussed in Note 3 to the consolidated financial statements, the Company recorded \$20.7 billion of operating revenues for the year ended December 31, 2020. The processing and recording of revenue are reliant upon multiple information technology (IT) systems.

We identified the evaluation of the sufficiency of audit evidence over revenue as a critical audit matter. Complex auditor judgment was required in evaluating the sufficiency of audit evidence over revenue due to the large volume of data and the number and complexity of the revenue accounting systems. Specialized skills and knowledge were needed to test the IT systems used for the processing and recording of revenue.

The following are the primary procedures we performed to address this critical audit matter. We applied auditor judgment to determine the nature and extent of procedures to be performed over the processing and recording of revenue, including the IT systems tested. We evaluated the design and tested the operating effectiveness of certain internal controls related to the processing and recording of revenue. This included manual and automated controls over the IT systems used for the processing and recording of revenue. For a selection of transactions, we compared the amount of revenue recorded to a combination of Company internal data, executed contracts, and other relevant third-party data. In addition, we involved IT professionals with specialized skills and knowledge who assisted in the design and performance of audit procedures related to certain IT systems used by the Company for the processing and recording of revenue. We evaluated the sufficiency of audit evidence obtained by assessing the results of procedures performed, including the relevance and reliability of evidence obtained.

Assessment of the Company's impairment testing related to the carrying value of goodwill

As discussed in Note 2 to the consolidated financial statements, the goodwill balance at December 31, 2020 was \$18.9 billion. The Company assesses goodwill for impairment annually and when events or circumstances indicate the fair value of a reporting unit may be below its carrying value. On the annual goodwill impairment assessment date, the Company estimated the fair value of its reporting units by considering both a discounted cash flow method and a market approach. The impairment test determined the carrying values of the consumer, wholesale, small and medium business, and EMEA reporting units exceeded their estimated fair values. As a result, the Company recorded a non-cash impairment charge of \$2.6 billion to reduce the carrying value of goodwill for the consumer, wholesale, small and medium business, and EMEA reporting units.

We identified the assessment of the Company's impairment testing related to the carrying value of goodwill as a critical audit matter. Subjective auditor judgment was required in evaluating certain assumptions used to estimate the fair value of the reporting units. Those assumptions included: projected cash flows, terminal growth rates, discount rates, and market multiples for revenue and EBITDA. The evaluation of these assumptions was challenging due to the subjective nature of the assumptions. Additionally, differences in judgment used to determine these assumptions could have a significant effect on each reporting unit's estimated fair value. Specialized skills and knowledge were required in the assessment of the terminal growth rates, discount rates, and market multiples for revenue and EBITDA.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the impairment testing of goodwill. This included controls related to the Company's development of projected cash flows, and the determination of terminal growth rates, discount rates, and market multiples for revenue and EBITDA. We performed sensitivity analyses over the projected cash flows assumptions to assess the impact on the Company's estimate of the fair value of each reporting unit. We assessed the Company's ability to accurately project cash flows by comparing the Company's historical cash flow projections to actual results. We also evaluated the Company's projected cash flows by comparing them to the Company's underlying business strategies, historic trends, and publicly available industry and analyst reports. We involved a valuation professional with specialized skills and knowledge, who assisted in:

- comparing the selected revenue and EBITDA market multiples to peer companies' results
- comparing the selected terminal growth rate for each reporting unit to the Company's historic trends and growth expectations developed using publicly available industry and analyst reports
- evaluating the discount rates by comparing them to discount rate ranges that were independently developed using publicly available market data for comparable entities.

Assessment of the estimate of the fair value of private fund interests valued using net asset value

As discussed in Note 10 to the consolidated financial statements, the fair value of pension plan assets at December 31, 2020 was \$10.5 billion. Of this amount, \$3.4 billion represents the fair value of private fund interests estimated by the Company using net asset value (NAV). Valuation inputs for these private fund interests are generally based on assumptions and other information not observable in the market.

We identified the assessment of the estimate of the fair value of private fund interests estimated using NAV as a critical audit matter. Auditor judgment was required in the application and performance of procedures to assess the fair value because the determination of NAV of private fund interests involves the use of unobservable inputs.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the estimate of the fair value of private fund interests estimated using NAV. This included controls related to the Company's process to monitor and record the estimated fair value of the pension plan assets. For a sample of private fund interests, we compared:

- the Company's previous estimates of fair value of NAV to the NAVs subsequently audited by third parties
- the rates of return of the private fund interests to relevant, publicly available market indices
- the estimated fair values of NAV to external confirmations received from the third-party investment managers.

We involved valuation professionals with specialized skills and knowledge, who assisted in our risk assessment and the design of procedures performed for private fund interests. With respect to private fund interest selections tested, the valuation professionals assessed the sufficiency of audit evidence obtained by assessing the result of procedures performed.

/s/ KPMG LLP

We have served as the Company's auditor since 1977.

Denver, Colorado
February 25, 2021

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors Lumen Technologies, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Lumen Technologies, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive loss, cash flows, and stockholders' equity for each of the years in the three-year period ended December 31, 2020, and the related notes (collectively, the consolidated financial statements), and our report dated February 25, 2021 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

Denver, Colorado
February 25, 2021

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions, except per share amounts, and shares in thousands)		
OPERATING REVENUE	\$ 20,712	21,458	22,580
OPERATING EXPENSES			
Cost of services and products (exclusive of depreciation and amortization)	8,934	9,134	9,999
Selling, general and administrative	3,464	3,715	4,165
Depreciation and amortization	4,710	4,829	5,120
Goodwill impairment	2,642	6,506	2,726
Total operating expenses	19,750	24,184	22,010
OPERATING INCOME (LOSS)	962	(2,726)	570
OTHER (EXPENSE) INCOME			
Interest expense	(1,668)	(2,021)	(2,177)
Other (expense) income, net	(76)	(19)	44
Total other expense, net	(1,744)	(2,040)	(2,133)
LOSS BEFORE INCOME TAX EXPENSE	(782)	(4,766)	(1,563)
Income tax expense	450	503	170
NET LOSS	\$ (1,232)	(5,269)	(1,733)
BASIC AND DILUTED LOSS PER COMMON SHARE			
BASIC	\$ (1.14)	(4.92)	(1.63)
DILUTED	\$ (1.14)	(4.92)	(1.63)
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING			
BASIC	1,079,130	1,071,441	1,065,866
DILUTED	1,079,130	1,071,441	1,065,866

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions)		
NET LOSS	\$ (1,232)	(5,269)	(1,733)
OTHER COMPREHENSIVE LOSS:			
Items related to employee benefit plans:			
Change in net actuarial (loss) gain, net of, \$26, \$60, and \$(45) tax	(92)	(195)	133
Change in net prior service cost, net of \$(12), \$(4), and \$(3) tax	33	13	9
Curtailment loss, net of \$(1), \$-, and \$- tax	3	-	-
Reclassification of realized loss on interest rate swaps to net income, net of \$(16), \$-, and \$- tax	46	2	-
Unrealized holding loss on interest rate swaps, net of \$29, \$12, and \$- tax	(86)	(41)	-
Foreign currency translation adjustment, net of \$(43), \$(6), and \$50 tax	(37)	2	(201)
Other comprehensive loss	(133)	(219)	(59)
COMPREHENSIVE LOSS	\$ (1,365)	(5,488)	(1,792)

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED BALANCE SHEETS

	As of December 31,	
	2020	2019
	(Dollars in millions and shares in thousands)	
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 406	1,690
Accounts receivable, less allowance of \$191 and \$106	1,962	2,259
Other	808	819
Total current assets	3,176	4,768
Property, plant and equipment, net of accumulated depreciation of \$31,596 and \$29,346	26,338	26,079
GOODWILL AND OTHER ASSETS		
Goodwill	18,870	21,534
Other intangible assets, net	8,219	9,567
Other, net	2,791	2,794
Total goodwill and other assets	29,880	33,895
TOTAL ASSETS	\$ 59,394	64,742
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Current maturities of long-term debt	\$ 2,427	2,300
Accounts payable	1,134	1,724
Accrued expenses and other liabilities		
Salaries and benefits	1,008	1,037
Income and other taxes	314	311
Current operating lease liabilities	379	416
Interest	291	280
Other	328	386
Current portion of deferred revenue	753	804
Total current liabilities	6,634	7,258
LONG-TERM DEBT	29,410	32,394
DEFERRED CREDITS AND OTHER LIABILITIES		
Deferred income taxes, net	3,342	2,918
Benefit plan obligations, net	4,556	4,594
Other	4,290	4,108
Total deferred credits and other liabilities	12,188	11,620
COMMITMENTS AND CONTINGENCIES (Note 17)		
STOCKHOLDERS' EQUITY		
Preferred stock - non-redeemable, \$25.00 par value, authorized 2,000 and 2,000 shares, issued and outstanding 7 and 7 shares	-	-
Common stock, \$1.00 par value, authorized 2,200,000 and 2,200,000 shares, issued and outstanding 1,096,921 and 1,090,058 shares	1,097	1,090
Additional paid-in capital	20,909	21,874
Accumulated other comprehensive loss	(2,813)	(2,680)
Accumulated deficit	(8,031)	(6,814)
Total stockholders' equity	11,162	13,470
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 59,394	64,742

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions)		
OPERATING ACTIVITIES			
Net loss	\$ (1,232)	(5,269)	(1,733)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	4,710	4,829	5,120
Goodwill impairment	2,642	6,506	2,746
Deferred income taxes	366	440	522
Provision for uncollectible accounts	189	145	153
Net loss (gain) on early retirement and modification of debt	105	(72)	7
Share-based compensation	175	162	186
Changes in current assets and liabilities:			
Accounts receivable	115	(5)	25
Accounts payable	(543)	(261)	124
Accrued income and other taxes	27	20	75
Other current assets and liabilities, net	(262)	(32)	127
Retirement benefits	(111)	(12)	(667)
Changes in other noncurrent assets and liabilities, net	246	245	329
Other, net	97	(16)	18
Net cash provided by operating activities	6,524	6,680	7,032
INVESTING ACTIVITIES			
Capitalized expenditures	(3,729)	(3,628)	(3,175)
Proceeds from sale of property, plant and equipment and other assets	153	93	158
Other, net	12	(35)	(61)
Net cash used in investing activities	(3,564)	(3,570)	(3,078)
FINANCING ACTIVITIES			
Net proceeds from issuance of long-term debt	4,361	3,707	130
Payments of long-term debt	(7,315)	(4,157)	(1,936)
Net (payments) proceeds on credit facility and revolving line of credit	(100)	(300)	145
Dividends paid	(1,109)	(1,100)	(2,312)
Other, net	(87)	(61)	(50)
Net cash used in financing activities	(4,250)	(1,911)	(4,023)
Net (decrease) increase in cash, cash equivalents and restricted cash	(1,290)	1,199	(69)
Cash, cash equivalents and restricted cash at beginning of period	1,717	518	587
Cash, cash equivalents and restricted cash at end of period	\$ 427	1,717	518
Supplemental cash flow information:			
Income taxes received, net	\$ 28	34	674
Interest paid (net of capitalized interest of \$75, \$72 and \$53)	\$ (1,627)	(2,028)	(2,138)
Cash, cash equivalents and restricted cash:			
Cash and cash equivalents	\$ 406	1,690	488
Restricted cash - current	3	3	4
Restricted cash - noncurrent	18	24	26
Total	\$ 427	1,717	518

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions except per share amounts)		
COMMON STOCK			
Balance at beginning of period	\$ 1,090	1,080	1,069
Issuance of common stock through dividend reinvestment, incentive and benefit plans	7	10	11
Balance at end of period	1,097	1,090	1,080
ADDITIONAL PAID-IN CAPITAL			
Balance at beginning of period	21,874	22,852	23,314
Issuance of common stock to acquire Level 3, including replacement of Level 3's share-based compensation awards	-	-	(2)
Shares withheld to satisfy tax withholdings	(40)	(37)	(56)
Share-based compensation and other, net	187	163	187
Dividends declared	(1,112)	(1,104)	(586)
Acquisition of additional minority interest in a subsidiary	-	-	(5)
Balance at end of period	20,909	21,874	22,852
ACCUMULATED OTHER COMPREHENSIVE LOSS			
Balance at beginning of period	(2,680)	(2,461)	(1,995)
Cumulative effect of adoption of ASU 2018-02, <i>Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income</i>	-	-	(407)
Other comprehensive loss	(133)	(219)	(59)
Balance at end of period	(2,813)	(2,680)	(2,461)
RETAINED EARNINGS (ACCUMULATED DEFICIT)			
Balance at beginning of period	(6,814)	(1,643)	1,103
Cumulative effect of adoption of ASU 2016-13, Measurement of Credit Losses, net of \$(2) tax	9	-	-
Cumulative effect of adoption of ASU 2016-02, Leases, net of \$(37) tax	-	96	-
Cumulative net effect of adoption of ASU 2014-09, Revenue from Contracts with Customers, net of \$(119) tax	-	-	338
Cumulative effect of adoption of ASU 2018-02, <i>Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income</i>	-	-	407
Net loss	(1,232)	(5,269)	(1,733)
Dividends declared and other	6	2	(1,758)
Balance at end of period	(8,031)	(6,814)	(1,643)
TOTAL STOCKHOLDERS' EQUITY	\$ 11,162	13,470	19,828
DIVIDENDS DECLARED PER COMMON SHARE	\$ 1.00	1.00	2.16

See accompanying notes to consolidated financial statements.

LUMEN TECHNOLOGIES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

References in the Notes to “Lumen Technologies, Inc.”, “Lumen Technologies” or “Lumen,” “we,” “us”, the “Company”, and “our” refer to Lumen Technologies and its consolidated subsidiaries, unless the content otherwise requires. References in the Notes to “Level 3” refer to Level 3 Parent, LLC and its predecessor, Level 3 Communications, Inc., which we acquired on November 1, 2017.

(1) Background and Summary of Significant Accounting Policies

General

We are an international facilities-based technology and communications company engaged primarily in providing a broad array of integrated services to our business and residential customers.

Basis of Presentation

The accompanying consolidated financial statements include our accounts and the accounts of our subsidiaries in which we have a controlling interest. Intercompany amounts and transactions with our consolidated subsidiaries have been eliminated. In connection with our acquisition of Level 3 in 2017, we acquired its deconsolidated Venezuela subsidiary and due to exchange restrictions and other conditions have assigned no value to this subsidiary's assets. Additionally, we have excluded this subsidiary from our consolidated financial statements.

To simplify the overall presentation of our consolidated financial statements, we report immaterial amounts attributable to noncontrolling interests in certain of our subsidiaries as follows: (i) income attributable to noncontrolling interests in other income, net, (ii) equity attributable to noncontrolling interests in additional paid-in capital and (iii) cash flows attributable to noncontrolling interests in other, net financing activities.

We reclassified certain prior period amounts to conform to the current period presentation, including the categorization of our revenue and our segment reporting for 2020, 2019 and 2018. See Note 16-Segment Information for additional information. These changes had no impact on total operating revenue, total operating expenses or net loss for any period.

Operating Expenses

Our current definitions of operating expenses are as follows:

- *Cost of services and products (exclusive of depreciation and amortization)* are expenses incurred in providing products and services to our customers. These expenses include: employee-related expenses directly attributable to operating and maintaining our network (such as salaries, wages, benefits and professional fees); facilities expenses (which include third-party telecommunications expenses we incur for using other carriers' networks to provide services to our customers); rents and utilities expenses; equipment sales expenses (such as data integration and modem expenses); and other expenses directly related to our operations; and
- *Selling, general and administrative expenses* are corporate overhead and other operating expenses. These expenses include: employee-related expenses (such as salaries, wages, internal commissions, benefits and professional fees) directly attributable to selling products or services and employee-related expenses for administrative functions; marketing and advertising; property and other operating taxes and fees; external commissions; litigation expenses associated with general matters; bad debt expense; and other selling, general and administrative expenses.

These expense classifications may not be comparable to those of other companies.

Summary of Significant Accounting Policies

Use of Estimates

Our consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles. These accounting principles require us to make certain estimates, judgments and assumptions. We believe that the estimates, judgments and assumptions we make when accounting for specific items and matters are reasonable, based on information available at the time they are made. These estimates, judgments and assumptions can materially affect the reported amounts of assets, liabilities and components of stockholders' equity as of the dates of the consolidated balance sheets, as well as the reported amounts of revenue, expenses and components of cash flows during the periods presented in our other consolidated financial statements. We also make estimates in our assessments of potential losses in relation to threatened or pending tax and legal matters. See Note 15-Income Taxes and Note 17-Commitments, Contingencies and Other Items for additional information.

For matters not related to income taxes, if a loss is considered probable and the amount can be reasonably estimated, we recognize an expense for the estimated loss. If we have the potential to recover a portion of the estimated loss from a third party, we make a separate assessment of recoverability and reduce the estimated loss if recovery is also deemed probable.

For matters related to income taxes, if we determine that the impact of an uncertain tax position is more likely than not to be sustained upon audit by the relevant taxing authority, then we recognize a benefit for the largest amount that is more likely than not to be sustained. No portion of an uncertain tax position will be recognized if the position has less than a 50% likelihood of being sustained. Interest is recognized on the amount of unrecognized benefit from uncertain tax positions.

For all of these and other matters, actual results could differ materially from our estimates.

Revenue Recognition

We earn most of our consolidated revenue from contracts with customers, primarily through the provision of communications and other services. Revenue from contracts with customers is accounted for under Accounting Standards Codification (“ASC”) 606. We also earn revenue from leasing arrangements (primarily fiber capacity agreements) and governmental subsidy payments, neither of which are accounted for under ASC 606.

Revenue is recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to receive in exchange for those goods or services. Revenue is recognized based on the following five-step model:

- Identification of the contract with a customer;
- Identification of the performance obligations in the contract;
- Determination of the transaction price;
- Allocation of the transaction price to the performance obligations in the contract; and
- Recognition of revenue when, or as, we satisfy a performance obligation.

We provide an array of communications services to business and residential customers, including local voice, VPN, Ethernet, data, broadband, private line (including special access), network access, transport, voice, information technology, video and other ancillary services. We provide these services to a wide range of businesses, including global, enterprise, wholesale, government, small and medium business customers. Certain contracts also include the sale of equipment, which is not significant to our business.

We recognize revenue for services when we provide the applicable service or when control of a product is transferred. Recognition of certain payments received in advance of services being provided is deferred. These advance payments include certain activation and certain installation charges. If the activation and installation charges are not separate performance obligations, we recognize them as revenue over the actual or expected contract term using historical experience, which ranges from one year to five years depending on the service. In most cases, termination fees or other fees on existing contracts that are negotiated in conjunction with new contracts are deferred and recognized over the new contract term.

For access services, we generally bill fixed monthly charges one month in advance to customers and recognize revenue as service is provided over the contract term in alignment with the customer’s receipt of service. For usage and other ancillary services, we generally bill in arrears and recognize revenue as usage or delivery occurs. In most cases, the amount invoiced for our service offerings constitutes the price that would be billed on a standalone basis.

In certain cases, customers may be permitted to modify their contracts. We evaluate the change in scope or price to identify whether the modification should be treated as a separate contract, whether the modification is a termination of the existing contract and creation of a new contract, or if it is a change to the existing contract.

Customer contracts are evaluated to determine whether the performance obligations are separable. If the performance obligations are deemed separable and separate earnings processes exist, the total transaction price that we expect to receive with the customer is allocated to each performance obligation based on its relative standalone selling price. The revenue associated with each performance obligation is then recognized as earned.

We periodically sell optical capacity on our network. These transactions are structured as infeasible rights of use, commonly referred to as IRUs, which are the exclusive right to use a specified amount of capacity or fiber for a specified term, typically 10 to 20 years. In most cases, we account for the cash consideration received on transfers of optical capacity as ASC 606 revenue which is adjusted for the time value of money and

is recognized ratably over the term of the agreement. Cash consideration received on transfers of dark fiber is accounted for as non-ASC 606 lease revenue, which we also recognize ratably over the term of the agreement. We do not recognize revenue on any contemporaneous exchanges of our optical capacity assets for other non-owned optical capacity assets.

In connection with offering products and services provided to the end user by third-party vendors, we review the relationship between us, the vendor and the end user to assess whether revenue should be reported on a gross or net basis. In assessing whether revenue should be reported on a gross or net basis, we consider whether we act as a principal in the transaction and control the goods and services used to fulfill the performance obligations associated with the transaction.

We have service level commitments pursuant to contracts with certain of our customers. To the extent that such service levels are not achieved or are otherwise disputed due to performance or service issues or other service interruptions or conditions, we will estimate the amount of credits to be issued and record a corresponding reduction to revenue in the period that the service level commitment was not met.

Customer payments are made based on billing schedules included in our customer contracts, which is typically on a monthly basis.

We defer (or capitalize) incremental contract acquisition and fulfillment costs and recognize (or amortize) such costs over the average contract life. Our deferred contract costs for our customers have average amortization periods of approximately 30 months for consumer and business customers. These deferred costs are monitored every period to reflect any significant change in assumptions.

See Note 3-Revenue Recognition for additional information.

Advertising Costs

Costs related to advertising are expensed as incurred and included in selling, general and administrative expenses in our consolidated statements of operations. Our advertising expense was \$56 million, \$62 million and \$98 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Legal Costs

In the normal course of our business, we incur costs to hire and retain external legal counsel to advise us on regulatory, litigation and other matters. We expense these costs as the related services are received.

Income Taxes

We file a consolidated federal income tax return with our eligible subsidiaries. The provision for income taxes consists of an amount for taxes currently payable, an amount for tax consequences deferred to future periods and adjustments to our liabilities for uncertain tax positions. We record deferred income tax assets and liabilities reflecting future tax consequences attributable to tax net operating loss carryforwards ("NOLs"), tax credit carryforwards and differences between the financial statement carrying value of assets and liabilities and the tax basis of those assets and liabilities. Deferred taxes are computed using enacted tax rates expected to apply in the year in which the differences are expected to affect taxable income. The effect on deferred income tax assets and liabilities of a change in tax rate is recognized in earnings in the period that includes the enactment date.

We establish valuation allowances when necessary to reduce deferred income tax assets to the amounts that we believe are more likely than not to be recovered. Each quarter we evaluate the need to retain all or a portion of the valuation allowance on our deferred tax assets. See Note 15-Income Taxes for additional information.

Cash and Cash Equivalents

Cash and cash equivalents include highly liquid investments that are readily convertible into cash and are not subject to significant risk from fluctuations in interest rates. As a result, the value at which cash and cash equivalents are reported in our consolidated financial statements approximates their fair value. In evaluating investments for classification as cash equivalents, we require that individual securities have original maturities of ninety days or less and that individual investment funds have dollar-weighted average maturities of ninety days or less. To preserve capital and maintain liquidity, we invest with financial institutions we deem to be of sound financial condition and in high quality and relatively risk-free investment products. Our cash investment policy limits the concentration of investments with specific financial institutions or among certain products and includes criteria related to credit worthiness of any particular financial institution.

Book overdrafts occur when we have issued checks but they have not yet been presented to our controlled disbursement bank accounts for payment. Disbursement bank accounts allow us to delay funding of issued checks until the checks are presented for payment. Until the issued checks are presented for payment,

the book overdrafts are included in accounts payable on our consolidated balance sheet. This activity is included in the operating activities section in our consolidated statements of cash flows. There were no book overdrafts included in accounts payable at December 31, 2020. Included in accounts payable at December 31, 2019 was \$106 million representing book overdrafts.

Restricted Cash

Restricted cash consists primarily of cash and investments that serve to collateralize our outstanding letters of credit and certain performance and operating obligations. Restricted cash and securities are recorded as current or non-current assets in the consolidated balance sheets depending on the duration of the restriction and the purpose for which the restriction exists. Restricted securities are stated at cost which approximates fair value as of December 31, 2020 and 2019.

Accounts Receivable and Allowance for Credit Losses

Accounts receivable are recognized based upon the amount due from customers for the services provided or at cost for purchased and other receivables, less an allowance for credit losses. Prior to the adoption of ASU 2016-13, the allowance for credit losses receivable reflected our best estimate of probable losses inherent in our receivable portfolio determined on the basis of historical experience, specific allowances for known troubled accounts and other currently available evidence. We implemented the new standard effective January 1, 2020, as discussed in the *Recently Adopted Accounting Pronouncements* - "Measurement of Credit Losses on Financial Instruments", below. For more information, see Note 5-Credit Losses on Financial Instruments.

The carrying value of accounts receivable net of the allowance for credit losses approximates fair value. Accounts receivable balances acquired in a business combination are recorded at fair value for all balances receivable at the acquisition date and at the invoiced amount for those amounts invoiced after the acquisition date.

Property, Plant and Equipment

We record property, plant and equipment acquired in connection with our acquisitions based on its estimated fair value as of its acquisition date plus the estimated value of any associated legally or contractually required retirement obligations. We record purchased and constructed property, plant and equipment at cost, plus the estimated value of any associated legally or contractually required retirement obligations. We depreciate the majority of our property, plant and equipment using the straight-line group method, but depreciate certain of our assets using the straight-line method over their estimated useful lives of the specific asset. Under the straight-line group method, assets dedicated to providing telecommunications services (which comprise the majority of our property, plant and equipment) that have similar physical characteristics, use and expected useful lives are pooled for purposes of depreciation and tracking. The equal life group procedure is used to establish each pool's average remaining useful life. Generally, under the straight-line group method, when an asset is sold or retired in the course of normal business activities, the cost is deducted from property, plant and equipment and charged to accumulated depreciation without recognition of a gain or loss. A gain or loss is recognized in our consolidated statements of operations only if a disposal is unusual. Leasehold improvements are amortized over the shorter of the useful lives of the assets or the expected lease term. Expenditures for maintenance and repairs are expensed as incurred. Interest is capitalized during the construction phase of network and other internal-use capital projects. Employee-related costs for construction of network and other internal use assets are also capitalized during the construction phase. Property, plant and equipment supplies used internally are carried at average cost, except for significant individual items which are carried at actual cost.

We perform annual internal reviews to evaluate the reasonableness of the depreciable lives for our property, plant and equipment. Our reviews utilize models that take into account actual usage, physical wear and tear, replacement history, assumptions about technology evolution and, in certain instances, actuarially determined probabilities to estimate the remaining useful life of our asset base. Our remaining useful life assessments evaluate the possible loss in service value of assets that may precede the physical retirement. Assets shared among many customers may lose service value as those customers reduce their use of the asset. However, the asset is not retired until all customers no longer utilize the asset and we determine there is no alternative use for the asset.

We have asset retirement obligations associated with the legally or contractually required removal of a limited group of property, plant and equipment assets from leased properties and the disposal of certain hazardous materials present in our owned properties. When an asset retirement obligation is identified, usually in association with the acquisition of the asset, we record the fair value of the obligation as a liability. The fair value of the obligation is also capitalized as property, plant and equipment and then amortized over the estimated remaining useful life of the associated asset. Where the removal obligation is not legally binding, the net cost to remove assets is expensed in the period in which the costs are actually incurred.

We review long-lived tangible assets for impairment whenever facts and circumstances indicate that the carrying amounts of the assets may not be recoverable. For assessment purposes, long-lived assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities, absent a material change in operations. An impairment loss is recognized only if the carrying amount of the asset group is not recoverable and exceeds its estimated fair value. Recoverability of the asset group to be held and used is assessed by comparing the carrying amount of the asset group to the estimated undiscounted future net cash flows expected to be generated by the asset group. If the asset group's carrying value is not recoverable, we recognize an impairment charge for the amount by which the carrying amount of the asset group exceeds its estimated fair value.

Goodwill, Customer Relationships and Other Intangible Assets

Intangible assets arising from business combinations, such as goodwill, customer relationships, capitalized software, trademarks and trade names, are initially recorded at estimated fair value. We amortize customer relationships primarily over an estimated life of 7 to 15 years, using either the sum-of-years-digits or the straight-line methods, depending on the type of customer. We amortize capitalized software using the straight-line method primarily over estimated lives ranging up to 7 years. We amortize our other intangible assets using the sum-of-years-digits or straight-line method over an estimated life of 4 to 20 years. Other intangible assets not arising from business combinations are initially recorded at cost. Where there are no legal, regulatory, contractual or other factors that would reasonably limit the useful life of an intangible asset, we classify the intangible asset as indefinite-lived and such intangible assets are not amortized.

Internally used software, whether purchased or developed by us, is capitalized and amortized using the straight-line method over its estimated useful life. We have capitalized certain costs associated with software such as costs of employees devoted to software development and external direct costs for materials and services. Costs associated with software to be used for internal purposes are expensed until the point at which the project has reached the development stage. Subsequent additions, modifications or upgrades to internal-use software are capitalized only to the extent that they allow the software to perform a task it previously did not perform. Software maintenance, data conversion and training costs are expensed in the period in which they are incurred. We review the remaining economic lives of our capitalized software annually. Capitalized software is included in other intangible assets, net, in our consolidated balance sheets.

Our long-lived intangible assets, other than goodwill, with indefinite lives are assessed for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be an impairment. These assets are carried at the estimated fair value at the time of acquisition and assets not acquired in acquisitions are recorded at historical cost. However, if their estimated fair value is less than the carrying amount, we recognize an impairment charge for the amount by which the carrying amount of these assets exceeds their estimated fair value.

We are required to assess goodwill for impairment at least annually, or more frequently, if an event occurs or circumstances change that indicates it is more likely than not that the fair values of our reporting units were less than their carrying values. We are required to write-down the value of goodwill in periods in which the recorded carrying value of equity exceeds the fair value of equity. Our reporting units are not discrete legal entities with discrete full financial statements. Therefore, the equity carrying value and future cash flows are assessed each time a goodwill impairment assessment is performed on a reporting unit. To do so, we assign our assets, liabilities and cash flows to reporting units using reasonable and consistent allocation methodologies, which entail various estimates, judgments and assumptions.

We are required to reassign goodwill to reporting units whenever reorganizations of our internal reporting structure changes the composition of our reporting units. Goodwill is reassigned to the reporting units using a relative fair value approach. When the fair value of a reporting unit is available, we allocate goodwill based on the relative fair value of the reporting units. When fair value is not available, we utilize an alternative allocation methodology that represents a reasonable proxy for the fair value of the operations being reorganized.

For more information, see Note 2-Goodwill, Customer Relationships and Other Intangible Assets.

Derivatives and Hedging

From time to time we have used derivative instruments to hedge exposure to interest rate risks arising from fluctuation in interest rates. We account for derivative instruments in accordance with ASC 815, *Derivatives and Hedging*, which establishes accounting and reporting standards for derivative instruments. We do not use derivative financial instruments for speculative purposes.

Derivatives are recognized in the consolidated balance sheets at their fair values. When we become a party to a derivative instrument and intend to apply hedge accounting, we formally document the hedge relationship and the risk management objective for undertaking the hedge which includes designating the instrument for financial reporting purposes as a fair value hedge, a cash flow hedge, or a net investment hedge.

We entered into eleven variable-to-fixed interest rate swap agreements during 2019, which we designated as cash-flow hedges. We evaluate the effectiveness of these hedges qualitatively on a quarterly basis. The change in the fair value of the interest rate swaps is reflected in Accumulated Other Comprehensive Loss ("AOCI") and is subsequently reclassified into earnings in the period the hedged transaction affects earnings, by virtue of qualifying as effective cash flow hedges. For more information see Note 14-Derivative Financial Instruments.

Pension and Post-Retirement Benefits

We recognize the funded status of our defined benefit and post-retirement plans as an asset or a liability on our consolidated balance sheet. Each year's actuarial gains or losses are a component of our other comprehensive loss, which is then included in our accumulated other comprehensive loss. Pension and post-retirement benefit expenses are recognized over the period in which the employee renders service and becomes eligible to receive benefits. We make significant assumptions (including the discount rate, expected rate of return on plan assets, mortality and health care trend rates) in computing the pension and post-retirement benefits expense and obligations. See Note 10-Employee Benefits for additional information.

Foreign Currency

Local currencies of foreign subsidiaries are the functional currencies for financial reporting purposes except for certain foreign subsidiaries, primarily in Latin America. For operations outside the United States that have functional currencies other than the U.S. dollar, assets and liabilities are translated to U.S. dollars at period-end exchange rates, and revenue, expenses and cash flows are translated using average monthly exchange rates. A significant portion of our non-United States subsidiaries use either the British pound, the Euro or the Brazilian Real as their functional currency, each of which experienced significant fluctuations against the U.S. dollar during the years ended December 31, 2020, 2019 and 2018. We recognize foreign currency translation gains and losses as a component of accumulated other comprehensive loss in stockholders' equity and in our consolidated statements of comprehensive loss in accordance with accounting guidance for foreign currency translation. We consider the majority of our investments in our foreign subsidiaries to be long-term in nature. Our foreign currency transaction gains (losses), including where transactions with our non-United States subsidiaries are not considered to be long-term in nature, are included within other income, net on our consolidated statements of operations.

Common Stock

At December 31, 2020, we had 49 million shares authorized for future issuance under our equity incentive plans.

Preferred Stock

Holders of outstanding Lumen Technologies preferred stock are entitled to receive cumulative dividends, receive preferential distributions equal to \$25 per share plus unpaid dividends upon Lumen's liquidation and vote as a single class with the holders of common stock.

Section 382 Rights Plan

We maintain a Section 382 Rights Plan to protect our U.S. federal net operating loss carryforwards from certain Internal Revenue Code Section 382 limitations. Under the plan, one preferred stock purchase right was distributed for each share of our outstanding common stock as of the close of business on February 25, 2019, and those rights currently trade in tandem with the common stock until they expire or detach under the plan. This plan was designed to deter trading that would result in a change of control (as defined in Code Section 382), and therefore protect our ability to use our historical federal net operating losses in the future.

Dividends

The declaration and payment of dividends is at the discretion of our Board of Directors.

Change in Accounting Policy

During the first quarter of 2020, we elected to change the presentation for taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction, including federal and certain state Universal Service Fund (USF) regulatory fees, to present all such taxes on a net basis in our consolidated statements of operations. Prior to the first quarter of 2020, we assessed whether we were the primary obligor or principal taxpayer for the taxes assessed in each jurisdiction where we do business. The previous policy resulted in presenting such USF fees on a gross basis within operating revenue and cost of services and products, and all other significant taxes on a net basis. We applied this change in accounting policy retrospectively during the first quarter of 2020. As a result, we have decreased both operating revenue and cost of services and products by \$911 million, \$943 million and \$863 million for the years ended December 31, 2020, 2019 and 2018, respectively. The change has no impact on operating income (loss), net loss, or loss per share in our consolidated statements of operations. Refer to our Form 8-K filing dated April 30, 2020 for further information.

We changed our policy to present such taxes on the net basis and believe the new policy is preferable because of the historical and potential future regulatory rate changes outside of our control resulting in significant variability in tax and fee revenue that are not indicative of our operating performance. We believe the net presentation provides the most useful and transparent financial information and improves comparability and consistency of financial results.

Recently Adopted Accounting Pronouncements

During 2020, we adopted Accounting Standards Update (“ASU”) 2016-13, *“Measurement of Credit Losses on Financial Instruments.”* During 2019, we adopted ASU 2016-02, *“Leases (ASC 842)”*. During 2018, we adopted ASU 2018-14, *“Compensation-Retirement Benefits-Defined Benefit Plans-General: Disclosure Framework-Changes to the Disclosure Requirements for Defined Benefit Plans”*, ASU 2014-09, *“Revenue from Contracts with Customers”* and ASU 2018-02, *“Income Statement-Reporting Comprehensive Income: Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income”*.

Each of these is described further below.

Measurement of Credit Losses on Financial Instruments

We adopted ASU 2016-13, *“Measurement of Credit Losses on Financial Instruments”* (“ASU 2016-13”) on January 1, 2020, and recognized a cumulative adjustment to our accumulated deficit as of the date of adoption of \$9 million, net of tax effect of \$2 million. Please refer to Note 5-Credit Losses on Financial Instruments for more information.

Leases

We adopted ASU 2016-02, *“Leases (ASC 842)”*, as of January 1, 2019, using the non-comparative transition option pursuant to ASU 2018-11. Therefore, we have not restated comparative period financial information for the effects of ASC 842, and we have not made the new required lease disclosures for comparative periods beginning before January 1, 2019. Instead, we recognized ASC 842’s cumulative effect transition adjustment (discussed below) as of January 1, 2019. In addition, we elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things (i) allowed us to carry forward the historical lease classification; (ii) did not require us to reassess whether any expired or existing contracts are or contain leases under the new definition of a lease; and (iii) did not require us to reassess whether previously capitalized initial direct costs for any existing leases would qualify for capitalization under ASC 842. We also elected the practical expedient related to land easements, allowing us to carry forward our accounting treatment for land easements on existing agreements. We did not elect the hindsight practical expedient regarding the likelihood of exercising a lessee purchase option or assessing any impairment of right-of-use assets for existing leases.

On March 5, 2019, the Financial Accounting Standards Board (“FASB”) issued ASU 2019-01, *“Leases (ASC 842): Codification Improvements”*, (“ASU 2019-01”) effective for public companies for fiscal years beginning after December 15, 2019. The new ASU aligns the guidance in ASC 842 for determining fair value of the underlying asset by lessors that are not manufacturers or dealers, with that of existing guidance. As a result, the fair value of the underlying asset at lease commencement is its cost, reflecting any volume or trade discounts that may apply. However, if there has been a significant lapse of time between when the underlying asset is acquired and when the lease commences, the definition of *fair value* (in ASC 820, *“Fair Value Measurement”*) should be applied. More importantly, the ASU also exempts both lessees and lessors from having to provide certain interim disclosures in the fiscal year in which a company adopts the new leases standard. Early adoption permits public companies to adopt concurrent with the transition to ASC 842 on leases. We adopted ASU 2019-01 as of January 1, 2019.

Adoption of the new standards resulted in the recording of operating lease assets and operating lease liabilities of approximately \$2.1 billion and \$2.2 billion, respectively, as of January 1, 2019. The difference is driven principally by the netting of our existing real estate restructure reserve against the corresponding operating lease right of use asset. In addition, we recorded a \$96 million cumulative adjustment (net of tax of \$37 million) to accumulated deficit as of January 1, 2019, for the impact of the new accounting standards. Our financial position for reporting periods beginning on or after January 1, 2019 is presented under the new guidance, as discussed above, while prior period amounts are not adjusted and continue to be reported in accordance with previous guidance.

Retirement Benefits

In August 2018, the FASB issued ASU 2018-14, *“Compensation-Retirement Benefits-Defined Benefit Plans-General: Disclosure Framework-Changes to the Disclosure Requirements for Defined Benefit Plans”* (“ASU 2018-14”). ASU 2018-14 eliminates requirements for certain disclosures that are not considered cost beneficial, clarifies certain required disclosures and adds additional disclosures under defined benefit pension plans and other postretirement plans. We adopted this guidance during the fourth quarter 2018. The adoption of ASU 2018-14 did not have a material impact to our consolidated financial statements.

Revenue Recognition

In May 2014, the FASB issued ASU 2014-09, *“Revenue from Contracts with Customers”* (“ASU 2014-09”) which replaces virtually all existing generally accepted accounting principles on revenue recognition with a principles-based approach for determining revenue recognition using a new five step model. The core principle of ASU 2014-09 is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 also includes new accounting principles related to the deferral and amortization of contract acquisition and fulfillment costs.

We adopted the new revenue recognition standard under the modified retrospective transition method. During the year ended December 31, 2018, we recorded a cumulative catch-up adjustment that increased our retained earnings by \$338 million, net of \$119 million of income taxes.

See Note 3-Revenue Recognition for additional information.

Comprehensive Loss

In February 2018, the FASB issued ASU 2018-02, *“Income Statement-Reporting Comprehensive Income: Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income”* (“ASU 2018-02”) which provides an option to reclassify stranded tax effects within accumulated other comprehensive loss to retained earnings in each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Cuts and Jobs Act (the “Act”) (or portion thereof) is recorded. If an entity elects to reclassify the income tax effects of the Act, the amount of that reclassification shall include the effect of the change in the U.S. federal corporate income tax rate on the gross deferred tax amounts and related valuation allowances, if any, at the date of enactment of the Act related to items remaining in accumulated other comprehensive loss. The effect of the change in the U.S. federal corporate income tax rate on gross valuation allowances that were originally charged to income from continuing operations shall not be included. ASU 2018-02 is effective January 1, 2019, but early adoption is permitted and should be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Act is recognized. We early adopted and applied ASU 2018-02 in the first quarter of 2018. The adoption of ASU 2018-02 resulted in a \$407 million increase to retained earnings and in accumulated other comprehensive loss. See Note 20-Accumulated Other Comprehensive Loss for additional information.

Recently Issued Accounting Pronouncements

In October 2020, the FASB issued ASU 2020-09, *“Debt (Topic 470) Amendments to SEC Paragraphs Pursuant to SEC Release No. 33-10762”* (“ASU 2020-09”). This ASU amends and supersedes various SEC paragraphs to reflect SEC Release No. 33-10762, which includes amendments to the financial disclosure requirements applicable to registered debt offerings that include credit enhancements, such as subsidiary guarantees. The cumulative effect of initially applying ASU 2020-09 on January 4, 2021 will not have material impact to our consolidated financial statements.

In March 2020, the FASB issued ASU 2020-04, *“Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting”* (“ASU 2020-04”), designed to ease the burden of accounting for contract modifications related to the global market-wide reference rate transition period. Subject to certain criteria, ASU 2020-04 provides qualifying entities the option to apply expedients and exceptions to contract modifications and hedging accounting relationships made until December 31, 2022. In January 2021, the FASB issued ASU 2021-01, *“Reference Rate Reform (Topic 848): Scope”* (“ASU 2021-01”). This ASU clarifies that certain optional expedients and exceptions in Topic 848 for contract modifications and hedge accounting apply to derivative that are affected by the discounting transition. The ASU also amends the expedients and expectations in Topic 848 to capture the incremental consequences of the scope clarification and to tailor the existing guidance to derivatives instruments affected by the discounting transition. As of December 31, 2020, we are evaluating the impact on our consolidated financial statements.

In January 2020, the FASB issued ASU 2020-01, *“Investments-Equity Securities (Topic 321), Investments-Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)-Clarifying the Interactions between Topic 321, Topic 323, and Topic 815”* (“ASU 2020-01”). This ASU among other things clarifies that a company should consider observable transactions that require a company to either apply or discontinue the equity method of accounting under Topic 323, Investments-Equity Method and Joint Ventures, for the purposes of applying the measurement alternative in accordance with Topic 321 immediately before applying or upon discontinuing the equity method. As of December 31, 2020, we determined there was no application or discontinuation of the equity method during the reporting periods. The cumulative effect of initially applying ASU 2020-01 on January 1, 2021 will not have a material impact to our consolidated financial statements.

In December 2019, the FASB issued ASU 2019-12, *“Simplifying the Accounting for Income Taxes (Topic 740)”* (“ASU 2019-12”). ASU 2019-12 removes certain exceptions for investments, intra-period allocations and

interim calculations, and adds guidance to reduce complexity in accounting for income taxes. ASU 2019-12 will become effective for us in the first quarter of fiscal 2021 and early adoption is permitted. The cumulative effect of initially applying ASU 2019-12 on January 1, 2021 will not have a material impact to our consolidated financial statements.

(2) Goodwill, Customer Relationships and Other Intangible Assets

Goodwill, customer relationships and other intangible assets consisted of the following:

	As of December 31,	
	2020	2019
	(Dollars in millions)	
Goodwill	\$ 18,870	21,534
Indefinite-life intangible assets	\$ 278	269
Other intangible assets subject to amortization:		
Customer relationships, less accumulated amortization of \$11,060 and \$9,809	6,344	7,596
Capitalized software, less accumulated amortization of \$3,279 and \$2,957	1,520	1,599
Trade names, less accumulated amortization of \$120 and \$91	77	103
Total other intangible assets, net	\$ 8,219	9,567

Our goodwill was derived from numerous acquisitions where the purchase price exceeded the fair value of the net assets acquired.

We assess our goodwill and other indefinite-lived intangible assets for impairment annually, or, under certain circumstances, more frequently, such as when events or changes in circumstances indicate there may be impairment. We are required to write down the value of goodwill only when our assessment determines the carrying value of equity of any of our reporting units exceeds its fair value. Our annual impairment assessment date for goodwill is October 31, at which date we assess our reporting units. At October 31, 2020 and 2019, our international and global accounts segment was comprised of our North America global accounts ("NA GAM"), Europe, Middle East and Africa region ("EMEA"), Latin America region ("LATAM") and Asia Pacific region ("APAC") reporting units. At October 31, 2020 and 2019 our reporting units were consumer, small and medium business, enterprise, wholesale, NA GAM, EMEA, LATAM and APAC. Our annual impairment assessment date for indefinite-lived intangible assets other than goodwill is December 31.

Our reporting units are not discrete legal entities with discrete full financial statements. Our assets and liabilities are employed in and relate to the operations of multiple reporting units. For each reporting unit, we compare its estimated fair value of equity to its carrying value of equity that we assign to the reporting unit. If the estimated fair value of the reporting unit is greater than the carrying value, we conclude that no impairment exists. If the estimated fair value of the reporting unit is less than the carrying value, we record an impairment equal to the excess amount. Depending on the facts and circumstances, we typically estimate the fair value of our reporting units by considering either or both of (i) a discounted cash flow method, which is based on the present value of projected cash flows over a discrete projection period and a terminal value, which represents the value of expected normalized cash flows of the reporting units following the discrete projection period, and (ii) a market approach, which includes the use of market multiples of publicly-traded companies whose services are comparable to ours.

At October 31, 2020, we estimated the fair value of our eight above-mentioned reporting units by considering both a market approach and a discounted cash flow method. We discounted the projected cash flows for our consumer, enterprise, wholesale, small and medium business and NA GAM segments using a rate that represents our weighted average cost of capital, which we determined to be approximately 7.6% as of the assessment date (which comprised an after-tax cost of debt of 2.5% and a cost of equity of 10.7%). We discounted the projected cash flows of our EMEA, LATAM and APAC reporting units using a rate that represents their estimated weighted average cost of capital, which we determined to be approximately 8.0%, 14.3% and 10.1%, respectively, as of the measurement date (which was comprised of an after-tax cost of debt of 2.9%, 6.9% and 3.9% and a cost of equity of 11.2%, 18.8% and 14.0%, respectively). We utilized company comparisons and analyst reports within the telecommunications industry which have historically supported a range of fair values derived from annualized revenue and earnings before interest, taxes, depreciation and amortization ("EBITDA") multiples between 2.0x and 5.5x and 4.8x and 12.5x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units resulting in an overall company revenue and EBITDA multiple of 2.3x and 5.7x, respectively. We also reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2020 and concluded that the indicated implied control premium of approximately 33.0% was reasonable based on recent market transactions. Due to the decline in our stock price at October 31, 2020 and our assessment performed with respect to the reporting units described

above, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity for our consumer, wholesale, small and medium business and EMEA reporting units. As a result, these reporting units were impaired resulting in a non-cash, non-tax-deductible goodwill impairment charge of \$2.6 billion. See the table below for the impairment charges by segment. As of October 31, 2020, the estimated fair value of equity exceeded the carrying value of equity for our enterprise, NA GAM, LATAM and APAC reporting units by 2%, 46%, 74% and 23%, respectively. Based on our assessments performed, we concluded that the goodwill assigned to our enterprise, NA GAM, LATAM and APAC reporting units was not impaired at October 31, 2020.

At October 31, 2019, we estimated the fair value of our eight above-mentioned reporting units by considering both a market approach and a discounted cash flow method. We discounted the projected cash flows for our consumer, enterprise, wholesale, small and medium business and NA GAM reporting units using a rate that represents our weighted average cost of capital, which we determined to be approximately 6.3% as of the assessment date (which was comprised of an after-tax cost of debt of 4.4% and a cost of equity of 7.6%). We discounted the projected cash flows of our EMEA, LATAM and APAC reporting units using a rate that represents their estimated weighted average cost of capital, which we determined to be approximately 6.8%, 10.0% and 9.0%, respectively, as of the measurement date (which was comprised of an after-tax cost of debt of 4.8%, 6.1% and 7.1% and a cost of equity of 8.1%, 12.5% and 10.2%, respectively). We utilized company comparisons within the telecommunications industry and analyst reports which have historically supported a range of fair values derived from annualized revenue and EBITDA multiples between 2.3x and 5.4x and 5.6x and 12.2x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units resulting in an overall company revenue and EBITDA multiple of 2.3x and 5.7x, respectively. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2019 and concluded that the indicated control premium of approximately 44.7% was reasonable based on recent market transactions. As of October 31, 2019, based on our assessment performed with respect to our eight reporting units, the estimated fair value of equity exceeded the carrying value of equity for our consumer, small and medium business, enterprise, wholesale, NA GAM, EMEA, LATAM, and APAC reporting units by 44%, 41%, 53%, 46%, 55%, 5%, 63% and 38%, respectively. Based on our assessments performed, we concluded that the goodwill for our eight reporting units was not impaired as of October 31, 2019.

Both our January 2019 internal reorganization and the decline in our stock price indicated the carrying values of our reporting units were more likely than not in excess of their fair values, requiring an impairment test in the first quarter of 2019. Because our low stock price was a key trigger for impairment testing during the first quarter of 2019, we estimated the fair value of our operations in such quarter using only the market approach. Applying this approach, we utilized company comparisons and analyst reports within the telecommunications industry which have historically supported a range of fair values derived from annualized revenue and EBITDA (earnings before interest, taxes, depreciation and amortization) multiples between 2.1x and 4.9x and 4.9x and 9.8x, respectively. We selected a revenue and EBITDA multiple for each of our reporting units within this range. We reconciled the estimated fair values of the reporting units to our market capitalization as of the date of each of our impairment tests during the first quarter of 2019 and concluded that the indicated control premium of approximately 4.5% and 4.1% was reasonable based on recent market transactions. In the quarter ended March 31, 2019, based on our assessments performed with respect to the reporting units as described above, we concluded that the estimated fair value of certain of our reporting units was less than our carrying value of equity as of the date of both of our impairment tests during the first quarter. As a result, we recorded non-cash, non-tax-deductible goodwill impairment charges aggregating to \$6.5 billion in the quarter ended March 31, 2019. See the table below for the impairment charges by segment.

At October 31, 2018, we estimated the fair value of our then five reporting units which were consumer, medium and small business, enterprise, international and global accounts, and wholesale and indirect by considering both a market approach and a discounted cash flow method. We reconciled the estimated fair values of the reporting units to our market capitalization as of October 31, 2018 and concluded that the indicated control premium of approximately 0.1% was reasonable based on recent market transactions. As of October 31, 2018, based on our assessment performed with respect to these reporting units as described above, we concluded that the estimated fair value of our consumer reporting unit was less than our carrying value of equity by approximately \$2.7 billion. As a result, we recorded a non-cash, non-tax-deductible goodwill impairment charge of \$2.7 billion for goodwill assigned to our consumer reporting unit during the fourth quarter of 2018. In addition, based on our assessments performed, we concluded that the goodwill for our four remaining reporting units was not impaired as of October 31, 2018.

We completed our qualitative assessment of our indefinite-lived intangible assets other than goodwill as of December 31, 2020 and 2019 and concluded it is more likely than not that our indefinite-lived intangible assets are not impaired; thus, no impairment charge for these assets was recorded in 2020 or 2019.

The following tables show the rollforward of goodwill assigned to our reportable segments from December 31, 2018 through December 31, 2020.

	Business	Consumer	Total
	(Dollars in millions)		
As of December 31, 2018 ¹	\$ 20,447	7,584	28,031

1. Goodwill is net of accumulated impairment losses of \$3.8 billion.

	International and Global Accounts	Enterprise	Small and Medium Business	Wholesale	Consumer	Total
	(Dollars in millions)					
As of January 1, 2019	\$ 3,595	5,222	5,193	6,437	7,584	28,031
January 2019 reorganization	-	987	(1,038)	395	(344)	-
Effect of foreign currency exchange rate change and other	9	-	-	-	-	9
Impairment	(934)	(1,471)	(896)	(3,019)	(186)	(6,506)
As of December 31, 2019 ¹	2,670	4,738	3,259	3,813	7,054	21,534
Effect of foreign currency exchange rate change and other	(15)	-	(7)	-	-	(22)
Impairment	(100)	-	(444)	(699)	(1,399)	(2,642)
As of December 31, 2020 ¹	\$2,555	4,738	2,808	3,114	5,655	18,870

1. Goodwill at December 31, 2020 and December 31, 2019 is net of accumulated impairment losses of \$12.9 billion and \$10.3 billion, respectively.

For additional information on our segments, see Note 16-Segment Information.

As of December 31, 2020, the weighted average remaining useful lives of our intangible assets were approximately 8 years in total, approximately 9 years for customer relationships, 3 years for capitalized software and 2 years for trade names.

Total amortization expense for intangible assets for the years ended December 31, 2020, 2019 and 2018 was \$1.7 billion, \$1.7 billion and \$1.8 billion, respectively. As of December 31, 2020, the gross carrying amount of goodwill, customer relationships, indefinite-life and other intangible assets was \$41.5 billion.

We estimate that total amortization expense for intangible assets for the years ending December 31, 2021 through 2025 will be as follows:

	(Dollars in millions)
2021	\$ 1,282
2022	1,065
2023	920
2024	853
2025	761

(3) Revenue Recognition

Reconciliation of Total Revenue to Revenue from Contracts with Customers

The following tables provide disaggregation of revenue from contracts with customers based on reporting segments and service offerings for the years ended December 31, 2020, 2019 and 2018. It also shows the amount of revenue that is not subject to ASC 606, but is instead governed by other accounting standards.

	Year Ended December 31, 2020		
	Total Revenue	Adjustments for Non-ASC 606 Revenue ⁹	Total Revenue from Contracts with Customers
	(Dollars in millions)		
International and Global Accounts			
IP and Data Services ¹	\$ 1,556	-	1,556
Transport and Infrastructure ²	1,265	(373)	892
Voice and Collaboration ³	368	-	368
IT and Managed Services ⁴	216	-	216
Total International and Global Accounts Segment Revenue	3,405	(373)	3,032
Enterprise			
IP and Data Services ¹	2,474	(2)	2,472
Transport and Infrastructure ²	1,608	(135)	1,473
Voice and Collaboration ³	1,424	(1)	1,423
IT and Managed Services ⁴	216	-	216
Total Enterprise Segment Revenue	5,722	(138)	5,584
Small and Medium Business			
IP and Data Services ¹	1,062	(3)	1,059
Transport and Infrastructure ²	352	(34)	318
Voice and Collaboration ³	1,098	(3)	1,095
IT and Managed Services ⁴	45	-	45
Total Small and Medium Business Segment Revenue	2,557	(40)	2,517
Wholesale			
IP and Data Services ¹	\$ 1,280	-	1,280
Transport and Infrastructure ²	1,764	(517)	1,247
Voice and Collaboration ³	731	-	731
IT and Managed Services ⁴	2	-	2
Total Wholesale Business Segment Revenue	3,777	(517)	3,260
Consumer			
Broadband ⁵	2,909	(217)	2,692
Voice ⁶	1,622	-	1,622
Regulatory ⁷	615	(615)	-
Other ⁸	105	(15)	90
Total Consumer Segment Revenue	5,251	(847)	4,404
Total revenue	\$ 20,712	(1,915)	18,797
Timing of revenue			
Goods and services transferred at a point in time			\$ 250
Services performed over time			18,547
Total revenue from contracts with customers			\$ 18,797

Year Ended December 31, 2019

	Total Revenue	Adjustments for Non-ASC 606 Revenue ⁹	Total Revenue from Contracts with Customers
(Dollars in millions)			
International and Global Accounts			
IP and Data Services ¹	\$ 1,627	-	1,627
Transport and Infrastructure ²	1,268	(365)	903
Voice and Collaboration ³	354	-	354
IT and Managed Services ⁴	227	-	227
Total International and Global Accounts Segment Revenue	3,476	(365)	3,111
Enterprise			
IP and Data Services ¹	2,538	-	2,538
Transport and Infrastructure ²	1,479	(134)	1,345
Voice and Collaboration ³	1,423	-	1,423
IT and Managed Services ⁴	256	-	256
Total Enterprise Segment Revenue	5,696	(134)	5,562
Small and Medium Business			
IP and Data Services ¹	1,091	-	1,091
Transport and Infrastructure ²	365	(36)	329
Voice and Collaboration ³	1,226	-	1,226
IT and Managed Services ⁴	45	-	45
Total Small and Medium Business Segment Revenue	2,727	(36)	2,691
Wholesale			
IP and Data Services ¹	\$ 1,365	-	1,365
Transport and Infrastructure ²	1,907	(545)	1,362
Voice and Collaboration ³	763	-	763
IT and Managed Services ⁴	7	-	7
Total Wholesale Business Segment Revenue	4,042	(545)	3,497
Consumer			
Broadband ⁵	2,876	(215)	2,661
Voice ⁶	1,837	-	1,837
Regulatory ⁷	632	(632)	-
Other ⁸	172	(26)	146
Total Consumer Segment Revenue	5,517	(873)	4,644
Total revenue	\$ 21,458	(1,953)	19,505
Timing of revenue			
Goods and services transferred at a point in time			\$ 221
Services performed over time			19,284
Total revenue from contracts with customers			\$ 19,505

Year Ended December 31, 2018

	Total Revenue	Adjustments for Non-ASC 606 Revenue ⁹	Total Revenue from Contracts with Customers
(Dollars in millions)			
International and Global Accounts			
IP and Data Services ¹	\$ 1,682	-	1,682
Transport and Infrastructure ²	1,230	(83)	1,147
Voice and Collaboration ³	365	-	365
IT and Managed Services ⁴	266	-	266
Total International and Global Accounts Segment Revenue	3,543	(83)	3,460
Enterprise			
IP and Data Services ¹	2,485	-	2,485
Transport and Infrastructure ²	1,484	(43)	1,441
Voice and Collaboration ³	1,495	-	1,495
IT and Managed Services ⁴	301	-	301
Total Enterprise Segment Revenue	5,765	(43)	5,722
Small and Medium Business			
IP and Data Services ¹	1,078	-	1,078
Transport and Infrastructure ²	424	(40)	384
Voice and Collaboration ³	1,366	-	1,366
IT and Managed Services ⁴	50	-	50
Total Small and Medium Business Segment Revenue	2,918	(40)	2,878
Wholesale			
IP and Data Services ¹	\$ 1,369	-	1,369
Transport and Infrastructure ²	2,118	(397)	1,721
Voice and Collaboration ³	865	-	865
IT and Managed Services ⁴	8	-	8
Total Wholesale Business Segment Revenue	4,360	(397)	3,963
Consumer			
Broadband ⁵	2,824	(213)	2,611
Voice ⁶	2,127	-	2,127
Regulatory ⁷	727	(727)	-
Other ⁸	316	(35)	281
Total Consumer Segment Revenue	5,994	(975)	5,019
Total revenue	\$ 22,580	(1,538)	21,042
Timing of revenue			
Goods and services transferred at a point in time			\$ 230
Services performed over time			20,812
Total revenue from contracts with customers			\$ 21,042

1. Includes primarily VPN data network, Ethernet, IP, content delivery and other ancillary services.

2. Includes wavelengths, private line, dark fiber services, colocation and data center services, including cloud, hosting and application management solutions, professional services and other ancillary services.

3. Includes local, long-distance voice, including wholesale voice, and other ancillary services, as well as VoIP services.

4. Includes information technology services and managed services, which may be purchased in conjunction with our other network services.

5. Includes high speed, fiber-based and lower speed DSL broadband services.

6. Includes local and long-distance services.
7. Includes (i) CAF and other support payments designed to reimburse us for various costs related to certain telecommunications services and (ii) other operating revenue from the leasing and subleasing of space.
8. Includes retail video services (including our linear TV services), professional services and other ancillary services.
9. Includes regulatory revenue, revenue from leasing arrangements and failed-sale-leaseback income in 2018, which are not within the scope of ASC 606.

Customer Receivables and Contract Balances

The following table provides balances of customer receivables, contract assets and contract liabilities as of December 31, 2020 and December 31, 2019:

	December 31, 2020	December 31, 2019
	(Dollars in millions)	
Customer receivables ¹	\$ 1,889	2,194
Contract assets	108	130
Contract liabilities	950	1,028

1. Reflects gross customer receivables of \$2.1 billion and \$2.3 billion, net of allowance for credit losses of \$174 million and \$94 million, at December 31, 2020 and December 31, 2019, respectively.

Contract liabilities are consideration we have received from our customers or billed in advance of providing goods or services promised in the future. We defer recognizing this consideration as revenue until we have satisfied the related performance obligation to the customer. Contract liabilities include recurring services billed one month in advance and installation and maintenance charges that are deferred and recognized over the actual or expected contract term, which typically ranges from one to five years depending on the service. Contract liabilities are included within deferred revenue in our consolidated balance sheet. During the years ended December 31, 2020 and December 31, 2019, we recognized \$672 million and \$630 million, respectively, of revenue that was included in contract liabilities as of January 1, 2020 and January 1, 2019, respectively.

Performance Obligations

As of December 31, 2020, our estimated revenue expected to be recognized in the future related to performance obligations associated with existing customer contracts that are partially or wholly unsatisfied is approximately \$5.5 billion. We expect to recognize approximately 91% of this revenue through 2023, with the balance recognized thereafter.

These amounts exclude (i) the value of unsatisfied performance obligations for contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed (for example, uncommitted usage or non-recurring charges associated with professional or technical services to be completed), and (ii) contracts that are classified as leasing arrangements that are not subject to ASC 606.

Contract Costs

The following table provides changes in our contract acquisition costs and fulfillment costs:

	December 31, 2020	
	Acquisition Costs	Fulfillment Costs
	(Dollars in millions)	
Beginning of period balance	\$ 326	221
Costs incurred	181	141
Amortization	(218)	(146)
End of period balance	\$ 289	216

	December 31, 2019	
	Acquisition Costs	Fulfillment Costs
	(Dollars in millions)	
Beginning of period balance	\$ 322	187
Costs incurred	208	158
Amortization	(204)	(124)
End of period balance	\$ 326	221

Acquisition costs include commission fees paid to employees as a result of obtaining contracts. Fulfillment costs include third party and internal costs associated with the provision, installation and activation of telecommunications services to customers, including labor and materials consumed for these activities.

Deferred acquisition and fulfillment costs are amortized based on the transfer of services on a straight-line basis over the average customer life of approximately 30 months for consumer and business customers. Amortized fulfillment costs are included in cost of services and products and amortized acquisition costs are included in selling, general and administrative expenses in our consolidated statements of operations. The amount of these deferred costs that are anticipated to be amortized in the next 12 months are included in other current assets on our consolidated balance sheets. The amount of deferred costs expected to be amortized beyond the next twelve months is included in other non-current assets on our consolidated balance sheets. Deferred acquisition and fulfillment costs are assessed for impairment on an annual basis.

(4) Leases

Our financial position for reporting periods beginning on or after January 1, 2019 is presented under the new accounting guidance, while prior period amounts are not adjusted and continue to be reported in accordance with previous guidance, as discussed in Note 1- Background and Summary of Significant Accounting Policies.

We primarily lease to or from third parties various office facilities and colocation facilities, equipment and dark fiber. Leases with an initial term of 12 months or less are not recorded on the balance sheet; we recognize lease expense for these leases on a straight-line basis over the lease term.

We determine if an arrangement is a lease at inception and whether that lease meets the classification criteria of a finance or operating lease. Lease-related assets, or right-of-use assets, are recognized at the lease commencement date at amounts equal to the respective lease liabilities. Lease-related liabilities are recognized at the present value of the remaining contractual fixed lease payments, discounted using our incremental borrowing rates. As part of the present value calculation for the lease liabilities, we use an incremental borrowing rate as the rates implicit in the leases are not readily determinable. The incremental borrowing rates used for lease accounting are based on our unsecured rates, adjusted to approximate the rates at which we could borrow on a collateralized basis over a term similar to the recognized lease term. We apply the incremental borrowing rates to lease components using a portfolio approach based upon the length of the lease term and the reporting entity in which the lease resides. Operating lease expense is recognized on a straight-line basis over the lease term, while variable lease payments are expensed as incurred.

Some of our lease arrangements contain lease components, non-lease components (including common-area maintenance costs) and executory costs (including real estate taxes and insurance costs). We generally account for each component separately based on the estimated standalone price of each component. For colocation leases, we account for the lease and non-lease components as a single lease component.

Many of our lease agreements contain renewal options; however, we do not recognize right-of-use assets or lease liabilities for renewal periods unless it is determined that we are reasonably certain of renewing the lease at inception or when a triggering event occurs. Certain leases also include options to purchase the leased property. The depreciable life of assets and leasehold improvements are limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain to be exercised. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

Lease expense consisted of the following:

	Years Ended December 31,	
	2020	2019
	(Dollars in millions)	
Operating and short-term lease cost	\$ 729	677
Finance lease cost:		
Amortization of right-of-use assets	36	44
Interest on lease liability	12	12
Total finance lease cost	48	56
Total lease cost	\$ 777	733

Lumen Technologies leases various equipment, office facilities, retail outlets and other network sites. These leases, with few exceptions, provide for renewal options and escalations that are either fixed or based on the consumer price index. Any rent abatements, along with rent escalations, are included in the computation of

rent expense calculated on a straight-line basis over the lease term. The lease term for most leases includes the initial non-cancelable term plus any term under renewal options that are reasonably assured. For the years ended December 31, 2020, 2019 and 2018, our gross rental expense was \$777 million, \$733 million and \$875 million, respectively. We also received sublease rental income for the years ended December 31, 2020, 2019 and 2018 of \$25 million, \$24 million and \$21 million, respectively.

Supplemental consolidated balance sheet information and other information related to leases:

Leases (Dollars in millions)	Classification on the Balance Sheet	As of December 31,		
		2020	2019	
Assets				
Operating lease assets	Other, net	\$ 1,699	1,686	
Finance lease assets	Property, plant and equipment, net of accumulated depreciation	329	252	
Total leased assets		\$ 2,028	1,938	
Liabilities				
Current				
Operating	Current operating lease liabilities	\$ 379	416	
Finance	Current maturities of long-term debt	26	35	
Noncurrent				
Operating	Other	1,405	1,342	
Finance	Long-term debt	267	185	
Total lease liabilities		\$ 2,077	1,978	
Weighted-average remaining lease term (years)				
Operating leases		6.7	7.2	
Finance leases		12.1	11.3	
Weighted-average discount rate				
Operating leases		6.01%	6.46%	
Finance leases		4.94%	5.47%	

Supplemental consolidated cash flow statement information related to leases:

	Years Ended December 31,	
	2020	2019
(Dollars in millions)		
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows for operating leases	\$ 566	665
Operating cash flows for finance leases	14	14
Financing cash flows for finance leases	40	32
Supplemental lease cash flow disclosures		
Operating lease right-of-use assets obtained in exchange for new operating lease liabilities	\$ 375	358
Right-of-use assets obtained in exchange for new finance lease liabilities	124	14

As of December 31, 2020, maturities of lease liabilities were as follows:

	Operating Leases	Finance Leases
	(Dollars in millions)	
2021	\$ 469	40
2022	411	32
2023	331	29
2024	232	28
2025	177	29
Thereafter	592	240
Total lease payments	2,212	398
Less: interest	(428)	(105)
Total	1,784	293
Less: current portion	(379)	(26)
Long-term portion	\$ 1,405	267

As of December 31, 2020, we had no material operating or finance leases that had not yet commenced.

Operating Lease Income

Lumen Technologies leases various dark fiber, office facilities, colocation facilities, switching facilities, other network sites and service equipment to third parties under operating leases. Lease and sublease income are included in operating revenue in the consolidated statements of operations.

For the years ended December 31, 2020, 2019 and 2018, our gross rental income was \$1.3 billion, \$1.4 billion and \$882 million, respectively, which represents 6%, 7% and 4% respectively, of our operating revenue for the years ended December 31, 2020, 2019 and 2018.

(5) Credit Losses on Financial Instruments

In accordance with ASC 326, "*Financial Instruments - Credit Losses*", we aggregate financial assets with similar risk characteristics to align our expected credit losses with the credit quality or deterioration over the life of such assets. We monitor certain risk characteristics within our aggregated financial assets and revise their composition accordingly, to the extent internal and external risk factors change each reporting period. Financial assets that do not share risk characteristics with other financial assets are evaluated separately. Our financial assets measured at amortized cost primarily consist of accounts receivable.

In developing our accounts receivable portfolio, we pooled certain assets with similar credit risk characteristics based on the nature of our customers, their industry, policies used to grant credit terms and their historical and expected credit loss patterns. We grouped assets from our International and Global Accounts, Enterprise, Small and Medium Business and Wholesale segments into the Business portfolio in the below table.

Prior to the adoption of the new credit loss standard, the allowance for doubtful accounts receivable reflected our best estimate of probable losses inherent in our receivable portfolio determined based on historical experience, specific allowances for known troubled accounts, and other currently available evidence.

We implemented the new standard effective January 1, 2020, using a loss rate method to estimate our allowance for credit losses. Our determination of the current expected credit loss rate begins with our use of historical loss experience as a percentage of accounts receivable. We measure our historical loss period based on the average days to recognize accounts receivable as credit losses. When asset specific characteristics and current conditions change from those in the historical period, due to changes in our credit and collections strategy, certain classes of aged balances, or credit loss and recovery policies, we perform a qualitative and quantitative assessment to adjust our historical loss rate. We use regression analysis to develop an expected loss rate using historical experience and economic data over a forecast period. We measure our forecast period based on the average days to collect payment on billed accounts receivable. To determine our current allowance for credit losses, we combine the historical and expected credit loss rates and apply them to our period end accounts receivable.

If there is a deterioration of a customer's financial condition or if future default rates in general differ from currently anticipated default rates (including changes caused by COVID-19), we may need to adjust the allowance for credit losses, which would affect earnings in the period that adjustments are made.

The assessment of the correlation between historical observed default rates, current conditions and forecasted economic conditions requires judgment. Alternative interpretations of these factors could have resulted in different conclusions regarding the allowance for credit losses. The amount of credit loss is sensitive

to changes in circumstances and forecasted economic conditions. Our historical credit loss experience, current conditions and forecast of economic conditions may also not be representative of the customers' actual default experience in the future.

The following table presents the activity of our allowance for credit losses by accounts receivable portfolio:

	Business	Consumer	Total
	(Dollars in millions)		
Beginning balance at January 1, 2020 ¹	\$ 58	37	95
Provision for expected losses	115	74	189
Write-offs charged against the allowance	(74)	(59)	(133)
Recoveries collected	24	18	42
Foreign currency exchange rate changes adjustment	(2)	-	(2)
Ending balance at December 31, 2020	\$ 121	70	191

1. The beginning balance includes the cumulative effect of the adoption of the new credit loss standard.

For the year ended December 31, 2020, we increased our allowance for credit losses for our business and consumer accounts receivable portfolios due to an increase in historical and expected loss experience in certain classes of aged balances, which we believe were predominantly attributable to the COVID-19 induced economic slowdown. We believe that decreased write-offs (net of recoveries) driven by COVID-19 regulations and programs have further contributed to an increase in our allowance for credit losses.

(6) Long-Term Debt and Credit Facilities

The following chart reflects the consolidated long-term debt of Lumen Technologies and its subsidiaries as of the dates indicated below, including unamortized discounts and premiums and unamortized debt issuance costs, but excluding intercompany debt:

	Interest Rates ¹	Maturities ¹	As of December 31,	
			2020	2019
			(Dollars in millions)	
Senior Secured Debt: ²				
Lumen Technologies				
Revolving Credit Facility ³	LIBOR + 2.00%	2025	\$ 150	250
Term Loan A ^{3,4}	LIBOR + 2.00%	2025	1,108	1,536
Term Loan A-1 ^{3,4}	LIBOR + 2.00%	2025	316	333
Term Loan B ^{3,5}	LIBOR + 2.25%	2027	4,950	5,880
Senior notes	4.000%	2027	1,250	-
Subsidiaries:				
Level 3 Financing, Inc.				
Tranche B 2027 Term Loan ⁶	LIBOR + 1.75%	2027	3,111	3,111
Senior notes	3.400% - 3.875%	2027 - 2029	1,500	1,500
Embarq Corporation subsidiaries				
First mortgage bonds	7.125% - 8.375%	2023 - 2025	138	138
Senior Notes and Other Debt:				
Lumen Technologies				
Senior notes	4.500% - 7.650%	2021 - 2042	8,645	8,696
Subsidiaries:				
Level 3 Financing, Inc.				
Senior notes	3.625% - 5.375%	2024 - 2029	5,515	5,515
Qwest Corporation				
Senior notes	6.500% - 7.750%	2021 - 2057	3,170	5,956
Term loan ⁷	LIBOR + 2.00%	2027	215	100

	Interest Rates ¹	Maturities ¹	As of December 31,	
			2020	2019
			(Dollars in millions)	
<i>Qwest Capital Funding, Inc.</i>				
Senior notes	6.875% - 7.750%	2021 - 2031	\$ 352	352
<i>Embarq Corporation and subsidiary</i>				
Senior note	7.995%	2036	1,437	1,450
Finance lease and other obligations	Various	Various	295	222
Unamortized discounts, net			(78)	(52)
Unamortized debt issuance costs			(237)	(293)
Total long-term debt			31,837	34,694
Less current maturities			(2,427)	(2,300)
Long-term debt, excluding current maturities			\$ 29,410	32,394

1. As of December 31, 2020.

2. See the remainder of this Note for a description of certain parent or subsidiary guarantees and liens securing this debt.

3. Lumen's credit agreement was amended as noted below, extending the maturity date of its (a) Term Loan A, Term Loan A-1 and Revolving Credit Facilities from 2022 to 2025 and (b) Term Loan B from 2025 to 2027.

4. Term Loans A and A-1 had interest rates of 2.147% and 4.459% as of December 31, 2020 and December 31, 2019, respectively.

5. Term Loan B had interest rates of 2.397% and 4.549% as of December 31, 2020 and December 31, 2019, respectively.

6. The Level 3 Tranche B 2027 Term Loan had interest rates of 1.897% and 3.549% as of December 31, 2020 and December 31, 2019, respectively.

7. Qwest Corporation's Term Loan had interest rates of 2.150% and 3.800% as of December 31, 2020 and December 31, 2019, respectively.

Long-Term Debt Maturities

Set forth below is the aggregate principal amount of our long-term debt as of December 31, 2020 (excluding unamortized discounts, net and unamortized debt issuance costs) maturing during the following years:

	(Dollars in millions)
2021	\$ 2,427
2022	1,544
2023	966
2024	2,043
2025	3,057
2026 and thereafter	22,115
Total long-term debt	\$ 32,152

Debt of Lumen Technologies and its Subsidiaries

At December 31, 2020, most of our outstanding consolidated debt had been incurred by Lumen Technologies or one of the following four other primary borrowers or "borrowing groups," each of which has borrowed funds either on a standalone basis or as part of a separate restricted group with certain of its subsidiaries:

- Qwest Corporation;
- Qwest Capital Funding, Inc., including its parent guarantor, Qwest Communications International Inc.;
- Embarq Corporation; and
- Level 3 Financing, Inc., including its parent guarantor Level 3 Parent, LLC, and one or more subsidiary guarantors.

Each of these borrowers or borrowing groups has entered into one or more credit agreements with certain financial institutions or other institutional lenders, or issued senior notes. Certain of these debt instruments are described further below.

Amended and Restated Credit Agreement

On January 31, 2020, we amended and restated our credit agreement dated June 19, 2017 (as so amended and restated, the “Amended Credit Agreement”). At December 31, 2020, the Amended Credit Agreement consisted of the following facilities:

- a \$2.2 billion senior secured revolving credit facility (“the Revolving Credit Facility”);
- a \$1.108 billion senior secured Term Loan A credit facility;
- a \$316 million senior secured Term Loan A-1 credit facility with CoBank, ACB; and
- a \$4.95 billion senior secured Term Loan “B” credit facility (the term loan facilities and the Revolving Credit Facility being referred to collectively as the “Amended Secured Credit Facilities”).

Loans under the Term Loan A and A-1 facilities and the Revolving Credit Facility bear interest at a rate equal to, at our option, the Eurodollar rate or the alternative base rate (each as defined in the Amended Credit Agreement) plus an applicable margin between 1.50% to 2.25% per annum for Eurodollar loans and 0.50% to 1.25% per annum for alternative base rate loans, depending on our then current total leverage ratio. Loans under the Term Loan B facility bear interest at the Eurodollar rate plus 2.25% per annum or the alternative base rate plus 1.25% per annum. Loans under each of the term loan facilities require certain specified quarterly amortization payments and certain specified mandatory prepayments in connection with certain asset sales and debt issuances and out of excess cash flow, among other things, subject in each case to certain significant exceptions.

Borrowings under the Revolving Credit Facility and the Term Loan A and A-1 facilities mature on January 31, 2025. Borrowings under the Term Loan B facility mature on March 15, 2027.

All of Lumen’s obligations under the Amended Secured Credit Facilities are guaranteed by certain of its subsidiaries. The guarantees by certain of those guarantors are secured by a first priority security interest in substantially all assets (including certain subsidiaries stock) directly owned by them, subject to certain exceptions and limitations.

A portion of the Revolving Credit Facility in an amount not to exceed \$250 million is available for swingline loans, and a portion in an amount not to exceed \$800 million is available for the issuance of letters of credit.

Lumen Technologies is permitted under the Amended Credit Agreement to request certain incremental borrowings subject to the satisfaction of various conditions and to certain other limitations. Any incremental borrowings would be subject to the same terms and conditions under the Amended Credit Agreement.

The above described January 2020 amendments and related refinancing transactions resulted in an aggregate net loss of \$67 million from modification and extinguishment of the debt.

Term Loans and Certain Other Debt of Subsidiaries

Qwest Corporation

On October 23, 2020, Qwest Corporation borrowed \$215 million under a variable-rate term loan with CoBank ACB and used the resulting net proceeds to pay off its previous \$100 million term loan with CoBank ACB. Additionally, on October 26, 2020, Qwest Corporation used the remaining net proceeds to partially facilitate the redemption of the remaining \$160 million aggregate principal amount of its outstanding 6.625% Notes due 2055. The outstanding unpaid principal amount of this new term loan plus any accrued and unpaid interest is due on October 23, 2027. Interest is paid at least quarterly based upon either the London Interbank Offered Rate (“LIBOR”) or the base rate (as defined in the credit agreement) plus an applicable margin between 1.50% to 2.25% per annum for LIBOR loans and 0.50% to 1.25% per annum for base rate loans depending on Qwest Corporation’s then current senior unsecured long-term debt rating. At December 31, 2020 and 2019, the outstanding principal balance owed under the new term loan and its predecessor was \$215 million and \$100 million, respectively.

Level 3 Financing, Inc.

At December 31, 2020, Level 3 Financing, Inc. owed \$3.111 billion, under a senior secured Tranche B 2027 Term Loan, which matures on March 1, 2027. The Tranche B 2027 Term Loan carries an interest rate, in the case of base rate borrowings, equal to (i) the greater of the Prime Rate, the Federal Funds Effective Rate plus 50 basis points, or LIBOR plus 100 basis points (with all such terms and calculations as defined or further specified in the credit agreement) plus (ii) 0.75% per annum. Any Eurodollar borrowings under the Tranche B 2027 Term Loan bear interest at LIBOR plus 1.75% per annum.

The Tranche B 2027 Term Loan requires certain specified mandatory prepayments in connection with certain asset sales and other transactions, subject to certain significant exceptions. The obligations of Level 3 Financing, Inc. under the Tranche B 2027 Term Loan are, subject to certain exceptions, secured by certain assets of Level 3 Parent, LLC and certain of its material domestic telecommunication subsidiaries. Also, Level 3 Parent, LLC and certain of its subsidiaries have guaranteed the obligations of Level 3 Financing, Inc. under the Tranche B 2027 Term Loan.

The net proceeds from the Tranche B 2027 Term Loan, together with the net proceeds from a concurrent offering of senior secured notes of Level 3 Financing, Inc., were used to pre-pay in full Level 3 Financing's predecessor Tranche B 2024 Term Loan.

Embarq Subsidiaries

At December 31, 2020 and 2019, one of our Embarq subsidiaries had outstanding first mortgage bonds. These first mortgage bonds are secured by substantially all of the property, plant and equipment of the issuing subsidiary.

Revolving Letters of Credit

We use various financial instruments in the normal course of business. These instruments include letters of credit, which are conditional commitments issued on our behalf in accordance with specified terms and conditions. Lumen Technologies maintains an uncommitted \$225 million revolving letter of credit facility separate from the letter of credit facility included in the Amended Credit Facility noted above. Letters of credit issued under this facility are backed by credit enhancements in the form of secured guarantees issued by certain of our subsidiaries. As of December 31, 2020 and 2019, our outstanding letters of credit under this credit facility totaled \$97 million and \$82 million, respectively.

As of December 31, 2020, Level 3 Parent, LLC had outstanding letters of credit or other similar obligations of approximately \$18 million, of which \$11 million was collateralized by cash that is reflected on the consolidated balance sheets as restricted cash. As of December 31, 2019, Level 3 Parent, LLC had outstanding letters of credit or other similar obligations of approximately \$23 million of which \$18 million was collateralized by cash that is reflected on the consolidated balance sheets as restricted cash.

Senior Notes

Lumen's consolidated indebtedness at December 31, 2020 included (i) senior secured notes issued by Lumen Technologies and Level 3 Financing, Inc. and (ii) senior unsecured notes issued by Lumen Technologies, Level 3 Financing, Inc., Qwest Corporation, Qwest Capital Funding, Inc. and Embarq Corporation. All of these notes carry fixed interest rates and all principal is due on the notes' respective maturity dates, which rates and maturity dates are summarized in the table above. The Lumen Technologies secured senior notes are guaranteed by the same domestic subsidiaries that guarantee the Amended Credit Agreement. The senior notes issued by Level 3 Financing, Inc. are guaranteed by its parent, Level 3 Parent, LLC and one or more of its affiliates. The senior notes issued by Qwest Capital Funding, Inc. are guaranteed by its parent, Qwest Communications International Inc. Except for a limited number of senior notes issued by Qwest Corporation, the issuer generally can redeem the notes, at its option, in whole or in part, (i) pursuant to a fixed schedule of pre-established redemption prices, (ii) pursuant to a "make whole" redemption price or (iii) under certain other specified limited conditions. Under certain circumstances in connection with a "change of control" of Lumen Technologies, it will be required to make an offer to repurchase each series of these senior notes (other than two of its older series of notes) at a price of 101% of the principal amount redeemed, plus accrued and unpaid interest. Also, under certain circumstances in connection with a "change of control" of Level 3 Parent, LLC or Level 3 Financing, Inc., Level 3 Financing will be required to make an offer to repurchase each series of its outstanding senior notes at a price of 101% of the principal amount redeemed, plus accrued and unpaid interest.

New Issuances

On November 27, 2020, Lumen Technologies issued \$1.0 billion of 4.500% Senior Notes due 2029. The proceeds from this offering were used to redeem outstanding senior notes of Qwest Corporation and reduce borrowings under the Revolving Credit Facility.

On August 12, 2020, Level 3 Financing, Inc., issued \$840 million aggregate principal amount of its 3.625% Senior Notes due 2029 (the "2029 Notes"). Level 3 Financing, Inc. used the net proceeds from this offering to redeem certain of its outstanding senior note indebtedness. The 2029 Notes are guaranteed by Level 3 Parent, LLC and Level 3 Communications, LLC.

On June 15, 2020, Level 3 Financing, Inc., issued \$1.2 billion aggregate principal amount of its 4.250% Senior Notes due 2028 (the "2028 Notes"). Level 3 Financing, Inc. used the net proceeds from this offering to redeem certain of its outstanding senior note indebtedness. The 2028 Notes are guaranteed by Level 3 Parent, LLC and Level 3 Communications, LLC.

On January 24, 2020, Lumen Technologies issued \$1.25 billion aggregate principal amount of its 4.000% Senior Secured Notes due 2027 (the “2027 Notes”). Lumen Technologies used the net proceeds from this offering to repay a portion of the outstanding indebtedness under its Term Loan B facility. The 2027 Notes are guaranteed by each of Lumen’s domestic subsidiaries that guarantees Lumen’s Amended Credit Agreement, subject to various exceptions and limitations. While the 2027 Notes are not secured by any of the assets of Lumen Technologies, certain of the note guarantees are secured by a first priority security interest in substantially all of the assets of such guarantors (including the stock of certain of their respective subsidiaries), which assets also secure obligations under the Amended Credit Agreement on a pari passu basis.

On December 16, 2019, Lumen Technologies issued \$1.25 billion of 5.125% Senior Notes due 2026. The proceeds from the offering were primarily used to fully redeem on January 15, 2020 the \$1.1 billion of senior notes of Qwest Corporation.

On November 29, 2019, Level 3 Financing, Inc. issued \$750 million of 3.400% Senior Secured Notes due 2027 and \$750 million of 3.875% Senior Secured Notes due 2029. The proceeds from the offering together with cash on hand were primarily used to redeem a portion of the \$4.611 billion Tranche B 2024 Term Loan that was repaid on November 29, 2019. On November 29, 2019, Level 3 Financing, Inc. entered into an amendment to its credit agreement to incur \$3.111 billion in aggregate borrowings under the agreement through the Tranche B 2027 Term Loan discussed above.

On September 25, 2019, Level 3 Financing, Inc. issued \$1.0 billion of 4.625% Senior Notes due 2027. The proceeds from the offering together with cash on hand were used to redeem \$600 million outstanding principal amount of Level 3 Parent, LLC’s senior notes and \$400 million Level 3 Financing, Inc.’s senior notes.

Repayments

2020

During 2020, Lumen Technologies and its affiliates repurchased approximately \$6.2 billion of their respective debt securities, which primarily included \$1.3 billion of Lumen Technologies credit agreement debt, \$2.8 billion of Qwest Corporation senior notes, \$78 million of Lumen Technologies senior notes and \$2.0 billion of Level 3 Financing, Inc. senior notes, which resulted in a loss of \$109 million, including the \$67 million loss resulting from the modification of the Amended Credit Agreement discussed above.

Additionally, during 2020, Lumen Technologies (i) paid at maturity \$973 million aggregate principal amount of its outstanding senior notes and (ii) made \$125 million of scheduled amortization payments under its term loans.

2019

During 2019, Lumen Technologies and its affiliates repurchased approximately \$3.6 billion of their respective debt securities, which primarily included approximately \$2.3 billion of Level 3 Financing, Inc. senior notes and term loan, \$600 million of Level 3 Parent, LLC senior notes, \$345 million of Qwest Capital Funding senior notes and \$340 million of Lumen Technologies senior notes, which resulted in an aggregate net gain of \$72 million. Additionally during 2019, Lumen paid \$398 million of its maturing senior notes and \$164 million of amortization payments under its term loans.

Interest Expense

Interest expense includes interest on total long-term debt. The following table presents the amount of gross interest expense, net of capitalized interest:

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions)		
Interest expense:			
Gross interest expense	\$ 1,743	2,093	2,230
Capitalized interest	(75)	(72)	(53)
Total interest expense	\$ 1,668	2,021	2,177

Covenants

Lumen Technologies

With respect to the Term Loan A and A-1 facilities and the Revolving Credit Facility, the Amended Credit Agreement requires us to maintain (i) a maximum total leverage ratio of not more than 4.75 to 1.00 and (ii) a minimum consolidated interest coverage ratio of at least 2.00 to 1.00, with such ratios being determined and calculated in the manner described in the Amended Credit Agreement.

The Amended Secured Credit Facilities contain various representations and warranties and extensive affirmative and negative covenants. Such covenants include, among other things and subject to certain significant exceptions, restrictions on our ability to declare or pay dividends, repurchase stock, repay certain other indebtedness, create liens, incur additional indebtedness, make investments, engage in transactions with its affiliates, dispose of assets and merge or consolidate with any other person.

The senior notes of Lumen Technologies were issued under four separate indentures. These indentures restrict our ability to (i) incur, issue or create liens upon the property of Lumen Technologies and (ii) consolidate with or merge into, or transfer or lease all or substantially all of our assets to any other party. The indentures do not contain any provisions that restrict the issuance of new securities in the event of a material adverse change to us. However, as indicated above under “Senior Notes”, Lumen Technologies will be required to offer to purchase certain of its long-term debt securities issued under its indentures under certain circumstances in connection with a “change of control” of Lumen Technologies.

Level 3 Companies

The term loan, senior secured notes and senior unsecured notes of Level 3 Financing, Inc. contain various representations and extensive affirmative and negative covenants. Such covenants include, among other things and subject to certain significant exceptions, restrictions on their ability to declare or pay dividends, repay certain other indebtedness, create liens, incur additional indebtedness, make investments, engage in transactions with their affiliates, dispose of assets and merge or consolidate with any other person. Also, as indicated above under “Senior Notes”, Level 3 Financing, Inc. will be required to offer to repurchase or repay certain of its long-term debt under certain circumstances in connection with a “change of control” of Level 3 Financing or Level 3 Parent, LLC.

Qwest Companies

Under its term loan, Qwest Corporation must maintain a debt to EBITDA (earnings before interest, taxes, depreciation and amortization) ratio of not more than 2.85 to 1.00, as determined and calculated in the manner described in the applicable term loan documentation. The term loan also contains a negative pledge covenant, which generally requires Qwest Corporation to secure equally and ratably any advances under the term loan if it pledges assets or permit liens on its property for the benefit of other debtholders.

The senior notes of Qwest Corporation were issued under indentures dated April 15, 1990 and October 15, 1999. These indentures contain restrictions on the incurrence of liens and the consummation of certain transactions substantially similar to the above-described covenants in Lumen’s indentures (but contain no mandatory repurchase provisions). The senior notes of Qwest Capital Funding, Inc. were issued under an indenture dated June 29, 1998 containing terms substantially similar to those set forth in Qwest Corporation’s indentures.

Embarq

Embarq’s senior note was issued pursuant to an indenture dated as of May 17, 2006. While Embarq is generally prohibited from creating liens on its property unless its senior notes are secured equally and ratably, Embarq can create liens on its property without equally and ratably securing its senior notes so long as the sum of all indebtedness so secured does not exceed 15% of Embarq’s consolidated net tangible assets. The indenture also contains restrictions on the consummation of certain transactions substantially similar to Lumen’s above-described covenants (but without mandatory repurchase provision), as well as certain customary covenants to maintain properties and pay all taxes and lawful claims.

Impact of Covenants

The debt covenants applicable to Lumen Technologies and its subsidiaries could materially adversely affect their ability to operate or expand their respective businesses, to pursue strategic transactions, or to otherwise pursue their plans and strategies. The covenants of the Level 3 companies may significantly restrict the ability of Lumen Technologies to receive cash from the Level 3 companies, to distribute cash from the Level 3 companies to other of Lumen’s affiliated entities, or to enter into other transactions among Lumen’s wholly-owned entities.

Certain of the debt instruments of Lumen Technologies and its subsidiaries contain cross payment default or cross acceleration provisions. When present, these provisions could have a wider impact on liquidity than might otherwise arise from a default or acceleration of a single debt instrument.

The ability of Lumen Technologies and its subsidiaries to comply with the financial covenants in their respective debt instruments could be adversely impacted by a wide variety of events, including unforeseen contingencies, many of which are beyond their control.

Compliance

At December 31, 2020, Lumen Technologies believes it and its subsidiaries were in compliance with the provisions and financial covenants contained in their respective material debt agreements in all material respects.

Guarantees

Lumen Technologies does not guarantee the debt of any unaffiliated parties, but, as noted above, as of December 31, 2020 certain of its largest subsidiaries guaranteed (i) its debt and letters of credit outstanding under its Amended Credit Agreement, its senior secured notes and its \$225 million letter of credit facility and (ii) the outstanding term loans or senior notes issued by certain other subsidiaries. As further noted above, several of the subsidiaries guaranteeing these obligations have pledged substantially all of their assets to secure their respective guarantees.

Subsequent Events

On January 13, 2021, Level 3 Financing, Inc. issued \$900 million aggregate principal amount of 3.750% Sustainability-Linked Senior Notes due 2029 (the "Sustainability-Linked Notes"). The net proceeds were used, together with cash on hand, to redeem all \$900 million aggregate principal amount of Level 3 Financing, Inc.'s outstanding 5.375% Senior Notes due 2024 (the "5.375% Notes") on February 12, 2021. Following this redemption there were no bonds outstanding for the 5.375% Notes. The Sustainability-Linked Notes are (i) guaranteed by Level 3 Parent, LLC and (ii) expected to be guaranteed by Level 3 Communications, LLC, upon the receipt of all requisite material governmental authorizations.

On February 16, 2021, Qwest Corporation fully redeemed all \$235 million aggregate principal amount of its outstanding 7.000% Senior Notes due 2056.

(7) Accounts Receivable

The following table presents details of our accounts receivable balances:

	As of December 31,	
	2020	2019
	(Dollars in millions)	
Trade and purchased receivables	\$ 1,717	1,971
Earned and unbilled receivables	345	374
Other	91	20
Total accounts receivable	2,153	2,365
Less: allowance for credit losses	(191)	(106)
Accounts receivable, less allowance	\$ 1,962	2,259

We are exposed to concentrations of credit risk from our customers. We generally do not require collateral to secure our receivable balances. We have agreements with other communications service providers whereby we agree to bill and collect on their behalf for services rendered by those providers to our customers within our local service area. We purchase accounts receivable from other communications service providers primarily on a recourse basis and include these amounts in our accounts receivable balance. We have not experienced any significant loss associated with these purchased receivables.

The following table presents details of our allowance for credit losses accounts:

	Beginning Balance	Additions	Deductions	Ending Balance
	(Dollars in millions)			
2020 ¹	\$ 106	189	(104)	191
2019	142	145	(181)	106
2018	164	153	(175)	142

1. On January 1, 2020, we adopted ASU 2016-13 "Measurement of Credit Losses on Financial Instruments" and recognized a cumulative adjustment to our accumulated deficit as of the date of adoption of \$9 million, net of \$2 million tax effect. This adjustment is included within "Deductions". Please refer to Note 5 - Credit Losses on Financial instruments for more information.

(8) Property, Plant and Equipment

Net property, plant and equipment is composed of the following:

	Depreciable Lives	As of December 31,	
		2020	2019
		(Dollars in millions)	
Land	N/A	\$ 848	867
Fiber, conduit and other outside plant ¹	15-45 years	26,522	24,666
Central office and other network electronics ²	3-10 years	20,692	19,608
Support assets ³	3-30 years	8,261	7,984
Construction in progress ⁴	N/A	1,611	2,300
Gross property, plant and equipment		57,934	55,425
Accumulated depreciation		(31,596)	(29,346)
Net property, plant and equipment		\$ 26,338	26,079

1. Fiber, conduit and other outside plant consists of fiber and metallic cable, conduit, poles and other supporting structures.

2. Central office and other network electronics consists of circuit and packet switches, routers, transmission electronics and electronics providing service to customers.

3. Support assets consist of buildings, cable landing stations, data centers, computers and other administrative and support equipment.

4. Construction in progress includes inventory held for construction and property of the aforementioned categories that has not been placed in service as it is still under construction.

We recorded depreciation expense of \$3.0 billion, \$3.1 billion and \$3.3 billion for the years ended December 31, 2020, 2019 and 2018, respectively.

Asset Retirement Obligations

At December 31, 2020, our asset retirement obligations balance was primarily related to estimated future costs of removing equipment from leased properties and estimated future costs of properly disposing of asbestos and other hazardous materials upon remodeling or demolishing buildings. Asset retirement obligations are included in other long-term liabilities on our consolidated balance sheets.

Our fair value estimates were determined using the discounted cash flow method.

The following table provides asset retirement obligation activity:

	Years Ended December 31,		
	2020	2019	2018
(Dollars in millions)			
Balance at beginning of year	\$ 197	190	115
Accretion expense	10	11	10
Liabilities assumed in acquisition of Level 3 ¹	-	-	58
Liabilities settled	(8)	(14)	(14)
Change in estimate	-	10	21
Balance at end of year	\$ 199	197	190

1. The liabilities assumed during 2018 relate to purchase price adjustments during the year.

The 2019 and 2018 change in estimates are offset against gross property, plant and equipment.

(9) Severance

Periodically, we reduce our workforce and accrue liabilities for the related severance costs. These workforce reductions result primarily from the progression or completion of our post-acquisition integration plans, increased competitive pressures, cost reduction initiatives, process improvements through automation and reduced workload demands due to reduced demand for certain services.

We report severance liabilities within accrued expenses and other liabilities - salaries and benefits in our consolidated balance sheets and report severance expenses in selling, general and administrative expenses in our consolidated statements of operations. As described in Note 16-Segment Information, we do not allocate these severance expenses to our segments.

Under prior GAAP, we had previously recognized liabilities to reflect our estimates of the fair values of the existing lease obligations for real estate which we have ceased using, net of estimated sublease rentals. In accordance with transitional guidance under the new lease standard (ASC 842), the existing lease obligation of \$110 million as of January 1, 2019 was netted against the operating lease right of use assets at adoption. For additional information, see Note 4-Leases to our consolidated financial statements in Item 8 of Part II of our Annual Report on Form 10-K for the year ended December 31, 2020.

Changes in our accrued liabilities for severance expenses were as follows:

	Severance
	(Dollars in millions)
Balance at December 31, 2018	\$ 87
Accrued to expense	89
Payments, net	(87)
Balance at December 31, 2019	89
Accrued to expense	151
Payments, net	(137)
Balance at December 31, 2020	\$ 103

(10) Employee Benefits

Pension, Post-Retirement and Other Post-Employment Benefits

We sponsor various defined benefit pension plans (qualified and non-qualified) which, in the aggregate, cover a substantial portion of our employees including legacy CenturyLink, legacy Level 3, legacy Qwest Communications International Inc. ("Qwest") and legacy Embarq employees. Pension benefits for participants of the Lumen Combined Pension Plan ("Combined Pension Plan") who are represented by a collective bargaining agreement are based on negotiated schedules. All other participants' pension benefits are based on each individual participant's years of service and compensation. We also maintain non-qualified pension plans for certain current and former highly compensated employees. We maintain post-retirement benefit plans that provide health care and life insurance benefits for certain eligible retirees. We also provide other post-employment benefits for certain eligible former employees. We use a December 31 measurement date for all our plans.

Pension Benefits

United States funding laws require a company with a pension shortfall to fund the annual cost of benefits earned in addition to a seven-year amortization of the shortfall. Our funding policy for our Combined Pension Plan is to make contributions with the objective of accumulating ample assets to pay all qualified pension benefits when due under the terms of the plan. The accounting unfunded status of the Combined Pension Plan was \$1.7 billion as of December 31, 2020 and 2019.

We made no voluntary cash contributions to the Combined Pension Plan in 2020 and 2019 and paid \$5 million of benefits directly to participants of our non-qualified pension plans in both 2020 and 2019. Based on current laws and circumstances, we do not believe we are required to make any contributions to the Combined Pension Plan in 2021, but the Company could make voluntary contributions to the trust for the Combined Pension Plan in 2021. We estimate that in 2021 we will pay \$5 million of benefits directly to participants of our non-qualified pension plans.

We recognize in our balance sheet the funded status of the legacy Level 3 defined benefit post-retirement plans. The net unfunded status of these plans was \$33 million and \$18 million, as of December 31, 2020 and 2019, respectively. Additionally, as previously mentioned, we sponsor unfunded non-qualified pension plans for certain current and former highly-compensated employees. The net unfunded status of our non-qualified pension plans was \$51 million for both the years ended December 31, 2020 and 2019. Due to the insignificant impact of these pension plans on our consolidated financial statements, we have predominantly excluded them from the remaining employee benefit disclosures in this Note, unless specifically stated.

Post-Retirement Benefits

Our post-retirement benefit plans provide post-retirement benefits to qualified retirees and allow (i) eligible employees retiring before certain dates to receive benefits at no or reduced cost and (ii) eligible employees retiring after certain dates to receive benefits on a shared cost basis. The post-retirement benefits not paid by the trusts are funded by us and we expect to continue funding these post-retirement obligations as benefits are paid. The accounting unfunded status of our qualified post-retirement benefit plan was \$3.0 billion as of December 31, 2020 and 2019.

Assets in the post-retirement trusts were substantially depleted as of December 31, 2016; as of December 31, 2019 the Company ceased to pay certain post-retirement benefits through the trusts. No contributions were made to the post-retirement trusts in 2020 nor 2019. Starting in 2020, benefits were paid directly by us with available cash. In 2020, we paid \$211 million of post-retirement benefits, net of participant contributions and direct subsidies. In 2021, we currently expect to pay directly \$233 million of post-retirement benefits, net of participant contributions and direct subsidies.

We expect our expected health care cost trend to range from 5.0% to 6.25% in 2021 and grading to 4.50% by 2025. Our post-retirement benefit cost, for certain eligible legacy Qwest retirees and certain eligible legacy CenturyLink retirees, is capped at a set dollar amount. Therefore, those health care benefit obligations are not subject to increasing health care trends after the effective date of the caps.

Expected Cash Flows

The Combined Pension Plan payments, post-retirement health care benefit payments and premiums, and life insurance premium payments are either distributed from plan assets or paid by us. The estimated benefit payments provided below are based on actuarial assumptions using the demographics of the employee and retiree populations and have been reduced by estimated participant contributions.

	Combined Pension Plan	Post-Retirement Benefit Plans	Medicare Part D Subsidy Receipts
	(Dollars in millions)		
Estimated future benefit payments:			
2021	\$ 961	238	(5)
2022	868	232	(5)
2023	844	225	(5)
2024	819	217	(4)
2025	794	210	(4)
2026 - 2030	3,578	932	(16)

Net Periodic Benefit Expense

We utilize a full yield curve approach in connection with estimating the service and interest components of net periodic benefit expense by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flow.

The actuarial assumptions used to compute the net periodic benefit expense for our Combined Pension Plan and post-retirement benefit plans are based upon information available as of the beginning of the year, as presented in the following table.

	Combined Pension Plan			Post-Retirement Benefit Plans		
	2020	2019	2018	2020	2019	2018
Actuarial assumptions at beginning of year:						
Discount rate	2.79% - 3.55%	3.94% - 4.44%	3.14% - 3.69%	1.69% - 3.35%	3.84% - 4.38%	4.26%
Rate of compensation increase	3.25%	3.25%	3.25%	N/A	N/A	N/A
Expected long-term rate of return on plan assets ¹	6.00%	6.50%	6.50%	4.00%	4.00%	4.00%
Initial health care cost trend rate	N/A	N/A	N/A	6.50% / 5.00%	6.50% / 5.00%	7.00% / 5.00%
Ultimate health care cost trend rate	N/A	N/A	N/A	4.50%	4.50%	4.50%
Year ultimate trend rate is reached	N/A	N/A	N/A	2025	2025	2025

N/A - Not applicable

1. Rates are presented net of projected fees and administrative costs.

Net periodic benefit (income) expense for our Combined Pension Plan includes the following components:

Combined Pension Plan Years Ended December 31,			
	2020	2019	2018
	(Dollars in millions)		
Service cost	\$ 59	56	66
Interest cost	324	436	392
Expected return on plan assets	(593)	(618)	(685)
Special termination benefits charge	13	6	15
Recognition of prior service credit	(9)	(8)	(8)
Recognition of actuarial loss	202	223	178
Net periodic pension benefit (income) expense	\$ (4)	95	(42)

Net periodic benefit expense for our post-retirement benefit plans includes the following components:

Post-Retirement Plans Years Ended December 31,			
	2020	2019	2018
	(Dollars in millions)		
Service cost	\$ 14	15	18
Interest cost	69	110	97
Expected return on plan assets	(1)	(1)	(1)
Recognition of prior service cost	16	16	20
Curtailment loss	8	-	-
Net periodic post-retirement benefit expense	\$ 106	140	134

We report service costs for our Combined Pension Plan and post-retirement benefit plans in cost of services and products and selling, general and administrative expenses in our consolidated statements of operations for the years ended December 31, 2020, 2019 and 2018. Additionally, a portion of the service cost is also allocated to certain assets under construction, which are capitalized and reflected as part of property, plant and equipment in our consolidated balance sheets. The remaining components of net periodic benefit expense are reported in other income, net in our consolidated statements of operations. As a result of ongoing efforts to reduce our workforce, we recognized a one-time charge in 2020 of \$21 million, in 2019 of \$6 million and in 2018 of \$15 million for special termination benefit enhancements paid to certain eligible employees upon voluntary retirement.

Benefit Obligations

The actuarial assumptions used to compute the funded status for the plans are based upon information available as of December 31, 2020 and 2019 and are as follows:

	Combined Pension Plan December 31,		Post-Retirement Benefit Plans December 31,	
	2020	2019	2020	2019
Actuarial assumptions at end of year:				
Discount rate	2.43%	3.25%	2.40%	3.22%
Rate of compensation increase	3.25%	3.25%	N/A	N/A
Initial health care cost trend rate	N/A	N/A	6.25% / 5.00%	6.50% / 5.00%
Ultimate health care cost trend rate	N/A	N/A	4.50%	4.50%
Year ultimate trend rate is reached	N/A	N/A	2025	2025

N/A - Not applicable

In 2020, 2019 and 2018, we adopted the revised mortality tables and projection scales released by the Society of Actuaries, which decreased the projected benefit obligation of our benefit plans by \$3 million, \$4 million and \$38 million, respectively. The change in the projected benefit obligation of our benefit plans was recognized as part of the net actuarial loss and is included in accumulated other comprehensive loss, a portion

of which is subject to amortization over the remaining estimated life of plan participants, which was approximately 9 years as of December 31, 2020.

The following tables summarize the change in the benefit obligations for the Combined Pension Plan and post-retirement benefit plans:

Combined Pension Plan Years Ended December 31,			
	2020	2019	2018
	(Dollars in millions)		
Change in benefit obligation			
Benefit obligation at beginning of year	\$ 12,217	11,594	13,064
Service cost	59	56	66
Interest cost	324	436	392
Plan amendments	(3)	(9)	-
Special termination benefits charge	13	6	15
Actuarial loss (gain)	749	1,249	(765)
Benefits paid from plan assets	(1,157)	(1,115)	(1,178)
Benefit obligation at end of year	\$ 12,202	12,217	11,594
Post-Retirement Benefit Plans Years Ended December 31,			
	2020	2019	2018
	(Dollars in millions)		
Change in benefit obligation			
Benefit obligation at beginning of year	\$ 3,037	2,977	3,375
Service cost	14	15	18
Interest cost	69	110	97
Participant contributions	46	52	54
Direct subsidy receipts	6	7	8
Plan Amendment	-	-	(36)
Actuarial loss (gain)	134	180	(224)
Curtailment loss	4	-	-
Benefits paid by company	(255)	(300)	(311)
Benefits paid from plan assets	(7)	(4)	(4)
Benefit obligation at end of year	\$ 3,048	3,037	2,977

Plan Assets

We maintain plan assets for our Combined Pension Plan and certain post-retirement benefit plans. As previously noted, assets in the post-retirement benefit plan trusts were substantially depleted as of December 31, 2016. Fair value of post-retirement benefit plan assets of December 31, 2020, 2019 and 2018 was \$5 million, \$13 million and \$18 million, respectively. Due to the insignificance of these assets on our consolidated financial statements, we have predominantly excluded them from the disclosures of plan assets in this Note, unless otherwise indicated.

The following tables summarize the change in the fair value of plan assets for the Combined Pension Plan:

Combined Pension Plan Years Ended December 31,			
	2020	2019	2018
	(Dollars in millions)		
Change in plan assets			
Fair value of plan assets at beginning of year	\$ 10,493	10,033	11,060
Return on plan assets	1,210	1,575	(349)
Employer contributions	-	-	500
Benefits paid from plan assets	(1,157)	(1,115)	(1,178)
Fair value of plan assets at end of year	\$ 10,546	10,493	10,033

The expected rate of return on plan assets is the long-term rate of return we expect to earn on the plan's assets, net of administrative expenses paid from plan assets. It is determined annually based on the strategic asset allocation and the long-term risk and return forecast for each asset class.

Our investment objective for the Combined Pension Plan assets is to achieve an attractive risk-adjusted return over time that will provide for the payment of benefits and minimize the risk of large losses. We employ a liability-aware investment strategy designed to reduce the volatility of pension assets relative to pension liabilities. This strategy is evaluated frequently and is expected to evolve over time with changes in the funded status and other factors. Approximately 55% of plan assets is targeted to long-duration investment grade bonds and interest rate sensitive derivatives and 45% is targeted to diversified equity, fixed income and private market investments that are expected to outperform the liability with moderate funded status risk. At the beginning of 2021, our expected annual long-term rate of return on pension assets before consideration of administrative expenses is assumed to be 6.0%. Administrative expenses, including projected PBGC (Pension Benefit Guaranty Corporation) premiums reduce the annual long-term expected return net of administrative expenses to 5.5%.

The short-term and long-term interest crediting rates during 2020 for cash balance components of the Combined Pension Plan were 2.25% and 4.0%, respectively.

Permitted investments: Plan assets are managed consistent with the restrictions set forth by the Employee Retirement Income Security Act of 1974, as amended.

Fair Value Measurements: Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent and knowledgeable parties who are willing and able to transact for an asset or liability at the measurement date. We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs when determining fair value and then we rank the estimated values based on the reliability of the inputs used following the fair value hierarchy set forth by the FASB. For additional information on the fair value hierarchy, see Note 13-Fair Value of Financial Instruments.

At December 31, 2020, we used the following valuation techniques to measure fair value for assets. There were no changes to these methodologies during 2020:

- Level 1-Assets were valued using the closing price reported in the active market in which the individual security was traded.
- Level 2-Assets were valued using quoted prices in markets that are not active, broker dealer quotations, and other methods by which all significant inputs were observable at the measurement date.
- Level 3-Assets were valued using unobservable inputs in which little or no market data exists as reported by the respective institutions at the measurement date.

The plan's assets are invested in various asset categories utilizing multiple strategies and investment managers. Interests in commingled funds are fair valued using a practical expedient to the net asset value ("NAV") per unit (or its equivalent) of each fund. The NAV reported by the fund manager is based on the market value of the underlying investments owned by each fund, minus its liabilities, divided by the number of shares outstanding. Commingled funds can be redeemed at NAV, with a frequency that includes, daily, monthly, quarterly, semi-annually and annually. These commingled funds include redemption notice periods between same day and 270 days. Investments in private funds, primarily limited partnerships, represent long-term commitments with a fixed maturity date and are also valued at NAV. The plan has unfunded commitments related to certain private fund investments, which in aggregate are not material to the plan. Valuation inputs for

these private fund interests are generally based on assumptions and other information not observable in the market. Underlying investments held in funds are aggregated and are classified based on the fund mandate. Investments held in separate accounts are individually classified.

The table below present the fair value of plan assets by category and the input levels used to determine those fair values at December 31, 2020. It is important to note that the asset allocations do not include market exposures that are gained with derivatives. Investments include dividend and interest receivables, pending trades and accrued expenses.

Fair Value of Combined Pension Plan Assets at December 31, 2020				
	Level 1	Level 2	Level 3	Total
(Dollars in millions)				
Assets				
Investment grade bonds ^a	\$ 726	4,066	-	4,792
High yield bonds ^b	-	262	6	268
Emerging market bonds ^c	218	172	-	390
U.S. stocks ^d	653	-	2	655
Non-U.S. stocks ^e	593	1	-	594
Private debt ^h	-	-	-	-
Multi-asset strategies ^l	199	-	-	199
Repurchase agreements ⁿ	-	-	-	-
Cash equivalents and short-term investments ^o	-	281	-	281
Total investments, excluding investments valued at NAV	\$ 2,389	4,782	8	7,179
Liabilities				
Derivatives ^m	\$ -	(1)	-	(1)
Investments valued at NAV				3,368
Total pension plan assets				\$ 10,546

The table below present the fair value of plan assets by category and the input levels used to determine those fair values at December 31, 2019. It is important to note that the asset allocations do not include market exposures that are gained with derivatives. Investments include dividend and interest receivable, pending trades and accrued expenses.

Fair Value of Combined Pension Plan Assets at December 31, 2019				
	Level 1	Level 2	Level 3	Total
(Dollars in millions)				
Assets				
Investment grade bonds ^a	\$ 828	3,197	-	4,025
High yield bonds ^b	-	232	5	237
Emerging market bonds ^c	203	84	-	287
U.S. stocks ^d	756	3	1	760
Non-U.S. stocks ^e	592	-	-	592
Private debt ^h	-	-	16	16
Multi-asset strategies ^l	257	-	-	257
Repurchase agreements ⁿ	-	39	-	39
Cash equivalents and short-term investments ^o	-	433	-	433
Total investments, excluding investments valued at NAV	\$ 2,636	3,988	22	6,646
Liabilities				
Derivatives ^m	\$ 1	(18)	-	(17)
Investments valued at NAV				3,864
Total pension plan assets				\$ 10,493

The table below presents the fair value of plan assets valued at NAV by category for our Combined Pension Plan at December 31, 2020 and 2019.

	Fair Value of Plan Assets Valued at NAV	
	Combined Pension Plan at	
	December 31,	
	2020	2019
	(Dollars in millions)	
Investment grade bonds ^a	\$ 352	211
High yield bonds ^b	25	39
U.S. stocks ^d	192	169
Non-U.S. stocks ^e	308	467
Emerging market stocks ^f	81	92
Private equity ^g	283	322
Private debt ^h	505	483
Market neutral hedge funds ⁱ	222	433
Directional hedge funds ^j	254	443
Real estate ^k	543	635
Multi-asset strategies ^l	375	449
Cash equivalents and short-term investments ^o	228	121
Total investments valued at NAV	\$ 3,368	3,864

Below is an overview of the asset categories, the underlying strategies and valuation inputs used to value the assets in the preceding tables:

(a) *Investment grade bonds* represent investments in fixed income securities as well as commingled bond funds comprised of U.S. Treasury securities, agencies, corporate bonds, mortgage-backed securities, asset-backed securities and commercial mortgage-backed securities. Treasury securities are valued at the bid price reported in the active market in which the security is traded and are classified as Level 1. The valuation inputs of other investment grade bonds primarily utilize observable market information and are based on a spread to U.S. Treasury securities and consider yields available on comparable securities of issuers with similar credit ratings. The primary observable inputs include references to the new issue market for similar securities, the secondary trading markets and dealer quotes. Option adjusted spread models are utilized to evaluate securities such as asset backed securities that have early redemption features. These securities are classified as Level 2. NAV funds' underlying investments in this category are valued using the same inputs.

(b) *High yield bonds* represent investments in below investment grade fixed income securities as well as commingled high yield bond funds. The valuation inputs for the securities primarily utilize observable market information and are based on a spread to U.S. Treasury securities and consider yields available on comparable securities of issuers with similar credit ratings. These securities are primarily classified as Level 2. Securities whose valuation inputs are not based on observable market information are classified as Level 3. NAV funds' underlying investments in this category are valued using the same inputs.

(c) *Emerging market bonds* represent investments in securities issued by governments and other entities located in emerging countries as well as registered mutual funds and commingled emerging market bond funds. The valuation inputs for the securities utilize observable market information and are primarily based on dealer quotes or a spread relative to the local government bonds. The registered mutual fund is classified as Level 1 while individual securities are primarily classified as Level 2.

(d) *U.S. stocks* represent investments in stocks of U.S. based companies as well as commingled U.S. stock funds. The valuation inputs for U.S. stocks are based on the last published price reported on the major stock market on which the securities are traded and are primarily classified as Level 1. Securities that are not actively traded but can be directly or indirectly observable are classified as Level 2. Securities whose valuation inputs are not based on observable market information are classified as Level 3. NAV funds' underlying investments in this category are valued using the same inputs.

(e) *Non-U.S. stocks* represent investments in stocks of companies based in developed countries outside the U.S. as well as commingled funds. The valuation inputs for these non-U.S. stocks are based on the last published price reported on the major stock market on which the securities are traded and are primarily classified as Level 1. NAV funds' underlying investments in this category are valued using the same inputs.

(f) *Emerging market stocks* represent investments in commingled funds comprised of stocks of companies located in emerging markets. NAV funds' underlying investments in this category are valued using the same inputs.

(g) *Private equity* represents non-public investments in domestic and foreign buy out and venture capital funds. Private equity funds are primarily structured as limited partnerships and are valued according to the valuation policy of each partnership, subject to prevailing accounting and other regulatory guidelines. The partnerships are valued at NAV using valuation methodologies that consider a range of factors, including but not limited to the price at which investments were acquired, the nature of the investments, market conditions, trading values on comparable public securities, current and projected operating performance, and financing transactions subsequent to the acquisition of the investments. These valuation methodologies involve a significant degree of judgment.

(h) *Private debt* represents non-public investments in distressed or mezzanine debt funds and pension group insurance contracts. Pension group insurance contracts are valued based on actuarial assumptions and are classified as Level 3. Mezzanine debt instruments are debt instruments that are subordinated to other debt issues and may include embedded equity instruments such as warrants. Private debt funds are primarily structured as limited partnerships and are valued at NAV according to the valuation policy of each partnership, subject to prevailing accounting and other regulatory guidelines. The valuation of underlying fund investments is based on factors including the issuer's current and projected credit worthiness, the securities' terms, reference to the securities of comparable companies, and other market factors. These valuation methodologies involve a significant degree of judgment.

(i) *Market neutral hedge funds* hold investments in a diversified mix of instruments that are intended in combination to exhibit low correlations to market fluctuations. These investments are typically combined with futures to achieve uncorrelated excess returns over various markets. Hedge funds are valued at NAV based on the market value of the underlying investments which include publicly traded equity and fixed income securities and privately negotiated debt securities.

(j) *Directional hedge funds*-This asset category represents investments that may exhibit somewhat higher correlations to market fluctuations than the market neutral hedge funds. Investments in hedge funds include both direct investments and investments in diversified funds of funds. Hedge funds are valued at NAV based on the market value of the underlying investments which include publicly traded equity and fixed income securities and privately negotiated debt securities.

(k) *Real estate* represents investments in commingled funds and limited partnerships that invest in a diversified portfolio of real estate properties. These investments are valued at NAV according to the valuation policy of each fund or partnership, subject to prevailing accounting and other regulatory guidelines. The valuation inputs of the underlying properties are generally based on third-party appraisals that use comparable sales or a projection of future cash flows to determine fair value. These valuation methodologies involve a significant degree of judgment.

(l) *Multi-asset strategies* represent broadly diversified strategies that have the flexibility to tactically adjust exposures to different asset classes through time. This asset category includes investments in registered mutual funds which are classified as Level 1 and may include commingled funds which are valued at NAV based on the market value of the underlying investments.

(m) *Derivatives* include exchange traded futures contracts which are classified as Level 1, as well as privately negotiated over the counter contracts that are classified as Level 2. The market values represent gains or losses that occur due to differences between stated contract terms and fluctuations in underlying market instruments.

(n) *Repurchase Agreements* includes contracts where the security owner sells a security with the agreement to buy it back at a future date and price. Agreements are valued based on expected settlement terms and are classified as Level 2.

(o) *Cash equivalents and short-term investments* represent investments that are used in conjunction with derivatives positions or are used to provide liquidity for the payment of benefits or other purposes. The valuation inputs of securities are based on a spread to U.S. Treasury Bills, the Federal Funds Rate, or London Interbank Offered Rate and consider yields available on comparable securities of issuers with similar credit ratings and are primarily classified as Level 2. The commingled funds are valued at NAV based on the market value of the underlying investments using the same valuation inputs described above.

Derivative instruments: Derivative instruments are used to reduce risk as well as provide return. The gross notional exposure of the derivative instruments directly held by the Combined Pension Plan is shown below. The notional amount of the derivatives corresponds to market exposure but does not represent an actual cash investment. Our post-retirement plans were not invested in derivative instruments for the years ended December 31, 2020 or 2019.

Gross Notional Exposure	
Combined Pension Plan	
Years Ended December 31,	
2020	2019
(Dollars in millions)	

Derivative instruments:			
Exchange-traded U.S. equity futures	\$	84	184
Exchange-traded Treasury and other interest rate futures		1,033	1,253
Exchange-traded Foreign currency futures		12	-
Exchange-traded EURO futures		6	10
Interest rate swaps		124	44
Credit default swaps		43	205
Index swaps		1,297	2,058
Foreign exchange forwards		769	508
Options		222	146

Concentrations of Risk: Investments, in general, are exposed to various risks, such as significant world events, interest rate, credit, foreign currency and overall market volatility risk. These risks are managed by broadly diversifying assets across numerous asset classes and strategies with differing expected returns, volatilities and correlations. Risk is also broadly diversified across numerous market sectors and individual companies. Financial instruments that potentially subject the plans to concentrations of counterparty risk consist principally of investment contracts with high quality financial institutions. These investment contracts are typically collateralized obligations and/or are actively managed, limiting the amount of counterparty exposure to any one financial institution. Although the investments are well diversified, the value of plan assets could change materially depending upon the overall market volatility, which could affect the funded status of the plan.

The table below presents a rollforward of the Combined Pension Plan assets valued using Level 3 inputs:

	Combined Pension Plan Assets Valued Using Level 3 Inputs			
	High Yield Bonds	U.S. Stocks	Private Debt	Total
(Dollars in millions)				
Balance at December 31, 2018	\$ 7	2	15	24
Acquisitions (dispositions)	(2)	-	1	(1)
Actual return on plan assets	-	(1)	-	(1)
Balance at December 31, 2019	5	1	16	22
Acquisitions (dispositions)	1	-	(17)	(16)
Actual return on plan assets	-	1	1	2
Balance at December 31, 2020	\$ 6	2	-	8

Certain gains and losses are allocated between assets sold during the year and assets still held at year-end based on transactions and changes in valuations that occurred during the year. These allocations also impact our calculation of net acquisitions and dispositions.

For the year ended December 31, 2020, the investment program produced actual gains on Combined Pension Plan assets of \$1.2 billion as compared to expected returns of \$593 million for a difference of \$618 million. For the year ended December 31, 2019, the investment program produced actual gains on Combined Pension Plan assets of \$1.6 billion as compared to the expected returns of \$618 million for a difference of \$1.0 billion. The short-term annual returns on plan assets will almost always be different from the expected long-term returns and the plans could experience net gains or losses, due primarily to the volatility occurring in the financial markets during any given year.

Unfunded Status

The following table presents the unfunded status of the Combined Pension Plan and post-retirement benefit plans:

	Combined Pension Plan		Post-Retirement Benefit Plans	
	Years Ended December 31,		Years Ended December 31,	
	2020	2019	2020	2019
(Dollars in millions)				
Benefit obligation	\$ (12,202)	(12,217)	(3,048)	(3,037)
Fair value of plan assets	10,546	10,493	5	13
Unfunded status	(1,656)	(1,724)	(3,043)	(3,024)
Current portion of unfunded status	-	-	(228)	(224)
Non-current portion of unfunded status	\$ (1,656)	(1,724)	(2,815)	(2,800)

The current portion of our post-retirement benefit obligations is recorded on our consolidated balance sheets in accrued expenses and other current liabilities-salaries and benefits.

Accumulated Other Comprehensive Loss-Recognition and Deferrals

The following table presents cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2019, items recognized as a component of net periodic benefits expense in 2020, additional items deferred during 2020 and cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2020. The items not recognized as a component of net periodic benefits expense have been recorded on our consolidated balance sheets in accumulated other comprehensive loss:

	As of and for the Years Ended December 31,				
	2019	Recognition of Net Periodic Benefits Expense	Deferrals	Net Change in AOCL	2020
(Dollars in millions)					
Accumulated other comprehensive loss:					
Pension plans:					
Net actuarial (loss) gain	\$ (3,046)	203	(150)	53	(2,993)
Prior service benefit (cost)	47	(9)	3	(6)	41
Deferred income tax benefit (expense)	770	(47)	32	(15)	755
Total pension plans	(2,229)	147	(115)	32	(2,197)
Post-retirement benefit plans:					
Net actuarial (loss) gain	(175)	-	(171)	(171)	(346)
Prior service (cost) benefit	(71)	16	35	51	(20)
Curtailment loss	-	4	-	4	4
Deferred income tax benefit (expense)	62	(5)	33	28	90
Total post-retirement benefit plans	(184)	15	(103)	(88)	(272)
Total accumulated other comprehensive loss	\$(2,413)	162	(218)	(56)	(2,469)

The following table presents cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2018, items recognized as a component of net periodic benefits expense in 2019, additional items deferred during 2019 and cumulative items not recognized as a component of net periodic benefits expense as of December 31, 2018. The items not recognized as a component of net periodic benefits expense have been recorded on our consolidated balance sheets in accumulated other comprehensive loss:

As of and for the Years Ended December 31,					
	2018	Recognition of Net Periodic Benefits Expense	Deferrals	Net Change in AOCL	2019
(Dollars in millions)					
Accumulated other comprehensive loss:					
Pension plans:					
Net actuarial (loss) gain	\$ (2,973)	224	(297)	(73)	(3,046)
Prior service benefit (cost)	46	(8)	9	1	47
Deferred income tax benefit (expense)	754	(53)	69	16	770
Total pension plans	(2,173)	163	(219)	(56)	(2,229)
Post-retirement benefit plans:					
Net actuarial gain (loss)	7	-	(182)	(182)	(175)
Prior service (cost) benefit	(87)	16	-	16	(71)
Deferred income tax benefit (expense)	22	(4)	44	40	62
Total post-retirement benefit plans	(58)	12	(138)	(126)	(184)
Total accumulated other comprehensive (loss) income	\$ (2,231)	175	(357)	(182)	(2,413)

Medicare Prescription Drug, Improvement and Modernization Act of 2003

We sponsor post-retirement health care plans with several benefit options that provide prescription drug benefits that we deem actuarially equivalent to or exceeding Medicare Part D. We recognize the impact of the federal subsidy received under the Medicare Prescription Drug, Improvement and Modernization Act of 2003 in the calculation of our post-retirement benefit obligation and net periodic post-retirement benefit expense.

Other Benefit Plans

Health Care and Life Insurance

We provide health care and life insurance benefits to essentially all of our active employees. We are largely self-funded for the cost of the health care plan. Our health care benefit expense for current employees was \$307 million, \$381 million and \$434 million for the years ended December 31, 2020, 2019 and 2018, respectively. Union-represented employee benefits are based on negotiated collective bargaining agreements. Employees contributed \$133 million, \$148 million, \$142 million for the years ended December 31, 2020, 2019 and 2018, respectively. Our group basic life insurance plans are fully insured and the premiums are paid by us.

401(k) Plans

We sponsor a qualified defined contribution plan covering substantially all of our U.S. employees. Under this plan, employees may contribute a percentage of their annual compensation up to certain maximums, as defined by the plan and by the Internal Revenue Service ("IRS"). Currently, we match a percentage of employee contributions in cash. At December 31, 2020 and 2019, the assets of the plan included approximately 11 million shares of our common stock all of which were the result of the combination of previous employer match and participant directed contributions. We recognized expenses related to this plan of \$101 million, \$113 million and \$93 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Deferred Compensation Plans

We sponsored non-qualified deferred compensation plans for various groups that included certain of our current and former highly compensated employees. The value of liabilities related to these plans was not significant.

(11) Share-based Compensation

We maintain an equity incentive program that allows our Board of Directors (through its Compensation Committee or a senior officer acting under delegated authority) to grant incentives to certain employees and outside directors in one or more forms, including: incentive and non-qualified stock options, stock appreciation rights, restricted stock awards, restricted stock units and market and performance shares. Stock options generally expire ten years from the date of grant.

Stock Options

We had 469,000 options outstanding as of December 31, 2019. The total intrinsic value of options exercised for the years ended December 31, 2019 and 2018, was less than \$1 million each year. During 2020, virtually all remaining stock options expired or were forfeited.

Restricted Stock Awards and Restricted Stock Unit Awards

For equity based restricted stock and restricted stock unit awards that contain only service conditions for vesting (time-based awards), we calculate the award fair value based on the closing price of Lumen Technologies common stock on the accounting grant date. We also grant equity-based awards that contain service conditions as well as additional market or performance conditions. For awards having both service and market conditions, the award fair value is calculated using Monte-Carlo simulations. Awards with service as well as market or performance conditions specify a target number of shares for the award, although each recipient ultimately has the opportunity to receive between 0% and 200% of the target number of shares. For awards with service and market conditions, the percentage received is based on our total shareholder return over the three-year service period versus that of selected peer companies. For awards with service and performance conditions, the percentage received depends upon the attainment of one or more financial performance targets during the two- or three-year service period.

The following table summarizes activity involving restricted stock and restricted stock unit awards for the year ended December 31, 2020:

	Number of Shares	Weighted- Average Grant Date Fair Value
	(in thousands)	
Non-vested at December 31, 2019	16,044	\$ 15.42
Granted	17,812	12.08
Vested	(10,512)	16.38
Forfeited	(1,836)	13.25
Non-vested at December 31, 2020	21,508	12.37

During 2020, we granted 17.8 million shares of restricted stock and restricted stock unit awards at a weighted-average price of \$12.08. During 2019, we granted 9.8 million shares of restricted stock and restricted stock unit awards at a weighted-average price of \$12.41. During 2018, we granted 9.7 million shares of restricted stock and restricted stock unit awards at a weighted-average price of \$17.02. The total fair value of restricted stock that vested during 2020, 2019 and 2018, was \$126 million, \$118 million and \$169 million, respectively. We do not estimate forfeitures, but recognize them as they occur.

Compensation Expense and Tax Benefit

We recognize compensation expense related to our market and performance share-based awards with graded vesting that only have a service condition on a straight-line basis over the requisite service period for the entire award. Total compensation expense for all share-based payment arrangements for the years ended December 31, 2020, 2019 and 2018, was \$175 million, \$162 million and \$186 million, respectively. Our tax benefit recognized in the consolidated statements of operations for our share-based payment arrangements for the years ended December 31, 2020, 2019 and 2018, was \$43 million, \$39 million and \$46 million, respectively. At December 31, 2020, there was \$117 million of total unrecognized compensation expense related to our share-based payment arrangements, which we expect to recognize over a weighted-average period of 1.5 years.

(12) Loss Per Common Share

Basic and diluted loss per common share for the years ended December 31, 2020, 2019 and 2018 were calculated as follows:

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions, except per share amounts, shares in thousands)		
Loss (Numerator):			
Net loss	\$ (1,232)	(5,269)	(1,733)
Net loss applicable to common stock for computing basic earnings per common share	(1,232)	(5,269)	(1,733)
Net loss as adjusted for purposes of computing diluted earnings per common share	\$ (1,232)	(5,269)	(1,733)
Shares (Denominator):			
Weighted average number of shares:			
Outstanding during period	1,096,284	1,088,730	1,078,409
Non-vested restricted stock	(17,154)	(17,289)	(12,543)
Weighted average shares outstanding for computing basic earnings per common share	1,079,130	1,071,441	1,065,866
Incremental common shares attributable to dilutive securities:			
Shares issuable under convertible securities	\$ -	-	-
Shares issuable under incentive compensation plans	-	-	-
Number of shares as adjusted for purposes of computing diluted loss per common share	1,079,130	1,071,441	1,065,866
Basic loss per common share	\$ (1.14)	(4.92)	(1.63)
Diluted loss per common share ¹	\$ (1.14)	(4.92)	(1.63)

1. For the years ended December 31, 2020, December 31, 2019 and December 31, 2018, we excluded from the calculation of diluted loss per share 5.3 million shares, 3.0 million shares and 4.6 million shares, respectively, potentially issuable under incentive compensation plans or convertible securities, as their effect, if included, would have been anti-dilutive.

Our calculation of diluted loss per common share excludes shares of common stock that are issuable upon exercise of stock options when the exercise price is greater than the average market price of our common stock. We also exclude unvested restricted stock awards that are antidilutive as a result of unrecognized compensation cost. Such shares were 3.2 million, 6.8 million and 2.7 million for 2020, 2019 and 2018, respectively.

(13) Fair Value of Financial Instruments

Our financial instruments consist of cash, cash equivalents and restricted cash, accounts receivable, accounts payable and long-term debt, excluding finance lease and other obligations, and interest rate swap contracts. Due to their short-term nature, the carrying amounts of our cash, cash equivalents and restricted cash, accounts receivable and accounts payable approximate their fair values.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent and knowledgeable parties who are willing and able to transact for an asset or liability at the measurement date. We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs when determining fair value and then we rank the estimated values based on the reliability of the inputs used following the fair value hierarchy set forth by the FASB.

We determined the fair values of our long-term debt, including the current portion, based on quoted market prices where available or, if not available, based on discounted future cash flows using current market interest rates.

The three input levels in the hierarchy of fair value measurements are defined by the FASB generally as follows:

Input Level	Description of Input
Level 1	Observable inputs such as quoted market prices in active markets.
Level 2	Inputs other than quoted prices in active markets that are either directly or indirectly observable.
Level 3	Unobservable inputs in which little or no market data exists.

The following table presents the carrying amounts and estimated fair values of our long-term debt, excluding finance lease and other obligations, as well as the input level used to determine the fair values indicated below:

	Input Level	As of December 31, 2020		As of December 31, 2019	
		Carrying Amount	Fair Value	Carrying Amount	Fair Value
(Dollars in millions)					
Liabilities-Long-term debt, excluding finance lease and other obligations	2	\$ 31,542	33,217	34,472	35,737
Interest rate swap contracts (see Note 14)	2	107	107	51	51

(14) Derivative Financial Instruments

From time to time, we use derivative financial instruments, primarily interest rate swaps, to manage our exposure to fluctuations in interest rates. Our primary objective in managing interest rate risk is to decrease the volatility of our earnings and cash flows affected by changes in the underlying rates. We have floating rate long-term debt (see Note 6-Long-Term Debt and Credit Facilities of our Annual Report on Form 10-K for the year ended December 31, 2020). These obligations expose us to variability in interest payments due to changes in interest rates. If interest rates increase, interest expense increases. Conversely, if interest rates decrease, interest expense also decreases. We have designated our currently outstanding interest rate swap agreements as cash flow hedges. As described further below, under these hedges, we receive variable-rate amounts from a counterparty in exchange for us making fixed-rate payments over the lives of the agreements without exchange of the underlying notional amount. The change in the fair value of the interest rate swap agreements is reflected in AOCI and, as described below, is subsequently reclassified into earnings in the period that the hedged transaction affects earnings by virtue of qualifying as effective cash flow hedges. We do not use derivative financial instruments for speculative purposes.

In February 2019, we entered into five variable-to-fixed interest rate swap agreements to hedge the interest payments on \$2.5 billion notional amount of floating rate debt. The five interest rate swap agreements are with different counterparties; one for \$700 million and the other four for \$450 million each. The transactions were effective beginning March 31, 2019 and mature March 31, 2022. Under the terms of these interest rate swap transactions, we receive interest payments based on one month floating LIBOR terms and pay interest at the fixed rate of 2.48%.

In June 2019, we entered into six variable-to-fixed interest rate swap agreements to hedge the interest payments on \$1.5 billion notional amount of floating rate debt. The six interest rate swap agreements are with different counterparties for \$250 million each. The transactions were effective beginning June 30, 2019 and mature June 30, 2022. Under the terms of these interest rate swap transactions, we receive interest payments based on one month floating LIBOR terms and pay interest at the fixed rate of 1.58%.

As of December 31, 2020 and 2019, we evaluated the effectiveness of our hedges quantitatively and any hedges we had entered into at the time qualified as effective hedge relationships.

We may be exposed to credit related losses in the event of non-performance by counterparties. The counterparties to any of the financial derivatives we enter into are major institutions with investment grade credit ratings. We evaluate counterparty credit risk before entering into any hedge transaction and continue to closely monitor the financial market and the risk that our counterparties will default on their obligations as part of our quarterly qualitative effectiveness evaluation.

Amounts accumulated in AOCI related to derivatives are indirectly recognized in earnings as periodic settlement payments are made throughout the term of the swaps.

The table below presents the fair value of our derivative financial instruments as well as their classification on the consolidated balance sheet at December 31, 2020 as follows (in millions):

Derivatives designated as	Balance Sheet Location	December 31, 2020		December 31, 2019	
		Fair Value			
Cash flow hedging contracts	Other current and noncurrent liabilities	\$	107		51

The amount of unrealized (gains) losses recognized in AOCI consists of the following (in millions):

Derivatives designated as hedging instruments	2020	2019
Cash flow hedging contracts		
Years Ended December 31,	\$ 115	53

The amount of realized losses reclassified in AOCI to the statement of operations consists of the following (in millions):

Derivatives designated as hedging instruments	2020	2019
Cash flow hedging contracts		
Years Ended December 31,	\$ 62	2

Amounts currently included in AOCI will be reclassified into earnings prior to the ongoing settlements of these cash flow hedging contracts until 2022. We estimate that \$82 million of net losses on the interest rate swaps (based on the estimated LIBOR curve as of December 31, 2020) will be reflected in our statements of operations within the next 12 months.

(15) Income Taxes

The components of the income tax expense are as follows:

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions)		
Income tax expense:			
Federal			
Current	\$ 5	7	(576)
Deferred	338	376	734
State			
Current	50	15	(22)
Deferred	55	81	52
Foreign			
Current	29	35	36
Deferred	(27)	(11)	(54)
Total income tax expense	\$ 450	503	170

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions)		
Income tax expense was allocated as follows:			
Income tax expense in the consolidated statements of operations:			
Attributable to income	\$ 450	503	170
Stockholders' equity:			
Tax effect of the change in accumulated other comprehensive loss	\$ 17	(62)	(2)

The following is a reconciliation from the statutory federal income tax rate to our effective income tax rate:

	Years Ended December 31,		
	2020	2019	2018
	(Percentage of pre-tax income)		
Statutory federal income tax rate	21.0%	21.0%	21.0%
State income taxes, net of federal income tax benefit	(10.8)%	(1.6)%	(1.5)%
Goodwill impairment	(71.0)%	(28.6)%	(36.6)%
Change in liability for unrecognized tax position	(0.6)%	(0.2)%	1.3%
Legislative changes to GILTI	1.8%	-%	-%
Nondeductible executive stock compensation	(1.6)%	(0.1)%	-%
Change in valuation allowance	2.6%	-%	-%
Tax reform	-%	-%	(5.9)%
Net foreign income taxes	(0.6)%	(0.5)%	1.8%
Research and development credits	1.6%	0.1%	0.9%
Tax benefit of net operating loss carryback	-%	-%	9.1%
Other, net	0.1%	(0.7)%	(1.0)%
Effective income tax rate	(57.5)%	(10.6)%	(10.9)%

The effective tax rate for the year ended December 31, 2020 reflects a \$555 million unfavorable impact of non-deductible goodwill impairment, a \$14 million favorable impact in tax regulations passed in 2020 allowing a high tax exception related to our tax exposure of Global Intangible Low-Taxed Income ("GILTI"), as well as a \$20 million benefit related to the release of previously established valuation allowances against capital losses. The effective tax rates for the years ended December 31, 2019 and December 31, 2018 include a \$1.4 billion and a \$572 million unfavorable impact of non-deductible goodwill impairments, respectively. Additionally, the effective tax rate for the year ended December 31, 2018 reflects a \$92 million unfavorable impact due to finalizing the impacts of tax reform. Partially offsetting these amounts is a \$142 million benefit generated by a loss carryback to 2016.

The tax effects of temporary differences that gave rise to significant portions of the deferred tax assets and deferred tax liabilities were as follows:

	As of December 31,	
	2020	2019
	(Dollars in millions)	
Deferred tax assets		
Post-retirement and pension benefit costs	\$ 1,164	1,169
Net operating loss carryforwards	3,138	3,167
Other employee benefits	119	134
Other	604	577
Gross deferred tax assets	5,025	5,047
Less valuation allowance	(1,538)	(1,319)
Net deferred tax assets	3,487	3,728
Deferred tax liabilities		
Property, plant and equipment, primarily due to depreciation differences	(3,882)	(3,489)
Goodwill and other intangible assets	(2,755)	(3,019)
Gross deferred tax liabilities	(6,637)	(6,508)
Net deferred tax liability	\$ (3,150)	(2,780)

Of the \$3.2 billion and \$2.8 billion net deferred tax liability at December 31, 2020 and 2019, respectively, \$3.3 billion and \$2.9 billion is reflected as a long-term liability and \$191 million and \$118 million is reflected as a net noncurrent deferred tax asset, in other, net on our consolidated balance sheets at December 31, 2020 and 2019, respectively.

At December 31, 2020, we had federal NOLs of \$5.1 billion, net of limitations of Section 382 of the Internal Revenue Code ("Section 382") and uncertain tax positions, for U.S. federal income tax purposes. If unused, the NOLs will expire between 2023 and 2037. The U.S. federal net operating loss carryforwards expire as follows:

	Expiring December 31,	Amount (Dollars in millions)
2024		\$ 745
2025		1,042
2026		1,525
2027		375
2028		637
2029		645
2030		668
2031		733
2032		348
2033		238
2037		2,976
NOLs per return		9,932
Uncertain tax positions		(4,855)
Financial NOLs		\$ 5,077

We expect to use substantially all of these tax attributes to reduce our future federal tax liabilities, although the timing of that use will depend upon our future earnings and future tax circumstances.

At December 31, 2020 we had state net operating loss carryforwards of \$17 billion (net of uncertain tax positions). We also had foreign NOL carryforwards of \$7 billion. Our acquisitions of Level 3, Qwest and SAVVIS, Inc. caused "ownership changes" within the meaning of Section 382 for the acquired companies. As a result, our ability to use these NOLs and tax credits are subject to annual limits imposed by Section 382.

We establish valuation allowances when necessary to reduce the deferred tax assets to amounts we expect to realize. As of December 31, 2020, a valuation allowance of \$1.5 billion was established as it is more likely than not that this amount of net operating loss, capital loss and tax credit carryforwards will not be utilized prior to expiration. Our valuation allowance at December 31, 2020 and 2019 is primarily related to foreign and state NOL carryforwards. This valuation allowance increased by \$219 million during 2020, primarily due to the impact of foreign exchange rate adjustments and state law changes.

A reconciliation of the change in our gross unrecognized tax benefits (excluding both interest and any related federal benefit) from January 1 to December 31 for 2020 and 2019 is as follows:

	2020	2019
	(Dollars in millions)	
Unrecognized tax benefits at beginning of year	\$ 1,538	1,587
Increase in tax positions of the current year netted against deferred tax assets	18	11
Increase in tax positions of prior periods netted against deferred tax assets	5	6
Decrease in tax positions of the current year netted against deferred tax assets	(86)	(49)
Decrease in tax positions of prior periods netted against deferred tax assets	(5)	(19)
Increase in tax positions taken in the current year	4	5
Increase in tax positions taken in the prior year	1	10
Decrease due to payments/settlements	(1)	(8)
Decrease due to the reversal of tax positions taken in a prior year	-	(5)
Unrecognized tax benefits at end of year	\$ 1,474	1,538

The total amount (including both interest and any related federal benefit) of unrecognized tax benefits that, if recognized, would impact the effective income tax rate was \$267 million and \$259 million at December 31, 2020 and 2019, respectively.

Our policy is to reflect interest expense associated with unrecognized tax benefits in income tax expense. We had accrued interest (presented before related tax benefits) of approximately \$23 million and \$15 million at December 31, 2020 and 2019, respectively.

We, or at least one of our subsidiaries, file income tax returns in the U.S. federal jurisdiction and various states and foreign jurisdictions. With few exceptions, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2002. The Internal Revenue Service and state and local taxing authorities reserve the right to audit any period where net operating loss carryforwards are available.

Based on our current assessment of various factors, including (i) the potential outcomes of these ongoing examinations, (ii) the expiration of statute of limitations for specific jurisdictions, (iii) the negotiated settlement of certain disputed issues, and (iv) the administrative practices of applicable taxing jurisdictions, it is reasonably possible that the related unrecognized tax benefits for uncertain tax positions previously taken may decrease by up to \$3 million within the next 12 months. The actual amount of such decrease, if any, will depend on several future developments and events, many of which are outside our control.

(16) Segment Information

As described in more detail below, our segments are managed based on the direct costs of providing services to their customers and the associated selling, general and administrative costs (primarily salaries and commissions). Shared costs are managed separately and included in "Operations and Other" in the tables below. We reclassified certain prior period amounts to conform to the current period presentation. See Note 1- Background and Summary of Significant Accounting Policies for further detail on these changes.

At December 31, 2020, we had the following five reportable segments:

- *International and Global Accounts Management ("IGAM") Segment.* Under our IGAM segment, we provide our products and services to approximately 200 global enterprise customers and to enterprises and carriers in three operating regions: Europe Middle East and Africa, Latin America and Asia Pacific;
- *Enterprise Segment.* Under our enterprise segment, we provide our products and services to large and regional domestic and global enterprises, as well as public sector, which includes the U.S. federal government, state and local governments and research and education institutions;
- *Small and Medium Business ("SMB") Segment.* Under our SMB segment, we provide our products and services to small and medium businesses directly and indirectly through our channel partners;
- *Wholesale Segment.* Under our wholesale segment, we provide our products and services to a wide range of other communication providers across the wireline, wireless, cable, voice and data center sectors. Our wholesale customers range from large global telecom providers to small regional providers; and
- *Consumer Segment.* Under our consumer segment, we provide our products and services to residential customers. Additionally, Connect America Fund ("CAF") federal support revenue, and other revenue from leasing and subleasing are reported in our consumer segment as regulatory revenue.

Product and Service Categories

At December 31, 2020, we categorized our products and services revenue among the following four categories for the IGAM, Enterprise, SMB and Wholesale segments:

- *IP and Data Services*, which includes primarily VPN data networks, Ethernet, IP, content delivery and other ancillary services;
- *Transport and Infrastructure*, which includes wavelengths, dark fiber, private line, colocation and data center services, including cloud, hosting and application management solutions, professional services and other ancillary services;
- *Voice and Collaboration*, which includes primarily local and long-distance voice, including wholesale voice, and other ancillary services, as well as VoIP services; and
- *IT and Managed Services*, which includes information technology services and managed services, which may be purchased in conjunction with our other network services.

At December 31, 2020, we categorized our products and services revenue among the following four categories for the Consumer segment:

- *Broadband*, which includes high-speed, fiber based and lower speed DSL broadband services;
- *Voice*, which includes local and long-distance services;
- *Regulatory Revenue*, which consists of (i) CAF and other support payments designed to reimburse us for various costs related to certain telecommunications services and (ii) other operating revenue from the leasing and subleasing of space; and

- *Other*, which includes retail video services (including our linear and TV services), professional services and other ancillary services.

The following tables summarize our segment results for 2020, 2019 and 2018 based on the segment categorization we were operating under at December 31, 2020.

Year Ended December 31, 2020

	International and Global Accounts	Enterprise	Small and Medium Business	Wholesale	Consumer	Total Segments	Operations and Other	Total
(Dollars in millions)								
Revenue:								
IP and Data Services	\$ 1,556	2,474	1,062	1,280	-	6,372	-	6,372
Transport and Infrastructure	1,265	1,608	352	1,764	-	4,989	-	4,989
Voice and Collaboration	368	1,424	1,098	731	-	3,621	-	3,621
IT and Managed Services	216	216	45	2	-	479	-	479
Broadband	-	-	-	-	2,909	2,909	-	2,909
Voice	-	-	-	-	1,622	1,622	-	1,622
Regulatory	-	-	-	-	615	615	-	615
Other	-	-	-	-	105	105	-	105
Total revenue	3,405	5,722	2,557	3,777	5,251	20,712	-	20,712
Expenses:								
Cost of services and products	935	1,878	382	489	173	3,857	5,077	8,934
Selling, general and administrative	242	510	406	67	466	1,691	1,773	3,464
Less: share-based compensation	-	-	-	-	-	-	(175)	(175)
Total expense	1,177	2,388	788	556	639	5,548	6,675	12,223
Total adjusted EBITDA	\$ 2,228	3,334	1,769	3,221	4,612	15,164	(6,675)	8,489

Year Ended December 31, 2019

	International and Global Accounts	Enterprise	Small and Medium Business	Wholesale	Consumer	Total Segments	Operations and Other	Total
(Dollars in millions)								
Revenue:								
IP and Data Services	\$ 1,627	2,538	1,091	1,365	-	6,621	-	6,621
Transport and Infrastructure	1,268	1,479	365	1,907	-	5,019	-	5,019
Voice and Collaboration	354	1,423	1,226	763	-	3,766	-	3,766
IT and Managed Services	227	256	45	7	-	535	-	535
Broadband	-	-	-	-	2,876	2,876	-	2,876
Voice	-	-	-	-	1,837	1,837	-	1,837
Regulatory	-	-	-	-	632	632	-	632
Other	-	-	-	-	172	172	-	172
Total revenue	3,476	5,696	2,727	4,042	5,517	21,458	-	21,458
Expenses:								
Cost of services and products	920	1,768	399	535	197	3,819	5,315	9,134
Selling, general and administrative	261	545	459	58	521	1,844	1,871	3,715
Less: share-based compensation	-	-	-	-	-	-	(162)	(162)
Total expense	1,181	2,313	858	593	718	5,663	7,024	12,687
Total adjusted EBITDA	\$ 2,295	3,383	1,869	3,449	4,799	15,795	(7,024)	8,771

Year Ended December 31, 2018

	International and Global Accounts	Enterprise	Small and Medium Business	Wholesale	Consumer	Total Segments	Operations and Other	Total
(Dollars in millions)								
Revenue:								
IP and Data Services	\$ 1,682	2,485	1,078	1,369	-	6,614	-	6,614
Transport and Infrastructure	1,230	1,484	424	2,118	-	5,256	-	5,256
Voice and Collaboration	365	1,495	1,366	865	-	4,091	-	4,091
IT and Managed Services	266	301	50	8	-	625	-	625
Broadband	-	-	-	-	2,824	2,824	-	2,824
Voice	-	-	-	-	2,127	2,127	-	2,127
Regulatory	-	-	-	-	727	727	-	727
Other	-	-	-	-	316	316	-	316
Total revenue	3,543	5,765	2,918	4,360	5,994	22,580	-	22,580
Expenses:								
Cost of services and products	940	1,844	416	567	356	4,123	5,876	9,999
Selling, general and administrative	249	567	490	62	617	1,985	2,180	4,165
Less: share-based compensation	-	-	-	-	-	-	(186)	(186)
Total expense	1,189	2,411	906	629	973	6,108	7,870	13,978
Total adjusted EBITDA	\$ 2,354	3,354	2,012	3,731	5,021	16,472	(7,870)	8,602

Revenue and Expenses

Our segment revenue includes all revenue from our five segments as described in more detail above. Our segment revenue is based upon each customer's classification. We report our segment revenue based upon all services provided to that segment's customers. Our segment expenses include specific cost of service expenses incurred as a direct result of providing services and products to segment customers, along with selling, general and administrative expenses that are directly associated with specific segment customers or activities.

The following items are excluded from our segment results, because they are centrally managed and not monitored by or reported to our chief operating decision maker by segment:

- network expenses not incurred as a direct result of providing services and products to segment customers;
- centrally managed expenses such as Operations, Finance, Human Resources, Legal, Marketing, Product Management and IT, which are reported as "Other operating expenses" in the table below;
- depreciation and amortization expense or impairments;
- interest expense, because we manage our financing on a consolidated basis and have not allocated assets or debt to specific segments;
- stock-based compensation; and
- other income and expense items are not monitored as a part of our segment operations.

The following table reconciles total segment adjusted EBITDA to net loss for the years ended December 31, 2020, 2019 and 2018:

	Years Ended December 31,		
	2020	2019	2018
	(Dollars in millions)		
Total segment adjusted EBITDA	\$ 15,164	15,795	16,472
Depreciation and amortization	(4,710)	(4,829)	(5,120)
Goodwill impairment	(2,642)	(6,506)	(2,726)
Other operating expenses	(6,675)	(7,024)	(7,870)
Share-based compensation	(175)	(162)	(186)
Operating income (loss)	962	(2,726)	570
Total other expense, net	(1,744)	(2,040)	(2,133)
Loss before income taxes	(782)	(4,766)	(1,563)
Income tax expense	450	503	170
Net loss	\$ (1,232)	(5,269)	(1,733)

We do not have any single customer that provides more than 10% of our consolidated total operating revenue.

The assets we hold outside of the U.S. represent less than 10% of our total assets. Revenue from sources outside of the U.S. is responsible for less than 10% of our total operating revenue.

(17) Commitments, Contingencies and Other Items

We are subject to various claims, legal proceedings and other contingent liabilities, including the matters described below, which individually or in the aggregate could materially affect our financial condition, future results of operations or cash flows. As a matter of course, we are prepared to both litigate these matters to judgment as needed, as well as to evaluate and consider reasonable settlement opportunities.

Irrespective of its merits, litigation may be both lengthy and disruptive to our operations and could cause significant expenditure and diversion of management attention. We review our litigation accrual liabilities on a quarterly basis, but in accordance with applicable accounting guidelines only establish accrual liabilities when losses are deemed probable and reasonably estimable and only revise previously-established accrual liabilities when warranted by changes in circumstances, in each case based on then-available information. As such, as of any given date we could have exposure to losses under proceedings as to which no liability has been accrued or as to which the accrued liability is inadequate. Amounts accrued for our litigation and non-income tax contingencies at December 31, 2020 and December 31, 2019 aggregated to approximately \$141 million and \$180 million, respectively, and are included in other current liabilities and other liabilities in our consolidated balance sheet as of such date. The establishment of an accrual does not mean that actual funds have been set aside to satisfy a given contingency. Thus, the resolution of a particular contingency for the amount accrued could have no effect on our results of operations but nonetheless could have an adverse effect on our cash flows.

In this Note, when we refer to a class action as “putative” it is because a class has been alleged, but not certified in that matter.

Principal Proceedings

Shareholder Class Action Suit

Lumen and certain Lumen Board of Directors members and officers were named as defendants in a putative shareholder class action lawsuit filed on June 12, 2018 in the Boulder County District Court of the state of Colorado, captioned Houser et al. v. CenturyLink, et al. The complaint asserts claims on behalf of a putative class of former Level 3 shareholders who became CenturyLink, Inc. shareholders as a result of our acquisition of Level 3. It alleges that the proxy statement provided to the Level 3 shareholders failed to disclose various material information of several kinds, including information about strategic revenue, customer loss rates, and customer account issues, among other items. The complaint seeks damages, costs and fees, rescission, rescissory damages, and other equitable relief. In May 2020, the court dismissed the complaint. Plaintiffs appealed that decision, and the appeal is pending.

State Tax Suits

Since 2012, a number of Missouri municipalities have asserted claims in the Circuit Court of St. Louis County, Missouri, alleging that we and several of our subsidiaries have underpaid taxes. These municipalities are seeking, among other things, declaratory relief regarding the application of business license and gross receipts taxes and back taxes from 2007 to the present, plus penalties and interest. In a February 2017 ruling in connection with one of these pending cases, the court entered an order awarding plaintiffs \$4 million and broadening the tax base on a going-forward basis. We appealed that decision to the Missouri Supreme Court. In December 2019, it affirmed the circuit court's order in some respects and reversed it in others, remanding the case to the circuit court for further proceedings. The Missouri Supreme Court's decision reduced our exposure in the case. In a June 2017 ruling in connection with another one of these pending cases, the circuit court made findings in a non-final ruling which, if not overturned or modified in light of the Missouri Supreme Court's decision, will result in a tax liability to us well in excess of the contingent liability we have established. The circuit court has indicated it does not intend to alter its 2017 ruling when it issues its final decision. Once a final decision is issued, we will have the right to pursue an appeal. We continue to vigorously defend against these claims.

Billing Practices Suits

In June 2017, a former employee filed an employment lawsuit against us claiming that she was wrongfully terminated for alleging that we charged some of our retail customers for products and services they did not authorize. Thereafter, based in part on the allegations made by the former employee, several legal proceedings were filed.

In June 2017, *McLeod v. CenturyLink*, a consumer class action, was filed against us in the U.S. District Court for the Central District of California alleging that we charged some of our retail customers for products and services they did not authorize. Other complaints asserting similar claims were filed in other federal and state courts. The lawsuits assert claims including fraud, unfair competition, and unjust enrichment. Also in June 2017, *Craig v. CenturyLink, Inc., et al.*, a securities investor class action, was filed in U.S. District Court for the Southern District of New York, alleging that we failed to disclose material information regarding improper sales practices, and asserting federal securities law claims. A number of other cases asserting similar claims have also been filed.

Beginning June 2017, we also received several shareholder derivative demands addressing related topics. In August 2017, the Board of Directors formed a special litigation committee of outside directors to address the allegations of impropriety contained in the shareholder derivative demands. In April 2018, the special litigation committee concluded its review of the derivative demands and declined to take further action. Since then, derivative cases were filed in Louisiana state court in the Fourth Judicial District Court for the Parish of Ouachita and in federal court in Louisiana and Minnesota. These cases were brought on behalf of CenturyLink, Inc. against certain current and former officers and directors of the Company and seek damages for alleged breaches of fiduciary duties.

The consumer class actions, the securities investor class actions, and the federal derivative actions were transferred to the U.S. District Court for the District of Minnesota for coordinated and consolidated pretrial proceedings as *In Re: CenturyLink Sales Practices and Securities Litigation*.

We received final court approval of our settlement of the consumer class actions for payments totaling \$15.5 million, plus certain notice and administration costs. Approximately 12,000 potential class members elected to opt out of the class settlement and may elect to pursue their individual claims against us on these issues through various dispute resolution processes, including individual arbitration. Subject to certain conditions, we have agreed to settle claims of approximately 11,000 such class members asserted by one law firm. Additionally, we have reached an agreement settling the securities investor class actions for payment of \$55 million, which we expect to be paid by our insurers. The settlement of the securities investor class claims is subject to court approval.

We have engaged in discussions regarding related claims with a number of state attorneys general, and have entered into agreements settling certain of the consumer practices claims asserted by state attorneys general. While we do not agree with allegations raised in these matters, we have been willing to consider reasonable settlements where appropriate.

Peruvian Tax Litigation

In 2005, the Peruvian tax authorities ("SUNAT") issued tax assessments against one of our Peruvian subsidiaries asserting \$26 million, of additional income tax withholding and value-added taxes ("VAT"), penalties and interest for calendar years 2001 and 2002 on the basis that the Peruvian subsidiary incorrectly documented its importations. After taking into account the developments described below, as well as the accrued interest and foreign exchange effects, we believe the total amount of our exposure is \$2 million at December 31, 2020.

We challenged the assessments via administrative and then judicial review processes. In October 2011, the highest administrative review tribunal (the Tribunal) decided the central issue underlying the 2002 assessments in SUNAT's favor. We appealed the Tribunal's decision to the first judicial level, which decided the central issue in favor of Level 3. SUNAT and we filed cross-appeals with the court of appeal. In May 2017, the court of appeal issued a decision reversing the first judicial level. In June 2017, we filed an appeal of the decision to the Supreme Court of Justice, the final judicial level. Oral argument was held before the Supreme Court of Justice in October 2018. A decision on this case is pending.

In October 2013, the Tribunal decided the central issue underlying the 2001 assessments in SUNAT's favor. We appealed that decision to the first judicial level in Peru, which decided the central issue in favor of SUNAT. In June 2017, we filed an appeal with the court of appeal. In November 2017, the court of appeals issued a decision affirming the first judicial level and we filed an appeal of the decision to the Supreme Court of Justice. Oral argument was held before the Supreme Court of Justice in June 2019. A decision on this case is pending.

Brazilian Tax Claims

The São Paulo and Rio de Janeiro state tax authorities have issued tax assessments against our Brazilian subsidiaries for the Tax on Distribution of Goods and Services ("ICMS"), mainly with respect to revenue from leasing certain assets and revenue from the provision of Internet access services by treating such activities as the provision of communications services, to which the ICMS tax applies. We filed objections to these assessments in both states, arguing among other things that neither the lease of assets nor the provision of Internet access qualifies as "communication services" subject to ICMS.

We have appealed to the respective state judicial courts the decisions by the respective state administrative courts that rejected our objections to these assessments. In cases in which state lower courts ruled partially in our favor finding that the lease assets are not subject to ICMS, the State appealed those rulings. In other cases, the assessment was affirmed at the first administrative level and we have appealed to the second administrative level. Other assessments are still pending state judicial decisions.

We are vigorously contesting all such assessments in both states and view the assessment of ICMS on revenue from equipment leasing and Internet access to be without merit. We estimate that these assessments, if upheld, could result in a loss of \$17 million to as high as \$49 million as of December 31, 2020, in excess of the reserved accruals established for these matters.

Qui Tam Action

Level 3 was notified in late 2017 of a qui tam action pending against Level 3 Communications, Inc. and others in the U.S. District Court for the Eastern District of Virginia, captioned United States of America ex rel., Stephen Bishop v. Level 3 Communications, Inc. et al. The original qui tam complaint and an amended complaint were filed under seal on November 26, 2013 and June 16, 2014, respectively. The court unsealed the complaints on October 26, 2017.

The amended complaint alleges that Level 3, principally through two former employees, submitted false claims and made false statements to the government in connection with two government contracts. The relator seeks damages in this lawsuit of approximately \$50 million, subject to trebling, plus statutory penalties, pre-and-post judgment interest, and attorney's fees. The case is currently stayed.

Level 3 is evaluating its defenses to the claims. At this time, Level 3 does not believe it is probable Level 3 will incur a material loss. If, contrary to its expectations, the plaintiff prevails in this matter and proves damages at or near \$50 million, and is successful in having those damages trebled, the outcome could have a material adverse effect on our results of operations in the period in which a liability is recognized and on our cash flows for the period in which any damages are paid.

Several people, including two former Level 3 employees were indicted in the U.S. District Court for the Eastern District of Virginia on October 3, 2017, and charged with, among other things, accepting kickbacks from a subcontractor, who was also indicted, for work to be performed under a prime government contract. Of the two former employees, one entered into a plea agreement, and the other is deceased. Level 3 is fully cooperating in the government's investigations in this matter.

Other Proceedings, Disputes and Contingencies

From time to time, we are involved in other proceedings incidental to our business, including patent infringement allegations, regulatory hearings relating primarily to our rates or services, actions relating to employee claims, various tax issues, environmental law issues, grievance hearings before labor regulatory agencies and miscellaneous third party tort actions.

We are currently defending several patent infringement lawsuits asserted against us by non-practicing entities, many of which are seeking substantial recoveries. These cases have progressed to various stages and one or more may go to trial during 2021 if they are not otherwise resolved. Where applicable, we are seeking full

or partial indemnification from our vendors and suppliers. As with all litigation, we are vigorously defending these actions and, as a matter of course, are prepared to litigate these matters to judgment, as well as to evaluate and consider all reasonable settlement opportunities.

We are subject to various foreign, federal, state and local environmental protection and health and safety laws. From time to time, we are subject to judicial and administrative proceedings brought by various governmental authorities under these laws. Several such proceedings are currently pending, but none is reasonably expected to exceed \$300,000 in fines and penalties.

The outcome of these other proceedings described under this heading is not predictable. However, based on current circumstances, we do not believe that the ultimate resolution of these other proceedings, after considering available defenses and any insurance coverage or indemnification rights, will have a material adverse effect on us.

The matters listed above in this Note do not reflect all of our contingencies. The ultimate outcome of the above-described matters may differ materially from the outcomes anticipated, estimated, projected or implied by us in certain of our statements appearing above in this Note, and proceedings currently viewed as immaterial by us may ultimately materially impact us.

Right-of-Way

At December 31, 2020, our future rental commitments for Right-of-Way agreements were as follows:

	Right-of-Way Agreements	
	(Dollars in millions)	
2021	\$	221
2022		135
2023		91
2024		78
2025		67
2026 and thereafter		673
Total future minimum payments	\$	1,265

Purchase Commitments

We have several commitments primarily for marketing activities and support services from a variety of vendors to be used in the ordinary course of business totaling \$1.0 billion at December 31, 2020. Of this amount, we expect to purchase \$403 million in 2021, \$328 million in 2022 through 2023, and \$98 million in 2024 and 2025 and \$171 million in 2026 and thereafter. These amounts do not represent our entire anticipated purchases in the future, but represent only those items for which we were contractually committed as of December 31, 2020.

(18) Other Financial Information

Other Current Assets

The following table presents details of other current assets in our consolidated balance sheets:

	As of December 31,	
	2020	2019
	(Dollars in millions)	
Prepaid expenses	\$ 290	274
Income tax receivable	7	35
Materials, supplies and inventory	105	105
Contract assets	66	42
Contract acquisition costs	173	178
Contract fulfillment costs	114	115
Other	53	70
Total other current assets	\$ 808	819

Included in accounts payable at December 31, 2020 and 2019 were \$329 million and \$469 million, respectively, associated with capital expenditures. Also included in accounts payable at December 31, 2019 was \$106 million representing book overdrafts. There were no book overdrafts at December 31, 2020.

(19) Labor Union Contracts

As of December 31, 2020, approximately 23% of our employees were represented by the Communication Workers of America (“CWA”) or the International Brotherhood of Electrical Workers (“IBEW”). We believe that relations with our employees continue to be generally good. Approximately 1% of our union-represented employees were subject to collective bargaining agreements that expired as of December 31, 2020 and are currently being renegotiated. Approximately 14% of our represented employees are subject to collective bargaining agreements that are scheduled to expire over the 12 month period ending December 31, 2021.

(20) Accumulated Other Comprehensive Loss

Information Relating to 2020

The table below summarizes changes in accumulated other comprehensive loss recorded on our consolidated balance sheet by component for the year ended December 31, 2020:

	Pension Plans	Post-Retirement Benefit Plans	Foreign Currency Translation Adjustment and Other	Interest Rate Swap	Total
(Dollars in millions)					
Balance at December 31, 2019	\$ (2,229)	(184)	(228)	(39)	(2,680)
Other comprehensive loss before reclassifications	(115)	(103)	(37)	(86)	(341)
Amounts reclassified from accumulated other comprehensive loss	147	15	-	46	208
Net current-period other comprehensive income (loss)	32	(88)	(37)	(40)	(133)
Balance at December 31, 2020	\$ (2,197)	(272)	(265)	(79)	(2,813)

The table below presents further information about our reclassifications out of accumulated other comprehensive loss by component for the year ended December 31, 2020:

Year Ended December 31, 2020	(Decrease) Increase in Net Loss	Affected Line Item in Consolidated Statement of Operations
(Dollars in millions)		
Interest rate swaps	\$ 62	Interest expense
Income tax expense	(16)	Income tax expense
Net of tax	\$ 46	
Amortization of pension & post-retirement plans ¹		
Net actuarial loss	\$203	Other (expense) income, net
Prior service cost	7	Other (expense) income, net
Curtailment loss	4	Other (expense) income, net
Total before tax	214	
Income tax benefit	(52)	Income tax expense
Net of tax	\$ 162	

1. See Note 10-Employee Benefits for additional information on our net periodic benefit (expense) income related to our pension and post-retirement plans.

Information Relating to 2019

The table below summarizes changes in accumulated other comprehensive loss recorded on our consolidated balance sheet by component for the year ended December 31, 2019:

	Pension Plans	Post-Retirement Benefit Plans	Foreign Currency Translation Adjustment and Other	Interest Rate Swap	Total
(Dollars in millions)					
Balance at December 31, 2018	\$ (2,173)	(58)	(230)	-	(2,461)
Other comprehensive (loss) income before reclassifications	(219)	(138)	2	(41)	(396)
Amounts reclassified from accumulated other comprehensive loss	163	12	-	2	177
Net current-period other comprehensive (loss) income	(56)	(126)	2	(39)	(219)
Balance at December 31, 2019	\$ (2,229)	(184)	(228)	(39)	(2,680)

The table below presents further information about our reclassifications out of accumulated other comprehensive loss by component for the year ended December 31, 2019:

Year Ended December 31, 2019	(Decrease) Increase in Net Loss	Affected Line Item in Consolidated Statement of Operations
(Dollars in millions)		
Amortization of pension & post-retirement plans ¹		
Interest rate swap	\$ 2	Interest expense
Net actuarial loss	224	Other (expense) income, net
Prior service cost	8	Other (expense) income, net
Total before tax	234	
Income tax benefit	(57)	Income tax expense
Net of tax	\$ 177	

1. See Note 10-Employee Benefits for additional information on our net periodic benefit (expense) income related to our pension and post-retirement plans.

(21) Dividends

Our Board of Directors declared the following dividends payable in 2020 and 2019:

Date Declared	Record Date	Dividend Per Share	Total Amount (in millions)	Payment Date
November 19, 2020	11/30/2020	\$ 0.250	\$ 274	12/11/2020
August 20, 2020	8/31/2020	0.250	274	9/11/2020
May 20, 2020	6/1/2020	0.250	274	6/12/2020
February 27, 2020	3/9/2020	0.250	274	3/20/2020
November 21, 2019	12/2/2019	0.250	273	12/13/2019
August 22, 2019	9/2/2019	0.250	273	9/13/2019
May 23, 2019	6/3/2019	0.250	274	6/14/2019
March 1, 2019	3/12/2019	0.250	273	3/22/2019

The declaration of dividends is solely at the discretion of our Board of Directors, which may change or terminate our dividend practice at any time for any reason without prior notice. On February 25, 2021, our Board of Directors declared a quarterly cash dividend of \$0.25 per share.

Appendix C-1

AMENDED AND RESTATED SECTION 382 RIGHTS AGREEMENT

CenturyLink, Inc.

and

Computershare Trust Company, N.A.

Amended and Restated
Section 382 Rights Agreement

Dated as of May 9, 2019

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Amended and Restated Section 382 Rights Agreement, dated as of May 9, 2019, (this “Agreement”) between CenturyLink, Inc., a Louisiana corporation (the “Company”), and Computershare Trust Company, N.A., as rights agent (the “Rights Agent”).

WHEREAS, the Company and the Rights Agent entered into that certain Section 382 Rights Agreement dated as of February 13, 2019 (“Original Agreement”).

WHEREAS, the Company has generated net operating loss carryovers and tax credit carryovers for United States federal income tax purposes (“NOLs”), which are expected to provide valuable tax benefits to the Company. The ability to use the NOLs may be impaired or destroyed by an “ownership change” within the meaning of Section 382 (as such term is hereinafter defined). The Company desires to avoid such an “ownership change” and thereby preserve the ability to use the NOLs without limitation.

WHEREAS, in connection with the Original Agreement, the Board of Directors of the Company has authorized and declared a dividend of one preferred share purchase right (a “Right”) for each Common Share (as hereinafter defined) of the Company outstanding on February 25, 2019 (the “Record Date”), each Right representing the right to purchase one ten-thousandth of a Preferred Share (as hereinafter defined), upon the terms and subject to the conditions herein set forth, and has further authorized and directed the issuance of one Right with respect to each Common Share that shall become outstanding between the Record Date and the earliest of the Distribution Date, the Redemption Date, the Early Expiration Date and the Final Expiration Date (as such terms are hereinafter defined).

Accordingly, in consideration of the premises and the mutual agreements herein set forth, the parties hereby agree to amend and restate the Original Agreement as follows:

Section 1. Definitions. For purposes of this Agreement, the following terms have the meanings indicated:

(a) “5 Percent Shareholder” shall mean a “5% shareholder” of the Company within the meaning of Section 382(k)(7) of the Internal Revenue Code of 1986, as amended.

(b) “Acquiring Person” shall mean any Person (other than any Exempt Person) who or which, together with all Affiliates and Associates of such Person, shall be the Beneficial Owner of 4.9% or more of the Common Shares of the Company then outstanding, but shall not include the Company, any Subsidiary of the Company, any employee benefit plan of the Company or any Subsidiary of the Company, or any entity holding Common Shares for or pursuant to the terms of any such plan; provided, however, that, (i) any Person who or which would otherwise be an Acquiring Person as of February 13, 2019 by virtue of being a 5 Percent Shareholder will not be deemed to be an Acquiring Person for any purpose of this Agreement prior to or after February 13, 2019 unless and until such time as (A) such Person or any Affiliate or Associate of such Person thereafter becomes, individually or in the aggregate, by reason of a transaction or transactions after February 13, 2019 the Beneficial Owner of additional Common Shares representing one-half of one percent (0.5%) or more of the Common Shares outstanding at the time of such acquisition, other than (1) pursuant to any agreement or regular-way purchase order for Common Shares that is in effect on or prior to February 13, 2019 and consummated in accordance with its terms after February 13, 2019, or (2) as a result of a stock dividend, rights dividend, stock split or similar transaction effected by the Company in which all holders of Common Shares are treated equally, or (B) any other Person who is the Beneficial Owner of Common Shares becomes an Affiliate or Associate of such Person after February 13, 2019; provided, however, that the foregoing exclusion in this clause (i) shall cease to apply with respect to any Person at such time as such Person, together with all Affiliates and Associates of such Person, Beneficially Owns less than 4.9% of the then-outstanding Common Shares; (ii) a Person will not be deemed to have become an Acquiring Person solely as a result of a reduction in the number of Common Shares outstanding unless and until such time as (A) such Person or any Affiliate or Associate of such Person thereafter becomes the Beneficial Owner of any additional Common Shares, other than as a result of a stock dividend, stock split or similar transaction effected by the Company in which all holders of Common Shares are treated equally, or (B) any other Person who is the Beneficial Owner of Common Shares becomes an Affiliate or Associate of such Person after February 13, 2019; and (iii) a Person will not be deemed to have become an Acquiring Person solely as a result of an Exempted Transaction, provided, however, that the foregoing exclusion in this clause (iii) shall cease to apply with respect to any Person at such time as such Person (or any Affiliates or Associates of such Person) acquires any additional Common Shares.

In addition, notwithstanding the foregoing, and notwithstanding anything to the contrary provided in this Agreement, a Person shall not be an “Acquiring Person” if the Independent Directors determine at any time prior to the Distribution Date that a Person who would otherwise be an “Acquiring Person,” has become such inadvertently or without intending to become an “Acquiring Person,” and such Person divests as promptly as practicable (or within such period of time as the Independent Directors determine is reasonable) a sufficient number of Common Shares so that such Person would no longer be an “Acquiring Person,” as defined pursuant to the foregoing.

(c) “Affiliate” shall have the meaning ascribed to such term in Rule 12b-2 of the General Rules and Regulations under the Exchange Act, as in effect on February 13, 2019 and, to the extent not included within the

foregoing, will also include, with respect to any Person, any other Person (other than an Exempt Person) whose Common Shares would be deemed constructively owned by such first Person pursuant to the provisions of Section 382; provided, however, that a Person will not be deemed to be the Affiliate or Associate of another Person solely because either or both Persons are or were directors or officers of the Company; provided, further, that with respect to the SRA Assignees, "Affiliate" shall have the meaning set forth in the Shareholder Rights Agreement.

(d) "Associate" shall have the meaning ascribed to such term in Rule 12b-2 of the General Rules and Regulations under the Exchange Act as in effect on February 13, 2019.

(e) A Person shall be deemed the "Beneficial Owner" of and shall be deemed to "beneficially own" any securities:

(i) which such Person or any of such Person's Affiliates or Associates has the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding (other than customary agreements with and between underwriters and selling group members with respect to a bona fide public offering of securities), or upon the exercise of conversion rights, exchange rights, rights (other than these Rights), warrants or options, or otherwise; provided, however, that a Person shall not be deemed the Beneficial Owner of, or to beneficially own, securities tendered pursuant to a tender or exchange offer made by or on behalf of such Person or any of such Person's Affiliates or Associates until such tendered securities are accepted for purchase or exchange; or

(ii) which such Person or any of such Person's Affiliates or Associates has the right to vote pursuant to any agreement, arrangement or understanding; provided, however, that a Person shall not be deemed the Beneficial Owner of, or to beneficially own, any security if the agreement, arrangement or understanding to vote such security (1) arises solely from a revocable proxy or consent given to such Person in response to a public proxy or consent solicitation made pursuant to, and in accordance with, the applicable rules and regulations promulgated under the Exchange Act and (2) is not also then reportable on Schedule 13D under the Exchange Act (or any comparable or successor report); or

(iii) which are beneficially owned, directly or indirectly, by any other Person with which such Person or any of such Person's Affiliates or Associates has any agreement, arrangement or understanding (other than customary agreements with and between underwriters and selling group members with respect to a bona fide public offering of securities) for the purpose of acquiring, holding, voting (except to the extent contemplated by the proviso to Section 1(e)(ii) hereof) or disposing of any securities of the Company; or

(iv) which such Person would be deemed to constructively own or which otherwise would be aggregated with shares owned by such Person pursuant to Section 382.

Notwithstanding anything in this definition of Beneficial Ownership to the contrary, the phrase "then outstanding," when used with reference to a Person's Beneficial Ownership of securities of the Company, shall mean the number of such securities then issued and outstanding together with the number of such securities not then actually issued and outstanding which such Person would be deemed to beneficially own hereunder.

(f) "Business Day" shall mean any day other than a Saturday, a Sunday, or a day on which banking institutions in New York are authorized or obligated by law or executive order to close.

(g) "Close of Business" on any given date shall mean 5:00 P.M., New York time, on such date; provided, however, that, if such date is not a Business Day, it shall mean 5:00 P.M., New York time, on the next succeeding Business Day.

(h) "Common Shares" when used with reference to the Company shall mean the shares of common stock, par value \$1.00 per share, of the Company. "Common Shares" when used with reference to any Person other than the Company shall mean the capital stock (or equity interest) with the greatest voting power of such other Person or, if such other Person is a Subsidiary of another Person, the Person or Persons which ultimately control such first-mentioned Person.

(i) "Common Share Equivalents" shall have the meaning set forth in Section 11(a)(iii) hereof.

(j) "Current Value" shall have the meaning set forth in Section 11(a)(iii) hereof.

(k) "Distribution Date" shall have the meaning set forth in Section 3(a) hereof.

(l) "Early Expiration Date" shall have the meaning set forth in Section 7(a) hereof.

(m) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

(n) "Exchange Ratio" shall have the meaning set forth in Section 24(a) hereof.

(o) "Exempt Person" shall mean:

(i) the Temasek Group, unless and until either of the SRA Assignees (or any of their respective Affiliates) acquires any Common Shares, other than acquisitions of Common Shares (x) in a transaction that is permitted under Section 4 of the Shareholder Rights Agreement, but, in such case, if and only if such transaction is effected in accordance with Section 38 of this Agreement, or (y) any transfers of Common Shares or other Company equity interests between either SRA Assignee and its Affiliates;

(ii) any Person to whom either of the SRA Assignees transfers any amount of Common Shares as permitted by Section 4.2 of the Shareholder Rights Agreement, unless and until such Person (or any Affiliates or Associates of such Person) acquires any additional Common Shares; provided, that in the case where such transfer is other than in an open market transaction effected by or through a broker, and the transferee is either not a 5 Percent Shareholder prior to such transfer but, as a result of such transfer, would become a 5 Percent Shareholder, or was a 5 Percent Shareholder before and after such transfer (any such transfer, a “Section 382 Transfer”), then in such cases, if and only if such transfer would not result in an “ownership change” of the Company for purposes of Section 382 as determined in accordance with Section 38 of this Agreement; and

(iii) any other Person whose Beneficial Ownership (together with all Affiliates and Associates of such Person) of 4.9% or more of the then-outstanding Common Shares (1) will not jeopardize or endanger the availability to the Company of any income tax benefit or (2) is otherwise in the best interests of the Company, in each case as determined by the Independent Directors in their sole discretion prior to the Distribution Date; provided, however, that such a Person will cease to be an Exempt Person if the Independent Directors make a contrary determination with respect to the effect of such Person’s Beneficial Ownership (together with all Affiliates and Associates of such Person) in their sole discretion prior to the Distribution Date regardless of the reason therefor.

For the avoidance of doubt, nothing in this Agreement shall permit any member of the Temasek Group from taking any action that would result in an “ownership change” of the Company for purposes of Section 382.

(p) “Exempted Transaction” means any transaction that the Independent Directors, in their sole discretion, have declared exempt pursuant to Section 35, which determination shall be irrevocable with respect to such transaction.

(q) “Final Expiration Date” shall have the meaning set forth in Section 7(a) hereof.

(r) “Independent Directors” shall mean any director of the Company who is an “independent director” under the rules of the NYSE and also is not (a) a director, an officer or an employee of an Exempt Person or a Person excluded from the definition of “Acquiring Person” in clause (i) of such definition; (b) a director, an officer or an employee of an Affiliate or Associate of an Exempt Person or a Person excluded from the definition of “Acquiring Person” in clause (i) of such definition; (c) an Exempt Person or a Person excluded from the definition of “Acquiring Person” in clause (i) of such definition; or (d) an Affiliate or an Associate of an Exempt Person or a Person excluded from the definition of “Acquiring Person” in clause (i) of such definition.

(s) “Maximum Common Shares” shall be equal to that number of Common Shares that would cause an ownership change for purposes of Section 382 less 5,000,000 Common Shares.

(t) “NOLs” shall have the meaning set forth in the recitals hereof.

(u) “NYSE” shall mean the New York Stock Exchange.

(v) “Person” shall mean any individual, firm, corporation, partnership, limited liability company, limited liability partnership, trust or other entity, or a group of Persons making a “coordinated acquisition” of shares or otherwise treated as an entity within the meaning of Section 1.382 -3(a)(1) of the Treasury Regulations, and shall include any successor (by merger or otherwise) of such individual or entity, but shall not include a Public Group (as such term is defined in Section 1.382-2T(f)(13) of the Treasury Regulations).

(w) “Preferred Shares” shall mean shares of Series CC Junior Participating Preferred Shares, par value \$25.00 per share, of the Company having the rights and preferences set forth in the Form of Articles of Amendment attached to this Agreement as Exhibit A.

(x) “Purchase Price” shall have the meaning set forth in Section 4 hereof.

(y) “Record Date” shall have the meaning set forth in the third paragraph hereof.

(z) “Redemption Date” shall have the meaning set forth in Section 7(a) hereof.

(aa) “Redemption Price” shall have the meaning set forth in Section 23(a) hereof.

- (bb) “Right” shall have the meaning set forth in the third paragraph hereof.
- (cc) “Right Certificate” shall have the meaning set forth in Section 3(a) hereof.
- (dd) “Section 382” shall mean Section 382 of the Internal Revenue Code of 1986, as amended, and any successor provision or replacement provision.
- (ee) “Section 382 Notice” shall mean a written notice by either of the SRA Assignees or their Affiliates to the Company with respect to a proposed acquisition of additional Common Shares of the Company or a proposed Section 382 Transfer pursuant to Section 38 hereof, as applicable, specifying any change in the number of Common Shares of the Company beneficially owned by the Temasek Group since the last Schedule 13D (or amendment thereto) filed by the Temasek Group with respect to the Company and (A) in the case of a proposed specific acquisition, relevant details of such acquisition (including the number of Common Shares of the Company proposed to be acquired) to reasonably enable the Company to make the determination set forth in Section 38 hereof and (B) in the case of a proposed Section 382 Transfer pursuant to Section 38 hereof, relevant details of such transfer (including the number of Common Shares of the Company proposed to be transferred and the identity of the transferee) to reasonably enable the Company to make the determination set forth in Section 38 hereof.
- (ff) “Section 382 Transfer” shall have the meaning set forth in Section 1(o)(ii) hereof.
- (gg) “Shares Acquisition Date” shall mean the date of the first public announcement by the Company that an Acquiring Person has become such, which announcement shall follow a determination by the Board to such effect, which is made and reflected in a Board resolution prior to the earliest of the Redemption Date, the Early Expiration Date and the Final Expiration Date.
- (hh) “Spread” shall have the meaning set forth in Section 11(a)(iii) hereof.
- (ii) “Shareholder Approval” shall mean the approval of this Agreement by the affirmative vote of a majority of the votes cast at the meeting of shareholders of the Company duly held in accordance with the Company’s articles of incorporation (as amended) and applicable law.
- (jj) “Shareholder Rights Agreement” shall mean the Shareholder Rights Agreement, dated as of October 31, 2016, by and between the Company and STT Crossing Ltd., as amended by the Assignment and Assumption Agreement, dated as of February 5, 2018, by and between the Company, STT Crossing Ltd., Everitt Investments Pte. Ltd, and Aranda Investments Pte. Ltd.
- (kk) “SRA Assignees” shall mean Everitt Investments Pte. Ltd and Aranda Investments Pte. Ltd.,
- (ll) “Subsidiary” of any Person shall mean any corporation or other entity of which a majority of the voting power of the voting equity securities or equity interest is owned, directly or indirectly, by such Person.
- (mm) “Summary of Rights” shall have the meaning set forth in Section 3(b) hereof.
- (nn) “Temasek Group” shall mean the SRA Assignees and their Affiliates and Associates.
- (oo) “Trading Day” shall have the meaning set forth in Section 11(d) hereof.
- (pp) “Treasury Regulations” shall mean final, temporary and proposed income tax regulations promulgated under the Internal Revenue Code of 1986, as amended, including any amendments thereto.

Section 2. Appointment of Rights Agent. The Company hereby appoints the Rights Agent to act as rights agent for the Company in accordance with the express terms and conditions hereof (and no implied terms or conditions), and the Rights Agent hereby accepts such appointment. The Company may from time to time appoint such co-Rights Agents as it may deem necessary or desirable; provided that the Company shall notify the Rights Agent in writing ten (10) Business Days prior to such appointment. In the event the Company appoints one or more co-Rights Agents, the respective duties of the Rights Agent and any co-Rights Agents under the provisions of this Agreement shall be as the Company reasonably determines, and the Company shall notify, in writing, the Rights Agent and any co-Rights Agents of such duties. The Rights Agent shall have no duty to supervise, and shall in no event be liable for, the acts or omissions of any such co-Rights Agents.

Section 3. Issue of Right Certificates. (a) Until the tenth Business Day after the Shares Acquisition Date (including any such Shares Acquisition Date which is after February 13, 2019 and prior to the issuance of the Rights) (or such later day, if any, as the Independent Directors determine in their discretion to be no longer than a 15 Business Day extension) (as may be extended, the “Distribution Date”), (i) the Rights will be evidenced (subject to the provisions of Section 3(b) and 3(c) hereof) by the certificates for Common Shares of the Company or book entry Common Shares of the Company registered in the names of the holders thereof (which certificates or book entry shares shall also be deemed to be Right Certificates) and not by separate Right Certificates, and (ii) the Rights will be transferable only in connection with the transfer of Common Shares of the Company. As soon as practicable after the Distribution Date, the Company will prepare and execute, the Rights

Agent will countersign, and the Company will send or cause to be sent (and the Rights Agent will, if requested to do so by the Company and provided with all necessary information and documentation, in form and substance reasonably satisfactory to the Rights Agent, send) to each record holder of Common Shares of the Company as of the Close of Business on the Distribution Date (other than any Acquiring Person or any Associate or Affiliate of any Acquiring Person), at the address of such holder shown on the records of the Company, a Right Certificate, in substantially the form of Exhibit B hereto (a "Right Certificate"), evidencing one Right for each Common Share so held (other than with respect to Rights that have become void pursuant to Section 11(a)(ii) hereof or that have been exchanged pursuant to Section 24 hereof). As of the Distribution Date, the Rights will be evidenced solely by such Right Certificates, and the Rights Certificates and the Rights shall be transferable separately from the transfer of Common Shares. The Company shall promptly notify the Rights Agent in writing upon the occurrence of the Distribution Date and, if such notification is given orally, the Company shall confirm the same in writing on or prior to the Business Day next following. Until such written notice is received by the Rights Agent, the Rights Agent may presume conclusively for all purposes that the Distribution Date has not occurred.

(b) After the Record Date, the Company will send (directly or, at the expense of the Company, through the Rights Agent or its transfer agent if the Rights Agent or transfer agent is directed by the Company and provided with all necessary information and documents) a copy of a Summary of Rights to Purchase Preferred Shares, in substantially the form of Exhibit C hereto (the "Summary of Rights"), to each record holder of Common Shares as of the Close of Business on the Record Date (other than any Acquiring Person or any Associate or Affiliate of any Acquiring Person), at the address of such holder shown on the records of the Company or transfer agent or register for Common Shares.

(c) Certificates for Common Shares (or confirmation or account statements sent to holders of Common Shares in book-entry form) which become outstanding (including, without limitation, reacquired Common Shares referred to in the last sentence of this paragraph (c)) after the Record Date but prior to the earliest of the Distribution Date, the Redemption Date, the Early Expiration Date or the Final Expiration Date shall bear the following legend:

This certificate also evidences and entitles the holder hereof to certain rights as set forth in the Section 382 Rights Agreement between CenturyLink, Inc. (the "Company") and Computershare Trust Company, N.A., or any successor rights agent, dated as of February 13, 2019, as it may be amended from time to time (the "Agreement"), the terms of which are hereby incorporated herein by reference and a copy of which is on file at the principal executive offices of the Company. Under certain circumstances, as set forth in the Agreement, such Rights (as defined in the Agreement) will be evidenced by separate certificates and will no longer be evidenced by this certificate. The Company will mail to the holder of this certificate a copy of the Agreement without charge after receipt of a written request therefor. As set forth in the Agreement, Rights beneficially owned by any Person (as defined in the Agreement) who becomes an Acquiring Person (as defined in the Agreement) become null and void.

With respect to such certificates bearing the foregoing legend, until the earliest of the Distribution Date, the Redemption Date, the Early Expiration Date or the Final Expiration Date, the Rights associated with the Common Shares of the Company represented by such certificates shall be evidenced by such certificates alone, and the surrender for transfer of any such certificate shall also constitute the transfer of the Rights associated with the Common Shares of the Company represented thereby. In the event that the Company purchases or acquires any Common Shares of the Company after the Record Date but prior to the Distribution Date, any Rights associated with such Common Shares of the Company shall be deemed cancelled and retired so that the Company shall not be entitled to exercise any Rights associated with the Common Shares of the Company which are no longer outstanding.

With respect to Common Shares in book entry form for which there has been sent a confirmation or account statement containing the foregoing legend in substantially similar form, until the earliest of the Distribution Date, the Redemption Date, the Early Expiration Date or the Final Expiration Date, the Rights associated with the Common Shares shall be evidenced by such Common Shares alone and registered holders of Common Shares shall also be the registered holders of the associated Rights, and the transfer of any such Common Shares shall also constitute the transfer of the Rights associated with such Common Shares.

Notwithstanding this paragraph (c), the omission of the legend or the failure to send, deliver or provide the registered owner of Common Shares a copy of the Summary of Rights shall not affect the enforceability of any part of this Agreement or the rights of any holder of the Rights.

Section 4. Form of Right Certificates. The Right Certificates (and the forms of election to purchase Preferred Shares and of assignment to be printed on the reverse thereof) shall be substantially the same as Exhibit B hereto if the Company elects to issue physical certificates, and may have such changes or marks of identification or designation and such legends, summaries or endorsements printed thereon as the Company may deem appropriate (but which do not affect the rights, duties, liabilities, protections or responsibilities of the

Rights Agent hereunder) and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any applicable law or with any applicable rule or regulation made pursuant thereto or with any applicable rule or regulation of any stock exchange or the Financial Industry Regulatory Authority, or to conform to usage. Subject to the provisions of Section 22 hereof, the Right Certificates shall entitle the holders thereof to purchase such number of one ten-thousandths of a Preferred Share as shall be set forth therein at the price per one ten-thousandth of a Preferred Share set forth therein (the "Purchase Price"), but the number of such one ten-thousandths of a Preferred Share and the Purchase Price shall be subject to adjustment as provided herein. Notwithstanding anything contrary provided herein, the Company may elect to maintain the Rights in book-entry form rather than issuing Rights Certificates.

Section 5. Countersignature and Registration. The Right Certificates shall be executed on behalf of the Company by its Chief Executive Officer, Chief Financial Officer, President, General Counsel, Corporate Secretary, any of its Senior Vice Presidents or its Treasurer, either manually or by facsimile or other electronic signature (e.g., PDF). The Right Certificates shall be countersigned manually or by facsimile or other electronic means (e.g., PDF) by an authorized signatory of the Rights Agent and shall not be valid for any purpose unless countersigned. In case any officer of the Company who shall have signed any of the Right Certificates shall cease to be such officer of the Company before countersignature by the Rights Agent and issuance and delivery by the Company, such Right Certificates, nevertheless, may be countersigned by the Rights Agent and issued and delivered by the Company with the same force and effect as though the individual who signed such Right Certificates had not ceased to be such officer of the Company; and any Right Certificate may be signed on behalf of the Company by any individual who, at the actual date of the execution of such Right Certificate, shall be a proper officer of the Company to sign such Right Certificate, although at the date of the execution of this Agreement any such individual was not such an officer.

Following the Distribution Date, upon receipt by the Rights Agent of notice to that effect and all other relevant information and documents referred to in Section 3(a), the Rights Agent will keep or cause to be kept, at its office(s) designated for such purpose, books for registration and transfer of the Right Certificates issued hereunder. Such books shall show the names and addresses of the respective holders of the Right Certificates, the number of Rights evidenced on its face by each of the Right Certificates and the date of each of the Right Certificates.

Section 6. Transfer, Split Up, Combination and Exchange of Right Certificates; Mutilated, Destroyed, Lost or Stolen Right Certificates. Subject to the provisions of Section 14 hereof, at any time after the Close of Business on the Distribution Date, and at or prior to the Close of Business on the earliest of the Redemption Date, the Early Expiration Date or the Final Expiration Date, any Right Certificate or Right Certificates (other than Right Certificates representing Rights that have become void pursuant to Section 11(a)(ii) hereof, that have been redeemed pursuant to Section 23, or that have been exchanged pursuant to Section 24 hereof) may be transferred, split up, combined or exchanged for another Right Certificate or Right Certificates entitling the registered holder to purchase a like number of one ten-thousandths of a Preferred Share as the Right Certificate or Right Certificates surrendered then entitled such holder to purchase. Any registered holder desiring to transfer, split up, combine or exchange any Right Certificate or Right Certificates shall make such request in writing delivered to the Rights Agent, and shall surrender, together with any required form of assignment duly executed and properly completed, the Right Certificate or Right Certificates to be transferred, split up, combined or exchanged at the office(s) of the Rights Agent designated for such purpose, along with a signature guarantee (if required) and such other and further documentation as the Company or the Rights Agent may reasonably request. The Rights Certificates are transferable only on the books and records of the Rights Agent. Neither the Rights Agent nor the Company shall be obligated to take any action whatsoever with respect to the transfer of any such surrendered Right Certificate until the registered holder has properly completed and duly executed the certificate set forth in the form of assignment on the reverse side of such Rights Certificate and has provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) of the Rights represented by such Rights Certificate as the Company or the Rights Agent may reasonably request. Thereupon the Rights Agent shall countersign and deliver to the Person entitled thereto a Right Certificate or Right Certificates, as the case may be, as so requested. The Company or the Rights Agent may require payment by the holder of the Rights of a sum sufficient to cover any tax or governmental charge that may be imposed in connection with any transfer, split up, combination or exchange of Right Certificates. If and to the extent the Company does require payment of any such taxes or governmental charges, the Company shall give the Rights Agent prompt written notice thereof and the Rights Agent shall not deliver any Rights Certificate unless and until it is satisfied that all such payments have been made, and the Rights Agent shall forward any such sum collected by it to the Company or to such Persons as the Company specifies by written notice. The Rights Agent shall have no duty or obligation to take any action under any Section of this Agreement which requires the payment of applicable taxes and/or governmental charges unless and until it is satisfied that all such taxes and/or governmental charges have been paid.

Upon receipt by the Company and the Rights Agent of evidence reasonably satisfactory to them of the loss, theft, destruction or mutilation of a Right Certificate, and, in case of loss, theft or destruction, of indemnity

or security reasonably satisfactory to them, along with such other and further documentation as the Company or the Rights Agent may reasonably request and, at the Company's request, reimbursement to the Company and the Rights Agent of all reasonable expenses incidental thereto, and upon surrender to the Rights Agent and cancellation of the Right Certificate if mutilated, the Company will execute and deliver a new Right Certificate of like tenor to the Rights Agent for countersignature and delivery to the registered holder in lieu of the Right Certificate so lost, stolen, destroyed or mutilated.

Notwithstanding any other provision hereof, the Company and the Rights Agent may amend this Agreement to provide for uncertificated Rights in addition to or in lieu of Rights evidenced by Right Certificates, to the extent permitted by applicable law.

Section 7. Exercise of Rights; Purchase Price; Expiration Date of Rights. (a) The registered holder of any Right Certificate may exercise the Rights evidenced thereby (except as otherwise provided herein), in whole or in part, at any time after the Distribution Date, upon surrender of the Right Certificate, with the form of election to purchase and the certificate on the reverse side thereof properly completed and duly executed (with such signature duly guaranteed, if required), to the Rights Agent at the office or offices of the Rights Agent designated for such purpose, together with payment of the Purchase Price for each one ten-thousandth of a Preferred Share as to which the Rights are exercised, at or prior to the earliest of (i) December 1, 2020 (the "Final Expiration Date"), (ii) the time at which the Rights are redeemed as provided in Section 23 hereof (the "Redemption Date"), (iii) the time at which such Rights are exchanged as provided in Section 24 hereof, (iv) the time at which the Independent Directors determine that the NOLs are utilized in all material respects or that an ownership change under Section 382 would not adversely impact in any material respect the time period in which the Company could use the NOLs, or materially impair the amount of the NOLs that could be used by the Company in any particular time period, for applicable tax purposes, (v) February 13, 2020 if Shareholder Approval has not been obtained prior to such date, (vi) a determination by the Independent Directors, prior to the Distribution Date, that this Agreement and the Rights are no longer in the best interests of the Company and its shareholders (the earliest of the dates set forth in clauses (iv), (v) and (vi) the "Early Expiration Date").

(b) The Purchase Price for each one ten-thousandth of a Preferred Share purchasable pursuant to the exercise of a Right shall initially be \$28, and shall be subject to adjustment from time to time as provided in Section 11 hereof, and shall be payable in lawful money of the United States of America in accordance with paragraph (c) below.

(c) Upon receipt of a Right Certificate representing exercisable Rights, with the form of election to purchase properly completed and duly executed, accompanied by payment of the Purchase Price for the shares to be purchased and an amount equal to any applicable transfer tax required to be paid by the holder of such Right Certificate in accordance with Section 9 hereof by personal check payable to the order of the Rights Agent, the Rights Agent shall thereupon promptly (i) (A) requisition from any transfer agent of the Preferred Shares certificates for the number of Preferred Shares to be purchased and the Company hereby irrevocably authorizes any such transfer agent to comply with all such requests, or (B) requisition from the depositary agent depositary receipts representing such number of one ten-thousandths of a Preferred Share as are to be purchased (in which case certificates for the Preferred Shares represented by such receipts shall be deposited by the transfer agent of the Preferred Shares with such depositary agent) and the Company shall direct such depositary agent to comply with such request; (ii) when necessary to comply with this Agreement, requisition from the Company the amount of cash to be paid in lieu of issuance of fractional shares in accordance with Section 14 hereof; (iii) promptly after receipt of such certificates or depositary receipts, cause the same to be delivered to or upon the order of the registered holder of such Right Certificate, registered in such name or names as may be designated by such holder; and (iv) when necessary to comply with this Agreement, after receipt, promptly deliver such cash to or upon the order of the registered holder of such Right Certificate.

(d) In case the registered holder of any Right Certificate shall properly exercise less than all the Rights evidenced thereby, a new Right Certificate evidencing Rights equivalent to the Rights remaining unexercised shall be issued by the Rights Agent to registered holder of such Right Certificate or to such holder's duly authorized assigns, subject to the provisions of Section 14 hereof.

(e) Notwithstanding anything in this Agreement or any Right Certificate to the contrary, neither the Rights Agent nor the Company shall be obligated to take any action with respect to a registered holder upon the occurrence of any purported transfer or exercise as set forth in this Section 7 by such registered holder unless such registered holder has (i) properly completed and duly executed the certificate following the form of election to purchase set forth on the reverse side of the Right Certificate surrendered for such exercise, and (ii) provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) of the Rights represented by such Rights Certificate as the Company or the Rights Agent reasonably requests.

(g) Except for those provisions herein that expressly survive the termination of this Agreement, this Agreement shall terminate upon the earlier of the Redemption Date, Early Expiration Date or Final Expiration Date and such time as all outstanding Rights have been exercised, redeemed or exchanged hereunder.

Section 8. Cancellation and Destruction of Right Certificates. All Right Certificates surrendered for the purpose of exercise, transfer, split up, combination or exchange shall, if surrendered to the Company or to any of its agents, be delivered to the Rights Agent for cancellation or in cancelled form, or, if surrendered to the Rights Agent, shall be cancelled by it, and no Right Certificates shall be issued in lieu thereof except as expressly permitted by any of the provisions of this Agreement. The Company shall deliver to the Rights Agent for cancellation and retirement, and the Rights Agent shall so cancel and retire, any other Right Certificate purchased or acquired by the Company otherwise than upon the exercise thereof. Subject to applicable law and regulation, the Rights Agent shall maintain in a retrievable database electronic records of all cancelled or destroyed stock certificates which have been canceled or destroyed by the Rights Agent. The Rights Agent shall deliver all cancelled Rights Certificates to the Company, or shall, at the written request of the Company, destroy or cause to be destroyed such cancelled Rights Certificates, and in such case shall deliver a certificate of destruction thereof to the Company.

Section 9. Availability of Preferred Shares. The Company covenants and agrees that it will cause to be reserved and kept available out of its authorized and unissued Preferred Shares or any Preferred Shares held in its treasury the number of Preferred Shares that will be sufficient to permit the exercise in full of all outstanding Rights in accordance with Section 7 hereof. The Company covenants and agrees that it will take all such action as may be necessary to ensure that all Preferred Shares delivered upon exercise of Rights shall, at the time of delivery of the certificates for such Preferred Shares (subject to payment of the Purchase Price), be duly and validly authorized and issued and fully paid and nonassessable shares.

The Company further covenants and agrees that it will pay when due and payable any and all federal and state transfer taxes and charges which may be payable in respect of the issuance or delivery of the Right Certificates or of any Preferred Shares upon the exercise of Rights. The Company shall not, however, be required to pay any transfer tax which may be payable in respect of any transfer or delivery of Right Certificates to a Person other than, or the issuance or delivery of certificates or depositary receipts for the Preferred Shares in a name other than that of, the registered holder of the Right Certificate evidencing Rights surrendered for exercise or to issue or to deliver any certificates or depositary receipts for Preferred Shares upon the exercise of any Rights until any such tax shall have been paid (any such tax being payable by the holder of such Right Certificate at the time of surrender) or until it has been established to the Company's reasonable satisfaction that no such tax is due.

Section 10. Preferred Shares Record Date. Each Person in whose name any certificate for Preferred Shares is issued upon the exercise of Rights shall for all purposes be deemed to have become the holder of record of the Preferred Shares represented thereby on, and such certificate shall be dated, the date upon which the Right Certificate evidencing such Rights was duly surrendered and payment of the Purchase Price (and any applicable transfer taxes) was made; provided, however, that, if the date of such surrender and payment is a date upon which the Preferred Shares transfer books of the Company are closed, such Person shall be deemed to have become the record holder of such shares on, and such certificate shall be dated, the next succeeding Business Day on which the Preferred Shares transfer books of the Company are open. Prior to the exercise of the Rights evidenced thereby, the holder of a Right Certificate shall not be entitled to any rights of a holder of Preferred Shares for which the Rights shall be exercisable, including, without limitation, the right to vote, to receive dividends or other distributions or to exercise any preemptive rights, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided herein.

Section 11. Adjustment of Purchase Price, Number of Shares or Number of Rights. The Purchase Price, the number of Preferred Shares covered by each Right and the number of Rights outstanding are subject to adjustment from time to time as provided in this Section 11.

(a) (i) In the event the Company shall at any time after February 13, 2019 (A) declare a dividend on the Preferred Shares payable in Preferred Shares, (B) subdivide the outstanding Preferred Shares, (C) combine the outstanding Preferred Shares into a smaller number of Preferred Shares or (D) issue any shares of its capital stock in a reclassification of the Preferred Shares (including any such reclassification in connection with a consolidation or merger in which the Company is the continuing or surviving corporation), except as otherwise provided in this Section 11(a), the Purchase Price in effect at the time of the record date for such dividend or of the effective date of such subdivision, combination or reclassification, and the number and kind of shares of capital stock issuable on such date, shall be proportionately adjusted so that the holder of any Right exercised after such time shall be entitled to receive the aggregate number and kind of shares of capital stock which, if such Right had been exercised immediately prior to such date and at a time when the Preferred Shares transfer books of the Company were open, such holder would have owned upon such exercise and been entitled to receive by virtue of such dividend, subdivision, combination or reclassification; provided, however, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock of the Company issuable upon exercise of one Right.

(ii) Subject to Section 24 hereof, in the event any Person becomes an Acquiring Person after February 13, 2019 (including becoming such prior to the Record Date), each holder of a Right (other than an

Acquiring Person or an Affiliate or Associate of an Acquiring Person) shall thereafter have a right to receive, upon exercise thereof at a price equal to the then current Purchase Price multiplied by the number of one ten-thousandths of a Preferred Share for which a Right is then exercisable, in accordance with the terms of this Agreement and in lieu of Preferred Shares, such number of Common Shares of the Company as shall equal the result obtained by (A) multiplying the then current Purchase Price by the number of one ten-thousandths of a Preferred Share for which a Right is then exercisable and dividing that product by (B) 50% of the then current per share market price of the Common Shares of the Company (determined pursuant to Section 11(d) hereof) on the date of the occurrence of such event. In the event that any Person shall become an Acquiring Person and the Rights shall then be outstanding, the Company shall not take any action which would eliminate or diminish the benefits intended to be afforded by the Rights.

From and after the occurrence of such event, any Rights that are or were acquired or beneficially owned by any Acquiring Person (or any Associate or Affiliate of such Acquiring Person) shall be void, and any holder of such Rights shall thereafter have no right to exercise such Rights under any provision of this Agreement. No Right Certificate shall be issued pursuant to Section 3 hereof that represents Rights beneficially owned by an Acquiring Person whose Rights would be void pursuant to the preceding sentence or any Associate or Affiliate thereof; no Right Certificate shall be issued at any time upon the transfer of any Rights to an Acquiring Person whose Rights would be void pursuant to the preceding sentence or any Associate or Affiliate thereof or to any nominee of such Acquiring Person, Associate or Affiliate; and any Right Certificate delivered to the Rights Agent for transfer to an Acquiring Person whose Rights would be void pursuant to the preceding sentence shall be cancelled.

(iii) In the event that there shall not be sufficient Common Shares issued but not outstanding or authorized but unissued to permit the exercise in full of the Rights in accordance with subparagraph (ii) above, the Company shall take all such action as may be necessary to authorize additional Common Shares for issuance upon exercise of the Rights. In the event the Company shall, after good faith effort, be unable to take all such action as may be necessary to authorize such additional Common Shares, the Company shall, to the extent permitted by applicable law and any agreements or instruments then in effect to which the Company is a party, (A) determine the excess of (1) the value of the Common Shares issuable upon the exercise of a Right (the "Current Value") over (2) the Purchase Price (such excess being the "Spread"), and (B) with respect to each Right, make adequate provision to substitute, for each Common Share that would otherwise be issuable upon exercise of a Right, upon exercise of a Right and payment of the applicable Purchase Price, (1) cash; (2) Preferred Shares or fractions of Preferred Shares or other equity securities of the Company (including, without limitation, shares, or units of shares, of Preferred Shares which the Board has determined to have the same value as the Common Shares) (such shares of equity securities being herein called "Common Share Equivalents"); (3) debt securities of the Company; (4) other assets; or (5) any combination of the foregoing, in each case having an aggregate value equal to the Current Value, as determined by the Board based upon the advice of a financial advisor selected by the Board.

(b) In case the Company shall fix a record date for the issuance of rights, options or warrants to all holders of Preferred Shares entitling them (for a period expiring within 45 calendar days after such record date) to subscribe for or purchase Preferred Shares (or shares having the same rights, privileges and preferences as the Preferred Shares ("equivalent preferred shares")) or securities convertible into Preferred Shares or equivalent preferred shares at a price per Preferred Share or equivalent preferred share (or having a conversion price per share, if a security convertible into Preferred Shares or equivalent preferred shares) less than the then current per share market price of the Preferred Shares (as defined in Section 11(d)) on such record date, the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which shall be the number of Preferred Shares outstanding on such record date plus the number of Preferred Shares which the aggregate offering price of the total number of Preferred Shares and/or equivalent preferred shares so to be offered (and/or the aggregate initial conversion price of the convertible securities so to be offered) would purchase at such current market price and the denominator of which shall be the number of Preferred Shares outstanding on such record date plus the number of additional Preferred Shares and/or equivalent preferred shares to be offered for subscription or purchase (or into which the convertible securities so to be offered are initially convertible); provided, however, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock of the Company issuable upon exercise of one Right. In case such subscription price may be paid in a consideration part or all of which shall be in a form other than cash, the value of such consideration shall be as determined in good faith by the Board of Directors of the Company, whose determination shall be described in a statement filed with the Rights Agent and shall be binding and conclusive for all purposes on the Rights Agent and holders of the Rights. Preferred Shares owned by or held for the account of the Company shall not be deemed outstanding for the purpose of any such computation. Such adjustment shall be made successively whenever such a record date is fixed; and, in the event that such rights, options or warrants are not so issued, the Purchase Price shall be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(c) In case the Company shall fix a record date for the making of a distribution to all holders of the Preferred Shares (including any such distribution made in connection with a consolidation or merger in which the Company is the continuing or surviving corporation) of evidences of indebtedness or assets (other than a regular quarterly cash dividend or a dividend payable in Preferred Shares) or subscription rights or warrants (excluding those referred to in Section 11(b) hereof), the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which shall be the then-current per share market price of the Preferred Shares on such record date, less the fair market value (as determined in good faith by the Board of Directors of the Company, whose determination shall be described in a statement filed with the Rights Agent and shall be binding on the Rights Agent and holders of the Rights) of the portion of the assets or evidences of indebtedness so to be distributed or of such subscription rights or warrants applicable to one Preferred Share and the denominator of which shall be such then-current per share market price of the Preferred Shares on such record date; provided, however, that in no event shall the consideration to be paid upon the exercise of one Right be less than the aggregate par value of the shares of capital stock of the Company to be issued upon exercise of one Right. Such adjustments shall be made successively whenever such a record date is fixed; and, in the event that such distribution is not so made, the Purchase Price shall again be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(d) (i) For the purpose of any computation hereunder, the "current per share market price" of any security (a "Security" for the purpose of this Section 11(d)(i)) on any date shall be deemed to be the average of the daily closing prices per share of such Security for the 30 consecutive Trading Days immediately prior to such date; provided, however, that, in the event that the current per share market price of the Security is determined during a period following the announcement by the issuer of such Security of (A) a dividend or distribution on such Security payable in shares of such Security or Securities convertible into such shares, or (B) any subdivision, combination or reclassification of such Security and prior to the expiration of 30 Trading Days after the ex-dividend date for such dividend or distribution, or the record date for such subdivision, combination or reclassification, then, and in each such case, the current per share market price shall be appropriately adjusted to reflect the current market price per share equivalent of such Security. The closing price for each day shall be the last sale price, regular way, reported at or prior to 4:00 P.M. Eastern time or, in case no such sale takes place on such day, the average of the bid and asked prices, regular way, reported as of 4:00 P.M. Eastern time, in either case, as reported on the NYSE or NASDAQ or, if the Security is not listed or admitted to trading on any national securities exchange, the last quoted price reported at or prior to 4:00 P.M. Eastern time or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported as of 4:00 P.M. Eastern time by the OTC Bulletin Board or such other system then in use, or, if on any such date the Security is not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Security selected by the Board of Directors of the Company. The term "Trading Day" shall mean a day on which the principal national securities exchange on which the Security is listed or admitted to trading is open for the transaction of business, or, if the Security is not listed or admitted to trading on any national securities exchange, a Business Day.

(ii) For the purpose of any computation hereunder, the "current per share market price" of the Preferred Shares shall be determined in accordance with the method set forth in Section 11(d)(i). If the Preferred Shares are not publicly traded, the "current per share market price" of the Preferred Shares shall be conclusively deemed to be the current per share market price of the Common Shares as determined pursuant to Section 11(d)(i) hereof (appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the date hereof), multiplied by one hundred. If neither the Common Shares nor the Preferred Shares are publicly held or so listed or traded, "current per share market price" shall mean the fair value per share as determined in good faith by the Board of Directors of the Company, whose determination shall be described in a statement filed with the Rights Agent.

(e) No adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least 1% in the Purchase Price; provided, however, that any adjustments which by reason of this Section 11(e) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 11 shall be made to the nearest cent or to the nearest one one-millionth of a Preferred Share or one ten-thousandth of any other share or security as the case may be. Notwithstanding the first sentence of this Section 11(e), any adjustment required by this Section 11 shall be made no later than the earlier of (i) three years from the date of the transaction which requires such adjustment or (ii) the date of the expiration of the right to exercise any Rights.

(f) If, as a result of an adjustment made pursuant to Section 11(a) hereof, the holder of any Right thereafter exercised shall become entitled to receive any shares of capital stock of the Company other than Preferred Shares, thereafter the number of such other shares so receivable upon exercise of any Right shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Preferred Shares contained in Section 11(a) through (c) hereof, inclusive, and the provisions of Sections 7, 9 and 10 hereof with respect to the Preferred Shares shall apply on like terms to any such other shares.

(g) All Rights originally issued by the Company subsequent to any adjustment made to the Purchase Price hereunder shall evidence the right to purchase, at the adjusted Purchase Price, the number of one ten-thousandths of a Preferred Share purchasable from time to time hereunder upon exercise of the Rights, all subject to further adjustment as provided herein.

(h) Unless the Company shall have exercised its election as provided in Section 11(i) hereof, upon each adjustment of the Purchase Price as a result of the calculations made in Sections 11(b) and (c) hereof, each Right outstanding immediately prior to the making of such adjustment shall thereafter evidence the right to purchase, at the adjusted Purchase Price, that number of one ten-thousandths of a Preferred Share (calculated to the nearest one one-millionth of a Preferred Share) obtained by (A) multiplying (x) the number of one ten-thousandths of a share covered by a Right immediately prior to this adjustment by (y) the Purchase Price in effect immediately prior to such adjustment of the Purchase Price and (B) dividing the product so obtained by the Purchase Price in effect immediately after such adjustment of the Purchase Price.

(i) The Company may elect, on or after the date of any adjustment of the Purchase Price, to adjust the number of Rights in substitution for any adjustment in the number of one ten-thousandths of a Preferred Share purchasable upon the exercise of a Right. Each of the Rights outstanding after such adjustment of the number of Rights shall be exercisable for the number of one ten-thousandths of a Preferred Share for which a Right was exercisable immediately prior to such adjustment. Each Right held of record prior to such adjustment of the number of Rights shall become that number of Rights (calculated to the nearest one ten-thousandth) obtained by dividing the Purchase Price in effect immediately prior to adjustment of the Purchase Price by the Purchase Price in effect immediately after adjustment of the Purchase Price. The Company shall make a public announcement (with simultaneous written notice to the Rights Agent) of its election to adjust the number of Rights, indicating the record date for the adjustment, and, if known at the time, the amount of the adjustment to be made. This record date may be the date on which the Purchase Price is adjusted or any day thereafter, but, if the Right Certificates have been issued, shall be at least 10 days later than the date of the public announcement. If Right Certificates have been issued, upon each adjustment of the number of Rights pursuant to this Section 11(i), the Company shall, as promptly as practicable, cause to be distributed to holders of record of Right Certificates on such record date Right Certificates evidencing, subject to Section 14 hereof, the additional Rights to which such holders shall be entitled as a result of such adjustment, or, at the option of the Company, shall cause to be distributed to such holders of record in substitution and replacement for the Right Certificates held by such holders prior to the date of adjustment, and upon surrender thereof, if required by the Company, new Right Certificates evidencing all the Rights to which such holders shall be entitled after such adjustment. Right Certificates so to be distributed shall be issued, executed and countersigned in the manner provided for herein, and shall be registered in the names of the holders of record of Right Certificates on the record date specified in the public announcement.

(j) Irrespective of any adjustment or change in the Purchase Price or in the number of one ten-thousandths of a Preferred Share issuable upon the exercise of the Rights, the Right Certificates theretofore and thereafter issued may continue to express the Purchase Price and the number of one ten-thousandths of a Preferred Share which were expressed in the initial Right Certificates issued hereunder.

(k) Before taking any action that would cause an adjustment reducing the Purchase Price below one ten-thousandth of the then par value, if any, of the Preferred Shares issuable upon exercise of the Rights, the Company shall take any corporate action which may, in the opinion of its counsel, be necessary in order that the Company may validly and legally issue fully paid and nonassessable Preferred Shares at such adjusted Purchase Price.

(l) In any case in which this Section 11 shall require that an adjustment in the Purchase Price be made effective as of a record date for a specified event, the Company may elect to defer (with prompt written notice thereof to the Rights Agent; and until such written notice is received by the Rights Agent, the Rights Agent may presume conclusively that no such election has occurred) until the occurrence of such event the issuing to the holder of any Right exercised after such record date of the Preferred Shares and other capital stock or securities of the Company, if any, issuable upon such exercise over and above the Preferred Shares and other capital stock or securities of the Company, if any, issuable upon such exercise on the basis of the Purchase Price in effect prior to such adjustment; provided, however, that the Company shall deliver to such holder a due bill or other appropriate instrument evidencing such holder's right to receive such additional shares upon the occurrence of the event requiring such adjustment.

(m) Anything in this Section 11 to the contrary notwithstanding, the Company shall be entitled to make such reductions in the Purchase Price, in addition to those adjustments expressly required by this Section 11, as and to the extent that it, in its sole discretion, shall determine to be advisable in order that any consolidation or subdivision of the Preferred Shares, issuance wholly for cash of any Preferred Shares at less than the current market price, issuance wholly for cash of Preferred Shares or securities which by their terms are convertible into or exchangeable for Preferred Shares, dividends on Preferred Shares payable in Preferred

Shares or issuance of rights, options or warrants referred to in Section 11(b) hereof, hereafter made by the Company to holders of the Preferred Shares shall not be taxable to such shareholders.

(n) In the event that, at any time after February 13, 2019 and prior to the Distribution Date, the Company shall (i) declare or pay any dividend on the Common Shares payable in Common Shares, or (ii) effect a subdivision, combination or consolidation of the Common Shares (by reclassification or otherwise than by payment of dividends in Common Shares) into a greater or lesser number of Common Shares, then, in any such case, (A) the number of one ten-thousandths of a Preferred Share purchasable after such event upon proper exercise of each Right shall be determined by multiplying the number of one ten-thousandths of a Preferred Share so purchasable immediately prior to such event by a fraction, the numerator of which is the number of Common Shares outstanding immediately before such event and the denominator of which is the number of Common Shares outstanding immediately after such event, and (B) each Common Share outstanding immediately after such event shall have issued with respect to it that number of Rights which each Common Share outstanding immediately prior to such event had issued with respect to it. The adjustments provided for in this Section 11(n) shall be made successively whenever such a dividend is declared or paid or such a subdivision, combination or consolidation is effected.

Section 12. Certificate of Adjusted Purchase Price or Number of Shares. Whenever an adjustment is made as provided in Section 11 hereof, the Company shall promptly (a) prepare a certificate setting forth such adjustment and a brief statement of the facts accounting for such adjustment, (b) file with the Rights Agent and with each transfer agent for the Common Shares or the Preferred Shares and the Securities and Exchange Commission a copy of such certificate and (c) if such adjustment occurs at any time after the Distribution Date, mail a brief summary thereof to each holder of a Right Certificate in accordance with Section 25 hereof. The Rights Agent is protected in relying on any such certificate and on any adjustments or statements therein contained and shall not be deemed to have knowledge of any such adjustment or event unless and until it shall have received such certificate.

Section 13. Reserved.

Section 14. Fractional Rights and Fractional Shares. (a) The Company shall not be required to issue fractions of Rights or to distribute Right Certificates which evidence fractional Rights. In lieu of such fractional Rights, there shall be paid to the registered holders of the Right Certificates with regard to which such fractional Rights would otherwise be issuable, an amount in cash equal to the same fraction of the current market value of a whole Right. For the purposes of this Section 14(a), the current market value of a whole Right shall be the closing price of the Rights for the Trading Day immediately prior to the date on which such fractional Rights would have been otherwise issuable. The closing price for any day shall be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case, as reported on the NYSE or NASDAQ or, if the Rights are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported by the OTC Bulletin Board or such other system then in use or, if on any such date the Rights are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Rights selected by the Board of Directors of the Company. If on any such date no such market maker is making a market in the Rights, the fair value of the Rights on such date as determined in good faith by the Board of Directors of the Company shall be used.

(b) The Company shall not be required to issue fractions of Preferred Shares (other than fractions which are integral multiples of one ten-thousandth of a Preferred Share) upon exercise of the Rights or to distribute certificates which evidence fractional Preferred Shares (other than fractions which are integral multiples of one ten-thousandth of a Preferred Share). Fractions of Preferred Shares in integral multiples of one ten-thousandth of a Preferred Share may, at the election of the Company, be evidenced by depositary receipts, pursuant to an appropriate agreement between the Company and a depositary selected by it; provided that such agreement shall provide that the holders of such depositary receipts shall have all the rights, privileges and preferences to which they are entitled as beneficial owners of the Preferred Shares represented by such depositary receipts. In lieu of fractional Preferred Shares that are not integral multiples of one ten-thousandth of a Preferred Share, the Company shall pay to the registered holders of Right Certificates at the time such Rights are exercised as herein provided an amount in cash equal to the same fraction of the current market value of one Preferred Share. For the purposes of this Section 14(b), the current market value of a Preferred Share shall be the closing price of a Preferred Share (as determined pursuant to the second sentence of Section 11(d)(i) hereof) for the Trading Day immediately prior to the date of such exercise.

(c) Following the occurrence of one of the events specified in Section 11 hereof giving rise to the right to receive Common Shares or other securities upon the exercise of a Right, the Company will not be required to issue fractions of Common Shares or other securities upon exercise of the Rights or to distribute certificates which evidence fractional Common Shares or other securities. In lieu of fractional Common Shares or other securities, the Company may pay to the registered holders of Rights Certificates at the time such Rights

are exercised as herein provided an amount in cash equal to the same fraction of the current market value of one share of a Common Share or other securities. For purposes of this Section 14(c), the current market value of one share of a Common Shares is the Closing Price of one share of a Common Share for the Trading Day immediately prior to the date of such exercise.

(d) The holder of a Right, by the acceptance of the Right, expressly waives such holder's right to receive any fractional Rights or any fractional shares upon exercise of a Right (except as provided above).

(e) Whenever a payment for fractional Rights or fractional shares is to be made by the Rights Agent under this Agreement, the Company shall (i) promptly prepare and deliver to the Rights Agent a certificate setting forth in reasonable detail the facts related to such payments and the prices and formulas utilized in calculating such payments; and (ii) provide sufficient monies to the Rights Agent in the form of fully collected funds to make such payments. The Rights Agent shall be fully protected in relying upon such a certificate and has no duty with respect to, and will not be deemed to have knowledge of, any payment for fractional Rights or fractional shares under any Section of this Agreement relating to the payment of fractional Rights or fractional shares unless and until the Rights Agent has received such a certificate and sufficient monies.

Section 15. Rights of Action. All rights of action in respect of this Agreement, excepting the rights of action given to the Rights Agent hereunder, are vested in the respective registered holders of the Right Certificates (and, prior to the Distribution Date, the registered holders of the Common Shares); and any registered holder of any Right Certificate (or, prior to the Distribution Date, of the Common Shares), without the consent of the Rights Agent or of the holder of any other Right Certificate (or, prior to the Distribution Date, of the Common Shares), may, in such holder's own behalf and for such holder's own benefit, enforce, and may institute and maintain any suit, action or proceeding against the Company to enforce, or otherwise act in respect of, such holder's right to exercise the Rights evidenced by such Right Certificate in the manner provided in such Right Certificate and in this Agreement. Without limiting the foregoing or any remedies available to the holders of Rights, it is specifically acknowledged that the holders of Rights would not have an adequate remedy at law for any breach of this Agreement by the Company will be entitled to specific performance of the obligations hereunder, and injunctive relief against actual or threatened violations by the Company of the obligations of any Person (including, without limitation, the Company) subject to, this Agreement.

Section 16. Agreement of Right Holders. Every holder of a Right, by accepting the same, consents and agrees with the Company and the Rights Agent and with every other holder of a Right that:

(a) prior to the Distribution Date, the Rights shall be evidenced by the balances indicated in the book entry account system of the transfer agent for the Common Shares registered in the names of the holders of Common Shares (which Common Shares shall also be deemed to represent certificates for Rights) or, in the case of certificated shares, the certificates for the Common Shares registered in the names of the holders of the Common Shares (which certificates for Common Shares also constitute certificates for Rights) and each Right is transferable only in connection with the transfer of the Common Shares;

(b) after the Distribution Date, the Right Certificates are transferable only on the registry books of the Rights Agent if surrendered at the office(s) of the Rights Agent designated for such purpose, duly endorsed or accompanied by a proper instrument of transfer and with the appropriate forms and certificates properly completed and duly executed, as determined in the sole discretion of the Rights Agent;

(c) the Company and the Rights Agent may deem and treat the person in whose name the Right Certificate (or, prior to the Distribution Date, the associated balance indicated in the book entry account system of the transfer agent for the Common Shares, or in the case of certificated shares, by the associated Common Shares certificate) is registered as the absolute owner thereof and of the Rights evidenced thereby (notwithstanding any notations of ownership or writing on the Right Certificate or the associated balance indicated in the book entry account system of the transfer agent for the Common Shares, or in the case of certificated shares, by the associated Common Shares certificate made by anyone other than the Company or the Rights Agent) for all purposes whatsoever, and neither the Company nor the Rights Agent shall be affected by any notice to the contrary; and

(d) notwithstanding anything in this Agreement to the contrary, neither the Company nor the Rights Agent has any liability to any holder of a Right or any other Person as a result of the inability of the Company or the Rights Agent to perform any of its or their obligations under this Agreement by reason of any preliminary or permanent injunction or other order, decree, judgment or ruling (whether interlocutory or final) issued by a court of competent jurisdiction or by a governmental, regulatory, self-regulatory or administrative agency or commission, or any statute, rule, regulation or executive order promulgated or enacted by any governmental authority, prohibiting or otherwise restraining performance of such obligation; provided, however, the Company shall use its commercially reasonable efforts to have any such injunction, order, decree, judgment or ruling lifted or otherwise overturned as promptly as practicable.

Section 17. Right Certificate Holder Not Deemed a Shareholder. No holder, as such, of any Right Certificate shall be entitled to vote, receive dividends or be deemed for any purpose the holder of the Preferred Shares or any other securities of the Company which may at any time be issuable on the exercise of the Rights represented thereby, nor shall anything contained herein or in any Right Certificate be construed to confer upon the holder of any Right Certificate, as such, any of the rights of a shareholder of the Company or any right to vote for the election of directors or upon any matter submitted to shareholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting shareholders (except as provided in Section 25 hereof), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by such Right Certificate shall have been exercised in accordance with the provisions hereof.

Section 18. Concerning the Rights Agent.

(a) The Company agrees to pay to the Rights Agent reasonable compensation for all services rendered by it hereunder and from time to time, on demand of the Rights Agent, to reimburse the Rights Agent for all of its reasonable and documented expenses and counsel fees and other disbursements incurred in the preparation, negotiation, delivery, amendment, administration and execution of this Agreement and the exercise and performance of its duties hereunder. The Company also agrees to indemnify the Rights Agent and its affiliates, employees, officers, directors, representatives and advisors for, and to hold it harmless against, any loss, liability, damage, demand, judgment, fine, penalty, claim, settlement, cost or expense (including the reasonable and documented fees and expenses of legal counsel) for any action taken, suffered or omitted to be taken by the Rights Agent pursuant to or arising from this Agreement or in connection with the acceptance, administration, exercise and performance of its duties under this Agreement, including the reasonable and documented costs and expenses of defending against any claim of liability arising therefrom, directly or indirectly. The reasonable costs and expenses incurred in enforcing this right of indemnification shall also be paid by the Company.

(b) The Rights Agent shall be authorized and protected and shall incur no liability for or in respect of any action taken, suffered or omitted to be taken by it in connection with its acceptance and administration of this Agreement and the exercise and performance of its duties hereunder in reliance upon any Rights Certificate or book entry for Common Shares or other securities of the Company, instrument of assignment or transfer, power of attorney, endorsement, affidavit, letter, notice, direction, consent, certificate, statements or other paper or document believed by it to be genuine and to be signed, executed and shall not be obligated to verify the accuracy or completeness of such instrument, power of attorney, endorsement, affidavit, letter, notice, direction, consent, certificate, statements or other paper or document and, where necessary, guaranteed, verified or acknowledged, by the proper Person or Persons, or upon any written instructions or statements from the Company with respect to any matter relating to its acting as Rights Agent hereunder without further inquiry or examination on its part, or otherwise upon the advice or opinion of counsel as set forth in Section 20(a) hereof. The Rights Agent shall not be deemed to have knowledge of any event of which it was supposed to receive notice thereof hereunder, and the Rights Agent shall be fully protected and shall incur no liability for failing to take action in connection therewith unless and until it has received such notice in writing.

(c) Notwithstanding anything in this Agreement to the contrary, in no case shall the Company be liable with respect to any action, proceeding, suit or claim against the Rights Agent unless the Rights Agent shall have notified the Company hereof of the assertion of such action, proceeding, suit or claim against the Rights Agent, promptly after the Rights Agent shall have notice of such assertion of an action, proceeding, suit or claim or have been served with the summons or other first legal process giving information as to the nature and basis of the action, proceeding, suit or claim; provided that the failure to provide such notice promptly shall not affect the rights of the Rights Agent hereunder and shall not relieve the Company of any liability to the Rights Agent, except to the extent that such failure actually prejudices the Company. The Company shall be entitled to participate at its own expense in the defense of any such action, proceeding, suit or claim, and, if the Company so elects, the Company shall assume the defense of any such action, proceeding, suit or claim, unless such action, proceeding, suit or claim is (a) brought by the Rights Agent or (b) the Rights Agent reasonably determines that there may be a conflict of interest between the Company and the Rights Agent in the defense of an action and the Rights Agent does in fact assume the defense. In the event that the Company assumes such defense, the Company shall not thereafter be liable for the fees and expenses of any counsel retained by the Rights Agent, so long as the Company shall retain counsel satisfactory to the Rights Agent, in the exercise of its reasonable judgment, to defend such action, proceeding, suit or claim, and provided that the Rights Agent does not have defenses that are adverse to or different from any defenses of the Company. The Rights Agent agrees not to settle any litigation in connection with any action, proceeding, suit or claim with respect to which it may seek indemnification from the Company without the prior written consent of the Company, which shall not be unreasonably withheld.

(d) The provisions of this Section 18 and Section 20 hereof shall survive the termination or expiration of this Agreement, the resignation, replacement or removal of the Rights Agent and the exercise, termination or

expiration of the Rights. Notwithstanding anything in this Agreement to the contrary, in no event shall the Rights Agent be liable for special, punitive, incidental, indirect or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Rights Agent has been advised of the likelihood of such loss or damage and regardless of the form of the action; and the Company agrees to indemnify the Rights Agent and its affiliates, directors, employees, representatives and advisors and hold them harmless to the fullest extent permitted by law against any loss, liability or expense incurred as a result of claims for special, punitive, incidental, indirect or consequential loss or damages of any kind whatsoever. Any liability of the Rights Agent under this Agreement shall be limited to the amount of annual fees paid by the Company to the Rights Agent during the 12 months immediately preceding the event for which recovery from the Rights Agent is being sought.

Section 19. Merger or Consolidation or Change of Name of Rights Agent.

(a) Any Person into which the Rights Agent or any successor Rights Agent is merged or with which the Rights Agent or any successor Rights Agent is consolidated, or any Person resulting from any merger or consolidation to which the Rights Agent or any successor Rights Agent is a party, or any Person succeeding to the corporate trust, stock transfer or other shareholder services business of the Rights Agent or any successor Rights Agent, shall be the successor to the Rights Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto; but only if such Person would be eligible for appointment as a successor Rights Agent under the provisions of Section 21 hereof. The purchase of all or substantially all of the Rights Agent's assets employed in the performance of transfer agent activities shall be deemed a merger or consolidation for purposes of this Section 19. In case at the time such successor Rights Agent shall succeed to the agency created by this Agreement, any of the Rights Certificates have been countersigned but not delivered, any such successor Rights Agent may adopt the countersignature of a predecessor Rights Agent and deliver such Rights Certificates so countersigned; and in case at that time any of the Rights Certificates have not been countersigned, any successor Rights Agent may countersign such Rights Certificates either in the name of the predecessor or in the name of the successor Rights Agent; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

(b) In case at any time the name of the Rights Agent shall be changed and at such time any of the Rights Certificates shall have been countersigned but not delivered, the Rights Agent may adopt the countersignature under its prior name and deliver Rights Certificates so countersigned; and in case at that time any of the Rights Certificates shall not have been countersigned, the Rights Agent may countersign such Rights Certificates either in its prior name or in its changed name; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

Section 20. Duties of Rights Agent. The Rights Agent undertakes the duties and obligations expressly imposed by this Agreement (and no implied duties or obligations) upon the following terms and conditions, by all of which the Company and the holders of Right Certificates, by their acceptance thereof, shall be bound:

(a) The Rights Agent may consult with legal counsel (who may be legal counsel for the Rights Agent or the Company or an employee of the Rights agent), and the advice or opinion of such counsel shall be full and complete authorization and protection to the Rights Agent, and the Rights Agent will have no liability for or in respect of, any action taken or omitted by it in good faith and in accordance with such opinion.

(b) Whenever in the performance of its duties under this Agreement the Rights Agent shall deem it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a certificate signed by any one of the Chief Executive Officer, Chief Financial Officer, the President, General Counsel, any Senior Vice President, the Treasurer or the Secretary of the Company and delivered to the Rights Agent; and such certificate shall be full authorization to the Rights Agent for any action taken or suffered in good faith by it under the provisions of this Agreement in reliance upon such certificate. The Rights Agent shall have no duty to act without such a certificate from an officer of the Company as set forth in the preceding sentence.

(c) The Rights Agent shall be liable hereunder to the Company and any other Person only for its own gross negligence, bad faith, or willful misconduct (which gross negligence, bad faith or willful misconduct must be determined by a court of competent jurisdiction in a final non-appealable order, judgment, decree or ruling). Anything to the contrary notwithstanding, in no event shall the Rights Agent be liable for special, punitive, indirect, consequential or incidental loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Rights Agent has been advised of the likelihood of such loss or damage and regardless of the form of the action; and the Company agrees to indemnify the Rights Agent and its affiliates, directors, employees, representatives and advisors and to hold them harmless to the fullest extent permitted by law against any loss, liability or expense incurred as a result of claims for special, punitive, incidental, indirect or consequential loss or damage of any kind whatsoever. Any liability of the Rights Agent under this Agreement

will be limited to the amount of annual fees paid by the Company to the Rights Agent during the twelve (12) months immediately preceding the event for which recovery from the Rights Agent is being sought.

(d) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Right Certificates (except its countersignature thereof) or be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by the Company only.

(e) The Rights Agent shall not have any liability nor be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution hereof by the Rights Agent) or in respect of the validity or execution of any Right Certificate (except its countersignature thereof); nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in any Right Certificate; nor shall it be responsible for any change in the exercisability of the Rights (including the Rights becoming void pursuant to Section 11(a)(ii) hereof) or any adjustment in the terms of the Rights (including the manner, method or amount thereof) provided for in Section 3, 11, 23 or 24 hereof, or the ascertaining of the existence of facts that would require any such change or adjustment (except with respect to the exercise of Rights evidenced by Right Certificates after actual notice that such change or adjustment is required); nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any Preferred Shares to be issued pursuant to this Agreement or any Right Certificate or as to whether any Preferred Shares will, when issued, be validly authorized and issued, fully paid and nonassessable.

(f) The Company agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of the provisions of this Agreement.

(g) The Rights Agent is hereby authorized and directed to accept verbal or written instructions with respect to the performance of its duties hereunder from any one of the Chief Executive Officer, Chief Financial Officer, the President, General Counsel, any Senior Vice President, the Secretary or the Treasurer of the Company, and to apply to such officers for advice or instructions in connection with its duties, and such advice or instruction shall be full authorization and protection to the Rights Agent and the Rights Agent shall have no duty to independently verify the accuracy or completeness of such advice or such instructions and it shall not be liable for any action taken or suffered by it in good faith in accordance with instructions of any such officer or for any delay in acting while waiting for those instructions. The Rights Agent will not be held to have notice of any change of authority of any person until its receipt of written notice thereof from the Company in accordance with this Agreement. Any application by the Rights Agent for written instructions from the Company may, at the option of the Rights Agent, set forth in writing any action proposed to be taken or omitted to be taken by the Rights Agent under this Agreement and the date on and/or after which such action shall be taken or such omission shall be effective. The Rights Agent shall be fully authorized and protected in relying upon the most recent verbal or written instructions received from any such officer, and shall not be liable for any action taken, suffered or omitted to be taken by the Rights Agent in accordance with a proposal included in any such application on or after the date specified in such application (which date shall not be less than five (5) Business Days after the date any officer of the Company actually receives such application unless any such officer shall have consented in writing to an earlier date) unless, prior to taking any such action (or the effective date in the case of an omission), the Rights Agent shall have received written instructions in response to such application specifying the action to be taken, suffered or omitted to be taken.

(h) The Rights Agent and any shareholder, director, officer or employee of the Rights Agent may buy, sell or deal in any of the Rights or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent from acting in any other capacity for the Company or for any other legal entity.

(i) The Rights Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself (through its directors, officers and/or employees) or by or through its attorneys or agents, and the Rights Agent shall not be liable for any act, omission, default, neglect or misconduct of any such attorneys or agents or for any loss to the Company, any holder of Rights or any other Person resulting from any such act, omission, default, neglect or misconduct, absent gross negligence, bad faith or willful misconduct (which gross negligence, bad faith or willful misconduct must be determined by a final, non-appealable order, judgment, decree or ruling of a court of competent jurisdiction) in the selection and continued employment thereof.

(j) No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of any of its rights or powers if there are reasonable grounds for believing that repayment of such funds or adequate indemnification against such risk or liability is not reasonably assured to it.

(k) If, with respect to any Rights Certificate surrendered to the Rights Agent for exercise or transfer, either (i) the certificate attached to the form of assignment or form of election to purchase, as the case may be, has either not been completed or indicates an affirmative response to clause 1 and/or 2 thereof, or (ii) any other actual or suspected irregularity exists, the Rights Agent shall not take any further action with respect to such requested exercise or transfer without first consulting with the Company, and the Rights Agent shall not be liable for any delays arising from the duties under this Section 20(k).

(l) In the event that the Rights Agent reasonably believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Rights Agent hereunder, the Rights Agent shall, as soon as practicable, inform the Company or such Person seeking clarification and may, in its sole discretion, refrain from taking any action, and will be fully protected and will not be liable or responsible in any way to the Company or other Person or entity for refraining from taking such action, unless the Rights Agent receives written instructions signed by the Company which eliminates such ambiguity or uncertainty to the reasonable satisfaction of the Rights Agent.

(m) The Rights Agent shall have no responsibility to the Company, any holders of Rights or any holders of Common Shares for interest or earnings on any moneys held by the Rights Agent pursuant to this Agreement.

(n) The Rights Agent shall not be required to take notice or be deemed to have notice of any event or condition hereunder, including any event or condition that may require action by the Rights Agent, unless the Rights Agent shall be specifically notified in writing of such event or condition by the Company, and all notices or other instruments required by this Agreement to be delivered to the Rights Agent must, in order to be effective, be received by the Rights Agent, and in the absence of such notice so delivered, the Rights Agent may conclusively assume no such event or condition exists.

Section 21. Change of Rights Agent. The Rights Agent or any successor Rights Agent may resign and be discharged from its duties under this Agreement upon at least 30 days' notice in writing to the Company in accordance with Section 26 hereof, and in the event that the Rights Agent or one of its Affiliates is not also the transfer agent for the Company, to each transfer agent of the Common Shares or Preferred Shares in which case the Company will give or cause to be given written notice to the holders of the Right Certificates by first-class mail. In the event the transfer agency relationship in effect between the Company and the Rights Agent terminates, the Rights Agent will be deemed to have resigned automatically and be discharged from its duties under this Agreement as of the effective date of such termination, and the Company shall be responsible for sending any required notice. The Company may remove the Rights Agent or any successor Rights Agent upon at least 30 days' notice in writing to the Rights Agent or successor Rights Agent, as the case may be, and to each transfer agent of the Common Shares or Preferred Shares, and, if such removal occurs after the Distribution Date, to the holders of the Right Certificates. If the Rights Agent resigns or is removed or otherwise becomes incapable of acting, the Company shall appoint a successor to the Rights Agent. If the Company fails to make such appointment within a period of 30 days after giving notice of such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Rights Agent or by the holder of a Right Certificate (which holder shall, with such notice, submit such holder's Right Certificate for inspection by the Company), then the registered holder of any Right Certificate may apply to any court of competent jurisdiction for the appointment of a new Rights Agent. Any successor Rights Agent, whether appointed by the Company or by such a court, shall be (a) a Person organized and doing business under the laws of the United States or of any State, in good standing, which is authorized under such laws to exercise corporate trust, stock transfer, or shareholder services powers and is subject to supervision or examination by federal or state authority and which at the time of its appointment as Rights Agent has, along with its Affiliates, a combined capital and surplus of at least \$50 million, or (b) an Affiliate of a Person described in clause (a) of this sentence. After appointment, the successor Rights Agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named as Rights Agent under this Agreement without further act or deed; but the predecessor Rights Agent shall deliver and transfer to the successor Rights Agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act or deed necessary for the purpose, in each case at the sole expense of the Company. Not later than the effective date of any such appointment, the Company shall file notice thereof in writing with the predecessor Rights Agent and each transfer agent of the Common Shares or Preferred Shares, and mail a notice thereof in writing to the registered holders of the Right Certificates. Failure to give any notice provided for in this Section 21, however, or any defect therein, shall not affect the legality or validity of the resignation or removal of the Rights Agent or the appointment of the successor Rights Agent, as the case may be.

Section 22. Issuance of New Right Certificates. Notwithstanding any of the provisions of this Agreement or of the Rights to the contrary, the Company may, at its option, issue new Right Certificates evidencing Rights in such form as may be approved by the Board of Directors of the Company to reflect any adjustment or change made in accordance with the provisions of this Agreement in the Purchase Price and the number or kind or class of shares or other securities or property purchasable under the Right Certificates made

in accordance with the provisions of this Agreement. In addition, in connection with the issuance or sale of Common Shares following the Distribution Date (other than upon exercise of a Right) and prior to the earlier of the Redemption Date, Early Expiration Date or Final Expiration Date, the Company (a) shall, with respect to Common Shares so issued or sold pursuant to the exercise of stock options or under any employee plan or arrangement, or upon the exercise, conversion or exchange of securities hereinafter issued by the Company, and (b) may, in any other case, if deemed necessary or appropriate by the Board, issue Rights Certificates representing the appropriate number of Rights in connection with such issuance or sale; provided, however, that (i) no such Rights Certificate may be issued if, and to the extent that, the Company, in its sole discretion, determines that such issuance would jeopardize or endanger the value or availability to the Company of the NOLs or otherwise create a significant risk of material adverse tax consequences to the Company or the Person to whom such Rights Certificate would be issued, and (ii) no such Rights Certificate may be issued if, and to the extent that, appropriate adjustment shall otherwise have been made in lieu of the issuance thereof.

Section 23. Redemption. (a) The Independent Directors may, at their option, at any time prior to the Distribution Date, redeem all but not less than all of the then outstanding Rights at a redemption price of \$0.0001 per Right, appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the date hereof (such redemption price being hereinafter referred to as the “Redemption Price”). The redemption of the Rights by the Independent Directors may be made effective at such time, on such basis and with such conditions as the Independent Directors, in their sole discretion, may establish.

(b) Immediately upon the action of the Independent Directors ordering the redemption of the Rights pursuant to paragraph (a) of this Section 23, and without any further action and without any notice, the right to exercise the Rights will terminate and the only right thereafter of the holders of Rights shall be to receive the Redemption Price. The Company shall promptly give (i) written notice to the Rights Agent of any such redemption (and until such written notice is received by the Rights Agent, the Rights Agent may presume conclusively that no such redemptions have occurred); and (ii) public notice of any such redemption; provided, however, that the failure to give, or any defect in, any such notice shall not affect the validity of such redemption. Within ten (10) days after such action of the Independent Directors ordering the redemption of the Rights, the Company shall mail a notice of redemption to all the holders of the then outstanding Rights at their last addresses as they appear upon the registry books of the Rights Agent or, prior to the Distribution Date, on the registry books of the transfer agent for the Common Shares. Any notice which is mailed in the manner herein provided shall be deemed given, whether or not the holder receives the notice. Each such notice of redemption will state the method by which the payment of the Redemption Price will be made. Neither the Company nor any of its Affiliates or Associates may redeem, acquire or purchase for value any Rights at any time in any manner other than that specifically set forth in this Section 23 or in Section 24 hereof, and other than in connection with the purchase of Common Shares prior to the Distribution Date.

Section 24. Exchange. (a) The Independent Directors may, at its option, at any time after any Person becomes an Acquiring Person, exchange all or part of the then outstanding and exercisable Rights (which shall not include Rights that have become void pursuant to the provisions of Section 11(a)(ii) hereof) for Common Shares at an exchange ratio of one Common Share per Right, appropriately adjusted to reflect any adjustment in the number of Rights pursuant to Section 11(a)(i) (such exchange ratio being hereinafter referred to as the “Exchange Ratio”).

(b) Immediately upon the action of the Independent Directors ordering the exchange of any Rights pursuant to paragraph (a) of this Section 24 and without any further action and without any notice, the right to exercise such Rights shall terminate and the only right thereafter of a holder of such Rights shall be to receive that number of Common Shares equal to the number of such Rights held by such holder multiplied by the Exchange Ratio. The Company shall promptly give (i) written notice to the Rights Agent of any such exchange, and (ii) public notice of any such exchange; provided, however, that the failure to give, or any defect in, such notice shall not affect the validity of such exchange (and until such written notice is received by the Rights Agent, the Rights Agent may presume conclusively that no such exchange has occurred). The Company promptly shall mail a notice of any such exchange to all of the holders of such Rights at their last addresses as they appear upon the registry books of the Rights Agent. Any notice which is mailed in the manner herein provided shall be deemed given, whether or not the holder receives the notice. Each such notice of exchange will state the method by which the exchange of the Common Shares for Rights will be effected, and, in the event of any partial exchange, the number of Rights which will be exchanged. Any partial exchange shall be effected pro rata based on the number of Rights (other than Rights which have become void pursuant to the provisions of Section 11(a)(ii) hereof) held by each holder of Rights.

(c) In the event that there shall not be sufficient Common Shares issued but not outstanding or authorized but unissued to permit any exchange of Rights as contemplated in accordance with this Section 24, the Company shall take all such action as may be necessary to authorize additional Common Shares for issuance upon exchange of the Rights. In the event the Company shall, after good faith effort, be unable to take all such action as may be necessary to authorize such additional Common Shares, the Company shall substitute, for each

Common Share that would otherwise be issuable upon exchange of a Right, a number of Preferred Shares or fraction thereof such that the current per share market price of one Preferred Share multiplied by such number or fraction is equal to the current per share market price of one Common Share as of the date of issuance of such Preferred Shares or fraction thereof.

(d) The Company shall not be required to issue fractions of Common Shares or to distribute certificates which evidence fractional Common Shares. In lieu of such fractional Common Shares, the Company shall pay to the registered holders of the Right Certificates with regard to which such fractional Common Shares would otherwise be issuable an amount in cash equal to the same fraction of the current market value of a whole Common Share. For the purposes of this paragraph (d), the current market value of a whole Common Share shall be the closing price of a Common Share (as determined pursuant to the second sentence of Section 11(d)(i) hereof) for the Trading Day immediately prior to the date of exchange pursuant to this Section 24.

Section 25. Notice of Certain Events. (a) In case the Company shall, at any time after the Distribution Date, propose (i) to pay any dividend payable in stock of any class to the holders of the Preferred Shares or to make any other distribution to the holders of the Preferred Shares (other than a regular quarterly cash dividend), (ii) to offer to the holders of the Preferred Shares rights or warrants to subscribe for or to purchase any additional Preferred Shares or shares of stock of any class or any other securities, rights or options, (iii) to effect any reclassification of the Preferred Shares (other than a reclassification involving only the subdivision of outstanding Preferred Shares), (iv) to effect any consolidation or merger into or with, or to effect any sale or other transfer (or to permit one or more of its Subsidiaries to effect any sale or other transfer), in one or more transactions, of 50% or more of the assets or earning power of the Company and its Subsidiaries (taken as a whole) to, any other Person, (v) to effect the liquidation, dissolution or winding up of the Company, or (vi) to declare or pay any dividend on the Common Shares payable in Common Shares or to effect a subdivision, combination or consolidation of the Common Shares (by reclassification or otherwise than by payment of dividends in Common Shares), then, in each such case, the Company shall give to each holder of a Right Certificate, in accordance with Section 26 hereof, a notice of such proposed action, which shall specify the record date for the purposes of such stock dividend, or distribution of rights or warrants, or the date on which such reclassification, consolidation, merger, sale, transfer, liquidation, dissolution, or winding up is to take place and the date of participation therein by the holders of the Common Shares and/or Preferred Shares, if any such date is to be fixed, and such notice shall be so given in the case of any action covered by clause (i) or (ii) above at least 10 days prior to the record date for determining holders of the Preferred Shares for purposes of such action, and, in the case of any such other action, at least 10 days prior to the date of the taking of such proposed action or the date of participation therein by the holders of the Common Shares and/or Preferred Shares, whichever shall be the earlier.

(b) In case the event set forth in Section 11(a)(ii) hereof shall occur, then the Company shall, as soon as practicable thereafter, give to each holder of a Right Certificate, in accordance with Section 26 hereof, a notice of the occurrence of such event, which notice shall describe such event and the consequences of such event to holders of Rights under Section 11(a)(ii) hereof.

Section 26. Notices. Notices or demands authorized by this Agreement to be given or made by the Rights Agent or by the holder of any Right Certificate to or on the Company shall be sufficiently given or made if by electronic transmission or sent by first-class or express United States mail, or recognized overnight delivery, postage prepaid, addressed (until another address is filed in writing with the Rights Agent) as follows:

CenturyLink, Inc.
100 CenturyLink Drive
Monroe, LA 71203
Attention: Company Secretary
Email:stacey.goff@centurylink.com

Subject to the provisions of Section 21 hereof, any notice or demand authorized by this Agreement to be given or made by the Company or by the holder of any Right Certificate to or on the Rights Agent shall be sufficiently given or made if by or sent by first-class mail or express United States mail, or recognized overnight delivery, postage prepaid, addressed (until another address is filed in writing with the Company) as follows:

Computershare Trust Company, N.A.
250 Royall Street
Canton, MA 02021
Attention: Client Services

Notices or demands authorized by this Agreement to be given or made by the Company or the Rights Agent to the holder of any Right Certificate shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed to such holder at the address of such holder as shown on the registry books of the Company.

Section 27. Supplements and Amendments. The Company may from time to time supplement or amend this Agreement without the approval of any holders of Right Certificates in order to cure any ambiguity, to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, to shorten or lengthen any time period hereunder, or to amend or make any other provisions with respect to the Rights which the Company may deem necessary or desirable, any such supplement or amendment to be evidenced by a writing signed by the Company and the Rights Agent; provided, however, that, from and after the Distribution Date, this Agreement shall not be amended in any manner which would adversely affect the interests of the holders of Rights (other than an Acquiring Person or an Affiliate or Associate of an Acquiring Person). Upon the delivery of a certificate from an appropriate officer of the Company that states that the proposed supplement or amendment is in compliance with the terms of this Section 27, the Rights Agent shall execute such supplement or amendment; provided, however, that the Rights Agent may, but shall not be obligated to, enter into any supplement or amendment that affects the Rights Agent's own rights, duties, obligations or immunities under this Agreement.

Section 28. Successors. All the covenants and provisions of this Agreement by or for the benefit of the Company or the Rights Agent shall bind and inure to the benefit of their respective successors and assigns hereunder.

Section 29. Benefits of this Agreement. Nothing in this Agreement shall be construed to give to any Person other than the Company, the Rights Agent and the registered holders of the Right Certificates (and, prior to the Distribution Date, the Common Shares) any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Rights Agent and the registered holders of the Right Certificates (and, prior to the Distribution Date, the Common Shares).

Section 30. Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other authority to be invalid, null and void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement will remain in full force and effect and will in no way be affected, impaired or invalidated; provided, however, that notwithstanding anything in this Agreement to the contrary, if any such term, provision, covenant or restriction is held by such court or authority to be invalid, null and void or unenforceable and the Board determines in good faith judgment that severing the invalid language from this Agreement would materially and adversely affect the purpose or effect of this Agreement, the right of redemption set forth in Section 23 hereof shall be reinstated and will not expire until the close of business on the tenth (10th) Business Day following the date of such determination by the Board; provided, further, that if any such severed term, provision, covenant or restriction shall adversely affect the rights, immunities, duties or obligations of the Rights Agent, then the Rights Agent shall be entitled to resign immediately.

Section 31. Governing Law. This Agreement, each Right, and each Right Certificate issued hereunder shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be governed by and construed in accordance with the laws of such state applicable to contracts to be made and performed entirely within such state, except that the rights, duties and obligations of the Rights Agent shall be governed by and construed in accordance with the laws of the State of New York applicable to contracts to be made and performed entirely within such State.

Section 32. Counterparts. This Agreement may be executed in one or more counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. Delivery of an executed signature page of Agreement by facsimile or other customary shall mean of electronic transmission (e.g., "pdf") shall be effective as delivery of a manually executed counterpart hereof.

Section 33. Descriptive Headings. Descriptive headings of the several Sections of this Agreement are inserted for convenience only and shall not control or affect in any way the meaning or construction of any of the provisions hereof.

Section 34. Determinations and Actions by the Independent Directors. For all purposes of this Agreement, any calculation of the number of Common Shares outstanding at any particular time, including for purposes of determining the particular percentage of such outstanding Common Shares of which any Person is the Beneficial Owner, will be made in accordance with, as the Independent Directors deems to be applicable, the last sentence of Rule 13d-3(d)(1)(i) of the General Rules and Regulations under the Exchange Act or the provisions of Section 382. The Independent Directors will have the exclusive power and authority to administer this Agreement and to exercise all rights and powers specifically granted to the Independent Directors or to the Company, or as may be necessary or advisable in the administration of this Agreement, including without limitation the right and power to (i) interpret the provisions of this Agreement (including without limitation Section 27, this Section 34 and other provisions hereof relating to its powers or authority hereunder) and (ii) make all determinations deemed necessary or advisable for the administration of this Agreement (including without limitation any determination contemplated by Section 1(a) or any determination as to whether particular

Rights shall have become void). All such actions, calculations, interpretations and determinations (including, for purposes of clause (y) below, any omission with respect to any of the foregoing) which are done or made by the Independent Directors in good faith will (x) be final, conclusive and binding on the Company, the Rights Agent, the holders of the Rights and all other parties and (y) not subject any member of the Board to any liability to any Person, including without limitation the Rights Agent and the holders of the Rights.

Section 35. Process to Seek Exemption. Any Person who desires to effect any acquisition of Common Shares that would, if consummated, result in such Person (together with its Affiliates and Associates) beneficially own 4.9% or more of the then outstanding Common Shares (or, in the case of a person excluded from the definition of "Acquiring Person" in clause (i) of such definition, such applicable percentage) (a "Requesting Person") may, prior to the Shares Acquisition Date, and in accordance with this Section 35, request that the Independent Directors grant an exemption with respect to such acquisition under this Agreement (an "Exemption Request"). An Exemption Request shall be in proper form and shall be delivered by registered mail, return receipt requested, to the Secretary of the Company at the principal executive office of the Company. To be in proper form, an Exemption Request shall set forth (a) the name and address of the Requesting Person, (b) the number and percentage of Common Shares then Beneficially Owned by the Requesting Person, together with all Affiliates and Associates of the Requesting Person, (c) a reasonably detailed description of the transaction or transactions by which the Requesting Person would propose to acquire Beneficial Ownership of Common Shares aggregating 4.9% or more of the then outstanding Common Shares (or, in the case of a person excluded from the definition of "Acquiring Person" in clause (i) of such definition, such applicable percentage) and the maximum number and percentage of Common Shares that the Requesting Person proposes to acquire and (d) a reasonably detailed statement of the benefits such Requesting Person expects to be received the Company and the other shareholders of the Company were the exemption to be granted. The Independent Directors shall make a determination whether to grant an exemption in response to an Exemption Request as promptly as practicable (and, in any event, within ten (10) Business Days) after receipt thereof; provided, that the failure of the Independent Directors to make a determination within such period shall be deemed to constitute the denial by the Independent Directors of the Exemption Request. The Independent Directors may deny an Exemption Request if the Independent Directors determine, in their sole discretion, that the acquisition of Beneficial Ownership of Common Shares by the Requesting Person could jeopardize or endanger the availability to the Company of the NOLs or for whatever other reason they deem reasonable, desirable or appropriate. Any exemption granted hereunder may be granted in whole or in part, and may be subject to limitations or conditions (including a requirement that the Requesting Person agree that it will not acquire Beneficial Ownership of Common Shares in excess of the maximum number and percentage of shares approved by the Independent Directors or that it will not make another Exemption Request), in each case as and to the extent the Independent Directors shall determine necessary, desirable or appropriate.

Section 36. Tax Compliance and Withholding. The Company hereby authorizes the Rights Agent to deduct from all payments disbursed by the Rights Agent to the holders of the Rights, if applicable, the tax required to be withheld pursuant to Sections 1441, 1442, 1445, 1471 through 1474, and 3406 of the Internal Revenue Code of 1986, as amended, or by any federal or state statutes subsequently enacted, and to make the necessary returns and payments of such tax to the relevant taxing authority. The Company will provide withholding and reporting instructions to the Rights Agent from time to time as relevant, and upon request of the Rights Agent. The Rights Agent shall have no responsibilities with respect to tax withholding, reporting, or payment except as specifically instructed by the Company.

Section 37. Force Majeure. Notwithstanding anything to the contrary contained herein, the Rights Agent will not have any liability for not performing, or a delay in the performance of, any act, duty, obligation or responsibility by reason of any occurrence beyond the reasonable control of the Rights Agent (including, without limitation, any act or provision of any present or future law or regulation or governmental authority, any act of God, war, civil or military disobedience or disorder, riot, rebellion, terrorism, insurrection, fire, earthquake, storm, flood, strike, work stoppage, interruptions or malfunctions of computer facilities, loss of data due to power failures or mechanical difficulties with information, labor dispute, accident or failure or malfunction of any utilities, communication or computer (software or hardware) services or similar occurrence).

Section 38. Proposed Share Transaction Procedures. For so long as they are members of the Temasek Group, if either of the SRA Assignees or their Affiliates (a "Requesting Shareholder") intend to acquire additional Common Shares of the Company or effect a proposed Section 382 Transfer pursuant to the Shareholder Rights Agreement, then the Requesting Shareholder shall first deliver to the Company a Section 382 Notice of its intent to effect such acquisition of Common Shares of the Company or Section 382 Transfer.

(a) In the case of a proposed acquisition of additional Common Shares of the Company by the Requesting Shareholder, within five (5) Business Days following the date of delivery of the Section 382 Notice, the Company shall deliver to the Requesting Shareholder the Company's determination (including reasonable supporting analysis) of the Maximum Common Shares that could be acquired by the Requesting Shareholder in

conformity with this Agreement (other than from the Company), which determination, in the absence of manifest error, shall be conclusive. The Company agrees that the Requesting Shareholder may acquire a number of Common Shares up to the Maximum Common Shares within ten (10) Business Days following the Company's delivery to the Requesting Shareholders of the Company's determination.

(b) In the case of a proposed specific acquisition of Common Shares of the Company or a proposed Section 382 Transfer by the Requesting Shareholder, within five (5) Business Days following the date of the Section 382 Notice, the Company shall deliver to the Requesting Shareholder the Company's determination of whether the Requesting Shareholder may effect such proposed specific acquisition or the Maximum Common Shares that can be transferred, as the case may be, in conformity with this Agreement, which determination, in the absence of manifest error, shall be conclusive. The Company agrees that the Requesting Shareholder may complete any such approved specific acquisition or Section 382 Transfer within ten (10) Business Days following the Company's determination.

[Remainder of this page intentionally left blank.]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and attested, all as of the day and year first above written.

CenturyLink, Inc.

By /s/ Stacey W. Goff

Name: Stacey W. Goff

Title: Executive Vice President,
General Counsel and Secretary

Computershare Trust Company, N.A.

By /s/ Fred Papenmeier

Name: Fred Papenmeier

Title: Vice President

FORM OF
ARTICLES OF AMENDMENT
to the
ARTICLES OF INCORPORATION
of
CENTURYLINK, INC.
(Pursuant to Sections 1-602, 1005(8) and 1006 of the
Louisiana Business Corporation Act)

These articles of amendment ("**Articles of Amendment**") to the articles of incorporation ("**Articles of Incorporation**") of CENTURYLINK, INC., a Louisiana business corporation ("**Corporation**"), have been prepared for filing with the Secretary of State of Louisiana pursuant to Sections 12:1-602, 1005(8) and 1006 of the Louisiana Business Corporation Act (the "**Act**"), R.S. 12:1-101 et seq., to set forth the following:

FIRST: At a meeting duly called and held on February 13, 2019, the Board of Directors of the Corporation unanimously approved and adopted the following amendment of the Articles of Incorporation of the Corporation, as set forth below. Shareholder approval was not required for this amendment.

SECOND: ARTICLE III of the Articles of Incorporation of the Corporation is hereby amended to add Section F, Series CC Junior Participating Preferred Shares. The text of this amendment is as follows:

F. Series CC Junior Participating Preferred Shares:

(1) Designation and Amount. The shares of such series shall be designated as "Series CC Junior Participating Preferred Shares" (the "Series CC Shares") and the number of shares constituting the Series CC Shares shall be 150,000. Such number of shares may be increased or decreased by resolution of the Board of Directors; provided, that no decrease shall reduce the number of Series CC Shares to a number less than the number of shares then outstanding plus the number of shares reserved for issuance upon the exercise of outstanding options, rights or warrants or upon the conversion of any outstanding securities issued by the Corporation convertible into Series CC Shares.

(2) Dividends and Distributions.

(a) Subject to the rights of the holders of any shares of any series of Preferred Stock (or any similar stock) ranking prior and superior to the Series CC Shares with respect to dividends, the holders of Series CC Shares shall be entitled to receive, when, as and if declared by the Board of Directors out of funds legally available for the purpose, quarterly dividends payable in cash on the dividend date declared on the Common Stock, par value \$1.00 per share (the "Common Stock") in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series CC Shares, in an amount per share (rounded to the nearest cent), subject to the provision for adjustment hereinafter set forth, equal to 10,000 times the aggregate per share amount of all cash dividends, and 10,000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, declared on the Common Stock of the Corporation since the immediately preceding Quarterly Dividend Payment Date or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series CC Shares, other than, in each case, a dividend payable in shares of Common Stock or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise). In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of Series CC Shares were entitled immediately prior to such event under the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(b) The Corporation shall declare a dividend or distribution on the Series CC Shares as provided in paragraph (a) of this Section immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock).

(c) Dividends, to the extent payable as provided in paragraphs (a) and (b) of this Section, shall begin to accrue and be cumulative on outstanding Series CC Shares from the Quarterly Dividend Payment Date next preceding the date of issue of such shares, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is

a date after the record date for the determination of holders of Series CC Shares entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the Series CC Shares in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board of Directors may fix a record date for the determination of holders of Series CC Shares entitled to receive payment of a dividend or distribution declared thereon, which record date shall be not more than 60 days prior to the date fixed for the payment thereof.

(3) Voting Rights. The holders of Series CC Shares shall have the following voting rights:

(a) Subject to the provision for adjustment hereinafter set forth, each share of Series CC Shares shall entitle the holder thereof to 10,000 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the number of votes per share to which holders of Series CC Shares were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(b) Except as otherwise provided herein, in any other articles of amendment creating a series of Preferred Stock or any similar stock, or by law, the holders of Series CC Shares and the holders of shares of Common Stock and any other capital stock of the Corporation having general voting rights shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(c) Except as set forth herein, or as otherwise provided by law, holders of Series CC Shares shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

(4) Certain Restrictions.

(a) Whenever quarterly dividends or other dividends or distributions payable on the Series CC Shares as provided in Article III.F.(2) are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on Series CC Shares outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends, or make any other distributions, on any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series CC Shares;

(ii) declare or pay dividends, or make any other distributions, on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series CC Shares, except dividends paid ratably on the Series CC Shares and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series CC Shares, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such junior stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series CC Shares; or

(iv) redeem or purchase or otherwise acquire for consideration any Series CC Shares, or any shares of stock ranking on a parity with the Series CC Shares, except in accordance with a purchase offer made in writing or by publication (as determined by the Board of Directors) to all holders of such shares upon such terms as the Board of Directors, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(b) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (a) of this Articles III.F.(4), purchase or otherwise acquire such shares at such time and in such manner.

(5) Reacquired Shares. Any Series CC Shares purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and cancelled promptly after the acquisition thereof. All such shares shall

upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock subject to the conditions and restrictions on issuance set forth herein, in the Articles of Incorporation, or in any other Articles of Amendment to the Articles of Incorporation creating a series of Preferred Stock or any similar stock or as otherwise required by law.

(6) Liquidation, Dissolution or Winding Up. Upon any liquidation, dissolution or winding up of the Corporation, no distribution shall be made (1) to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series CC Shares unless, prior thereto, the holders of Series CC Shares shall have received \$10,000 per share, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment, provided that the holders of Series CC Shares shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 10,000 times the aggregate amount to be distributed per share to holders of shares of Common Stock, or (2) to the holders of shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series CC Shares, except distributions made ratably on the Series CC Shares and all such parity stock in proportion to the total amounts to which the holders of all such shares are entitled upon such liquidation, dissolution or winding up. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the aggregate amount to which holders of Series CC Shares were entitled immediately prior to such event under the proviso in clause (1) of the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(7) Consolidation, Merger, etc. In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case each share of Series CC Shares shall at the same time be similarly exchanged or changed into an amount per share, subject to the provision for adjustment hereinafter set forth, equal to 10,000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of Series CC Shares shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(8) No Redemption. The Series CC Shares shall not be redeemable.

(9) Rank. The Series CC Shares shall rank, with respect to the payment of dividends and the distribution of assets, junior to all series of any other class of the Corporation's Preferred Stock.

(10) Amendment. The Articles of Incorporation of the Corporation shall not be amended in any manner which would materially alter or change the powers, preferences or special rights of the Series CC Shares so as to affect them adversely without the affirmative vote of the holders of at least two-thirds of the outstanding Series CC Shares, voting together as a single class.

IN WITNESS WHEREOF, CenturyLink, Inc. has caused this Articles of Amendment of Articles of Incorporation relating to the establishment of rights and preferences of Series CC Junior Participating Preferred Stock to be duly executed by its President this 13th day of February, 2019.

[Signature block intentionally omitted]

ACKNOWLEDGEMENT

STATE OF COLORADO

COUNTY OF BOULDER COUNTY

BEFORE ME, the undersigned authority, personally came and appeared Jeffrey K. Storey, to me known to be the person who signed the foregoing instrument as Chief Executive Officer and President of CenturyLink, Inc. that is authorized to execute and file the foregoing instrument, and who, having been duly sworn, acknowledged and declared, in the presence of the two witnesses whose names are subscribed below, that he signed such instrument as his free act and deed for the purposes mentioned therein.

IN WITNESS WHEREOF, the appearer, witnesses and I have hereunto affixed our hands on this 13th day of February, 2019, in the aforesaid county and state.

[Signature blocks intentionally omitted]

Form of Right Certificate

Certificate No. R-

Rights

NOT EXERCISABLE AFTER THE FINAL EXPIRATION DATE (AS DEFINED IN THE AGREEMENT) OR EARLIER IF REDEMPTION OR EXCHANGE OCCURS OR AS OTHERWISE SPECIFIED IN THE AGREEMENT. THE RIGHTS ARE SUBJECT TO REDEMPTION AT \$0.0001 PER RIGHT AND TO EXCHANGE ON THE TERMS SET FORTH IN THE AGREEMENT.

Right Certificate

CENTURYLINK, INC.

This certifies that _____, or registered assigns, is the registered owner of the number of Rights set forth above, each of which entitles the owner thereof, subject to the terms, provisions and conditions of the Section 382 Rights Agreement, dated as of February 13, 2019 (as may be amended from time to time, the "Agreement"), between CenturyLink, Inc., a Louisiana corporation (the "Company"), and Computershare Trust Company, N.A. (the "Rights Agent"), to purchase from the Company at any time after the Distribution Date (as such term is defined in the Agreement) and prior to the Final Expiration Date (as such term is defined in the Agreement) or earlier as specified in the Agreement, at the office or offices of the Rights Agent designated for such purpose, or at the office of its successor as Rights Agent, one ten-thousandth of a fully paid non-assessable share of Series CC Junior Participating Preferred Stock, par value \$25 per share, of the Company (the "Preferred Shares"), at a purchase price of \$28 per one ten-thousandth of a Preferred Share (the "Exercise Price"), upon presentation and surrender of this Right Certificate with the Form of Election to Purchase duly executed. The number of Rights evidenced by this Right Certificate (and the number of one ten-thousandths of a Preferred Share which may be purchased upon exercise hereof) set forth above, and the Exercise Price set forth above, are the number and Exercise Price as of February 13, 2019, based on the Preferred Shares as constituted at such date. As provided in the Agreement, the Exercise Price and the number of one ten-thousandths of a Preferred Share which may be purchased upon the exercise of the Rights evidenced by this Right Certificate are subject to modification and adjustment upon the happening of certain events.

This Right Certificate is subject to all of the terms, provisions and conditions of the Agreement, which terms, provisions and conditions are hereby incorporated herein by reference and made a part hereof and to which Agreement reference is hereby made for a full description of the rights, limitations of rights, obligations, duties and immunities hereunder of the Rights Agent, the Company and the holders of the Right Certificates. Copies of the Agreement are on file at the principal executive offices of the Company and the offices of the Rights Agent.

This Right Certificate, with or without other Right Certificates, upon surrender at the office or offices of the Rights Agent designated for such purpose, may be exchanged for another Right Certificate or Right Certificates of like tenor and date evidencing Rights entitling the holder to purchase a like aggregate number of Preferred Shares as the Rights evidenced by the Right Certificate or Right Certificates surrendered shall have entitled such holder to purchase. If this Right Certificate shall be exercised in part, the holder shall be entitled to receive upon surrender hereof another Right Certificate or Right Certificates for the number of whole Rights not exercised.

Subject to the provisions of the Agreement, the Rights evidenced by this Right Certificate (i) may be redeemed by the Company at a redemption price of \$0.0001 per Right or (ii) may be exchanged in whole or in part for Preferred Shares or shares of the Company's Common Stock, par value \$1.00 per share.

No fractional Preferred Shares will be issued upon the exercise of any Right or Rights evidenced hereby (other than fractions which are integral multiples of one ten-thousandth of a Preferred Share, which may, at the election of the Company, be evidenced by depositary receipts), but, in lieu thereof, a cash payment will be made, as provided in the Agreement.

No holder of this Right Certificate shall be entitled to vote or receive dividends or be deemed for any purpose the holder of the Preferred Shares or of any other securities of the Company which may at any time be issuable on the exercise hereof, nor shall anything contained in the Agreement or herein be construed to confer upon the holder hereof, as such, any of the rights of a shareholder of the Company or any right to vote for the election of directors or upon any matter submitted to shareholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting shareholders (except as provided in the Agreement), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by this Right Certificate shall have been exercised as provided in the Agreement.

This Right Certificate shall not be valid or obligatory for any purpose until it shall have been countersigned manually or by facsimile or other electronic means by the Rights Agent.

WITNESS the signature of the proper officers of the Company. Dated as of , 20 .

[Signature blocks intentionally omitted]

FORM OF ASSIGNMENT

(To be executed by the registered holder if such holder desires to transfer the Right Certificate.)

[illegible]

(Please print name and address of transferee)

this Right Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint _____ Attorney, to transfer the within Right Certificate on the books of the within-named Company, with full power of substitution.

Dated: _____

Signature _____

Signature Medallion Guaranteed:

All Guarantees must be made by a financial institution (such as a bank or broker) which is a participant in the Securities Transfer Agents Medallion Program (“STAMP”), the New York Stock Exchange, Inc. Medallion Signature Program (“MSP”), or the Stock Exchanges Medallion Program (“SEMP”) and must not be dated. Guarantees by a notary public are not acceptable.

The undersigned hereby certifies that the Rights evidenced by this Right Certificate are not beneficially owned by an Acquiring Person or an Affiliate or Associate thereof (as defined in the Agreement).

Signature _____

FORM OF ELECTION TO PURCHASE

(To be executed if holder desires to exercise
Rights represented by the Right Certificate.)

To: CENTURYLINK, INC.

The undersigned hereby irrevocably elects to exercise _____ Rights represented by this Right Certificate to purchase the Preferred Shares issuable upon the exercise of such Rights and requests that certificates for such Preferred Shares be issued in the name of:

Please insert social security
or other identifying number

(Print name and address)

If such number of Rights shall not be all the Rights evidenced by this Right Certificate, a new Right Certificate for the balance remaining of such Rights shall be registered in the name of and delivered to:

Please insert social security
or other identifying number

(Print name and address)

Dated: _____

Signature

Signature Medallion Guaranteed:

All Guarantees must be made by a financial institution (such as a bank or broker) which is a participant in the Securities Transfer Agents Medallion Program ("STAMP"), the New York Stock Exchange, Inc. Medallion Signature Program ("MSP"), or the Stock Exchanges Medallion Program ("SEMP") and must not be dated. Guarantees by a notary public are not acceptable.

The undersigned hereby certifies that the Rights evidenced by this Right Certificate are not beneficially owned by an Acquiring Person or an Affiliate or Associate thereof (as defined in the Agreement).

Signature

NOTICE

The signature in the Form of Assignment or Form of Election to Purchase, as the case may be, must conform to the name as written upon the face of this Right Certificate in every particular, without alteration or enlargement or any change whatsoever.

In the event the certification set forth above in the Form of Assignment or the Form of Election to Purchase, as the case may be, is not completed, the Company and the Rights Agent will deem the beneficial owner of the Rights evidenced by this Right Certificate to be an Acquiring Person or an Affiliate or Associate thereof (as defined in the Agreement) and such Assignment or Election to Purchase will not be honored.

SUMMARY OF RIGHTS TO PURCHASE PREFERRED SHARES

Introduction

Our Company, CenturyLink, Inc., a Louisiana corporation, has entered into a Rights Agreement with Computershare Trust Company, N.A., as Rights Agent, dated as of February 13, 2019 (the “NOL Rights Plan”). Our Board of Directors (the “Board”) approved the NOL Rights Plan in an effort to deter acquisitions of our common stock that would potentially limit our ability to use our built in losses and any resulting net loss carryforwards to reduce potential future federal income tax obligations.

For those interested in the specific terms of the NOL Rights Plan, we provide the following summary description. Please note, however, that this description is only a summary, and is not complete, and should be read together with the entire NOL Rights Plan, which has been filed with the Securities and Exchange Commission as an exhibit to our Current Report on Form 8-K, dated February 14, 2019. A copy of the agreement is available free of charge from our Company.

General. Under the NOL Rights Plan, from and after the record date of February 25, 2019, each share of our common stock will carry with it one preferred share purchase right (a “Right”), until the Distribution Date (as defined below) or earlier expiration of the Rights, as described below. In general, any person that, together with all Affiliates and Associates (each as defined in the NOL Rights Plan), acquires 4.9% or more of our outstanding common stock after February 13, 2019, or entry into the NOL Rights Plan, will be subject to significant potential dilution. Stockholders who own 4.9% or more of the outstanding common stock as of the close of business on February 13, 2019, will not trigger the Rights so long as they do not (i) acquire additional shares of common stock representing one-half of one percent (0.5%) or more of the shares of common stock outstanding at the time of such acquisition or (ii) fall under 4.9% ownership of common stock and then re-acquire shares that in the aggregate equal 4.9% or more of the common stock. A person will not trigger the Rights solely as a result of any transaction that the Board determines, in its sole discretion, is an exempt transaction for purposes of triggering the Rights. STT Crossing Ltd. and its Affiliates and Associates will be exempt stockholders for the purposes of the NOL Rights Plan, unless and until STT Crossing Ltd. (or any Affiliates of STT Crossing Ltd.) acquires any common stock other than (x) in a transaction that is permitted under Section 4 of the Stockholder Rights Agreement, dated as of October 31, 2016, by and among the Company and STT Crossing Ltd. (the “Shareholder Rights Agreement”) or (y) any transfers of common stock or other Company equity interests between STT Crossing Ltd. and its Affiliates. A person to whom STT Crossing Ltd. transfers any amount of common stock pursuant to and as permitted by Section 4.2 of the Shareholder Rights Agreement will be exempt for purposes of the NOL Rights Plan, unless and until such person (or any Affiliates or Associates of such person) acquires any additional common stock.

The Board may, in its sole discretion prior to the Distribution Date, exempt any person or group for purposes of the NOL Rights Plan if it determines the acquisition by such person or group will not jeopardize tax benefits or is otherwise in the Company’s best interests. Any person that acquires shares of common stock in violation of these limitations is known as an “Acquiring Person.” Notwithstanding the foregoing, a Person shall not be an “Acquiring Person” if the Independent Directors (as defined in the NOL Rights Plan) determines at any time that a Person who would otherwise be an “Acquiring Person,” has become such without intending to become an “Acquiring Person,” and such Person divests as promptly as practicable (or within such period of time as the Independent Directors determine is reasonable) a sufficient number of shares of Common Stock of the Company so that such Person would no longer be an “Acquiring Person,” as defined pursuant to the NOL Rights Plan. The NOL Rights Plan is not expected to interfere with any merger or other business combination approved by our Board.

The Rights. From the record date of February 25, 2019, until the Distribution Date or earlier expiration of the Rights, the Rights will trade with, and will be inseparable from, the common stock. New Rights will also accompany any new shares of common stock that we issue after February 13, 2019, until the Distribution Date or earlier expiration of the Rights.

Exercise Price. Each Right will allow its holder to purchase from our Company one ten-thousandth of a share of Series CC Junior Participating Preferred Stock (“Preferred Share”) for \$28, subject to adjustment (the “Exercise Price”), once the Rights become exercisable. This fraction of a Preferred Share will give the stockholder approximately the same dividend, voting, and liquidation rights as would one share of common stock. Prior to exercise, the Right does not give its holder any dividend, voting, or liquidation rights.

Exercisability. The Rights will not be exercisable until ten (10) business days (as may be extended in the discretion of the Independent Directors) after the public announcement that a person or group has become an Acquiring Person unless the NOL Rights Plan is theretofore terminated or the Rights are theretofore redeemed (as described below).

We refer to the date when the Rights become exercisable as the “Distribution Date.” Until that date or earlier expiration of the Rights, the common stock certificates will also evidence the Rights, and any transfer of shares of common stock will constitute a transfer of Rights. After that date, the Rights will separate from the common stock and be evidenced by book-entry credits or by Rights certificates that we will mail to all eligible holders of common stock. Any Rights held by an Acquiring Person, or any Affiliates or Associates of the Acquiring Person, are void and may not be exercised.

Consequences of a Person or Group Becoming an Acquiring Person. If a person or group becomes an Acquiring Person, all holders of Rights except the Acquiring Person, or any Affiliates or Associates of the Acquiring Person, may, upon payment of the Exercise Price, purchase shares of our common stock with a market value of twice the Exercise Price, based on the “current per share market price” of the common stock (as defined in the NOL Rights Plan) on the date of the acquisition that resulted in such person or group becoming an Acquiring Person.

Exchange. After a person or group becomes an Acquiring Person, our Independent Directors in their sole discretion may extinguish the Rights by exchanging one share of common stock or an equivalent security for each Right, other than Rights held by the Acquiring Person or any Affiliates or Associates of the Acquiring Person.

Preferred Share Provisions. Each one ten-thousandth of a Preferred Share, if issued:

- will not be redeemable.
- will entitle holders to dividends equal to the dividends, if any, paid on one share of common stock.
- will entitle holders upon liquidation either to receive \$1.00 per share or an amount equal to the payment made on one share of common stock, whichever is greater.
- will vote together with the common stock as one class on all matters submitted to a vote of stockholders of the Company and will have the same voting power as one share of common stock, except as otherwise provided by law.
- will entitle holders to a per share payment equal to the payment made on one share of common stock, if shares of our common stock are exchanged via merger, consolidation, or a similar transaction.

The value of one ten-thousandth interest in a Preferred Share is expected to approximate the value of one share of common stock.

Expiration. The Rights will expire on the earliest of (i) December 1, 2020, (ii) the time at which the Rights are redeemed, (iii) the time at which the Rights are exchanged, (iv) the time at which the Board determines that the Net Operating Losses of the Company (the “NOLs”) are utilized in all material respects or that an ownership change under Section 382 of the Internal Revenue Code would not adversely impact in any material respect the time period in which the Company could use the NOLs, or materially impair the amount of the NOLs that could be used by the Company in any particular time period, for applicable tax purposes, (v) the first anniversary of the execution of the NOL Rights Plan if approval of the NOL Rights Plan by the affirmative vote of a majority of the votes cast at a duly called meeting has not been obtained prior to such date, or (vi) a determination by the Board, prior to the Distribution Date, that the NOL Rights Plan and the Rights are no longer in the best interests of the Company and its stockholders.

Redemption. Our Board may redeem the Rights for \$0.0001 per Right at any time before the Distribution Date. If our Board redeems any Rights, it must redeem all of the Rights. Once the Rights are redeemed, the only right of the holders of Rights will be to receive the redemption price of \$0.0001 per Right. The redemption price will be adjusted if we have a stock split or stock dividends of our common stock.

Anti-Dilution Provisions. Our Board may adjust the Exercise Price, the number of Preferred Shares issuable and the number of outstanding Rights to prevent dilution that may occur from a stock dividend, a stock split, or a reclassification of the Preferred Shares or common stock.

Amendments. The terms of the NOL Rights Plan may be amended by our Board without the consent of the holders of the Rights. After the Distribution Date, our Board may not amend the agreement in a way that adversely affects holders of the Rights (other than an Acquiring Person, or an Affiliate or Associate of an Acquiring Person).

Appendix C-2

FIRST AMENDMENT to the AMENDED AND RESTATED SECTION 382 RIGHTS AGREEMENT

This First Amendment (this “Amendment”) to that certain Amended and Restated Section 382 Rights Agreement, dated as of May 9, 2019, by and between CenturyLink, Inc. (currently doing business as Lumen Technologies), a Louisiana corporation (the “Company”), and Computershare Trust Company, N.A., as rights agent (the “Rights Agent”) (the “Restated Rights Agreement”), is made and entered into on November 20, 2020, effective as of December 1, 2020 (the “Effective Date”).

RECITALS

WHEREAS, Section 27 of the Restated Rights Agreement provides that prior to the Distribution Date the Company may supplement or amend any provision of the Restated Rights Agreement without the approval of any holders of Rights;

WHEREAS, no Distribution Date has occurred on or prior to the date hereof;

WHEREAS, the Board of Directors of the Company (the “Board”) deems it advisable and in the best interests of the Company and its shareholders to amend the terms of the Restated Rights Agreement as set forth herein; and

WHEREAS, on November 19, 2020, the Board authorized and approved this Amendment.

AGREEMENT

NOW, THEREFORE, the Company and the Rights Agent hereby agree to amend the Restated Rights Agreement as follows:

1. Effect of Amendment. Except as otherwise expressly provided herein, the Restated Rights Agreement shall remain in full force and effect and all references in the Restated Rights Agreement to “Agreement” or “hereof” shall mean the Restated Rights Agreement as modified by this Amendment.

2. Capitalized Terms. All capitalized, undefined terms used in this Amendment shall have the meanings assigned thereto in the Restated Rights Agreement.

3. Amendments to the Restated Rights Agreement. The following amendments to the Restated Rights Agreement shall become effective as of the Effective Date of this Amendment.

a. The references to “this Agreement” in Section 1(ii) shall be removed and replaced with “the First Amendment to the Amended and Restated Rights Agreement, dated as of December 1, 2020, between the Company and the Rights Agent.”

b. The reference to “December 1, 2020” in clause (i) of Section 7(a) of the Restated Rights Agreement shall be removed and replaced with “December 1, 2023.”

c. The reference to “February 13, 2020” in clause (v) of Section 7(a) of the Restated Rights Agreement shall be removed and replaced with “December 1, 2021.”

d. Section 38 of the Restated Rights Agreement and all related defined terms in Sections 1(s), 1(ee), and 1(ff) shall be deleted in their entirety and replaced by a reference to the applicable section number and the word “Reserved.” In addition, Section 1(o) of the Restated Rights Agreement shall be amended in the manner specified on Annex I hereof.

4. Miscellaneous.

a. This Amendment shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be governed by and construed in accordance with the laws of such State applicable to contracts to be made and performed entirely within such State.

b. This Amendment may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. A signature to this Amendment executed or transmitted electronically shall have the same authority, effect and enforceability as an original signature.

c. In the event of any conflict or inconsistency between the provisions of this Amendment and any provision of the Restated Rights Agreement, the provisions of this Amendment shall govern.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed as of the date first written above.

CenturyLink, Inc.
(doing business as Lumen Technologies)
/s/ Stacey W. Goff

Name: Stacey W. Goff
Title: Executive Vice President, General
Counsel & Secretary

Computershare Trust Company, N.A.
/s/ Kerri Altig

Name: Kerri Altig
Title: Vice President, Manager

ANNEX I

1. Section 1(o) of the Restated Rights Agreement shall be amended by adding the language shown as underlined and by removing the language shown as being stricken, in each case in the manner indicated below:

(o) “Exempt Person” shall mean:

- (i) the Temasek Group, unless and until either of the SRA Assignees (or any of their respective Affiliates) acquires any Common Shares, other than acquisitions of Common Shares (x) in a transaction that is permitted or within the limits specified under Section 4 of the Shareholder Rights Agreement regardless of whether such transaction occurs during or after the expiration of the Designee Period (as defined in the Shareholder Rights Agreement), but in such case, if and only if such transaction is effected in accordance with Section 38 of this Agreement, or (y) any transfers of Common Shares or other Company equity interests between either SRA Assignee and its Affiliates;
- (ii) any Person to whom either of the SRA Assignees transfers any amount of Common Shares as permitted by or within the limits or terms specified under Section 4.2 of the Shareholder Rights Agreement regardless of whether such transfer occurs during or after the expiration of the Designee Period (as defined in the Shareholder Rights Agreement), unless and until such Person (or any Affiliates or Associates of such Person) acquires any additional Common Shares; provided, ~~that in the case where such transfer is other than in an open market transaction effected by or through a broker, and the transferee is either not a 5 Percent Shareholder prior to such transfer but, as a result of such transfer, would become a 5 Percent Shareholder, or was a 5 Percent Shareholder before and after such transfer (any such transfer, a “Section 382 Transfer”), then in such cases, if and only if such transfer would not result in an “ownership change” of the Company for purposes of Section 382 as determined in accordance with Section 38 of this Agreement; and~~
- (iii) any other Person whose Beneficial Ownership (together with all Affiliates and Associates of such Person) of 4.9% or more of the then-outstanding Common Shares (1) will not jeopardize or endanger the availability to the Company of any income tax benefit or (2) is otherwise in the best interests of the Company, in each case as determined by the Independent Directors in their sole discretion prior to the Distribution Date; provided, however, that such a Person will cease to be an Exempt Person if the Independent Directors make a contrary determination with respect to the effect of such Person’s Beneficial Ownership (together with all Affiliates and Associates of such Person) in their sole discretion prior to the Distribution Date regardless of the reason therefor. For the avoidance of doubt, nothing in this Agreement shall permit any member of the Temasek Group from knowingly taking any action that would result in an “ownership change” of the Company for purposes of Section 382.

Corporate Headquarters

100 CenturyLink Drive
Monroe, Louisiana 71203
General Information: 318-388-9000

Transfer Agent

For address changes, stock transfers, name changes, registration changes, lost stock certificates and stock holdings, please contact:

Computershare Investor Services L.L.C.
Post Office Box 505000
Louisville, Kentucky 40233
1-800-969-6718
www.computershare.com/lumen

Auditors

KPMG LLP
1225 17th Street, Suite 800
Denver, Colorado 80202

Investor Relations

Inquiries by securities analysts, investment professionals and shareholders about Lumen Technologies, Inc. common stock, including requests for any SEC or other shareholder reports should be directed to:

investor.relations@lumen.com
ir.lumen.com

Annual Report

After the close of each fiscal year, Lumen Technologies, Inc. submits an Annual Report on Form 10-K to the SEC containing certain additional information about its business. A copy of the 10-K report may be obtained without charge by addressing your request to Stacey W. Goff, Secretary, Lumen Technologies, Inc., 100 CenturyLink Drive, Monroe, Louisiana 71203, or by visiting our website at www.lumen.com.

Common Stock

Lumen common stock is traded on the New York Stock Exchange under the symbol LUMN.

As of the Record Date, we had 1,105,581,609 shares of common stock and 7,018 shares of Series L preferred stock issued and outstanding. There were 90,347 shareholders of record.

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Communications to the Board

Communication with shareholders and other interested parties is an important part of the governance process. Any shareholder or other stakeholder who wishes to contact the Board, Chairman or any Director can send correspondence to:

Write: P.O. Box 5061 ; Monroe, Louisiana 71211
Email: boardinquiries@lumen.com