UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-Q

(Mark One)

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2020.

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to .

Commission File Number: 001-13831

Quanta Services, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**74-2851603**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

2800 Post Oak Boulevard, Suite 2600
Houston, Texas 77056
(Address of principal executive offices, including zip code)

(713) 629-7600
(Registrant's telephone number, including area code)

N/A
(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.00001 par value	PWR	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☑	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

As of October 27, 2020, the number of outstanding shares of Common Stock of the registrant was 138,860,900.

QUANTA SERVICES, INC. AND SUBSIDIARIES

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PART I - FINANCIAL INFORMATION

Item 1. ***Financial Statements.***

`QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except share information)
(Unaudited)

	September 30, 2020	December 31, 2019
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 216,935	$ 164,798
Accounts receivable, net of allowances of $16,404 and $9,398	2,750,268	2,747,911
Contract assets	478,483	601,268
Inventories	39,821	55,719
Prepaid expenses and other current assets	191,501	261,290
Total current assets	3,677,008	3,830,986
Property and equipment, net of accumulated depreciation of $1,339,771 and $1,250,197	1,436,935	1,386,654
Operating lease right-of-use assets	266,487	284,369
Other assets, net	412,490	393,264
Other intangible assets, net of accumulated amortization of $490,913 and $437,886	434,922	413,734
Goodwill	2,097,645	2,022,675
Total assets	$ 8,325,487	$ 8,331,682
LIABILITIES AND EQUITY		
Current Liabilities:		
Current maturities of long-term debt and short-term debt	$ 9,221	$ 74,869
Current portion of operating lease liabilities	88,162	92,475
Accounts payable and accrued expenses	1,543,842	1,489,559
Contract liabilities	537,048	606,146
Total current liabilities	2,178,273	2,263,049
Long-term debt, net of current maturities	1,202,425	1,292,195
Operating lease liabilities, net of current portion	185,003	196,521
Deferred income taxes	206,280	214,779
Insurance and other non-current liabilities	397,940	311,307
Total liabilities	4,169,921	4,277,851
Commitments and Contingencies		
Equity:		
Common stock, $0.00001 par value, 600,000,000 shares authorized, 162,516,859 and 159,415,540 shares issued, and 138,843,346 and 142,324,318 shares outstanding	2	2
Exchangeable shares, no par value, 0 and 36,183 shares issued and outstanding	—	—
Additional paid-in capital	2,130,057	2,024,610
Retained earnings	3,103,849	2,854,271
Accumulated other comprehensive loss	(274,342)	(241,818)
Treasury stock, 23,673,513 and 17,091,222 common shares	(807,616)	(586,773)
Total stockholders’ equity	4,151,950	4,050,292
Non-controlling interests	3,616	3,539
Total equity	4,155,566	4,053,831
Total liabilities and equity	$ 8,325,487	$ 8,331,682

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share information)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Revenues	$ 3,020,161	$ 3,352,895	$ 8,290,487	$ 8,999,353
Cost of services (including depreciation)	2,512,647	2,879,450	7,095,513	7,842,422
Gross profit	507,514	473,445	1,194,974	1,156,931
Equity in earnings of integral unconsolidated affiliates	5,120	—	6,165	—
Selling, general and administrative expenses	(250,654)	(245,010)	(709,299)	(700,862)
Amortization of intangible assets	(19,687)	(15,264)	(55,374)	(40,544)
Change in fair value of contingent consideration liabilities	(78)	(3,777)	(598)	(8,064)
Operating income	242,215	209,394	435,868	407,461
Interest expense	(11,049)	(18,369)	(33,709)	(48,066)
Interest income	80	186	1,114	762
Other income (expense), net	2,931	717	(3,649)	66,197
Income before income taxes	234,177	191,928	399,624	426,354
Provision for income taxes	70,477	54,906	119,626	139,838
Net income	163,700	137,022	279,998	286,516
Less: Net income attributable to non-controlling interests	787	954	4,453	2,616
Net income attributable to common stock	$ 162,913	$ 136,068	$ 275,545	$ 283,900
Earnings per share attributable to common stock:				
Basic	$ 1.16	$ 0.93	$ 1.95	$ 1.95
Diluted	$ 1.13	$ 0.92	$ 1.90	$ 1.93
Shares used in computing earnings per share:				
Weighted average basic shares outstanding	140,542	145,913	141,610	145,654
Weighted average diluted shares outstanding	144,363	147,438	144,985	147,074

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Net income	$ 163,700	$ 137,022	$ 279,998	$ 286,516
Other comprehensive income (loss), net of tax provision:				
Foreign currency translation adjustment, net of tax of $0, $0, $0 and $0	15,707	(12,778)	(32,524)	21,976
Other, net of tax of $0, $17, $0 and $28	—	(6)	—	(41)
Other comprehensive income (loss)	15,707	(12,784)	(32,524)	21,935
Comprehensive income	179,407	124,238	247,474	308,451
Less: Comprehensive income attributable to non-controlling interests	787	954	4,453	2,616
Total comprehensive income attributable to common stock	$ 178,620	$ 123,284	$ 243,021	$ 305,835

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Cash Flows from Operating Activities:				
Net income	$ 163,700	$ 137,022	$ 279,998	$ 286,516
Adjustments to reconcile net income to net cash provided by (used in) operating activities—				
Depreciation	56,244	55,562	165,180	161,589
Amortization of intangible assets	19,687	15,264	55,374	40,544
Impairment of cost method investment	—	—	9,311	—
Change in fair value of contingent consideration liabilities	78	3,777	598	8,064
Equity in (earnings) losses of unconsolidated affiliates	(5,260)	(1,931)	2,207	(64,078)
Amortization of debt discount and issuance costs	3,070	466	4,247	1,282
Gain on sale of property and equipment	(2,246)	(992)	(4,218)	(3,462)
Provision for credit losses	1,566	773	2,910	4,012
Deferred income tax provision (benefit)	(17,443)	4,167	(19,226)	48,298
Non-cash stock-based compensation	21,431	13,584	58,323	41,080
Foreign currency (gain) loss and other non-cash items	(1,505)	1,383	(4,942)	(535)
Payments for contingent consideration liabilities	—	—	(590)	—
Changes in operating assets and liabilities, net of non-cash transactions	(124,463)	(137,908)	290,715	(623,557)
Net cash provided by (used in) operating activities	114,859	91,167	839,887	(100,247)
Cash Flows from Investing Activities:				
Capital expenditures	(50,780)	(66,244)	(167,037)	(207,645)
Proceeds from sale of property and equipment	5,844	4,854	18,460	24,247
Proceeds from insurance settlements related to property and equipment	73	490	271	501
Cash paid for acquisitions, net of cash, cash equivalents and restricted cash acquired	(187,655)	(329,832)	(212,092)	(385,165)
Proceeds from disposition of businesses	203	—	11,064	—
Investments in unconsolidated affiliates and other entities	(778)	(1,065)	(9,538)	(38,995)
Cash received from investments in unconsolidated affiliates and other entities	2,538	—	2,570	—
Cash paid for intangible assets	—	—	—	(67)
Net cash used in investing activities	(230,555)	(391,797)	(356,302)	(607,124)
Cash Flows from Financing Activities:				
Borrowings under credit facility	478,762	2,118,501	2,453,941	4,834,014
Payments under credit facility	(1,648,614)	(1,789,924)	(3,602,660)	(4,038,762)
Proceeds from notes offering	990,130	—	990,130	—
Payments of other long-term debt	(652)	(1,356)	(1,635)	(1,839)
Net repayments of short-term debt, net of borrowings	(1,761)	(11,171)	(6,180)	(27,087)
Debt issuance and amendment costs	(7,794)	(2,036)	(7,794)	(2,036)
Payments for contingent consideration liabilities	—	—	(10,399)	—
Distributions to non-controlling interests	(744)	(489)	(4,669)	(2,109)
Payments related to tax withholding for stock-based compensation	(830)	(611)	(24,403)	(15,955)
Payment of dividends	(7,001)	(5,803)	(21,545)	(17,385)
Repurchase of common stock	—	—	(200,000)	(20,092)
Net cash provided by (used in) financing activities	(198,504)	307,111	(435,214)	708,749
Effect of foreign exchange rate changes on cash, cash equivalents and restricted cash	449	(87)	986	(123)
Net increase (decrease) in cash, cash equivalents and restricted cash	(313,751)	6,394	49,357	1,255
Cash, cash equivalents and restricted cash, beginning of period	532,853	78,117	169,745	83,256
Cash, cash equivalents and restricted cash, end of period	$ 219,102	$ 84,511	$ 219,102	$ 84,511

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF EQUITY
(In thousands, except share data)
(Unaudited)

	Common Stock		Exchangeable Shares		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Stockholders' Equity	Non-controlling Interests	Total Equity
	Shares	Amount	Shares	Amount							
Balance, December 31, 2019	142,324,318	$ 2	36,183	$ —	$ 2,024,610	$ 2,854,271	$ (241,818)	$ (586,773)	$ 4,050,292	$ 3,539	$ 4,053,831
Credit loss cumulative effect adjustment	—	—	—	—	—	(3,841)	—	—	(3,841)	—	(3,841)
Other comprehensive loss	—	—	—	—	—	—	(82,968)	—	(82,968)	—	(82,968)
Acquisitions	121,089				4,329			—	4,329	—	4,329
Stock-based compensation activity	1,124,530	—	—	—	11,444	—	—	(19,750)	(8,306)	—	(8,306)
Exchange of exchangeable shares	36,183	—	(36,183)	—	—	—	—	—	—	—	—
Common stock repurchases	(5,960,134)	—	—	—	—	—	—	(200,000)	(200,000)	—	(200,000)
Dividends declared ($0.05 per share)	—	—	—	—	—	(7,184)	—	—	(7,184)	—	(7,184)
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	(1,963)	(1,963)
Other	—	—	—	—	—	(516)	—	—	(516)	293	(223)
Net income	—	—	—	—	—	38,686	—	—	38,686	2,817	41,503
Balance, March 31, 2020	137,645,986	2	—	—	2,040,383	2,881,416	(324,786)	(806,523)	3,790,492	4,686	3,795,178
Other comprehensive income	—	—	—	—	—	—	34,737	—	34,737	—	34,737
Stock-based compensation activity	65,826	—	—	—	22,717	—	—	(281)	22,436	—	22,436
Dividends declared ($0.05 per share)	—	—	—	—	—	(7,182)	—	—	(7,182)	—	(7,182)
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	(1,962)	(1,962)
Net income	—	—	—	—	—	73,946	—	—	73,946	849	74,795
Balance, June 30, 2020	137,711,812	2	—	—	2,063,100	2,948,180	(290,049)	(806,804)	3,914,429	3,573	3,918,002
Other comprehensive income	—	—	—	—	—	—	15,707	—	15,707	—	15,707
Acquisitions	1,087,774	—	—	—	45,532	—	—	—	45,532	—	45,532
Stock-based compensation activity	43,760	—	—	—	21,425	—	—	(812)	20,613	—	20,613
Dividends declared ($0.05 per share)	—	—	—	—	—	(7,244)	—	—	(7,244)	—	(7,244)
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	(744)	(744)
Net income	—	—	—	—	—	162,913	—	—	162,913	787	163,700
Balance, September 30, 2020	138,843,346	$ 2	—	$ —	$ 2,130,057	$ 3,103,849	$ (274,342)	$ (807,616)	$ 4,151,950	$ 3,616	$ 4,155,566

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF EQUITY
(In thousands, except share data)
(Unaudited)

	Common Stock		Exchangeable Shares		Series G Preferred Stock		Additional Paid-In	Retained	Accumulated Other Comprehensive	Treasury	Total Stockholders'	Non-controlling	Total
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Earnings	Income (Loss)	Stock	Equity	Interests	Equity
Balance, December 31, 2018	141,103,900	$ 2	486,112	$ —	1	$ —	$ 1,967,354	$ 2,477,291	$ (286,048)	$ (554,440)	$ 3,604,159	$ 1,294	$ 3,605,453
Other comprehensive income	—	—	—	—	—	—	—	—	18,847	—	18,847	—	18,847
Stock-based compensation activity	903,082	—	—	—	—	—	17,151	—	—	(19,052)	(1,901)	—	(1,901)
Exchange of exchangeable shares	449,929	—	(449,929)	—	—	—	—	—	—	—	—	—	—
Retirement of preferred stock	—	—	—	—	(1)	—	—	—	—	—	—	—	—
Common stock repurchases	(375,536)	—	—	—	—	—	—	—		(11,953)	(11,953)	—	(11,953)
Dividends declared ($0.04 per share)	—	—	—	—	—	—	—	(5,896)	—	—	(5,896)	—	(5,896)
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	—	—	(528)	(528)
Net income	—	—	—	—	—	—	—	120,488	—	—	120,488	547	121,035
Balance, March 31, 2019	142,081,375	2	36,183	—	—	—	1,984,505	2,591,883	(267,201)	(585,445)	3,723,744	1,313	3,725,057
Other comprehensive income	—	—	—	—	—	—	—	—	15,872	—	15,872	—	15,872
Stock-based compensation activity	85,590	—	—	—	—	—	14,957	—	—	(761)	14,196	—	14,196
Dividends declared ($0.04 per share)	—	—	—	—	—	—	—	(6,233)	—	—	(6,233)	—	(6,233)
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	—	—	(1,092)	(1,092)
Net income	—	—	—	—	—	—	—	27,344	—	—	27,344	1,115	28,459
Balance, June 30, 2019	142,166,965	2	36,183	—	—	—	1,999,462	2,612,994	(251,329)	(586,206)	3,774,923	1,336	3,776,259
Other comprehensive loss	—	—	—	—	—	—	—	—	(12,784)	—	(12,784)	—	(12,784)
Acquisitions	60,860	—	—	—	—	—	1,791	—	—	—	1,791	—	1,791
Stock-based compensation activity	46,097	—	—	—	—	—	13,585	—	—	(613)	12,972	—	12,972
Dividends declared ($0.04 per share)	—	—	—	—	—	—	—	(5,564)	—	—	(5,564)	—	(5,564)
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	—	—	(489)	(489)
Net income	—	—	—	—	—	—	—	136,068	—	—	136,068	954	137,022
Balance, September 30, 2019	142,273,922	$ 2	36,183	$ —	—	$ —	$ 2,014,838	$ 2,743,498	$ (264,113)	$ (586,819)	$ 3,907,406	$ 1,801	$ 3,909,207

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. BUSINESS AND ORGANIZATION:

Quanta Services, Inc. (Quanta) is a leading provider of specialty contracting services, delivering comprehensive infrastructure solutions for the electric power, energy and communications industries in the United States, Canada, Australia and select other international markets. Quanta reports its results under two reportable segments: (1) Electric Power Infrastructure Services and (2) Pipeline and Industrial Infrastructure Services.

Electric Power Infrastructure Services Segment

The Electric Power Infrastructure Services segment provides comprehensive network solutions to customers in the electric power and other industries. Services performed by the Electric Power Infrastructure Services segment generally include the design, installation, upgrade, repair and maintenance of electric power transmission and distribution infrastructure and substation facilities along with other engineering and technical services. This segment also provides emergency restoration services, including the repair of infrastructure damaged by inclement weather; the energized installation, maintenance and upgrade of electric power infrastructure utilizing unique bare hand and hot stick methods and Quanta's proprietary robotic arm techniques; and the installation of "smart grid" technologies on electric power networks. In addition, this segment provides services that support the development of renewable energy generation, including solar, wind, hydro power and backup natural gas generation facilities, as well as related switchyards and transmission infrastructure. Services related to, among other things, micro-grids and battery storage are also performed in this segment. This segment also provides comprehensive communications infrastructure services to wireline and wireless telecommunications companies, cable multi-system operators and other customers within the communications industry (including services in connection with 5G wireless deployment); services in connection with the construction of electric power generation facilities; and the design, installation, maintenance and repair of commercial and industrial wiring. This segment also includes a majority of the financial results of Quanta's postsecondary educational institution, which specializes in pre-apprenticeship training, apprenticeship training and specialized utility task training for electric workers, as well as training for the gas distribution and communications industries.

Pipeline and Industrial Infrastructure Services Segment

The Pipeline and Industrial Infrastructure Services segment provides comprehensive infrastructure solutions, including design, installation, upgrade, repair and maintenance services, to customers involved in the development, transportation, distribution, storage and processing of natural gas, oil and other products. Services include the upgrade, repair, maintenance and construction of natural gas systems for gas utility customers, as well as pipeline protection, integrity testing, rehabilitation and replacement, and the fabrication of pipeline support systems and related structures and facilities for the pipeline industry. Quanta also provides catalyst replacement services, high-pressure and critical-path turnaround services, instrumentation and electrical services, piping, fabrication and storage tank services to the midstream and downstream industrial energy markets. This segment also provides engineering and construction services for pipeline systems, storage systems and compressor and pump stations, as well as related trenching, directional boring and mechanized welding services. To a lesser extent, this segment serves the offshore energy market and designs, installs and maintains fueling systems and water and sewer infrastructure.

Acquisitions

During the nine months ended September 30, 2020, Quanta acquired an industrial services business located in Canada that performs catalyst handling services, including changeover and shutdown maintenance, for customers in the refining and chemical industries; an electric power infrastructure business located in the United States that primarily provides underground conduit services; a professional engineering business located in the United States that provides infrastructure engineering and design services to electric utilities, gas utilities and communications services companies, as well as permitting and utility locating services; a contractor located in the United States that provides electric power distribution, transmission and substation maintenance and construction, directional boring and emergency restoration services; and a business located in the United States that specializes in the deployment of short- and long-haul fiber optic cable and utilities. Beginning on the respective acquisition dates, the results of the acquired businesses have been included in Quanta's consolidated financial statements, with the results of the industrial services business generally included in the Pipeline and Industrial Infrastructure Services segment and the results of the remaining businesses generally included in the Electric Power Infrastructure Services segment.

During the year ended December 31, 2019, Quanta acquired The Hallen Construction Co., Inc. (Hallen), a pipeline and industrial services business located in the United States that specializes in gas distribution and transmission services, and to a lesser extent, underground electric distribution and transmission services. During the year ended December 31, 2019, Quanta also acquired two specialty utility foundation and pole-setting contractors serving the southeast United States; an electric power specialty contracting business located in the United States that provides aerial power line and construction support services; a business located in the United States that provides technical training materials to electric utility workers; an electric power company specializing in project management and, to a lesser extent, water and wastewater projects located in the United States; and an electrical infrastructure services business located in Canada. Beginning on the respective acquisition dates, the results of the acquired businesses have been included in Quanta's consolidated financial statements, with the results of Hallen generally included in the Pipeline and Industrial Infrastructure Services segment and the results of the other acquired businesses generally included in the Electric Power Infrastructure Services segment.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Principles of Consolidation

The condensed consolidated financial statements of Quanta include the accounts of Quanta Services, Inc. and its wholly-owned subsidiaries, which are also referred to as its operating units. The condensed consolidated financial statements also include the accounts of certain of Quanta's investments in joint ventures, which are either consolidated or proportionately consolidated, as discussed in the following summary of significant accounting policies. Investments in affiliated entities in which Quanta does not have a controlling financial interest, but over which Quanta has significant influence, usually because Quanta holds a voting interest of between 20% and 50%, are accounted for using the equity method. All significant intercompany accounts and transactions have been eliminated in consolidation. Unless the context requires otherwise, references to Quanta include Quanta Services, Inc. and its consolidated subsidiaries.

Interim Condensed Consolidated Financial Information

These unaudited condensed consolidated financial statements have been prepared pursuant to the rules of the U.S. Securities and Exchange Commission (SEC). Certain information and footnote disclosures, normally included in annual financial statements prepared in accordance with generally accepted accounting principles in the United States (GAAP), have been condensed or omitted pursuant to those rules and regulations. Quanta believes that the disclosures made are adequate to make the information presented not misleading. In the opinion of management, all adjustments, consisting only of normal recurring adjustments, necessary to fairly state the financial position, results of operations, comprehensive income and cash flows with respect to the interim condensed consolidated financial statements have been included. The results of operations and comprehensive income for the interim periods are not necessarily indicative of the results for the entire fiscal year. The results of Quanta have historically been subject to significant seasonal fluctuations.

Quanta recommends that these unaudited condensed consolidated financial statements be read in conjunction with the audited consolidated financial statements and notes thereto of Quanta and its consolidated subsidiaries included in Quanta's Annual Report on Form 10-K for the year ended December 31, 2019 (2019 Annual Report), which was filed with the SEC on February 28, 2020.

Use of Estimates and Assumptions

The preparation of financial statements in conformity with GAAP requires the use of estimates and assumptions by management in determining the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities known to exist as of the date the financial statements are published, and the reported amounts of revenues and expenses recognized during the periods presented. Quanta reviews all significant estimates affecting its consolidated financial statements on a recurring basis and records the effect of any necessary adjustments prior to their publication. Judgments and estimates are based on Quanta's beliefs and assumptions derived from information available at the time such judgments and estimates are made. Uncertainties with respect to such estimates and assumptions are inherent in the preparation of financial statements. Estimates are primarily used in Quanta's assessment of the allowance for credit losses, valuation of inventory, useful lives of assets, fair value assumptions in analyzing goodwill, other intangibles and long-lived asset impairments, equity and other investments, purchase price allocations, acquisition-related contingent consideration liabilities, multiemployer pension plan withdrawal liabilities, contingent liabilities associated with, among other things, legal proceedings and claims, parent guarantees and indemnity obligations, revenue recognition for construction contracts inclusive of contractual change orders and claims, estimated insurance claim recoveries, stock-based compensation, operating results of reportable segments, provision for income taxes, and uncertain tax positions.

Revenue Recognition

Contracts

Quanta designs, installs, upgrades, repairs and maintains infrastructure for customers in the electric power, energy and communications industries. These services may be provided pursuant to master service agreements (MSAs), repair and maintenance contracts and fixed price and non-fixed price installation contracts. These contracts are classified into three categories based on how transaction prices are determined and revenue is recognized: unit-price contracts, cost-plus contracts and fixed price contracts. Transaction prices for unit-price contracts are determined on a per unit basis, transaction prices for cost-plus contracts are determined by applying a profit margin to costs incurred on the contracts and transaction prices for fixed price contracts are determined on a lump-sum basis. All of Quanta's revenues are recognized from contracts with its customers. In addition to the considerations described below, revenue is not recognized unless collectability under the contract is considered probable, the contract has commercial substance and the contract has been approved. Additionally, the contract must contain payment terms, as well as the rights and commitments of both parties.

Performance Obligations

A performance obligation is a promise in a contract with a customer to transfer a distinct good or service. Most of Quanta's contracts are considered to have a single performance obligation whereby Quanta is required to integrate complex activities and equipment into a deliverable for a customer. For contracts with multiple performance obligations, Quanta allocates a portion of the total transaction price to each performance obligation using its best estimate of the standalone selling price of the distinct good or service associated with each performance obligation. Standalone selling price is estimated using the expected costs plus a margin.

At September 30, 2020 and December 31, 2019, the aggregate transaction price allocated to unsatisfied or partially satisfied performance obligations was approximately $4.44 billion and $5.30 billion, of which 70.2% and 59.5% were expected to be recognized in the subsequenttwelve months. These amounts represent management's estimate of the consolidated revenues that are expected to be realized from the remaining portion of firm orders under fixed price contracts not yet completed or for which work had not yet begun. For purposes of calculating remaining performance obligations, Quanta includes all estimated revenues attributable to consolidated joint ventures and variable interest entities, revenues from funded and unfunded portions of government contracts to the extent they are reasonably expected to be realized and revenues from change orders and claims to the extent management believes additional contract revenues will be earned and are deemed probable of collection. Excluded from remaining performance obligations are potential orders under MSAs and non-fixed price contracts expected to be completed within one year.

Recognition of Revenue Upon Satisfaction of Performance Obligations

A transaction price is determined for each contract, and that amount is allocated to each performance obligation within the contract and recognized as revenue when, or as, the performance obligation is satisfied. Quanta generally recognizes revenue over time as it performs its obligations because there is a continuous transfer of control of the deliverable to the customer. Under unit-price contracts with an insignificant amount of partially completed units, Quanta recognizes revenue as units are completed based on contractual pricing amounts. Under unit-price contracts with more than an insignificant amount of partially completed units and fixed price contracts, Quanta recognizes revenues as performance obligations are satisfied over time, with the percentage completion generally measured as the percentage of costs incurred to total estimated costs for such performance obligation. Under cost-plus contracts, Quanta recognizes revenue on an input basis, as labor hours are incurred, materials are utilized and services are performed.

Under contracts where Quanta has a right to consideration in an amount that directly corresponds to the value of completed performance, Quanta recognizes revenue in such amount and does not include such performance as a remaining performance obligation. Also, contract consideration is not adjusted for a significant financing component if payment is expected to be collected less than one year from when the services are performed.

Contract costs include all direct materials, labor and subcontract costs and indirect costs related to contract performance, such as indirect labor, supplies, tools, repairs and depreciation costs. The majority of the materials associated with Quanta's work are owner-furnished, and therefore not included in contract revenues and costs. Additionally, Quanta may incur incremental costs to obtain certain contracts, such as selling and marketing costs, bid and proposal costs, sales commissions, and legal fees or initial set-up or mobilization costs, certain of which can be capitalized. Such costs were not material during the three and nine months ended September 30, 2020 and 2019.

Contract Estimates

Actual revenues and project costs can vary, sometimes substantially, from previous estimates due to changes in a variety of factors, including unforeseen or changed circumstances not included in Quanta's cost estimates or covered by its contracts. The estimating process is based on the professional knowledge and experience of Quanta's project estimators, project managers and finance professionals. Some of the factors that may lead to changes in estimates include concealed or unknown site conditions; changes in the cost of equipment, commodities, materials or labor; unanticipated costs or claims due to delays caused by customers or third parties; customer failure to provide required materials or equipment; errors in engineering, specifications or designs; project modifications or contract termination; adverse weather conditions, natural disasters, and other emergencies (including the ongoing pandemic as a result of the novel coronavirus disease (COVID-19) that began in 2019); changes in estimates related to the length of time to complete a performance obligation; and performance and quality issues requiring rework or replacement. These factors, along with other risks inherent in performing services under fixed price contracts, are routinely evaluated by management. Any changes in estimates could result in changes to profitability or losses associated with the related performance obligations. For example, estimated costs for a performance obligation may increase from an original estimate and contractual provisions may not allow for adequate compensation or reimbursement for such additional costs. Changes in estimated revenues, costs and profit are recorded in the period they are determined to be probable and can be reasonably estimated. Contract losses are recognized in full when they are determined to be probable and can be reasonably estimated.

Changes in cost estimates on certain contracts may result in the issuance of change orders, which can be approved or unapproved by the customer, or the assertion of contract claims. Quanta determines the probability that costs associated with change orders and claims will be recovered based on, among other things, contractual entitlement, past practices with the customer, specific discussions or preliminary negotiations with the customer and verbal approvals by the customer. Quanta recognizes amounts associated with change orders and claims as revenue if it is probable that the contract price will be adjusted and the amount of any such adjustment can be reliably estimated. Most of Quanta's change orders are for services that are not distinct from an existing contract and are accounted for as part of an existing contract on a cumulative catch-up basis. Quanta accounts for a change order as a separate contract if the additional goods or services are distinct from and increase the scope of the contract, and the price of the contract increases by an amount commensurate to Quanta's standalone selling price for the additional goods or services.

As of September 30, 2020 and December 31, 2019, Quanta had recognized revenues of $144.5 million and $170.0 million related to change orders and claims included as contract price adjustments and that were in the process of being negotiated in the normal course of business. These aggregate amounts, which are included in "Contract assets" in the accompanying condensed consolidated balance sheets, represent management's estimates of additional contract revenues that have been earned and are probable of collection. However, Quanta's estimates could change, and the amount ultimately realized could be significantly higher or lower than the estimated amount.

Variable consideration amounts, including performance incentives, early pay discounts and penalties, may also cause changes in contract estimates. The amount of variable consideration is estimated based on the most likely amount that is deemed probable of realization. Contract consideration is adjusted for variable consideration when it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur once the uncertainty related to the variable consideration is resolved.

Changes in contract estimates are recognized on a cumulative catch-up basis in the period in which the revisions to the estimates are made. Such changes in estimates can result in the recognition of revenue in a current period for performance obligations that were satisfied or partially satisfied in prior periods or the reversal of previously recognized revenue if the current estimate differs from the previous estimate. The impact of a change in contract estimate is measured as the difference between the revenue or gross profit recognized in the prior period as compared to the revenue or gross profit which would have been recognized had the revised estimate been used as the basis of recognition in the prior period.

Operating results for the three months ended September 30, 2020 were favorably impacted by $48.7 million, or 9.6%, of gross profit as a result of aggregate changes in contract estimates related to projects that were in progress at June 30, 2020. Operating results for the nine months ended September 30, 2020 were impacted by less than 5% of gross profit as a result of aggregate changes in contract estimates related to projects that were in progress at December 31, 2019.

Certain projects were materially impacted by changes to estimated contract revenues and/or project costs during the three and nine months ended September 30, 2020. Revenues and gross profit were favorably impacted as a result of successful execution through project risks and close-out activities on certain larger pipeline projects in the United States, as well as a project scope reduction on a larger pipeline project in the United States that allowed Quanta to recognize a portion of previously deferred milestone payments and reduce certain contingencies on the project. The favorable impact related to these projects was partially offset by increased costs on two larger pipeline projects in Canada that experienced severe weather conditions during the three and nine months ended September 30, 2020, both of which were substantially complete as of September 30, 2020. The remaining estimated costs to complete the two projects were $7.8 million as of September 30, 2020, with the primary remaining exposure to additional cost increases related to potential continued weather impacts. With respect to all of these larger pipeline projects, the aggregate net favorable impact on gross profit related to work performed in prior periods was $32.9 million and $15.1 million during the three and nine months ended September 30, 2020.

Additionally, during the three and nine months ended September 30, 2020, Quanta has been pursuing the orderly exit of its Latin American operations. These operations have been adversely impacted by the COVID-19 pandemic due to shelter-in-place restrictions and other work disruptions, and as a result Quanta has accelerated various contract terminations and other activities in order to expedite cessation of operations in the region. These factors have resulted in changes in estimates on several projects and negatively impacted gross profit related to work performed in prior periods by $12.1 million and $28.6 million in aggregate during the three and nine months ended September 30, 2020. As of September 30, 2020, more than 80% of the projects in Latin America that were active at the beginning of 2020 have been completed, and none of the remaining projects are expected to be individually material. The continuing uncertainty related to the potential duration and severity of the COVID-19 pandemic in the region represents the primary risk that the remaining projects could experience further negative impacts to gross profit.

Operating results for the three months ended September 30, 2019 were favorably impacted by $29.2 million, or 6.2%, of gross profit, as a result of aggregate changes in contract estimates related to projects that were in progress at June 30, 2019. Operating results for the nine months ended September 30, 2019 were impacted by less than 5% of gross profit as a result of aggregate changes in contract estimates related to projects that were in progress at December 31, 2018.

Certain projects were materially impacted by changes to estimated contract revenues and/or project costs during the three and nine months ended September 30, 2019. Quanta successfully executed through project risks on a larger pipeline transmission project in the United States, which resulted in a reduction of estimated project costs and positively impacted gross profit related to work performed in prior periods by $22.2 million and $21.6 million during the three and nine months ended September 30, 2019. Quanta experienced unfavorable weather and labor-related impacts, as well as a project scope reduction, on an electric transmission project in southern California, which resulted in an increase in estimated project costs and a reduction in expected project earnings and negatively impacted gross profit related to work performed in prior periods by $11.0 million and $20.4 million during the three and nine months ended September 30, 2019. As of September 30, 2020, this project had a contract value of approximately $404.3 million and was approximately 93% complete.

Quanta successfully completed an electric transmission project in Canada ahead of schedule, which resulted in a reduction in estimated project costs and positively impacted gross profit related to work performed in prior periods by $30.1 million during the nine months ended September 30, 2019. Quanta experienced rework and start-up delays on a processing facility construction project, which resulted in additional estimated project costs and liquidated damages payable to the customer and negatively impacted gross profit related to work performed in prior periods by $24.3 million during the nine months ended September 30, 2019. As of September 30, 2020, the processing facility construction project was complete.

Revenues by Category

The following tables present Quanta's revenue disaggregated by geographic location, as determined by the job location, and contract type (in thousands):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020		2019		2020		2019	
By primary geographic location:								
United States	$ 2,629,606	87.1 %	$ 2,872,923	85.7 %	$ 7,105,568	85.7 %	$ 7,635,462	84.9 %
Canada	320,576	10.6 %	342,016	10.2 %	917,621	11.1 %	1,029,667	11.4 %
Australia	49,537	1.6 %	56,323	1.7 %	156,664	1.9 %	134,533	1.5 %
Latin America and Other	20,442	0.7 %	81,633	2.4 %	110,634	1.3 %	199,691	2.2 %
Total revenues	$ 3,020,161	100.0 %	$ 3,352,895	100.0 %	$ 8,290,487	100.0 %	$ 8,999,353	100.0 %

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020		2019		2020		2019	
By contract type:								
Unit-price contracts	$ 1,141,102	37.7 %	$ 1,241,851	37.1 %	$ 3,034,169	36.6 %	$ 3,157,545	35.1 %
Cost-plus contracts	702,392	23.3 %	872,735	26.0 %	1,958,404	23.6 %	2,934,225	32.6 %
Fixed price contracts	1,176,667	39.0 %	1,238,309	36.9 %	3,297,914	39.8 %	2,907,583	32.3 %
Total revenues	$ 3,020,161	100.0 %	$ 3,352,895	100.0 %	$ 8,290,487	100.0 %	$ 8,999,353	100.0 %

As described above, under unit-price contracts with more than an insignificant amount of partially completed units and fixed price contracts, revenue is recognized as performance obligations are satisfied over time, with the percentage completion generally measured as the percentage of costs incurred to total estimated costs for such performance obligation. Approximately 47.9% and 51.3% of Quanta's revenues recognized during the three months ended September 30, 2020 and 2019 were associated with this revenue recognition method, and 48.4% and 50.8% of Quanta's revenues recognized during the nine months ended September 30, 2020 and 2019 were associated with this revenue recognition method.

Contract Assets and Liabilities

With respect to Quanta's contracts, interim payments are typically received as work progresses in accordance with agreed-upon contractual terms, either at periodic intervals or upon achievement of contractual milestones. As a result, under fixed price contracts, the timing of revenue recognition and contract billings results in contract assets and contract liabilities. Contract assets represent revenues recognized in excess of amounts billed for fixed price contracts and are current assets that are transferred to accounts receivable when billed or the billing rights become unconditional. Contract assets are not considered a significant financing component as they are intended to protect the customer in the event Quanta does not perform on its obligations under the contract.

Conversely, contract liabilities represent billings in excess of revenues recognized for fixed price contracts. These arise under certain contracts that allow for upfront payments from the customer or contain contractual billing milestones, which result in billings that exceed the amount of revenues recognized for certain periods. Contract liabilities are current liabilities and are not considered a significant financing component, as they are used to meet working capital requirements that are generally higher in the early stages of a contract and are intended to protect Quanta from the other party failing to meet its obligations under the contract. Contract assets and liabilities are recorded on a performance obligation basis at the end of each reporting period.

Contract assets and liabilities consisted of the following (in thousands):

	September 30, 2020	December 31, 2019
Contract assets	$ 478,483	$ 601,268
Contract liabilities	$ 537,048	$ 606,146

As referenced previously, contract assets and liabilities fluctuate period to period based on various factors, including, among others, changes in the number and size of projects in progress at period end and variability in billing and payment terms, such as up-front or advance billings, interim or milestone billings, or deferred billings. The decrease in contract assets from December 31, 2019 to September 30, 2020 was primarily due to a decline in revenues and improved timing of contractual and milestone billings under contracts for certain larger projects.

Revenues were positively impacted by $85.2 million during the nine months ended September 30, 2020 as a result of changes in estimates associated with performance obligations on fixed price contracts partially satisfied prior to December 31, 2019. During the nine months ended September 30, 2020, Quanta recognized revenue of approximately $426.5 million related to contract liabilities outstanding at December 31, 2019.

Current and Long-Term Accounts Receivable, Notes Receivable and Allowance for Credit Losses

As described in Note 3, Quanta adopted the new accounting standard for measuring credit losses effective January 1, 2020 utilizing the transition method that allows recognition of a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. Quanta's financial results for reporting periods beginning on or after January 1, 2020 are presented under the new standard, while financial results for prior periods continue to be reported in accordance with the prior standard and Quanta's historical accounting policy. The net cumulative effect due to the adoption of the new standard was a $ 3.8 million reduction to retained earnings as of January 1, 2020, which represented a $5.1 million increase to allowance for credit losses, net of $1.2 million in deferred income taxes. The adjustment was based on an estimate of expected lifetime credit losses for financial instruments, primarily accounts receivable and contract assets. Although the adoption of the new standard did not have a material impact on Quanta's condensed consolidated financial statements at the date of adoption, expected credit losses could change as a result of changes in credit loss experience, changes to specific risk characteristics of Quanta's portfolio of financial assets or changes to management's expectations of future economic conditions that affect the collectability of Quanta's financial assets. At the end of each quarter, management reassesses these factors, including any potential effects from the ongoing COVID-19 pandemic.

The assessment of the allowance for credit losses involves certain judgments and estimates. Management estimates the allowance balance using relevant available information from internal and external sources relating to past events, current conditions and reasonable and supportable forecasts. Expected credit losses are estimated by evaluating trends in historical write-off experience and applying historical loss ratios to pools of financial assets with similar risk characteristics. Quanta has determined that it has one pool for the purpose of calculating its historical credit loss experience.

Quanta's historical loss ratio and its determination of risk pools may be adjusted for changes in customer credit concentrations within its portfolio of financial assets, its customers' ability to pay, and other considerations such as changes to the market, regulatory or technological environments affecting its customers and the consistency of the current and forecasted economic conditions relative to the historical period used to derive historical loss ratios.

Additional allowance for credit losses is established for financial asset balances with specific customers where collectability has been determined to be improbable based on customer specific facts and circumstances. Quanta considers accounts receivable delinquent after 30 days but does not generally consider such amounts delinquent in its credit loss analysis unless the accounts receivable have been outstanding for at least 90 days. In addition to monitoring delinquent accounts, management monitors the credit quality of its receivables by, among other things, obtaining credit ratings of significant customers, assessing economic and market conditions and evaluating material changes to a customer's business, cash flows and financial condition. Should anticipated recoveries relating to receivables fail to materialize, including anticipated recoveries relating to bankruptcies or other workout situations, Quanta could experience reduced cash flows and losses in excess of current allowances provided.

Activity in Quanta's allowance for credit losses consisted of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Balance at beginning of period	$ 14,948	$ 8,541	$ 9,398	$ 5,839
Adoption of new credit loss standard	—	—	5,067	—
Charges to bad debt expense	1,566	773	2,910	4,012
Direct write-offs charged against the allowance	(110)	(1,631)	(971)	(2,168)
Balance at end of period	$ 16,404	$ 7,683	$ 16,404	$ 7,683

Long-term accounts receivable are included within "Other assets, net" in the accompanying condensed consolidated balance sheets. As of September 30, 2020 and December 31, 2019, long-term accounts receivable were $12.6 million and $12.6 million.

Certain contracts allow customers to withhold a small percentage of billings pursuant to retainage provisions, and such amounts are generally due upon completion of the contract and acceptance of the project by the customer. Based on Quanta's experience in recent years, the majority of these retainage balances are expected to be collected within approximately twelve months. Retainage balances with expected settlement dates within the next twelve months as of September 30, 2020 and December 31, 2019 were $340.5 million and $299.6 million, which are included in "Accounts receivable." Retainage balances with expected settlement dates beyond the next twelve months are included in "Other assets, net," and as of September 30, 2020 and December 31, 2019 were $60.6 million and $54.2 million.

Quanta recognizes unbilled receivables for non-fixed price contracts within "Accounts receivable" in certain circumstances, such as when revenues have been earned and recorded but the amount cannot be billed under the terms of the contract until a later date or amounts arise from routine lags in billing (for example, work completed one month but not billed until the next month). These balances do not include revenues recognized for work performed under fixed-price contracts, as these amounts are recorded as "Contract assets." At September 30, 2020 and December 31, 2019, unbilled receivables included in “Accounts receivable” were $721.4 million and $524.3 million. Quanta also recognizes unearned revenues for non-fixed price contracts when cash is received prior to recognizing revenues for the related performance obligation. Unearned revenues, which are included in “Accounts payable and accrued expenses,” were $36.0 million and $33.2 million at September 30, 2020 and December 31, 2019.

Cash and Cash Equivalents

Amounts related to Quanta’s cash and cash equivalents based on geographic location of the bank accounts were as follows (in thousands):

	September 30, 2020	December 31, 2019
Cash and cash equivalents held in domestic bank accounts	$ 189,053	$ 130,771
Cash and cash equivalents held in foreign bank accounts	27,882	34,027
Total cash and cash equivalents	$ 216,935	$ 164,798

Cash consisting of interest-bearing demand deposits is carried at cost, which approximates fair value. Quanta considers all highly liquid investments with an original maturity of three months or less at the time of purchase to be cash equivalents, which are carried at fair value. At September 30, 2020 and December 31, 2019, cash equivalents were $166.7 million and $37.8 million and consisted primarily of money market investments and money market mutual funds and are discussed further in Fair Value Measurements below.

Cash and cash equivalents held by joint ventures, which are either consolidated or proportionately consolidated, are available to support joint venture operations, but Quanta cannot utilize those assets to support its other operations. Quanta generally has no right to cash and cash equivalents held by a joint venture other than participating in distributions and in the event of dissolution. Amounts related to cash and cash equivalents held by joint ventures, which are included in Quanta’s total cash and cash equivalents balances, were as follows (in thousands):

	September 30, 2020	December 31, 2019
Cash and cash equivalents held by domestic joint ventures	$ 6,948	$ 6,518
Cash and cash equivalents held by foreign joint ventures	3,027	16
Total cash and cash equivalents held by joint ventures	9,975	6,534
Cash and cash equivalents not held by joint ventures	206,960	158,264
Total cash and cash equivalents	$ 216,935	$ 164,798

Goodwill

Goodwill, net of accumulated impairment losses, represents the excess of cost over the fair market value of net tangible and identifiable intangible assets of acquired businesses and is stated at cost. Quanta has recorded goodwill in connection with its historical acquisitions of businesses. Upon acquisition, these businesses were either combined into one of Quanta’s existing operating units or managed on a stand-alone basis as an individual operating unit. Quanta’s operating units are organized into two divisions: the Electric Power Infrastructure Services Division and the Pipeline and Industrial Infrastructure Services Division. As most of the companies acquired by Quanta provide multiple types of services for multiple types of customers, these divisional designations are based on the predominant type of work performed by an operating unit at the point in time the divisional designation is made. Goodwill is required to be measured for impairment at the reporting unit level, which represents the operating segment level or one level below the operating segment level for which discrete financial information is available. Quanta has determined that its individual operating units represent its reporting units for the purpose of assessing goodwill impairment.

Goodwill is not amortized but is tested for impairment annually in the fourth quarter of the fiscal year, or more frequently if events or circumstances arise which indicate that goodwill may be impaired. The assessment can be performed by first completing a qualitative assessment on none, some or all of Quanta’s reporting units. Quanta can also bypass the qualitative assessment for any reporting unit in any period and proceed directly to a quantitative impairment test, and then resume the qualitative assessment in any subsequent period. Qualitative indicators that may trigger the need for annual or interim quantitative impairment testing include, among other things, deterioration in macroeconomic conditions, declining financial performance, deterioration in the operational environment, or an expectation of selling or disposing of a portion of a reporting unit. Additionally, an interim impairment test of a reporting unit may be triggered by a significant change in market, management, business strategy or business climate; a loss of a significant customer; increased competition; a sustained decrease in share price; or a decrease in Quanta's market capitalization below book value.

If Quanta believes that, as a result of its qualitative assessment, it is more likely than not that the fair value of a reporting unit is less than its carrying amount, the quantitative impairment test is required. The quantitative test involves comparing the fair value of each of Quanta's reporting units with its carrying amount, including goodwill. If the carrying amount of a reporting unit exceeds its fair value, an impairment loss is recorded as a reduction to goodwill with a corresponding charge to "Asset impairment charges" in the condensed consolidated statements of operations. The income tax effect associated with an impairment of tax-deductible goodwill is also considered in the measurement of the goodwill impairment. A goodwill impairment for any reporting unit is limited to the total amount of goodwill allocated to such reporting unit.

Quanta determines the fair value of its reporting units using a weighted combination of the income approach (discounted cash flow method) and market multiples valuation techniques (market guideline transaction method and market guideline public company method), with greater weight placed on the discounted cash flow method because management believes this method results in the most appropriate calculation of fair value and reflects an expectation of market value as determined by a "held and used" model.

Under the discounted cash flow method, Quanta determines fair value based on the estimated future cash flows for each reporting unit, discounted to present value using a risk-adjusted industry weighted average cost of capital, which reflects the overall level of inherent risk for each reporting unit and the rate of return an outside investor would expect to earn. Cash flow projections are derived from budgeted amounts (typically a one-year model) and subsequent period cash flows are developed for each reporting unit using growth rates that management believes are reasonably likely to occur. A terminal value is derived from a multiple of the reporting unit's earnings before interest, taxes, depreciation and amortization (EBITDA). The EBITDA multiples for each reporting unit are based on observed purchase transactions for similar businesses adjusted for size, volatility and risk.

Under the market guideline transaction and market guideline public company methods, Quanta determines the estimated fair value for each of its reporting units by applying transaction multiples and public company multiples, respectively, to each reporting unit's projected EBITDA and then averaging that estimate with similar historical calculations using either a one-, two- or three-year average. The transaction multiples are based on observed purchase transactions for similar businesses adjusted for size, volatility and risk. The public company multiples are based on peer group multiples adjusted for size, volatility and risk. For the market guideline public company method, Quanta adds a reasonable control premium, which is estimated as the premium that would be appropriate to convert the reporting unit value to a controlling interest basis.

For Quanta's annual goodwill impairment assessment performed during the fourth quarter of 2019, Quanta assessed qualitative factors to determine whether it was necessary to perform a quantitative fair value impairment analysis and identified one reporting unit for which a quantitative goodwill impairment assessment was deemed appropriate based on financial performance indicators. The subsequent quantitative analysis indicated that the fair value of the reporting unit was in excess of its carrying amount. Accordingly, Quanta did not record any impairment charges related to goodwill during the fourth quarter of 2019.

The determination of a reporting unit's fair value requires judgment and the use of significant estimates and assumptions. Quanta believes the estimates and assumptions used in its impairment assessments are reasonable and based on available market information obtained from relevant industry sources; however, variations in any of the assumptions could result in materially different calculations of fair value and impairment determinations. Accordingly, management considered the sensitivity of its fair value estimates to changes in certain valuation assumptions. After taking into account a 10% decrease in the fair value of the reporting unit for which a quantitative impairment test was performed in the fourth quarter of 2019, the reporting unit's fair value exceeded its carrying amount.

If an operating unit experiences prolonged periods of declining revenues, operating margins or both, it may be at risk of failing the quantitative goodwill impairment test. The reporting unit referenced above, for which a quantitative goodwill impairment assessment was performed in the fourth quarter of 2019, experienced declines over the short-term primarily due to losses attributable to a project which are not expected to recur.

Due to the cyclical nature of Quanta's business, and the other factors described above, the profitability of its individual reporting units may suffer from decreases in customer demand and other factors. These factors may have a disproportionate impact on individual reporting units as compared to Quanta as a whole and might adversely affect the fair value of individual reporting units. If material adverse conditions occur, Quanta's future estimates of fair value may not support the carrying amount of one or more of its reporting units, and the related goodwill would need to be written down to an amount considered recoverable.

As a result of the currently challenged energy market, including the recent significant decline in commodity prices and volatility in commodity production volumes, the effect of which has been exacerbated by the COVID-19 pandemic, Quanta assessed the expected negative impacts related to its reporting units, particularly reporting units within its Pipeline and Industrial Infrastructure Services Division. Quanta concluded that such impacts are not likely to result in a goodwill impairment for any reporting unit at this time. As a result, no goodwill impairment was recognized during the three and nine months ended September 30, 2020. However, the potential impact of the energy market challenges and the COVID-19 pandemic is uncertain and depends on numerous factors, and therefore the negative impact on certain of Quanta's reporting units could increase in future periods. Quanta will continue to monitor the impact of these events and should any of its reporting units suffer additional declines in actual or forecasted financial results, the risk of goodwill impairment would increase.

Other Intangible Assets

Quanta's intangible assets include customer relationships, backlog, trade names, non-compete agreements, patented rights and developed technology and curriculum, all of which are subject to amortization, as well as an engineering license, which is not subject to amortization. The fair value of customer relationships is estimated as of the date a business is acquired based on the value-in-use concept utilizing the income approach, specifically the multi-period excess earnings method. This method discounts to present value the projected cash flows attributable to the customer relationships, with consideration given to customer contract renewals and estimated customer attrition rates. The significant estimates used by management in determining the fair values of customer relationship intangible assets include future revenues, discount rates and customer attrition rates. The following table presents the range and weighted average based on acquisition date fair value for discount and attrition rates used in the valuation of customer relationship intangible assets during the nine months ended September 30, 2020 and year ended December 31, 2019:

	2020		2019	
	Range	**Weighted Average**	**Range**	**Weighted Average**
Discount rates	19% to 23%	20%	19% to 24%	24%
Customer attrition rates	10% to 43%	11%	5% to 37%	6%

Quanta values backlog for acquired businesses as of the acquisition date based upon the contractual nature of the backlog within each service line, discounted to present value. The values of trade names and curriculum are estimated using the relief-from-royalty method of the income approach, which is based on the assumption that in lieu of ownership, a company would be willing to pay a royalty for use of the trade name or curriculum. The value of a non-compete agreement is estimated based on the difference between the present value of the prospective cash flows with the agreement in place and the present value of the prospective cash flows without the agreement in place. The value of the engineering license is based on cash paid to acquire the asset.

Quanta amortizes the intangible assets that are subject to amortization based upon the estimated consumption of their economic benefits, or on a straight-line basis if the pattern of economic benefit cannot otherwise be reliably estimated. Intangible assets are reviewed for impairment and tested for recoverability whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. For instance, a significant change in business climate or a loss of a significant customer, among other things, may trigger the need for interim impairment testing of intangible assets. An impairment loss is recognized if the carrying amount of an intangible asset is not recoverable and its carrying amount exceeds its fair value.

As a result of the currently challenged energy market, including the recent significant decline in commodity prices and volatility in commodity production volumes, the effect of which has been exacerbated by the COVID-19 pandemic, Quanta assessed the expected negative impacts related to its intangible assets, particularly intangible assets associated with reporting units within the Pipeline and Industrial Infrastructure Services Division. Quanta concluded that such impacts are not likely to result in intangible asset impairments at this time. As a result, no intangible asset impairment was recognized during the three and nine months ended September 30, 2020. However, the potential impact of the energy market challenges and of the COVID-19 pandemic is uncertain and depends on numerous factors, and therefore the negative impact on certain of Quanta's reporting units and related intangible assets could increase in future periods. Quanta will continue to monitor the impact of these events and should any of the reporting units suffer additional declines in actual or forecasted financial results, the risk of intangible asset impairment would increase.

Leases

Lease liabilities are recognized as the present value of the future minimum lease payments over the lease term as of the commencement date. Lease assets are recognized as the present value of future minimum lease payments over the lease term as of the commencement date, plus any initial direct costs incurred and lease payments made, less any lease incentives received.

Quanta determines if an arrangement contains a lease at inception. If an arrangement is considered a lease, Quanta determines at the commencement date whether the lease is an operating or finance lease. Finance leases are leases that meet any of the following criteria: the lease transfers ownership of the underlying asset at the end of the lease term; the lessee is reasonably certain to exercise an option to purchase the underlying asset; the lease term is for the major part of the remaining economic life of the underlying asset (except when the commencement date falls at or near the end of such economic life); the present value of the sum of the lease payments and any additional residual value guarantee by the lessee equals or exceeds substantially all of the fair value of the underlying asset; or the underlying asset is of such a specialized nature that it is expected to have no alternative use to the lessor at the end of the lease term. A lease that does not meet any of these criteria is considered an operating lease. After the commencement date, lease cost for an operating lease is recognized over the remaining lease term on a straight-line basis, while lease cost for a finance lease is based on the depreciation of the lease asset and interest on the lease liability.

The terms of Quanta’s lease arrangements vary, and certain leases include one or more of the following: renewal option(s), a cancellation option, a residual value guarantee, a purchase option or an escalation clause. An option to extend or terminate a lease is accounted for when assessing a lease term when it is reasonably certain that Quanta will exercise such option. Quanta has made a policy election to classify leases with an initial lease term of 12 months or less as short-term leases, and these leases are not recorded in the accompanying condensed consolidated balance sheets unless the lease contains a purchase option that is reasonably certain to be exercised. Lease cost related to short-term leases is recognized on a straight-line basis over the lease term.

Determinations with respect to lease term (including any extension thereof), discount rate, variable lease cost and future minimum lease payments require the use of judgment based on the facts and circumstances related to each lease. Quanta considers various factors, including economic incentives and penalties and business need, to determine the likelihood that a renewal option will be exercised. Unless a renewal option is reasonably certain to be exercised, which is typically at Quanta’s sole discretion, the initial non-cancelable lease term is used. Quanta generally uses its incremental borrowing rates to determine the present value of future minimum lease payments.

Investments in Affiliates and Other Entities

In the normal course of business, Quanta enters into various types of investment arrangements, each having unique terms and conditions. These investments may include equity interests held by Quanta in business entities, including general or limited partnerships, contractual joint ventures, or other forms of equity or profit participation. These investments may also include Quanta’s participation in different financing structures, such as the extension of loans to project-specific entities, the acquisition of convertible notes issued by project specific entities, or other strategic financing arrangements. Quanta also enters into strategic partnerships with customers and infrastructure investors to provide fully integrated infrastructure services on certain projects, including planning and feasibility analyses, engineering, design, procurement, construction and project operation and maintenance. These projects include public-private partnerships and concessions, along with private infrastructure projects such as build, own, operate (and in some cases transfer) and build-to-suit arrangements.

Quanta determines whether investments involve a variable interest entity (VIE) based on the characteristics of the subject entity. If the entity is determined to be a VIE, then management determines if Quanta is the primary beneficiary of the entity and whether or not consolidation of the VIE is required. The primary beneficiary consolidating the VIE must normally have both (i) the power to direct the activities that most significantly affect the VIE’s economic performance and (ii) the obligation to absorb significant losses of, or the right to receive significant benefits from, the VIE. When Quanta is deemed to be the primary beneficiary, the VIE is consolidated and the other party’s equity interest in the VIE is accounted for as a non-controlling interest. In cases where Quanta determines that it has an undivided interest in the assets, liabilities, revenues and profits of an unincorporated VIE (e.g., a general partnership interest), such amounts are consolidated on a basis proportional to Quanta’s ownership interest in the unincorporated entity.

Investments in entities of which Quanta is not the primary beneficiary, but over which Quanta has the ability to exercise significant influence, are accounted for using the equity method of accounting. Equity method investments are carried at original cost adjusted for Quanta’s proportionate share of the investees’ income, losses and distributions and are included in “Other assets, net” in the accompanying condensed consolidated balance sheets. Quanta’s share of net income or losses of unconsolidated equity method investments is included within operating income in the accompanying condensed consolidated statements of operations when the investee is operationally integral to the operations of Quanta and is reported as "Equity in earnings (losses) of integral unconsolidated affiliates." Quanta's share of net income or losses of unconsolidated equity method investments that are not operationally integral to the operations of Quanta are included in "Other income (expense), net" below operating income in the accompanying condensed consolidated statements of operations. Equity method investments are reviewed for impairment by assessing whether there has been a decline in the fair value of the investment below the carrying amount and whether any such decline is other-than-temporary. In making this determination, factors such as the ability to recover the carrying amount of the investment and the inability of the investee to sustain its earnings capacity are evaluated in determining whether a loss in value should be recognized. During the six months ended June 30, 2020, Quanta recognized impairment losses of $8.7 million related to certain non-integral equity method investments primarily due to the recent declines in commodity prices and production volumes. These impairment losses are included in "Other income (expense), net" in the accompanying condensed consolidated statements of operations for the nine months ended September 30, 2020.

Investments in entities of which Quanta is not the primary beneficiary, and over which Quanta does not have the ability to exercise significant influence, are accounted for using the cost method of accounting. These investments are required to be measured at fair value, with changes in fair value recognized in net income, unless the investments do not have readily determinable fair values, in which case the investments are measured at cost minus impairment, if any, plus or minus observable price changes in orderly transactions for an identical or similar investment in the same company. Earnings on investments accounted for using the cost method of accounting are recognized as dividends are received. These earnings and any impairments of cost method investments are reported in "Other income (expense), net" in the accompanying condensed consolidated statements of operations.

During the three months ended June 30, 2020, a joint venture in which Quanta owns a50% interest, LUMA Energy, LLC (LUMA), was selected for a 15-year operation and maintenance agreement to operate, maintain and modernize the approximately 18,000-mile electric transmission and distribution system in Puerto Rico. The15-year operation and maintenance period is expected to begin following an approximately one-year transition period, during which LUMA will complete numerous steps necessary to transition operation and maintenance from the current operator to LUMA. During the transition period, LUMA receives a fixed transition services fee, payable in monthly installments, and is reimbursed for costs and expenses. During the operation and maintenance period, LUMA will continue to be reimbursed for costs and expenses and will receive a fixed annual management fee, with the opportunity to receive additional annual performance-based incentive fees. LUMA will not assume ownership of any electric transmission and distribution system assets and will not be responsible for operation of the power generation assets. Quanta's ownership interest and participation in LUMA is accounted for as an equity method investment due to Quanta's equal ownership and management of LUMA with its joint venture partner. LUMA is operationally integral to the operations of Quanta, and therefore Quanta's share of LUMA's net income or losses is reported within operating income in "Equity in earnings (losses) of integral unconsolidated affiliates." As of September 30, 2020, Quanta's investment balance related to LUMA was $5.3 million.

As part of Quanta's investment strategy, Quanta formed a partnership in 2017 with select investors to invest in certain specified infrastructure projects, and wholly-owned subsidiaries of Quanta serve as the general partner of this partnership and as a separately operated registered investment adviser that manages the invested capital. As of September 30, 2020, Quanta's investment balance related to this partnership was $21.4 million. In October 2019, due to certain management changes at the registered investment adviser, the partnership entered into a 180-day period during which the investors and Quanta evaluated the partnership, and at the end of such period in April 2020, the investment period for any future investments ended.

Quanta held a minority ownership interest in a limited partnership that was selected during 2014 to build, own and operate a new500 kilometer electric transmission line and two 500 kV substations in Alberta, Canada and accounted for this interest as an equity-method investment. The limited partnership contracted with a Quanta subsidiary to perform the engineering, procurement and construction (EPC) services for the project, and the Quanta subsidiary recognized revenue and related cost of services as performance progressed on the project. However, due to Quanta's ownership interest, a proportional amount of the EPC profit was deferred until the electric transmission line and related substations were constructed and ownership of the assets was deemed to be transferred to the third-party customer, which occurred in the three months ended March 31, 2019. The deferral of earnings and recognition of such earnings deferral were recorded as components of equity in earnings (losses) of non-integral unconsolidated affiliates, which is included in "Other income (expense), net" in the accompanying condensed consolidated statements of operations. During the three months ended March 31, 2019, deferred earnings of $60.3 million were recognized, the majority of which was attributable to profit earned and deferred in the years ended December 31, 2018 and 2017. During the three months ended December 31, 2019, Quanta sold its minority ownership interest in the limited partnership and recognized a gain of $13.0 million related to the sale.

Quanta owns a 30% interest in a water and gas pipeline infrastructure contractor located in Australia, which includes preferential liquidation rights. This investment is accounted for using the cost method of accounting and had an investment balance of $11.8 million as of September 30, 2020. Through October 2020, Quanta had, but did not exercise, an option to acquire the remaining 70% interest of the company at an agreed price based on a multiple of the company's earnings during a designated performance period that ended April 30, 2020. Based on this option price, Quanta determined that its investment was impaired and recorded an impairment charge of $9.3 million during the three months ended June 30, 2020. Such impairment is included in "Other income (expense), net" in the accompanying condensed consolidated statements of operations.

As a result of the currently challenged energy market, including the recent significant decline in commodity prices and volatility in commodity production volumes, the effect of which has been exacerbated by the COVID-19 pandemic, Quanta assessed the expected negative impacts related to certain of its investments, particularly investments dependent on the energy market. This assessment contributed in part to management's decision to record the impairments related to certain non-integral equity method investments and the water and gas pipeline infrastructure contractor in Australia described above. Additionally, the potential impact of the energy market challenges and the COVID-19 pandemic remains uncertain and may change based on numerous factors, which could further negatively impact these and other of Quanta's investments. Quanta will continue to monitor the potential impacts of these events, and should any investments suffer additional declines in actual or forecasted financial results, additional impairments may be required. See Notes 9 and 11 for additional information related to investments.

Income Taxes

Quanta follows the liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recorded based on future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the underlying assets or liabilities are recovered or settled.

Quanta regularly evaluates valuation allowances established for deferred tax assets for which future realization is uncertain, including in connection with changes in tax laws. The estimation of required valuation allowances includes estimates of future taxable income. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Quanta considers projected future taxable income and tax planning strategies in making this assessment. If actual future taxable income differs from these estimates, Quanta may not realize deferred tax assets to the extent estimated.

Quanta records reserves for income taxes related to certain tax positions when management considers it more likely than not that additional taxes may be due in excess of amounts reflected on income tax returns filed. When recording these reserves, Quanta assumes that taxing authorities have full knowledge of the position and all relevant facts. Quanta continually reviews exposure to additional tax obligations, and as further information is known or events occur, changes in tax reserves may be recorded. To the extent interest and penalties may be assessed by taxing authorities on any underpayment of income tax, such amounts have been accrued and included in the provision for income taxes.

As of September 30, 2020, the total amount of unrecognized tax benefits relating to uncertain tax positions was $40.8 million, a decrease of $0.1 million from December 31, 2019. This decrease resulted primarily from a $3.4 million increase in reserves for uncertain tax positions expected to be taken in 2020, offset by a settlement of $3.4 million related to certain U.S. and non-U.S. income tax audits. Quanta and certain subsidiaries remain under examination by various U.S. state and foreign tax authorities for multiple periods. Quanta believes it is reasonably possible that within the next 12 months unrecognized tax benefits may decrease by up to $10.0 million as a result of settlement of these examinations or as a result of the expiration of certain statute of limitations periods.

U.S. federal and state and foreign income tax laws and regulations are voluminous and often ambiguous. As such, Quanta is required to make many subjective assumptions and judgments regarding its tax positions that could materially affect amounts recognized in future consolidated balance sheets, statements of operations and statements of comprehensive income. For example, the Tax Cuts and Jobs Act of 2017 significantly revised the U.S. corporate tax regime which, among other things, resulted in a reduction of Quanta's current and estimated future effective tax rate and a remeasurement of its deferred tax assets and liabilities.

Earnings Per Share

Basic and diluted earnings per share attributable to common stock are computed using the weighted average number of shares of common stock outstanding during the applicable period. Exchangeable shares that were issued pursuant to certain of Quanta's historical acquisitions (as further discussed in Note 9), which were exchangeable on a one-for-one basis with shares of Quanta common stock, have been included in the calculation of weighted average shares outstanding for basic and diluted earnings per share attributable to common stock for the portion of the periods that they were outstanding. Additionally, unvested stock-based awards that contain non-forfeitable rights to dividends or dividend equivalents (participating securities) have been included in the calculation of basic and diluted earnings per share attributable to common stock for the portion of the periods that the awards were outstanding. Diluted earnings per share attributable to common stock is computed using the weighted average number of shares of common stock outstanding during the period adjusted for all potentially dilutive common stock equivalents, except in cases where the effect of the common stock equivalents would be antidilutive.

Insurance

Quanta is insured for employer's liability, workers' compensation, auto liability and general liability claims. Under these insurance programs, as of September 30, 2020, the deductible for employer's liability was $5.0 million per occurrence; the deductible for workers' compensation was $5.0 million per occurrence; and the deductibles for auto liability and general liability were $15.0 million per occurrence. Quanta manages and maintains a portion of its casualty risk through its wholly-owned captive insurance company, which insures all claims up to the amount of the applicable deductible of its third-party insurance programs. In connection with Quanta's casualty insurance programs, Quanta is required to issue letters of credit to secure its obligations. Quanta also has employee health care benefit plans for most employees not subject to collective bargaining agreements, of which the primary plan is subject to a deductible of $0.8 million per claimant per year.

Losses under all of these insurance programs are accrued based upon Quanta's estimate of the ultimate liability for claims reported and an estimate of claims incurred but not reported, with assistance from third-party actuaries. These insurance liabilities are difficult to assess and estimate due to unknown factors, including the severity of an injury, the extent of damage, the determination of Quanta's liability in proportion to other parties and the number of incidents not reported. The accruals are based upon known facts and historical trends, and management believes such accruals are adequate.

Collective Bargaining Agreements

Certain of Quanta's operating units are parties to collective bargaining agreements with unions that represent certain of their employees. The collective bargaining agreements expire at various times and have typically been renegotiated and renewed on terms similar to those in the expiring agreements. The agreements require the operating units to pay specified wages, provide certain benefits to union employees and contribute certain amounts to multiemployer pension plans and employee benefit trusts pursuant to specified rates. Quanta's multiemployer pension plan contribution rates generally are made to the plans on a "pay-as-you-go" basis based on its union employee payrolls. The location and number of union employees that Quanta employs at any given time and the plans in which they may participate vary depending on Quanta's need for union resources in connection with its ongoing projects. Therefore, Quanta is unable to accurately predict its union employee payroll and the resulting multiemployer pension plan contribution obligations for future periods.

Stock-Based Compensation

Quanta recognizes compensation expense for restricted stock units (RSUs) and performance stock units (PSUs) to be settled in common stock based on the fair value of the awards, net of estimated forfeitures. The fair value of RSU awards is determined based on the number of units granted and the closing price of Quanta's common stock on the date of grant. The grant date fair value of the PSUs is determined as follows: (i) for the portion of the awards based on company performance metrics, by multiplying the number of units granted by the closing price of Quanta's common stock on the date of grant and (ii) for the portion of the awards based on relative total shareholder return, by utilizing a Monte Carlo simulation valuation methodology. An estimate of future forfeitures, based on historical data, is also utilized to determine compensation expense for the period, and these forfeiture estimates are subject to change and may impact the value that will ultimately be recognized as compensation expense. The resulting compensation expense for PSU and time-based RSU awards is recognized on a straight-line basis over the requisite service period, which is generally the vesting period, and the resulting compensation expense for performance-based RSU awards is recognized using the graded vesting method over the requisite service period. The compensation expense related to outstanding PSUs can also vary from period to period based on changes in forecasted achievement of established performance goals and the total number of shares of common stock that Quanta anticipates will be issued upon vesting of such PSUs. Payments made by Quanta to satisfy employee tax withholding obligations associated with awards settled in common stock are classified as financing cash flows.

Compensation expense associated with liability-based awards, such as RSUs that are expected to or may settle in cash, is recognized based on a remeasurement of the fair value of the award at the end of each reporting period. Upon settlement, the holders receive for each RSU an amount in cash equal to the fair market value of one share of Quanta common stock on the settlement date, as specified in the applicable award agreement. For additional information on Quanta's RSU and PSU awards, see Note 10.

Functional Currency and Translation of Financial Statements

The U.S. dollar is the functional currency for the majority of Quanta's operations, which are primarily located within the United States. The functional currency for Quanta's foreign operations, which are primarily located in Canada and Australia, is typically the currency of the country where the foreign operating unit is located and transacts the majority of its activities, including billings, financing, payroll and other expenditures. When preparing its consolidated financial statements, Quanta translates the financial statements of its foreign operating units from their functional currency into U.S. dollars. Statements of operations, comprehensive income and cash flows are translated at average monthly rates, while balance sheets are translated at month-end exchange rates. The translation of the balance sheet results in translation gains or losses, which are included as a separate component of equity under "Accumulated other comprehensive income (loss)." Gains and losses arising from transactions not denominated in functional currencies are included within "Other income (expense), net" in the accompanying condensed consolidated statements of operations.

Comprehensive Income

Components of comprehensive income include all changes in equity during a period except those resulting from changes in Quanta's capital-related accounts. Quanta records other comprehensive income (loss) for foreign currency translation adjustments related to its foreign operations and for other revenues, expenses, gains and losses that are included in comprehensive income but excluded from net income.

Litigation Costs and Reserves

Quanta records reserves when the likelihood of incurring a loss is probable and the amount of loss can be reasonably estimated. Costs incurred for litigation are expensed as incurred. See Note 11 for additional information related to legal proceedings and other contingencies.

Fair Value Measurements

For disclosure purposes, qualifying assets and liabilities are categorized into three broad levels based on the priority of the inputs used to determine their fair values. The fair value hierarchy gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). Certain assumptions and other information as they relate to these qualifying assets and liabilities are described below.

Contingent Consideration Liabilities. As of September 30, 2020 and December 31, 2019, financial instruments required to be measured at fair value on a recurring basis consisted primarily of Quanta's liabilities related to contingent consideration associated with certain acquisitions, payable in the event certain performance objectives are achieved by the acquired businesses during designated post-acquisition periods. The liabilities recorded represent the estimated fair values of future amounts payable to the former owners of the acquired businesses and are estimated by management based on entity-specific assumptions that are evaluated on an ongoing basis.

Aggregate fair values of these outstanding contingent consideration liabilities and their classification in the accompanying condensed consolidated balance sheets were as follows (in thousands):

	September 30, 2020	December 31, 2019
Accounts payable and accrued expenses	$ 68,466	$ 77,618
Insurance and other non-current liabilities	7,383	6,542
Total contingent consideration liabilities	$ 75,849	$ 84,160

The measurement period for approximately $65.0 million of Quanta's outstanding contingent consideration liabilities was complete as of September 30, 2020. The remaining contingent consideration liabilities have an approximate aggregate fair value of $10.8 million, and the majority are subject to a maximum outstanding payment amount, which totaled $48.6 million as of September 30, 2020.

The fair values of these liabilities were primarily determined using a Monte Carlo simulation valuation methodology based on probability-weighted performance projections and other inputs, including a discount rate and an expected volatility factor for each acquisition. The inputs for the remaining liabilities include an expected volatility factor of 30.0% based on historical asset volatility of selected guideline public companies. Depending on contingent consideration payment terms, the present values of the estimated payments are discounted based on a risk-free rate and/or Quanta's cost of debt, which ranged from 0.1% to 3.9% as of September 30, 2020 and had a weighted average of 2.4% based on fair value at acquisition. The fair value determinations incorporate significant inputs not observable in the market. Accordingly, the level of inputs used for these fair value measurements is the lowest level (Level 3). Significant changes in any of these assumptions could result in a significantly higher or lower potential liability.

Quanta's aggregate contingent consideration liabilities can change due to additional business acquisitions, settlement of outstanding liabilities, changes in the fair value of amounts owed based on performance in post-acquisition periods and accretion in present value. During the three and nine months ended September 30, 2020, Quanta recognized net increases of $0.1 million and $0.6 million in the fair value of its aggregate contingent consideration liabilities. During the three and nine months ended September 30, 2019, Quanta recognized net increases of $3.8 million and $8.1 million in the fair value of its aggregate contingent consideration liabilities. These changes are reflected in "Change in fair value of contingent consideration liabilities" in the accompanying condensed consolidated statements of operations. Additionally, Quanta settled certain contingent consideration liabilities with $11.0 million of cash payments and the issuance of 4,277 shares of Quanta common stock during the nine months ended September 30, 2020.

Goodwill and Other Intangible Assets. As discussed in the *Goodwill* and *Other Intangible Assets* sections within this Note 2, Quanta has recorded goodwill and identifiable intangible assets in connection with certain of its historical business acquisitions. Quanta utilizes the fair value premise as the primary basis for its impairment valuation procedures. The *Goodwill* and *Other Intangible Assets* sections provide information regarding valuation methods, including the income approach, market approach and cost approach, and assumptions used to determine the fair value of these assets based on the appropriateness of each method in relation to the type of asset being valued. Quanta believes that these valuation methods appropriately represent the methods that would be used by other market participants in determining fair value, and periodically engages the services of an independent valuation firm when a new business is acquired to assist management with the valuation process, including assistance with the selection of appropriate valuation methodologies and the development of market-based valuation assumptions. The level of inputs used for these fair value measurements is the lowest level (Level 3).

Investments. Quanta also uses fair value measurements in connection with the valuation of its investments in private company equity interests. These valuations require significant management judgment due to the absence of quoted market prices, the inherent lack of liquidity and their long-term nature. Typically, the initial costs of these investments are considered to represent fair market value, as such amounts are negotiated between willing market participants. On a quarterly basis, Quanta performs an evaluation of its investments to determine if an other-than-temporary decline in the value of each investment has occurred and whether the recorded amount of each investment will be recoverable. If an other-than-temporary decline in the value of an investment occurs, a fair value analysis is performed to determine the degree to which the investment is impaired and a corresponding charge to earnings is recorded during the period. These types of fair market value assessments are similar to other nonrecurring fair value measures used by Quanta, which include the use of significant judgments and available relevant market data. Such market data may include observations of the valuation of comparable companies, risk-adjusted discount rates and an evaluation of the expected performance of the underlying portfolio asset, including historical and projected levels of profitability or cash flows. In addition, a variety of additional factors may be reviewed by management, including, but not limited to, contemporaneous financing and sales transactions with third parties, changes in market outlook and the third-party financing environment. The level of inputs used for these fair value measurements is the lowest level (Level 3).

Financial Instruments. The carrying amounts of cash equivalents, accounts receivable, contract assets, accounts payable and accrued expenses and contract liabilities approximate fair value due to the short-term nature of these instruments. All of Quanta's cash equivalents were categorized as Level 1 assets at September 30, 2020 and December 31, 2019, as all values were based on unadjusted quoted prices for identical assets in an active market that Quanta has the ability to access.

Long-term Debt. The carrying amount of variable rate debt, which includes borrowings under Quanta's senior credit facility, also approximates fair value. The fair value of Quanta's 2.900% Senior Notes due October 1, 2030 was $1.02 billion at September 30, 2020. The fair value of the senior notes is based on the quoted market prices for the same issue and are categorized as Level 1 liabilities. See Note 7 for additional information regarding Quanta's senior credit facility and the senior notes.

3. NEW ACCOUNTING PRONOUNCEMENTS:

Adoption of New Accounting Pronouncements

In June 2016, the FASB issued an update for measuring credit losses on most financial assets and certain other instruments that are not measured at fair value through net income. The update amended the impairment model to utilize an expected credit loss methodology in place of the incurred loss methodology for financial instruments, including accounts receivable and contract assets, and off-balance sheet credit exposures. The amendment requires entities to consider a broader range of information to estimate expected credit losses, which often results in earlier recognition of losses. The update also requires disclosure of information regarding how a company developed its allowance, including changes in the factors that influenced management’s estimate of expected credit losses and the reasons for those changes.

Quanta adopted the new accounting standard for measuring credit losses effective January 1, 2020 utilizing the transition method that allows recognition of a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. Quanta’s financial results for reporting periods beginning on or after January 1, 2020 are presented under the new standard, while financial results for prior periods continue to be reported in accordance with the prior standard and Quanta’s historical accounting policy. The net cumulative effect due to the adoption of the new standard was a $3.8 million reduction to retained earnings as of January 1, 2020, which represented a $5.1 million increase to allowance for credit losses, net of $1.2 million in deferred income taxes. The adjustment was based on an estimate of expected lifetime credit losses for financial instruments, primarily accounts receivable and contract assets. Although the adoption of the new standard did not have a material impact on Quanta’s condensed consolidated financial statements at the date of adoption, expected credit losses could change as a result of changes to credit loss experience, specific risk characteristics of Quanta’s portfolio of financial assets or management’s expectations of future economic conditions that affect the collectability of Quanta’s financial assets. Management continues to periodically assess these factors, including any potential effects from the COVID-19 pandemic, and incorporate any changes in its estimate of credit losses.

In August 2018, the FASB issued an update that amends the disclosure requirements related to fair value measurements. Pursuant to this update, certain disclosure requirements will be removed, such as the valuation processes for Level 3 fair value measurements, and other disclosure requirements will be modified or added, including a new requirement to disclose the range and weighted average (or a more reasonable and rational method to reflect the distribution) of significant unobservable inputs used to develop Level 3 fair value measurements. Quanta adopted this guidance effective January 1, 2020, and it did not have a material impact on its condensed consolidated financial statements or disclosures.

Accounting Standards Not Yet Adopted

In December 2019, the FASB issued an update that, among other things, amends the guidance related to accounting for tax law changes when an entity has a year-to-date loss in an interim period and provides guidance on how to evaluate whether a step-up in tax basis of goodwill relates to a business combination or a separate transaction. This update is effective for interim and annual periods beginning after December 15, 2020, and certain amendments should be applied prospectively, while other amendments should be applied on a modified retrospective basis. Quanta is evaluating the potential impact of this guidance on its consolidated financial statements and will adopt the guidance effective January 1, 2021.

In January 2020, the FASB issued an update that clarified the interactions between accounting guidance to account for certain equity securities relating to increasing or decreasing ownership or degree of influence and forward contracts and purchased options. This update is effective for interim and annual periods beginning after December 15, 2020, and it will be applied prospectively. Quanta is evaluating the potential impact of this guidance on its consolidated financial statements and will adopt the guidance effective January 1, 2021.

4. ACQUISITIONS:

During the nine months ended September 30, 2020, Quanta acquired an industrial services business located in Canada that performs catalyst handling services, including changeover and shutdown maintenance, for customers in the refining and chemical industries; an electric power infrastructure business located in the United States that primarily provides underground conduit services; a professional engineering business located in the United States that provides infrastructure engineering and design services to electric utilities, gas utilities and communications services companies, as well as permitting and utility locating services; a contractor located in the United States that provides electric power distribution, transmission and substation maintenance and construction, directional boring and emergency restoration services; and a business located in the United states that specializes in the deployment of short- and long-haul fiber optic cable and utilities. The aggregate consideration for these acquisitions was $220.6 million paid or payable in cash, subject to certain adjustments, and 1,204,586 shares of Quanta common stock, which had a fair value of $49.7 million as of the respective acquisition dates. Beginning on the respective acquisition dates, the results of the acquired businesses have been included in Quanta’s consolidated financial statements, with the results of the industrial services business generally included in the Pipeline and Industrial Infrastructure Services segment and the results of the remaining businesses generally included in the Electric Power Infrastructure Services segment.

On August 30, 2019, Quanta acquired Hallen, a pipeline and industrial services business located in the United States that specializes in gas distribution and transmission services, and to a lesser extent, underground electric distribution and transmission services. During the year ended December 31, 2019, Quanta also acquired two specialty utility foundation and pole-setting contractors serving the southeast United States; an electric power specialty contracting business located in the United States that provides aerial power line and construction support services; a business located in the United States that provides technical training materials to electric utility workers; an electric power company specializing in project management and, to a lesser extent, water and wastewater projects located in the United States; and an electrical infrastructure services business located in Canada. The aggregate consideration for these acquisitions was $395.3 million paid or payable in cash, subject to certain adjustments, and 60,860 shares of Quanta common stock, which had a fair value of $1.8 million as of the respective acquisition date. A portion of the cash consideration in connection with the Hallen acquisition was placed in an escrow account, which, subject to certain conditions, could be utilized to reimburse Quanta for obligations associated with certain contingent liabilities assumed by Quanta in the transaction. See *Legal Proceedings — Hallen Acquisition Assumed Liability* in Note 11 for additional information related to these liabilities. Beginning on the respective acquisition dates, the results of the acquired businesses have been included in Quanta's consolidated financial statements, with the results of Hallen generally included in the Pipeline and Industrial Infrastructure Services segment and the results of the other acquired businesses generally included in the Electric Power Infrastructure Services segment.

The following table summarizes the aggregate consideration paid or payable as of September 30, 2020 for the acquisitions completed in 2020 and 2019 and presents the allocation of these amounts to net tangible and identifiable intangible assets based on their estimated fair values as of the respective acquisition dates, inclusive of any purchase price adjustments. These allocations require significant use of estimates and are based on information that was available to management at the time these consolidated financial statements were prepared. Quanta uses a variety of information to estimate fair values, including quoted market prices, carrying amounts and valuation techniques such as discounted cash flows. When deemed appropriate, third-party appraisal firms are engaged to assist in fair value determination of fixed assets, intangible assets and certain other assets and liabilities.

Quanta is finalizing its fair value assessments for the acquired assets and assumed liabilities related to businesses acquired subsequent to September 30, 2019, and further adjustments to the purchase price allocations may occur. As of September 30, 2020, the estimated fair values of the net assets acquired were preliminary, with possible updates primarily related to tax estimates. Consideration amounts are also subject to the finalization of closing working capital adjustments. The aggregate consideration paid or payable for businesses acquired between September 30, 2019 and September 30, 2020 was allocated to acquired assets and assumed liabilities, which resulted in an allocation of $106.0 million to net tangible assets, $80.7 million to identifiable intangible assets and $89.1 million to goodwill (in thousands).

	2020	2019
Consideration:		
Cash paid or payable	$ 220,572	$ 395,258
Value of Quanta common stock issued	49,690	1,791
Contingent consideration	2,250	—
Fair value of total consideration transferred or estimated to be transferred	$ 272,512	$ 397,049
Accounts receivable	$ 64,689	$ 112,142
Contract assets	7,971	11,869
Other current assets	10,248	14,290
Property and equipment	63,076	60,133
Other assets	11	149
Identifiable intangible assets	77,734	192,786
Contract liabilities	(2,873)	(11,856)
Other current liabilities	(25,986)	(73,698)
Deferred tax liabilities, net	(483)	(12,414)
Other long-term liabilities	—	(5,345)
Total identifiable net assets	194,387	288,056
Goodwill	78,125	112,132
Fair value of net assets acquired	272,512	400,188
Bargain purchase gain	—	(3,139)
Fair value of total consideration transferred or estimated to be transferred	$ 272,512	$ 397,049

Goodwill represents the amount by which the purchase price for an acquired business exceeds the net fair value of the assets acquired and liabilities assumed, and a bargain purchase gain results when the amount of the net fair value of the assets acquired and liabilities assumed exceeds the purchase price for an acquired business. The acquisition of the electrical infrastructure services business in Canada that occurred during the year ended December 31, 2019 included the recognition of a bargain purchase gain of $3.1 million, which was recorded in "Other income (expense), net" in the accompanying condensed consolidated statements of operations.

The acquisitions completed in 2020 and 2019 strategically expanded Quanta's domestic and international pipeline and industrial and domestic and international electric power service offerings, which Quanta believes contributes to the recognition of goodwill. Approximately $71.8 million of goodwill is expected to be deductible for income tax purposes related to acquisitions completed in 2020, and $82.1 million is expected to be deductible for income tax purposes related to acquisitions completed in 2019.

The following table summarizes the estimated fair values of identifiable intangible assets for the acquisitions completed in 2020 as of the acquisition dates and the related weighted average amortization periods by type (in thousands, except for weighted average amortization periods, which are in years).

	Estimated Fair Value	Weighted Average Amortization Period in Years
Customer relationships	$ 63,226	6.6
Backlog	4,022	1.4
Trade names	6,490	15.0
Non-compete agreements	3,996	5.0
Total intangible assets subject to amortization	$ 77,734	7.0

The following unaudited supplemental pro forma results of operations for Quanta, which incorporates the acquisitions completed in 2020 and 2019, have been provided for illustrative purposes only and do not purport to be indicative of the actual results that would have been achieved by the combined companies for the periods presented or that may be achieved by the combined companies in the future. Future results may vary significantly from the results reflected in the following pro forma financial information because of future events and transactions, as well as other factors (in thousands, except per share amounts).

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Revenues	$ 3,034,191	$ 3,510,941	$ 8,412,036	$ 9,580,086
Gross profit	509,532	507,299	1,220,824	1,278,843
Selling, general and administrative expenses	(251,664)	(260,223)	(725,732)	(754,625)
Amortization of intangible assets	(20,526)	(22,765)	(62,793)	(67,044)
Net income	163,687	142,272	279,654	307,513
Net income attributable to common stock	162,900	141,318	275,201	304,897
Earnings per share:				
Basic	$ 1.16	$ 0.96	$ 1.93	$ 2.08
Diluted	$ 1.13	$ 0.95	$ 1.89	$ 2.06

The pro forma combined results of operations for the three and nine months ended September 30, 2020 and the three and nine months ended September 30, 2019 were prepared by adjusting the historical results of Quanta to include the historical results of the acquisitions completed in 2020 as if they occurred January 1, 2019. The pro forma combined results of operations for the three and nine months ended September 30, 2019 were prepared by also adjusting the historical results of Quanta to include the historical results of the acquisitions completed in 2019 as if they occurred January 1, 2018. These pro forma combined historical results were adjusted for the following: a reduction of interest expense as a result of the repayment of outstanding indebtedness of the acquired businesses; an increase in interest expense as a result of the cash consideration paid; an increase in amortization expense due to the incremental intangible assets recorded; changes in depreciation expense to adjust acquired property and equipment to the acquisition date fair value and to conform with Quanta’s accounting policies; an increase in the number of outstanding shares of Quanta common stock; and reclassifications to conform the acquired businesses’ presentation to Quanta’s accounting policies. The pro forma combined results of operations do not include any adjustments to eliminate the impact of acquisition-related costs or any cost savings or other synergies that resulted or may result from the acquisitions. As noted above, the pro forma results of operations do not purport to be indicative of the actual results that would have been achieved by the combined company for the periods presented or that may be achieved by the combined company in the future.

Revenues of approximately $55.2 million and income before income taxes of approximately $1.0 million, which included $10.6 million acquisition-related costs, are included in Quanta’s consolidated results of operations for the three months ended September 30, 2020 related to the acquisitions completed in 2020. Revenues of approximately $63.0 million and income before income taxes of approximately $1.0 million, which included $11.4 million of acquisition-related costs, are included in Quanta’s consolidated results of operations for the nine months ended September 30, 2020 related to the acquisitions completed in 2020. Revenues of approximately $56.7 million and a loss before income taxes of approximately $10.1 million, which included $17.0 million acquisition-related costs, are included in Quanta’s consolidated results of operations for the three months ended September 30, 2019 related to the acquisitions completed in 2019. Revenues of approximately $78.4 million and a loss before income taxes of approximately $6.0 million, which included $19.4 million of acquisition-related costs, are included in Quanta’s consolidated results of operations for the nine months ended September 30, 2019 related to the acquisitions completed in 2019.

5. GOODWILL AND OTHER INTANGIBLE ASSETS:

As described in Note 2, Quanta’s operating units are organized into one of Quanta’s two internal divisions, and accordingly the goodwill associated with the operating units has been aggregated on a divisional basis in the table below. These divisions are closely aligned with Quanta’s reportable segments, and operating units are assigned to a division based on the predominant type of work performed. From time to time, an operating unit may be reorganized between divisions if warranted due to changes in its predominant business.

A summary of changes in Quanta's goodwill is as follows (in thousands):

	Electric Power Infrastructure Services Division	Pipeline and Industrial Infrastructure Services Division	Total
Balance at December 31, 2018:			
Goodwill	$ 1,313,078	$ 683,284	$ 1,996,362
Accumulated impairment	—	(96,483)	(96,483)
	1,313,078	586,801	1,899,879
Goodwill related to acquisitions completed in 2019	43,183	67,200	110,383
Purchase price allocation adjustments	1,503	—	1,503
Foreign currency translation adjustments	7,399	3,511	10,910
Balance at December 31, 2019:			
Goodwill	1,365,163	753,938	2,119,101
Accumulated impairment	—	(96,426)	(96,426)
	1,365,163	657,512	2,022,675
Goodwill related to acquisitions completed in 2020	71,817	6,308	78,125
Purchase price allocation adjustments	1,731	19	1,750
Foreign currency translation adjustments	(4,160)	(745)	(4,905)
Balance at September 30, 2020:			
Goodwill	1,434,551	759,776	2,194,327
Accumulated impairment	—	(96,682)	(96,682)
	$ 1,434,551	$ 663,094	$ 2,097,645

Quanta's intangible assets and the remaining weighted average amortization periods related to its intangible assets subject to amortization were as follows (in thousands except for weighted average amortization periods, which are in years):

	As of September 30, 2020				As of December 31, 2019		
	Remaining Weighted Average Amortization Period in Years	Intangible Assets	Accumulated Amortization	Intangible Assets, Net	Intangible Assets	Accumulated Amortization	Intangible Assets, Net
Customer relationships	5.9	$ 593,998	$ (257,585)	$ 336,413	$ 532,808	$ (213,915)	$ 318,893
Backlog	1.5	148,134	(142,743)	5,391	144,704	(141,580)	3,124
Trade names	14.1	99,518	(30,620)	68,898	93,396	(26,145)	67,251
Non-compete agreements	3.3	47,020	(35,603)	11,417	43,281	(32,868)	10,413
Patented rights and developed technology	2.6	22,453	(21,557)	896	22,719	(20,682)	2,037
Curriculum	7.7	11,712	(2,805)	8,907	11,712	(2,696)	9,016
Total intangible assets subject to amortization	7.1	922,835	(490,913)	431,922	848,620	(437,886)	410,734
Engineering license		3,000	—	3,000	3,000	—	3,000
Total intangible assets		$ 925,835	$ (490,913)	$ 434,922	$ 851,620	$ (437,886)	$ 413,734

Amortization expense for intangible assets was $19.7 million and $15.3 million for the three months ended September 30, 2020 and 2019 and $55.4 million and $40.5 million for the nine months ended September 30, 2020 and 2019.

The estimated future aggregate amortization expense of intangible assets subject to amortization as of September 30, 2020 is set forth below (in thousands):

Year Ending December 31:	
Remainder of 2020	$ 20,932
2021	81,369
2022	73,742
2023	64,963
2024	52,022
Thereafter	138,894
Total	$ 431,922

6. PER SHARE INFORMATION:

The amounts used to compute basic and diluted earnings per share attributable to common stock consisted of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Amounts attributable to common stock:				
Net income attributable to common stock	$ 162,913	$ 136,068	$ 275,545	$ 283,900
Weighted average shares:				
Weighted average shares outstanding for basic earnings per share attributable to common stock	140,542	145,913	141,610	145,654
Effect of dilutive unvested non-participating stock-based awards	3,821	1,525	3,375	1,420
Weighted average shares outstanding for diluted earnings per share attributable to common stock	144,363	147,438	144,985	147,074

Basic and diluted earnings per share attributable to common stock are computed using the weighted average number of shares of common stock outstanding during the applicable period. Exchangeable shares that were issued pursuant to certain of Quanta's historical acquisitions (as further discussed in Note 9), which are exchangeable on a one-for-one basis with shares of Quanta common stock, have been included in the calculation of weighted average shares outstanding for basic and diluted earnings per share attributable to common stock for the portion of the periods that they were outstanding. Additionally, unvested stock-based awards that contain non-forfeitable rights to dividends or dividend equivalents (participating securities) have been included in the calculation of basic and diluted earnings per share attributable to common stock for the portion of the periods that the awards were outstanding. Weighted average shares outstanding for basic and diluted earnings per share attributable to common stock included 1.4 million and 1.7 million weighted average participating securities for the three and nine months ended September 30, 2020 and2.8 million and 2.9 million weighted average participating securities for the three and nine months ended September 30, 2019.

For purposes of calculating diluted earnings per share attributable to common stock, there were no adjustments required to derive Quanta's net income attributable to common stock. Diluted earnings per share attributable to common stock is computed using the weighted average number of shares of common stock outstanding during the period adjusted for all potentially dilutive common stock equivalents, except in cases where the effect of the common stock equivalents would be antidilutive.

7. DEBT OBLIGATIONS:

Quanta's long-term debt obligations consisted of the following (in thousands):

	September 30, 2020	December 31, 2019
2.900% Senior Notes due 2030	$ 1,000,000	$ —
Borrowings under senior credit facility	195,350	1,346,290
Other long-term debt	25,254	13,275
Finance leases	1,428	957
Unamortized discount and debt issuance costs related to senior notes	(13,273)	—
Total long-term debt obligations	1,208,759	1,360,522
Less — Current maturities of long-term debt	6,334	68,327
Total long-term debt obligations, net of current maturities	$ 1,202,425	$ 1,292,195

Quanta's current maturities of long-term debt and short-term debt consisted of the following (in thousands):

	September 30, 2020	December 31, 2019
Short-term debt	$ 2,887	$ 6,542
Current maturities of long-term debt	6,334	68,327
Current maturities of long-term debt and short-term debt	$ 9,221	$ 74,869

2.900% Senior Notes Due 2030

During the three months ended September 30, 2020, Quanta issued $1.00 billion aggregate principal amount of 2.900% Senior Notes due October 1, 2030 (the senior notes). Quanta received proceeds of $986.7 million from the offering, net of the original issue discount, underwriting discounts and debt issuance costs, and used such proceeds, together with cash on hand, to voluntarily prepay the $1.21 billion of term loans then-outstanding under Quanta's credit agreement for its senior credit facility (the credit agreement).

Interest on the senior notes is payable semi-annually in arrears on April 1 and October 1 of each year, commencing April 1, 2021. The maturity date for the senior notes is October 1, 2030. The senior notes are Quanta's senior unsecured obligations and rank equally in right of payment with Quanta's existing and future senior indebtedness and senior in right of payment to all future subordinated indebtedness of Quanta (subject to applicable law). The senior notes are effectively subordinated to all secured indebtedness of Quanta to the extent of the value of the assets securing such indebtedness and are structurally subordinated to all liabilities, including trade payables, of Quanta's subsidiaries.

Quanta may redeem all or a portion of the senior notes at any time prior to July 1, 2030 at a price equal to 100% of the principal amount plus a make-whole premium and accrued and unpaid interest, and at any time on or after July 1, 2030 at a price equal to 100% of the principal amount plus accrued and unpaid interest, in each case as further specified by terms of the senior notes and the indenture and supplemental indenture governing the senior notes (together, the indenture). Additionally, upon the occurrence of a Change of Control Triggering Event (as defined in the indenture), unless Quanta has exercised its right to redeem the senior notes in full by giving irrevocable notice to the trustee, each noteholder will have the right to require Quanta to purchase all or a portion of such holder's senior notes at a purchase price equal to 101% of the principal amount thereof plus any accrued and unpaid interest.

The indenture also contains customary events of default and covenants that, among other things, limit Quanta's ability to incur liens securing indebtedness, to engage in certain sale and leaseback transactions with respect to certain properties and to sell all or substantially all of its assets or merge or consolidate with or into other companies.

Senior Credit Facility

On September 22, 2020, Quanta entered into an amendment to the credit agreement that, among other things, increased the aggregate revolving commitments from $2.14 billion to $2.51 billion and extended the maturity date for the revolving commitments from October 31, 2022 to September 22, 2025. Pursuant to the amendment, the pledge of capital stock of certain Quanta subsidiaries and the liens on the collateral that secured the obligations under the credit agreement were released, and all of Quanta's subsidiaries that were guarantors of the obligations under the credit agreement were released from their guarantees of such obligations. In addition, the amendment removed the collateral reinstatement provision that would have applied in the event Quanta's corporate credit rating from either Moody's Investors Service, Inc or Standard & Poor's Financial Services LLC were to fall below an investment grade rating.

As referenced above, Quanta used the net proceeds from the offering of the senior notes, together with cash on hand, to voluntarily prepay all the term loans then-outstanding under the credit agreement in the aggregate principal amount of $1.21 billion. Borrowings under the credit agreement are to be used to refinance existing indebtedness and for working capital, capital expenditures, acquisitions and other general corporate purposes.

Subject to the conditions specified in the credit agreement, Quanta has the option to increase the capacity of the credit facility, in the form of an increase in the revolving commitments, term loans or a combination thereof, from time to time, upon receipt of additional commitments from new or existing lenders by up to an additional (i) $400.0 million plus (ii) additional amounts so long as the Incremental Leverage Ratio Requirement (as defined in the credit agreement) is satisfied at the time of such increase. The Incremental Leverage Ratio Requirement requires, among other things, after giving pro forma effect to such increase and the use of proceeds therefrom, compliance with the credit agreement's financial covenants as of the most recent fiscal quarter end for which financial statements were required to be delivered.

Subject to compliance with the financial covenants described below, the entire amount available under the credit facility may be used by Quanta for revolving loans and letters of credit in U.S. dollars and certain alternative currencies, subject to a $900.0 million sublimit for Financial Letters of Credit (as defined in the credit agreement). Up to $800.0 million may be used by certain subsidiaries of Quanta for revolving loans and letters of credit, including in certain alternative currencies. Up to $100.0 million may be used for swing line loans in U.S. dollars, up to $50.0 million may be used for swing line loans in Canadian dollars and up to $50.0 million may be used for swing line loans in Australian dollars.

As of September 30, 2020, Quanta had $195.4 million of outstanding revolving loans under the senior credit facility. Of the total outstanding borrowings, $151.7 million were denominated in Canadian dollars and $43.7 million were denominated in Australian dollars. As of September 30, 2020, Quanta also had $364.5 million of letters of credit issued under the senior credit facility, of which $265.1 million were denominated in U.S. dollars and $99.4 million were denominated in currencies other than the U.S. dollar, primarily Canadian dollars. As of September 30, 2020, Quanta also had $91.9 million of letters of credit issued by a financial institution that ceased to be a lender under the senior credit facility subsequent to the September 2020 amendment to the credit agreement, which are collateralized by a $93.0 million letter of credit issued by a lender under the senior credit facility. As of September 30, 2020, subject to the applicable sublimits, the remaining $1.95 billion of available commitments under the senior credit facility was available for additional revolving loans or letters of credit in U.S. dollars and certain alternative currencies.

Borrowings under the senior credit facility and the applicable interest rates were as follows (dollars in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Maximum amount outstanding under the credit facility during the period	$ 1,462,069	$ 1,987,215	$ 2,023,326	$ 1,987,215
Average daily amount outstanding under the credit facility	$ 1,255,171	$ 1,721,843	$ 1,395,207	$ 1,505,376
Weighted-average interest rate	1.57 %	3.86 %	2.13 %	3.88 %

Revolving loans borrowed in U.S. dollars bear interest, at Quanta's option, at a rate equal to either (i) the Eurocurrency Rate (as defined in the credit agreement) plus 1.125% to 2.000%, as determined based on Quanta's Consolidated Leverage Ratio, or (ii) the Base Rate (as described below) plus 0.125% to 1.000%, as determined based on Quanta's Consolidated Leverage Ratio. Revolving loans borrowed in any currency other than U.S. dollars bear interest at a rate equal to the Eurocurrency Rate plus 1.125% to 2.000%, as determined based on Quanta's Consolidated Leverage Ratio. Additionally, standby or commercial letters of credit issued under the credit agreement are subject to a letter of credit fee of 1.125% to 2.000%, based on Quanta's Consolidated Leverage Ratio, and Performance Letters of Credit (as defined in the credit agreement) issued under the credit agreement in support of certain contractual obligations are subject to a letter of credit fee of 0.675% to 1.150%, based on Quanta's Consolidated Leverage Ratio. The Base Rate equals the highest of (i) the Federal Funds Rate (as defined in the credit agreement) plus 0.5%, (ii) the prime rate publicly announced by Bank of America, N.A. and (iii) the Eurocurrency Rate plus 1.00%. Quanta is also subject to a commitment fee of 0.275% to 0.425%, based on its Consolidated Leverage Ratio, on any unused availability under the senior credit facility. Prior to the amendment on September 22, 2020, Quanta was subject to a commitment fee of 0.200% to 0.400%.

Consolidated Leverage Ratio is the ratio of Quanta's Consolidated Funded Indebtedness to Consolidated EBITDA (as those terms are defined in the credit agreement). For purposes of calculating Quanta's Consolidated Leverage Ratio, Consolidated Funded Indebtedness is reduced by available cash and Cash Equivalents (as defined in the credit agreement) in excess of $25.0 million. Consolidated Interest Coverage Ratio is the ratio of (i) Consolidated EBIT (as defined in the credit agreement) for the four fiscal quarters most recently ended to (ii) Consolidated Interest Expense (as defined in the credit agreement) for such period (excluding all interest expense attributable to capitalized loan costs and the amount of fees paid in connection with the issuance of letters of credit on behalf of Quanta during such period).

The credit agreement contains certain covenants, including (i) a maximum Consolidated Leverage Ratio of 3.5 to 1.0 (except that in connection with certain permitted acquisitions in excess of $200.0 million, such ratio is 4.0 to 1.0 for the fiscal quarter in which the acquisition is completed and the four subsequent fiscal quarters) and (ii) a minimum Consolidated Interest Coverage Ratio of 3.0 to 1.0. As of September 30, 2020, Quanta was in compliance with all of the financial covenants under the credit agreement.

The credit agreement also limits certain acquisitions, mergers and consolidations, indebtedness, asset sales and prepayments of indebtedness and, subject to certain exceptions, prohibits liens on Quanta's assets. The credit agreement allows cash payments for dividends and stock repurchases subject to compliance with the following requirements (including after giving effect to the dividend or stock repurchase): (i) no default or event of default under the credit agreement; (ii) continued compliance with the financial covenants in the credit agreement; and (iii) at least $100.0 million of availability under the senior credit facility and/or cash and cash equivalents on hand.

The credit agreement provides for customary events of default and generally contains cross-default provisions with other debt instruments exceeding $150.0 million in borrowings or availability. If an Event of Default (as defined in the credit agreement) occurs and is continuing, on the terms and subject to the conditions set forth in the credit agreement, the lenders may declare all amounts outstanding and accrued and unpaid interest immediately due and payable, require that Quanta provide cash collateral for all outstanding letter of credit obligations and terminate the commitments under the credit agreement.

As referenced above, Quanta voluntarily prepaid the aggregate term loans then-outstanding on September 22, 2020. Quanta had borrowed $600.0 million under the term loan facility in October 2018 and $675.0 million under the term loan facility in September 2019 and used the majority of such proceeds to repay then-outstanding revolving loans under the credit agreement. Term loans bore interest at rates generally consistent with the revolving loans borrowed in U.S. dollars, except that the additional amount over the Eurocurrency Rate was 1.125% to 1.875%, as determined based on Quanta's Consolidated Leverage Ratio. Quanta made quarterly principal payments of $7.5 million on the term loan through September 2019 and $16.1 million on the term loans through June 2020.

8. LEASES:

Quanta primarily leases land, buildings, vehicles, construction equipment and office equipment. As of September 30, 2020, the majority of Quanta's leases had remaining lease terms not exceeding ten years. Certain leases include options to extend their terms in increments of up tofive years and/or options to terminate. The components of lease costs in the accompanying condensed consolidated statements of operations are as follows (in thousands):

		Three Months Ended September 30,		Nine Months Ended September 30,	
Lease cost	**Classification**	**2020**	**2019**	**2020**	**2019**
Finance lease cost:					
Amortization of lease assets	Depreciation (1)	$ 53	$ 320	$ 515	$ 976
Interest on lease liabilities	Interest expense	16	15	50	54
Operating lease cost	Cost of services and Selling, general and administrative expenses	29,577	30,543	89,289	91,278
Short-term and variable lease cost (2)	Cost of services and Selling, general and administrative expenses	160,365	212,007	478,683	619,906
Total lease cost		$ 190,011	$ 242,885	$ 568,537	$ 712,214

(1) Depreciation is included within "Cost of services" and "Selling, general and administrative expenses" in the accompanying condensed consolidated statements of operations.
(2) Short-term lease cost includes both leases and rentals with initial terms of one year or less. Variable lease cost is insignificant and primarily relates to real estate leases and consists of common area maintenance charges, real estate taxes, insurance and other variable costs.

Quanta has entered into lease arrangements for real property and facilities with certain related parties, typically an employee of Quanta who is the former owner of a business acquired by Quanta that continues to utilize the leased premises. Quanta utilizes third party market valuations to evaluate rental rates for these properties and facilities, and the lease agreements generally have remaining lease terms of up to ten years, subject to renewal options. Related party lease expense was $4.5 million and $4.2 million for the three months ended September 30, 2020 and 2019 and $13.2 million and $12.3 million for the nine months ended September 30, 2020 and 2019.

The components of leases in the accompanying condensed consolidated balance sheet were as follows (in thousands):

Lease type	Classification	September 30, 2020	December 31, 2019
Assets:			
Operating lease right-of-use assets	Operating lease right-of-use assets	$ 266,487	$ 284,369
Finance lease assets	Property and equipment, net of accumulated depreciation	1,547	1,043
Total lease assets		$ 268,034	$ 285,412
Liabilities:			
Current:			
Operating	Current portion of operating lease liabilities	$ 88,162	$ 92,475
Finance	Current maturities of long-term debt and short-term debt	517	440
Non-current:			
Operating	Operating lease liabilities, net of current portion	185,003	196,521
Finance	Long-term debt, net of current maturities	911	517
Total lease liabilities		$ 274,593	$ 289,953

Certain of Quanta's equipment rental agreements contain purchase options pursuant to which the purchase price is offset by a portion of the rental payments. When rental purchase options are exercised and a substantive benefit is deemed to be transferred to a third-party lessor, the transaction is deemed to be a financing transaction for accounting purposes. This results in the recognition of an asset equal to the purchase price being recorded in "Property, plant and equipment, net of accumulated depreciation," and the recognition of a corresponding liability in "Current maturities of long-term debt and short-term debt" and "Long-term debt, net of current maturities." As of September 30, 2020 and December 31, 2019, the assets recorded, net of accumulated depreciation, totaled $23.9 million and $11.8 million.

Future minimum lease payments for operating and finance leases were as follows (in thousands):

	As of September 30, 2020		
	Operating Leases	Finance Leases	Total
Remainder of 2020	$ 26,795	$ 147	$ 26,942
2021	90,838	564	91,402
2022	65,176	390	65,566
2023	44,619	280	44,899
2024	27,344	149	27,493
Thereafter	44,001	—	44,001
Total future minimum operating and finance lease payments	$ 298,773	$ 1,530	$ 300,303
Less imputed interest	(25,608)	(102)	(25,710)
Total lease liabilities	$ 273,165	$ 1,428	$ 274,593

Future minimum lease payments for short-term leases, which are not recorded in the consolidated balance sheets due to Quanta's accounting policy election, were $15.4 million as of September 30, 2020. Month-to-month rental expense associated primarily with certain equipment rentals is excluded from these amounts because Quanta is unable to accurately predict future rental amounts.

The weighted average remaining lease terms and discount rates were as follows:

	As of September 30, 2020
Weighted average remaining lease term (in years):	
Operating leases	4.27
Finance leases	3.14
Weighted average discount rate:	
Operating leases	4.2 %
Finance leases	4.2 %

Quanta has also guaranteed the residual value on certain of its equipment operating leases, agreeing to pay any difference between this residual value and the fair market value of the underlying asset at the date of lease termination. At September 30, 2020, the maximum guaranteed residual value of this equipment was $786.2 million. While Quanta believes that no significant payments will be made as a result of these residual value guarantees, there can be no assurance that significant payments will not be required in the future.

As of September 30, 2020, Quanta had additional operating lease obligations of $3.1 million for leases that had not yet commenced and that are expected to commence in the fourth quarter of 2020 or the first quarter of 2021 and have lease terms of one to seven years.

9. EQUITY:

Exchangeable Shares

In connection with certain prior acquisitions of Canadian businesses, the former owners of the acquired businesses received exchangeable shares of certain Canadian subsidiaries of Quanta, which could be exchanged at the option of the holders for Quanta common stock on a one-for-one basis. All holders of exchangeable shares had rights equivalent to Quanta common stockholders with respect to dividends and other economic rights. During the nine months ended September 30, 2020 and 2019, a nominal amount and 0.4 million exchangeable shares were exchanged for Quanta common stock, and as of September 30, 2020,no exchangeable shares remained outstanding.

Treasury Stock

General. Treasury stock is recorded at cost. Under Delaware law, treasury stock is not counted for quorum purposes or entitled to vote.

Shares withheld for tax withholding obligations. The tax withholding obligations of employees with respect to RSUs and PSUs that are settled in common stock are typically satisfied by Quanta making tax payments and withholding the number of common shares having a value equal to the tax withholding obligation that is due on the date of vesting or settlement (as applicable). With respect to these liabilities, Quanta withheld a nominal amount of Quanta common stock during each of the three months ended September 30, 2020 and 2019, which had a market value of $0.8 million and $0.6 million, and withheld 0.6 million and 0.5 million shares of Quanta common stock during the nine months ended September 30, 2020 and 2019, which had a market value of $24.5 million and $16.7 million. These shares and the related costs to acquire them were accounted for as adjustments to the balance of treasury stock.

Notional amounts recorded related to deferred compensation plans. For RSUs and PSUs that vest but the settlement of which is deferred under a deferred compensation plan, Quanta records a notional amount to "Treasury stock" and an offsetting amount to "Additional paid-in capital" (APIC). At vesting, only shares withheld for tax liabilities other than income taxes are added to outstanding treasury shares, as the shares of Quanta common stock associated with deferred stock-based awards are not issued until settlement of the award. Upon settlement of the deferred stock-based awards and issuance of the associated Quanta common stock, the original accounting entry is reversed. The net amounts recorded to treasury stock related to the deferred compensation plans were none and a nominal amount during the three months ended September 30, 2020 and 2019 and $3.6 million and $3.7 million during the nine months ended September 30, 2020 and 2019.

Stock repurchases. During the third quarter of 2018, Quanta's Board of Directors approved a stock repurchase program that authorizes Quanta to purchase, from time to time through June 30, 2021, up to $500.0 million of its outstanding common stock. As of September 30, 2020, $86.8 million remained under this repurchase program. In August 2020, Quanta's Board of Directors authorized Quanta to repurchase, from time to time through June 30, 2023, up to an additional $500 million in shares of its outstanding common stock under a new stock repurchase program, for an aggregate stock repurchase authorization of $586.8 million.

Quanta repurchased the following shares of common stock in the open market under the stock repurchase programs (in thousands):

Quarter ended:	Shares	Amount
September 30, 2020	—	$ —
June 30, 2020	—	$ —
March 31, 2020	5,960	$ 200,000
December 31, 2019	—	$ —
September 30, 2019	—	$ —
June 30, 2019	—	$ —
March 31, 2019	376	$ 11,954

Repurchases under the repurchase programs may be implemented through open market repurchases or privately negotiated transactions, at management's discretion, based on market and business conditions, applicable contractual and legal requirements, including restrictions under Quanta's senior credit facility, and other factors. Quanta is not obligated to acquire any specific amount of common stock, and the repurchase programs may be modified or terminated by Quanta's Board of Directors at any time at its sole discretion and without notice.

Quanta's policy is to record a stock repurchase as of the trade date; however, the payment of cash related to the repurchase is made on the settlement date of the trade. During the three months ended September 30, 2020 and 2019, there were no cash payments related to stock repurchases, and during the nine months ended September 30, 2020 and 2019, cash payments related to stock repurchases were $200.0 million and $20.1 million.

Non-controlling Interests

Quanta holds interests in various entities through both joint venture entities that provide infrastructure-related services under specific customer contracts, either directly or through subcontracting relationships, and other equity investments in partially owned entities that own and operate certain infrastructure assets, including investments entered into through the partnership structure Quanta formed with certain infrastructure investors. Quanta has determined that certain of these joint ventures where Quanta provides the majority of the infrastructure services, which management believes most significantly influences the economic performance of such joint ventures, are VIEs. Management has concluded that Quanta is the primary beneficiary of these joint ventures and has accounted for each on a consolidated basis. The other parties' equity interests in these joint ventures have been accounted for as "Non-controlling interests" in Quanta's condensed consolidated balance sheets. Net income attributable to the other participants in the amounts of $0.8 million and $1.0 million for the three months ended September 30, 2020 and 2019 and $4.5 million and $2.6 million for the nine months ended September 30, 2020 and 2019 has been accounted for as a reduction of net income in deriving "Net income attributable to common stock" in Quanta's condensed consolidated statements of operations.

The carrying amount of the investments in VIEs held by Quanta was $12.0 million and $12.0 million at September 30, 2020 and December 31, 2019. The carrying amount of investments held by the non-controlling interests in these VIEs at September 30, 2020 and December 31, 2019 was $3.6 million and $3.5 million. During the three months ended September 30, 2020 and 2019, net distributions to non-controlling interests were $0.7 million and $0.5 million. During the nine months ended September 30, 2020 and 2019, net distributions to non-controlling interests were $4.7 million and $2.1 million. There were no other material changes in equity as a result of transfers to/from the non-controlling interests during the three and nine months ended September 30, 2020 or 2019. See Note 11 for further disclosures related to Quanta's joint venture arrangements.

Dividends

Quanta declared the following cash dividends and cash dividend equivalents during 2019 and the first nine months of 2020 (in thousands, except per share amounts):

Declaration Date	Record Date	Payment Date	Dividend Per Share	Dividends Declared
August 26, 2020	October 1, 2020	October 15, 2020	$ 0.05	$ 7,244
May 28, 2020	July 1, 2020	July 15, 2020	$ 0.05	$ 7,182
March 26, 2020	April 6, 2020	April 15, 2020	$ 0.05	$ 7,184
December 11, 2019	January 2, 2020	January 16, 2020	$ 0.05	$ 7,371
August 28, 2019	October 1, 2019	October 15, 2019	$ 0.04	$ 5,564
May 24, 2019	July 1, 2019	July 15, 2019	$ 0.04	$ 6,233
March 21, 2019	April 5, 2019	April 19, 2019	$ 0.04	$ 5,896

A significant majority of the dividends declared were paid on the corresponding payment dates. Holders of RSUs awarded under the Quanta Services, Inc. 2011 Omnibus Equity Incentive Plan (the 2011 Plan) generally received cash dividend equivalent payments equal to the cash dividend payable on account of the underlying Quanta common stock. Holders of exchangeable shares of certain Canadian subsidiaries of Quanta received a cash dividend per exchangeable share equal to the cash dividend per share paid to Quanta common stockholders. Holders of RSUs awarded under the Quanta Services, Inc. 2019 Omnibus Equity Incentive Plan (the 2019 Plan) and holders of unearned and unvested PSUs awarded under the 2011 Plan and the 2019 Plan receive cash dividend equivalent payments only to the extent such RSUs and PSUs become earned and/or vest. Additionally, cash dividend equivalent payments related to certain stock-based awards that have been deferred pursuant to the terms of a deferred compensation plan maintained by Quanta are recorded as liabilities in such plans until the deferred awards are settled.

The declaration, payment and amount of future cash dividends will be at the discretion of Quanta's Board of Directors after taking into account various factors, including Quanta's financial condition, results of operations and cash flows from operations; current and anticipated capital requirements and expansion plans; the current and potential impact of the COVID-19 pandemic and other market, industry, economic and political conditions; income tax laws then in effect; and the requirements of Delaware law. In addition, as discussed in Note 7, Quanta's credit agreement restricts the payment of cash dividends unless certain conditions are met.

10. STOCK-BASED COMPENSATION:

Stock Incentive Plans

The 2019 Plan was approved by Quanta's stockholders in May 2019 and provides for the award of non-qualified stock options, incentive (qualified) stock options, stock appreciation rights, restricted stock awards, RSUs, stock bonus awards, performance compensation awards (including cash bonus awards) or any combination of the foregoing. Current and prospective employees, directors, officers, advisors or consultants of Quanta or its affiliates are eligible to participate in the 2019 Plan. Subject to certain adjustments, the maximum number of shares available for issuance under the 2019 Plan is 7,466,592 shares, plus any shares underlying share-settling awards previously awarded pursuant to the 2011 Plan that are ultimately forfeited, canceled, expired or settled in cash subsequent to stockholder approval of the 2019 Plan. All awards subsequent to stockholder approval of the 2019 Plan have been and will be made pursuant to the 2019 Plan and applicable award agreements. Awards made under the 2011 Plan prior to approval of the 2019 Plan remain subject to the terms of the 2011 Plan and applicable award agreements.

RSUs to be Settled in Common Stock

During the three months ended September 30, 2020 and 2019, Quanta granted0.1 million and 0.5 million RSUs to be settled in common stock, with weighted average grant date fair values of $49.52 and $34.07. During the nine months ended September 30, 2020 and 2019, Quanta granted2.0 million and 2.1 million RSUs to be settled in common stock, with weighted average grant date fair values of $39.65 and $35.45. The grant date fair value for RSUs to be settled in common stock is based on the market value of Quanta common stock on the date of grant. RSU awards to be settled in common stock are subject to forfeiture, restrictions on transfer and certain other conditions until vesting, which generally occurs in three equal annual installments following the date of grant. Holders of RSUs to be settled in common stock awarded under the 2011 Plan generally are entitled to receive a cash dividend equivalent payment equal to any cash dividend payable on account of the underlying Quanta common stock on the payment date of any such dividend. Holders of RSUs to be settled in common stock awarded under the 2019 Plan are entitled to cash dividend equivalent payments in an amount equal to any cash dividend payable on account of the underlying Quanta common stock; however, payment of such amounts is not made until the RSUs vest, such that the dividend equivalent payments are subject to forfeiture.

During the three months ended September 30, 2020 and 2019, vesting activity consisted of a nominal amount and 0.1 million of RSUs settled in common stock, and the approximate fair values at the time of vesting were $2.9 million and $2.2 million. During the nine months ended September 30, 2020 and 2019, vesting activity consisted of approximately 1.2 million and 1.3 million RSUs settled in common stock, and the approximate fair values at the time of vesting were $48.8 million and $46.8 million.

During the three months ended September 30, 2020 and 2019, Quanta recognized $14.8 million and $12.3 million of non-cash stock-based compensation expense related to RSUs to be settled in common stock. During the nine months ended September 30, 2020 and 2019, Quanta recognized $41.0 million and $36.2 million of non-cash stock-based compensation expense related to RSUs to be settled in common stock. Such expense is recorded in “Selling, general and administrative expenses.” As of September 30, 2020, there was $93.3 million of total unrecognized compensation expense, net of estimated forfeitures, related to unvested RSUs to be settled in common stock granted to both employees and non-employees. This cost is expected to be recognized over a weighted average period of 2.52 years.

PSUs to be Settled in Common Stock

PSUs provide for the issuance of shares of common stock upon vesting, which occurs at the end of a three-year performance period based on achievement of certain company performance metrics established by the Compensation Committee of Quanta’s Board of Directors, including financial and operational goals and Quanta’s total shareholder return as compared to a predetermined group of peer companies. The final number of shares of common stock issuable upon vesting of PSUs can range from 0% to 200% of the number of PSUs initially granted, depending on the level of achievement, as determined by the Compensation Committee of Quanta’s Board of Directors. Holders of PSUs are entitled to cash dividend equivalent payments in an amount equal to any cash dividend payable on account of the underlying Quanta common stock; however, payment of such amounts is not made until the PSUs vest, such that the dividend equivalent payments are subject to forfeiture.

During the three months ended September 30, 2020 and 2019, Quanta granted a nominal amount and no PSUs to be settled in common stock. During the nine months ended September 30, 2020 and 2019, Quanta granted 0.4 million and 0.4 million PSUs to be settled in common stock with a weighted average grant date fair value of $34.60 and $40.15 per unit. The grant date fair value of the PSUs was determined as follows: (i) for the portion of the awards based on company financial and operational performance metrics, by multiplying the number of units granted by the closing price of Quanta’s common stock on the date of grant and (ii) for the portion of the awards based on total shareholder return, by utilizing a Monte Carlo simulation valuation methodology. The Monte Carlo simulation valuation methodology applied the following key inputs:

	2020	2019
Valuation date price based on March 26, 2020 and March 8, 2019 closing stock prices of Quanta common stock	$31.49	$35.19
Expected volatility	34 %	25 %
Risk-free interest rate	0.35 %	2.43 %
Term in years	2.76	2.81

Quanta recognizes expense, net of estimated forfeitures, for PSUs based on the forecasted achievement of the company financial and operational performance metrics and forecasted performance with respect to relative total shareholder return, multiplied by the completed portion of the three-year period and the fair value of the total number of shares of common stock that Quanta anticipates will be issued based on such achievement. During the three months ended September 30, 2020 and 2019, Quanta recognized $6.7 million and $1.3 million in compensation expense associated with PSUs. During the nine months ended September 30, 2020 and 2019, Quanta recognized $17.4 million and $4.9 million in compensation expense associated with PSUs. Such expense is recorded in “Selling, general and administrative expenses.” During the three months ended September 30, 2020 and 2019, no PSUs vested, and no shares of common stock were issued in connection with PSUs. During the nine months ended September 30, 2020, 0.2 million PSUs vested, and 0.5 million shares of common stock were earned and either issued or deferred for future issuance in connection with PSUs. During the nine months ended September 30, 2019, 1.3

million PSUs vested, and 0.4 million shares of common stock were earned and either issued or deferred for future issuance in connection with PSUs.

RSUs to be Settled in Cash

Certain RSUs granted by Quanta are settled solely in cash. These cash-settled RSUs are intended to provide plan participants with cash performance incentives that are substantially equivalent to the risks and rewards of stock ownership in Quanta, typically vest in three equal annual installments following the date of grant, and are subject to forfeiture under certain conditions, primarily termination of service. Additionally, subject to certain restrictions, Quanta's non-employee directors may elect to settle a portion of their RSU awards in cash. For RSUs settled in cash, the holders receive for each vested RSU an amount in cash equal to the fair market value of one share of Quanta common stock on the settlement date, as specified in the applicable award agreement.

Compensation expense related to RSUs to be settled in cash was $2.6 million and $0.8 million for the three months ended September 30, 2020 and 2019 and $5.3 million and $4.5 million for the nine months ended September 30, 2020 and 2019. Such expense is recorded in "Selling, general and administrative expenses." RSUs that are anticipated to be settled in cash are not included in the calculation of weighted average shares outstanding for earnings per share, and the estimated earned value of such RSUs is classified as a liability. Quanta paid $0.8 million and $0.4 million to settle liabilities related to cash-settled RSUs in the three months ended September 30, 2020 and 2019 and $4.3 million and $5.4 million to settle liabilities related to cash-settled RSUs in the nine months ended September 30, 2020 and 2019. Accrued liabilities for the estimated earned value of outstanding RSUs to be settled in cash were $4.5 million and $4.3 million at September 30, 2020 and December 31, 2019.

11. COMMITMENTS AND CONTINGENCIES:

Investments in Affiliates and Other Entities

As described in Notes 2 and 9, Quanta holds investments in various entities, including joint venture entities that provide infrastructure-related services under specific customer contracts and partially owned entities that own, operate and/or maintain certain infrastructure assets. Losses incurred by these entities are generally shared ratably based on the percentage ownership of the participants in these structures. However, in Quanta's joint venture structures that provide infrastructure-related services, each participant is typically jointly and severally liable for all of the obligations of the joint venture entity pursuant to the contract with the customer, as a general partner or through a parent guarantee and, therefore, can be liable for full performance of the contract with the customer. In circumstances where Quanta's participation in a joint venture qualifies as a general partnership, the joint venture partners are jointly and severally liable for all obligations of the joint venture, including obligations owed to the customer or any other person or entity. Quanta is not aware of circumstances that would lead to future claims against it for material amounts in connection with these joint and several liabilities. Additionally, typically each joint venture participant agrees to indemnify the other participant for any liabilities incurred in excess of what the other participant is obligated to bear under the respective joint venture agreement or in accordance with the scope of work subcontracted to each participant. It is possible, however, that Quanta could be required to pay or perform obligations in excess of its share if another participant is unable or refuses to pay or perform its share of the obligations. Quanta is not aware of circumstances that would lead to future claims against it for material amounts that would not be indemnified. However, to the extent any such claims arise, they could be material and could adversely affect Quanta's consolidated business, financial condition, results of operations or cash flows.

As described in Note 2, Quanta formed a partnership in 2017 with select investors to invest in certain specified infrastructure projects, and wholly owned subsidiaries of Quanta serve as the general partner of this partnership and as a separately operated registered investment adviser that manages the invested capital. Quanta's investment balance related to this partnership was $21.4 million as of September 30, 2020. In October 2019, due to certain management changes at the registered investment adviser, the partnership entered into a 180-day period during which the investors and Quanta evaluated the partnership, and at the end of such period in April 2020, the investment period for any future investments ended.

Contingent Consideration Liabilities

As discussed in further detail in Note 2, Quanta is obligated to pay contingent consideration amounts to the former owners of certain acquired businesses in the event that such acquired businesses achieve specified performance objectives. As of September 30, 2020 and December 31, 2019, the estimated fair value of Quanta's contingent consideration liabilities totaled $75.8 million and $84.2 million.

Committed Expenditures

Quanta has capital commitments for the expansion of its equipment fleet in order to accommodate manufacturer lead times on certain types of vehicles. As of September 30, 2020, Quanta had $55.4 million of production orders with expected delivery dates in 2020 and $16.9 million of production orders with expected delivery dates in 2021. Although Quanta has committed to purchase these vehicles at the time of their delivery, Quanta anticipates that the majority of these orders will be assigned to third party leasing companies and made available under certain master equipment lease agreements, thereby releasing Quanta from its capital commitments.

Legal Proceedings

Quanta is from time to time party to various lawsuits, claims and other legal proceedings that arise in the ordinary course of business. These actions typically seek, among other things, compensation for alleged personal injury, breach of contract, negligence or gross negligence and/or property damages, wage and hour and other employment-related damages, punitive damages, civil penalties or other losses, or injunctive or declaratory relief. With respect to all such lawsuits, claims and proceedings, Quanta records a reserve when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. In addition, Quanta discloses matters for which management believes a material loss is at least reasonably possible. Except as otherwise stated below, none of these proceedings are expected to have a material adverse effect on Quanta's consolidated financial position, results of operations or cash flows. In all instances, management has assessed the matter based on current information and made a judgment concerning its potential outcome, giving due consideration to the nature of the claim, the amount and nature of damages sought and the probability of success. Management's judgment may prove materially inaccurate, and such judgment is made subject to the known uncertainties of litigation.

Peru Project Dispute. In 2015, Redes Andinas de Comunicaciones S.R.L. (Redes), a majority-owned subsidiary of Quanta, entered into two separate contracts with an agency of the Peruvian Ministry of Transportation and Communications (MTC), currently Programa Nacional de Telecomunicaciones (PRONATEL), as successor to Fondo de Inversion en Telecomunicaciones (FITEL), pursuant to which Redes would design, construct and operate certain telecommunication networks in rural regions of Peru. The aggregate consideration provided for in the contracts was approximately $248 million, consisting of approximately $151 million to be paid during the construction period and approximately $97 million to be paid during a 10-year post-construction operation and maintenance period. At the beginning of the project, FITEL made advance payments totaling approximately $87 million to Redes, which were secured by two on-demand advance payment bonds posted by Redes to guarantee proper use of the payments in the execution of the project. Redes also provided two on-demand performance bonds in the aggregate amount of $25 million to secure performance of its obligations under the contracts.

During the construction phase, the project experienced numerous challenges and delays, primarily related to issues which Quanta believes were outside of the control of and not attributable to Redes, including, among others, weather-related issues, local opposition to the project, permitting delays, the inability to acquire clear title to certain required parcels of land and other delays which Quanta believes were attributable to FITEL/PRONATEL. In response to various of these challenges and delays, Redes requested and received multiple extensions to certain contractual deadlines and relief from related liquidated damages. However, in April 2019, PRONATEL provided notice to Redes claiming that Redes was in default under the contracts due to the delays and that PRONATEL would terminate the contracts if the alleged defaults were not cured. Redes responded by claiming that it was not in default, as the delays were due to events not attributable to Redes, and therefore PRONATEL was not entitled to terminate the contracts. PRONATEL subsequently terminated the contracts for alleged cause prior to completion of Redes' scope of work, exercised the on-demand performance bonds and advance payment bonds against Redes, and indicated its intention to claim damages, including a verbal allegation of approximately $45 million of liquidated damages under the contracts. In August 2020, Redes received a formal claim from PRONATEL for liquidated damages in the amount of approximately $44 million, which represents the U.S. dollar equivalent of the amount asserted based on the September 30, 2020 exchange rate.

In May 2019, Redes filed for arbitration before the Court of International Arbitration of the International Chamber of Commerce against PRONATEL and the MTC. In the arbitration, Redes claims that PRONATEL: (i) wrongfully terminated the contracts; (ii) wrongfully executed the advance payment bonds and the performance bonds; and (iii) is not entitled to the alleged amount of liquidated damages. In addition, Redes is seeking compensation for all damages arising from PRONATEL's actions, including but not limited to (i) repayment of the amounts collected by PRONATEL under the advance payment bonds and the performance bonds; (ii) payment of amounts owed for work completed by Redes under the contracts; (iii) lost income in connection with Redes' future operation and maintenance of the networks; and (iv) other related costs and damages to Redes as a result of the improper termination of the contracts.

As of the date of the contract terminations, Redes had recognized revenues of approximately $157 million related to the design and construction of the project and had received approximately $100 million of payments (inclusive of the approximately $87 million advance payments). Furthermore, upon completion of the transfer of the networks (as completed at the time of the contract terminations) to PRONATEL, which is required upon termination of the contracts and was effectively completed in the third quarter of 2020, PRONATEL and the MTC are able to possess the networks, for which PRONATEL has paid approximately $100 million while collecting approximately $112 million of bond proceeds. Quanta believes that PRONATEL's actions represent an abuse of power and unfair and inequitable treatment and that PRONATEL and the MTC have been unjustly enriched. Specifically, under the terms of the contracts, the advance payment bonds were to be exercised only if it is determined that Redes did not use the advance payments for their intended purpose, in which case Redes would be obligated to return the portion of the advance payments not properly used. In connection with PRONATEL exercising the bonds, Redes was not afforded the opportunity to provide evidence of its proper use of the advance payments for project expenditures. Redes has incurred substantially more than the advance payment amounts in the execution of the project, and Quanta believes Redes has used the advance payment amounts for their intended purpose.

Quanta also reserves the right to seek full compensation for the loss of its investment under other applicable legal regimes, including investment treaties and customary international law, as well as to seek resolution through direct discussions with PRONATEL or the MTC.

Quanta believes Redes is entitled to all amounts described in the claims above and intends to vigorously pursue those claims in the pending arbitration proceeding and/or additional arbitration proceedings. However, as a result of the contract terminations and the inherent uncertainty involved in arbitration proceedings and recovery of amounts owed, there can be no assurance that Redes will prevail on those claims or in defense of liquidated damages claims or any other claims that may be asserted by PRONATEL. As a result, during the three months ended June 30, 2019, Quanta recorded a charge to earnings of $79.2 million, which included a reduction of previously recognized earnings on the project, a reserve against a portion of the project costs incurred through the project termination date, an accrual for a portion of the alleged liquidated damages, and the estimated costs to complete the project turnover and close out the project. The reduction of previously recognized earnings on the project during the three months ended June 30, 2019 included $14.5 million related to the correction of prior period errors associated with the determination of total estimated project costs and the resulting revenue recognized. Quanta assessed the materiality of the prior period errors and determined that the errors were immaterial individually and in the aggregate to its previously issued financial statements.

As of September 30, 2020, after taking into account the above charge, Quanta had a contract receivable of approximately $120 million related to the project, which includes the approximately $87 million PRONATEL collected through exercise of the advance payment bonds. The contract receivable from PRONATEL is included in "Other assets, net" in the accompanying consolidated balance sheet as of September 30, 2020.

If Quanta is not successful in the pending or future arbitration proceedings, this matter could result in an additional significant loss that could have a material adverse effect on Quanta's consolidated results of operations and cash flows. However, based on the information currently available and the preliminary status of the pending arbitration proceeding, Quanta is not able to determine a range of reasonably possible additional loss, if any, with respect to this matter.

Maurepas Project Dispute. During the third quarter of 2017, Maurepas Pipeline, LLC (Maurepas) notified QPS Engineering, LLC (QPS), a subsidiary of Quanta, of its claim for liquidated damages allegedly arising from delay in mechanical completion of a project in Louisiana. Quanta disputes the claim and believes that QPS is not responsible for liquidated damages under the contract terms, and in June 2019 QPS filed suit against SemGroup Corporation, (now Energy Transfer LP), the parent company of Maurepas, under the parent guarantee issued to secure payment from Maurepas on the project. QPS is seeking to recover $22 million that it believes has been wrongfully withheld, which represents the maximum liability for liquidated damages pursuant to the contract terms. In July and August 2018, QPS also received notice from Maurepas claiming certain warranty defects on the project. In July 2019, Maurepas filed suit against QPS and Quanta, pursuant to a parent guarantee, for damages related to the warranty defects and for a declaratory judgment related to the liquidated damages claim, subsequently claiming approximately $59 million in damages related to a portion of the alleged warranty defects. The lawsuits relating to these claims have been consolidated and are pending in state court in Oklahoma. Quanta is continuing to evaluate the claimed warranty defects and, if they exist, the appropriate remedy. At this time, Quanta disputes the extent of the alleged defects or has not been able to substantiate them.

As of September 30, 2020, Quanta had recorded an accrual with respect to this matter based on the current estimated amount of probable loss. However, based on the information currently available, Quanta cannot estimate the range of additional reasonably possible loss in connection with this matter. If, upon final resolution of this matter, Quanta is unsuccessful, any liquidated damages or warranty defect damages in excess of Quanta's current loss accrual would be recorded as additional costs on the project.

Lorenzo Benton v. Telecom Network Specialists, Inc., et al. In June 2006, plaintiff Lorenzo Benton filed a class action complaint in the Superior Court of California, County of Los Angeles, alleging various wage and hour violations against

Telecom Network Specialists (TNS), a former subsidiary of Quanta. Quanta retained liability associated with this matter pursuant to the terms of Quanta's sale of TNS in December 2012. Benton represents a class of workers that includes all persons who worked on certain TNS projects, including individuals that TNS retained through numerous staffing agencies. The plaintiff class in this matter is seeking damages for unpaid wages, penalties associated with the failure to provide meal and rest periods and overtime wages, interest and attorneys' fees. In January 2017, the trial court granted a summary judgment motion filed by the plaintiff class and found that TNS was a joint employer of the class members and that it failed to provide adequate meal and rest breaks and failed to pay overtime wages. During 2019 and 2020, the parties filed additional summary judgment and other motions and a bench trial on liability and damages was held. As of July 2020, liability and damages for significantly all claims had been determined by the trial court, with the amount of liability for TNS determined to be approximately $8.8 million. This amount includes damages and interest though the date of the trial court's orders, but does not include attorneys' fees or costs, which are yet to be determined. Quanta believes the court's decisions on liability and damages are not supported by controlling law and continues to contest its liability and the damage calculation asserted by the plaintiff class in this matter.

Additionally, in November 2007, TNS filed cross complaints for indemnity and breach of contract against the staffing agencies, which employed many of the individuals in question. In December 2012, the trial court heard cross-motions for summary judgment filed by TNS and the staffing agencies pertaining to TNS's demand for indemnity. The court denied TNS's motion and granted the motions filed by the staffing agencies; however, the California Appellate Court reversed the trial court's decision in part and instructed the trial court to reconsider its ruling. In February 2017, the court denied a new motion for summary judgment filed by the staffing companies and has since stated that the staffing companies would be liable to TNS for any damages owed to the class members that the staffing companies employed.

The final amount of liability, if any, payable in connection with this matter remains the subject of pending litigation and will ultimately depend on various factors, including the outcome of Quanta's appeal of the trial court's rulings on liability and damages, the final determination with respect to any additional damages owed by Quanta, and the solvency of the staffing agencies. Based on review and analysis of the trial court's rulings on liability, Quanta does not believe, at this time, that it is probable this matter will result in a material loss. However, if Quanta is unsuccessful in this litigation and the staffing agencies are unable to fund damages owed to class members, Quanta believes the range of reasonably possible loss to Quanta upon final resolution of this matter could be up to approximately $8.8 million, plus additional interest and attorneys' fees and expenses of the plaintiff class.

Hallen Acquisition Assumed Liability. In August 2019, in connection with the acquisition of Hallen, Quanta assumed certain contingent liabilities associated with a March 2014 natural gas-fed explosion and fire in the Manhattan borough of New York City, New York. The incident resulted in, among other things, loss of life, personal injury and the destruction of two buildings and other property damage. After investigation, the National Transportation Safety Board determined that the probable cause of the incident was the failure of certain natural gas infrastructure installed by Consolidated Edison, Inc. (Con Ed) and the failure of certain sewer infrastructure maintained by the City of New York. Pursuant to a contract with Con Ed, Hallen had performed certain work related to such natural gas infrastructure and agreed to indemnify Con Ed for certain claims, liabilities and costs associated with its work. Numerous lawsuits are pending in New York state courts related to the incident, which generally name Con Ed, the City of New York and Hallen as defendants. These lawsuits are at various preliminary stages and generally seek unspecified damages and, in some cases, punitive damages, for wrongful death, personal injury, property damage and business interruption.

Hallen's liabilities associated with this matter are expected to be covered under applicable insurance policies or contractual remedies negotiated by Quanta with the former owners of Hallen. As of September 30, 2020, Quanta had not recorded an accrual for any probable and estimable loss related to this matter. However, the ultimate amount of liability in connection with this matter remains subject to uncertainties associated with pending litigation, including, among other things, the apportionment of liability among the defendants and other responsible parties and the likelihood and amount of potential damages claims. As a result, this matter could result in a loss that is in excess of, or not covered by, such insurance or contractual remedies, which could have a material adverse effect on Quanta's consolidated results of operations and cash flows.

Concentrations of Credit Risk

Quanta is subject to concentrations of credit risk related primarily to its cash and cash equivalents and its net receivable position with customers, which includes amounts related to billed and unbilled accounts receivable and contract assets net of advanced billings with the same customer. Substantially all of Quanta's cash and cash equivalents are managed by what it believes to be high credit quality financial institutions. In accordance with Quanta's investment policies, these institutions are authorized to invest cash and cash equivalents in a diversified portfolio of what Quanta believes to be high quality cash and cash equivalent investments, which consist primarily of interest-bearing demand deposits, money market investments and money market mutual funds. Although Quanta does not currently believe the principal amount of these cash and cash equivalents is subject to any material risk of loss, changes in economic conditions could impact the interest income Quanta receives from these investments. In addition, Quanta grants credit under normal payment terms, generally without collateral, to its customers, which include electric power and energy companies, governmental entities, general contractors, and builders, owners and managers of commercial and industrial properties located primarily in the United States, Canada and Australia. While Quanta generally has certain statutory lien rights with respect to services provided, Quanta is subject to potential credit risk related to business, economic and financial market conditions that affect these customers and locations, which has been heightened as a result of the unfavorable and uncertain economic and financial market conditions resulting from the ongoing COVID-19 pandemic and the significant decline in commodity prices and volatility in commodity production volumes. Some of Quanta's customers have experienced significant financial difficulties (including bankruptcy), and customers may experience financial difficulties in the future. These difficulties expose Quanta to increased risk related to collectability of billed and unbilled receivables and contract assets for services Quanta has performed.

For example, on January 29, 2019, PG&E Corporation and its primary operating subsidiary, Pacific Gas and Electric Company (together, PG&E), one of Quanta's largest customers, filed for bankruptcy protection under Chapter 11 of the U.S. Bankruptcy Code, as amended. As of the bankruptcy filing date, Quanta had $165 million of billed and unbilled receivables. During the bankruptcy case, the bankruptcy court approved the early assumption by PG&E of certain contracts with subsidiaries of Quanta, and PG&E subsequently assumed its remaining contracts with Quanta's subsidiaries as part of its Chapter 11 plan of reorganization, which was confirmed by the bankruptcy court in June 2020. As of September 30, 2020, substantially all of Quanta's pre-petition receivables had been paid. Additionally, a customer within Quanta's Pipeline and Industrial Infrastructure Services segment is currently experiencing liquidity challenges that have resulted in delayed payment of certain receivables associated with a project. While Quanta believes these receivables are adequately secured by the project asset, Quanta is continuing to monitor potential credit risk with respect to this and other customers.

At September 30, 2020 and December 31, 2019,no customer represented 10% or more of Quanta's consolidated net receivable position. No customer represented 10% or more of Quanta's consolidated revenues for the three and nine months ended September 30, 2020 or the three months ended September 30, 2019. PG&E, a customer within Quanta's Electric Power Infrastructure Services segment, represented 10.5% of Quanta's consolidated revenues for the nine months ended September 30, 2019.

Insurance

As discussed in Note 2, Quanta is insured for employer's liability, workers' compensation, auto liability, general liability and group health claims. As of September 30, 2020 and December 31, 2019, the gross amount accrued for insurance claims totaled $304.6 million and $287.6 million, with $223.6 million and $212.9 million considered to be long-term and included in "Insurance and other non-current liabilities." Related insurance recoveries/receivables as of September 30, 2020 and December 31, 2019 were $31.8 million and $35.1 million, of which $0.3 million and $0.3 million are included in "Prepaid expenses and other current assets" and $31.5 million and $34.8 million are included in "Other assets, net."

Letters of Credit

Certain of Quanta's vendors require letters of credit to ensure reimbursement for amounts they are disbursing on Quanta's behalf, such as to beneficiaries under its insurance programs. In addition, from time to time, certain customers require Quanta to post letters of credit to ensure payment of subcontractors and vendors and guarantee performance under contracts. Such letters of credit are generally issued by a bank or similar financial institution, typically pursuant to Quanta's senior credit facility. Each letter of credit commits the issuer to pay specified amounts to the holder of the letter of credit if the holder claims that Quanta has failed to perform specified actions. If this were to occur, Quanta would be required to reimburse the issuer of the letter of credit. Depending on the circumstances of such a reimbursement, Quanta may also be required to record a charge to earnings for the reimbursement.

As of September 30, 2020, Quanta had $364.5 million in outstanding letters of credit under its senior credit facility securing its casualty insurance program and various contractual commitments. These are irrevocable stand-by letters of credit with maturities generally expiring at various times throughout 2020 and 2021. Quanta expects to renew the majority of the letters of credit related to the casualty insurance program for subsequent one-year periods upon maturity. As of September 30, 2020, Quanta also had $91.9 million letters of credit issued by a financial institution that ceased to be a lender under the senior credit facility subsequent to the September 2020 amendment to the credit agreement, and such letters of credit are collateralized by a $93.0 million letter of credit issued by a lender in the senior credit facility. Quanta is not aware of any claims currently asserted or threatened under any of these letters of credit that are material, individually or in the aggregate. However, to the extent payment is required for any such claims, the amount paid could be material and could adversely affect Quanta's consolidated business, financial condition, results of operations or cash flows.

Bonds and Parent Guarantees

Many customers, particularly in connection with new construction, require Quanta to post performance and payment bonds. These bonds provide a guarantee that Quanta will perform under the terms of a contract and pay its subcontractors and vendors. If Quanta fails to perform, the customer may demand that the surety make payments or provide services under the bond, and Quanta must reimburse the surety for any expenses or outlays it incurs. Quanta may also be required to post letters of credit in favor of the sureties, which would reduce the borrowing availability under its senior credit facility. Under Quanta's underwriting, continuing indemnity and security agreement with its sureties, Quanta had also granted security interests in certain of its assets as collateral for its obligations to the sureties. However, in connection with the September 2020 amendment to the credit agreement, these security interests were automatically released. On September 22, 2020, Quanta also entered into an amendment to the underwriting, continuing indemnity and security agreement that further documented this release and removed the collateral reinstatement provision in the agreement that would have applied in the event Quanta's corporate credit rating from either of Moody's Investors Service, Inc. or Standard & Poor's Financial Services LLC were to fall below an investment grade rating.

Quanta has not been required to make any material reimbursements to its sureties for bond-related costs except related to the exercise of certain advance payment and performance bonds in connection with the terminated telecommunications project located in Peru, as set forth in *Legal Proceedings* above. However, to the extent further reimbursements are required, the amounts could be material and could adversely affect Quanta's consolidated business, financial condition, results of operations or cash flows.

Performance bonds expire at various times ranging from mechanical completion of a project to a period extending beyond contract completion in certain circumstances, and as such a determination of maximum potential amounts outstanding requires the use of certain estimates and assumptions. Such amounts can also fluctuate from period to period based upon the mix and level of Quanta's bonded operating activity. As of September 30, 2020, the total amount of the outstanding performance bonds was estimated to be approximately $3.5 billion. Quanta's estimated maximum exposure as it relates to the value of the performance bonds outstanding is lowered on each bonded project as the cost to complete is reduced, and each commitment under a performance bond generally extinguishes concurrently with the expiration of its related contractual obligation. The estimated cost to complete these bonded projects was approximately $1.4 billion as of September 30, 2020.

Additionally, from time to time, Quanta guarantees certain obligations and liabilities of its subsidiaries that may arise in connection with, among other things, contracts with customers, equipment lease obligations, joint venture arrangements and contractor licenses. These guarantees may cover all of the subsidiary's unperformed, undischarged and unreleased obligations and liabilities under or in connection with the relevant agreement. For example, with respect to customer contracts, a guarantee may cover a variety of obligations and liabilities arising during the ordinary course of the subsidiary's business or operations, including, among other things, warranty and breach of contract claims, third party and environmental liabilities arising from the subsidiary's work and for which it is responsible, liquidated damages, or indemnity claims. Quanta is not aware of any claims under any of these guarantees that are material, except as set forth in *Legal Proceedings – Maurepas Project Dispute* above. To the extent a subsidiary incurs a material obligation or liability and Quanta has guaranteed the performance or payment of such liability, the recovery by a customer or other counterparty or a third party will not be limited to the assets of the subsidiary. As a result, responsibility under the guarantee could exceed the amount recoverable from the subsidiary alone and could materially and adversely affect Quanta's consolidated business, financial condition, results of operations and cash flows.

Employment Agreements

Quanta has various employment agreements with certain executives and other employees, which provide for compensation, other benefits and, under certain circumstances, severance payments and post-termination stock-based compensation benefits. Certain employment agreements also contain clauses that require the potential payment of specified amounts to such employees upon the occurrence of a defined change in control event.

Collective Bargaining Agreements

Certain of Quanta's operating units are parties to collective bargaining agreements with unions that represent certain of their employees. The collective bargaining agreements expire at various times and have typically been renegotiated and renewed on terms similar to those in the expiring agreements. From time to time, Quanta is a party to grievance and arbitration actions based on claims arising out of the collective bargaining agreements. The agreements require the operating units to pay specified wages, provide certain benefits to union employees and contribute certain amounts to multiemployer pension plans and employee benefit trusts. Quanta's multiemployer pension plan contribution rates generally are made to the plans on a "pay-as-you-go" basis based on its union employee payrolls. The location and number of union employees that Quanta employs at any given time and the plans in which they may participate vary depending on Quanta's need for union resources in connection with its ongoing projects. Therefore, Quanta is unable to accurately predict its union employee payroll and the resulting multiemployer pension plan contribution obligations for future periods.

The Pension Protection Act of 2006 also added special funding and operational rules generally applicable to plan years beginning after 2007 for multiemployer plans that are classified as “endangered,” “seriously endangered” or “critical” status based on multiple factors (including, for example, the plan’s funded percentage, the plan’s cash flow position and whether the plan is projected to experience a minimum funding deficiency). Plans in these classifications must adopt measures to improve their funded status through a funding improvement or rehabilitation plan, as applicable, which may require additional contributions from employers (e.g., a surcharge on benefit contributions) and/or modifications to retiree benefits. Certain plans to which Quanta contributes or may contribute in the future are in “endangered,” “seriously endangered” or “critical” status. The amount, if any, that Quanta may be obligated to contribute to these plans cannot be reasonably estimated due to uncertainty regarding the amount of future work involving covered union employees, future contribution levels and possible surcharges on plan contributions.

Quanta may be subject to additional liabilities imposed by law as a result of its participation in multiemployer defined benefit pension plans. For example, the Employee Retirement Income Security Act of 1974, as amended by the Multiemployer Pension Plan Amendments Act of 1980, imposes certain liabilities upon an employer who is a contributor to a multiemployer pension plan if the employer withdraws or is deemed to have withdrawn from the plan or the plan is terminated or experiences a mass withdrawal. These liabilities include an allocable share of the unfunded vested benefits in the plan for all plan participants, not merely the benefits payable to a contributing employer’s own retirees. As a result, participating employers may bear a higher proportion of liability for unfunded vested benefits if other participating employers cease to contribute or withdraw, with the reallocation of liability being more acute in cases when a withdrawn employer is insolvent or otherwise fails to pay its withdrawal liability. Quanta is not aware of any material withdrawal liabilities that have been incurred or asserted and that remain outstanding as a result of a withdrawal by Quanta from a multiemployer defined benefit pension plan. However, Quanta’s future contribution obligations and potential withdrawal liability exposure could vary based on the investment and actuarial performance of the multiemployer pension plans to which it contributes and other factors, which could be negatively impacted as a result of the unfavorable and uncertain economic and financial market conditions resulting from the ongoing COVID-19 pandemic and related issues. Quanta has been subject to significant withdrawal liabilities in the past, including in connection with its withdrawal from the Central States, Southeast and Southwest Areas Pension Plan. To the extent Quanta is subject to material withdrawal liabilities in the future, such liability could adversely affect its business, financial condition, results of operations or cash flows.

Deferred Compensation Plans

Quanta maintains nonqualified deferred compensation plans pursuant to which non-employee directors and certain key employees may defer receipt of some or all of their cash compensation and/or settlement of certain stock-based awards, subject to certain limitations. These plans are unfunded and unsecured compensation arrangements. Individuals participating in these plans may allocate deferred cash amounts among a group of notional accounts that mirror the gains and losses of various investment alternatives. Generally, participants receive distributions of deferred balances based on predetermined payout schedules or other events.

The plan covering key employees provides for employer matching contributions for certain officers and employees whose benefits under the 401(k) plan are limited by federal tax law. Quanta may also make discretionary employer contributions to such plan. Matching contributions vest immediately, and discretionary employer contributions may be subject to a vesting schedule determined at the time of the contribution, provided that vesting accelerates upon a change in control or the participant’s death or retirement. All matching and discretionary employer contributions, whether vested or not, are forfeited upon a participant’s termination of employment for cause or upon the participant engaging in competition with Quanta or any of its affiliates.

Quanta made matching contributions to the eligible participants’ accounts under the deferred compensation plans of $0.2 million during each of the three months ended September 30, 2020 and 2019 and $1.0 million and $0.9 million during the nine months ended September 30, 2020 and 2019. Quanta madeno discretionary contributions during the nine months ended September 30, 2020 and 2019. At September 30, 2020 and December 31, 2019, obligations under these plans, including amounts contributed by Quanta, were $51.4 million and $47.3 million and were included in “Insurance and other non-current liabilities” in the accompanying condensed consolidated balance sheets. Quanta maintains investments to provide for future obligations related to these deferred compensation plans. At September 30, 2020 and December 31, 2019, these investments were primarily comprised of company-owned life insurance policies, had fair market values of $52.2 million and $45.8 million and were included in “Other assets, net” in the accompanying condensed consolidated balance sheets.

Indemnities

Quanta generally indemnifies its customers for the services it provides under its contracts and other specified liabilities, which may subject Quanta to indemnity claims and liabilities and related litigation. Additionally, in connection with certain acquisitions and dispositions, Quanta has indemnified various parties against specified liabilities that those parties might incur in the future. The indemnities under acquisition or disposition agreements are usually contingent upon the other party incurring liabilities that reach specified thresholds. Quanta is not aware of any indemnity claims in connection with its indemnity obligations that are material. However, to the extent indemnification is required, the amount could adversely affect Quanta's consolidated business, financial condition, results of operations or cash flows.

In the normal course of Quanta's acquisition transactions, Quanta obtains rights to indemnification from the sellers or former owners of acquired businesses for certain risks, liabilities and obligations arising from their prior operations, such as performance, operational, safety, workforce or tax issues, some of which Quanta may not have discovered during due diligence. However, the indemnities may not cover all of Quanta's exposure for such pre-acquisition matters, or the indemnitors may be unwilling or unable to pay amounts owed to Quanta. Accordingly, Quanta may incur expenses for which it is not reimbursed, and such amounts could be material and could have a material adverse effect on Quanta's business or consolidated financial condition, results of operations and cash flows. For example, Quanta has obtained certain indemnification rights from the former owners of Hallen with respect to contingent liabilities that were assumed in connection with the acquisition, as set forth in *Legal Proceedings — Hallen Acquisition Assumed Liability* above.

12. SEGMENT INFORMATION:

Quanta presents its operations under two reportable segments: (1) Electric Power Infrastructure Services and (2) Pipeline and Industrial Infrastructure Services. This structure is generally based on the broad end-user markets for Quanta's services. See Note 1 for additional information regarding Quanta's reportable segments.

Quanta's segment results are derived from the types of services provided across its operating units in each of its end user markets. Quanta's entrepreneurial business model allows multiple operating units to serve the same or similar customers and to provide a range of services across end user markets. Quanta's operating units are organized into one of two internal divisions: the Electric Power Infrastructure Services Division and the Pipeline and Industrial Infrastructure Services Division. These internal divisions are closely aligned with the reportable segments, and operating units are assigned to divisions based on the predominant type of work performed.

Reportable segment information, including revenues and operating income by type of work, is gathered from each operating unit for the purpose of evaluating segment performance in support of Quanta's market strategies. Classification of operating unit revenues by type of work for segment reporting purposes can require judgment on the part of management. Quanta's operating units may perform joint projects for customers in multiple industries, deliver multiple types of services under a single customer contract or provide service offerings to various industries. For example, Quanta performs joint trenching projects to install distribution lines for electric power and natural gas customers.

In addition, Quanta's integrated operations and common administrative support for its operating units require that certain allocations be made to determine segment profitability, including allocations of shared and indirect costs (e.g., facility costs), indirect operating expenses (e.g., depreciation), and general and administrative costs. Certain corporate costs are not allocated and include payroll and benefits, employee travel expenses, facility costs, professional fees, acquisition costs and amortization related to intangible assets.

Summarized financial information for Quanta's reportable segments is presented in the following table (in thousands):

	Three Months Ended September 30, 2020	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
Revenues:				
Electric Power Infrastructure Services	$ 2,107,621	$ 1,876,097	$ 5,667,566	$ 5,274,456
Pipeline and Industrial Infrastructure Services	912,540	1,476,798	2,622,921	3,724,897
Consolidated revenues	$ 3,020,161	$ 3,352,895	$ 8,290,487	$ 8,999,353
Operating income (loss):				
Electric Power Infrastructure Services	$ 268,376	$ 175,692	$ 581,030	$ 430,244
Pipeline and Industrial Infrastructure Services	76,220	132,424	128,747	243,066
Corporate and non-allocated costs	(102,381)	(98,722)	(273,909)	(265,849)
Consolidated operating income	$ 242,215	$ 209,394	$ 435,868	$ 407,461
Depreciation:				
Electric Power Infrastructure Services	$ 30,637	$ 27,240	$ 88,337	$ 79,205
Pipeline and Industrial Infrastructure Services	21,313	22,877	64,280	68,166
Corporate and non-allocated costs	4,294	5,445	12,563	14,218
Consolidated depreciation	$ 56,244	$ 55,562	$ 165,180	$ 161,589

Quanta has concluded to pursue an orderly exit of its operations in Latin America. Electric Power Infrastructure Services revenues included $0.5 million and $28.2 million related to Latin American operations for the three months ended September 30, 2020 and 2019 and $7.6 million and $35.2 million related to Latin American operations for the nine months ended September 30, 2020 and 2019. Latin American revenues for the nine months ended September 30, 2019 reflect the reversal of $48.8 million of revenues in connection with the terminated telecommunications project in Peru, a portion of which related to prior periods. Electric Power Infrastructure Services operating income included $15.4 million and $2.2 million of operating losses related to Latin American operations for the three months ended September 30, 2020 and 2019 and $46.9 million and $82.2 million of operating losses related to Latin American operations for the nine months ended September 30, 2020 and 2019.

Separate measures of Quanta's assets and cash flows by reportable segment, including capital expenditures, are not produced or utilized by management to evaluate segment performance. Quanta's fixed assets, which are held at the operating unit level, include operating machinery, equipment and vehicles, office equipment, buildings and leasehold improvements, and are used on an interchangeable basis across its reportable segments. As such, for reporting purposes, total depreciation expense is allocated each quarter among Quanta's reportable segments based on the ratio of each reportable segment's revenue contribution to consolidated revenues.

Foreign Operations

During the three months ended September 30, 2020 and 2019, Quanta derived $390.6 million and $480.0 million of its revenues from foreign operations. During the nine months ended September 30, 2020 and 2019, Quanta derived $1.18 billion and $1.36 billion of its revenues from foreign operations. Of Quanta's foreign revenues, 82% and 71% were earned in Canada during the three months ended September 30, 2020 and 2019 and 77% and 75% were earned in Canada during the nine months ended September 30, 2020 and 2019. In addition, Quanta held property and equipment of $307.5 million and $314.1 million in foreign countries, primarily Canada, as of September 30, 2020 and December 31, 2019.

13. SUPPLEMENTAL CASH FLOW INFORMATION:

The net effects of changes in operating assets and liabilities, net of non-cash transactions, on cash flows from operating activities are as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Accounts and notes receivable	$ (322,579)	$ (479,573)	$ 37,541	$ (695,364)
Contract assets	21,950	34,016	121,999	(67,882)
Inventories	8,655	1,511	6,787	43,598
Prepaid expenses and other current assets	19,655	(8,048)	70,133	(110,622)
Accounts payable and accrued expenses and other non-current liabilities	235,633	250,608	147,888	228,473
Contract liabilities	(79,964)	68,535	(73,567)	112,545
Other, net [1]	(7,813)	(4,957)	(20,066)	(134,305)
Net change in operating assets and liabilities, net of non-cash transactions	$ (124,463)	$ (137,908)	$ 290,715	$ (623,557)

[1] The amount for the nine months ended September 30, 2019 include the payment of $87 million of on-demand advance payment bonds and $25 million of on-demand performance bonds exercised in connection with the terminated telecommunications project in Peru. See *Legal Proceedings – Peru Project Dispute* in Note 11 for additional information on this matter.

A reconciliation of cash, cash equivalents, and restricted cash reported within the condensed consolidated balance sheets that sum to the total of such amounts shown in the statements of cash flows is as follows (in thousands):

	September 30,	
	2020	2019
Cash and cash equivalents	$ 216,935	$ 80,044
Restricted cash included in “Prepaid expenses and other current assets”	1,252	3,441
Restricted cash included in “Other assets, net”	915	1,026
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows	$ 219,102	$ 84,511

	June 30,	
	2020	2019
Cash and cash equivalents	$ 530,670	$ 73,356
Restricted cash included in “Prepaid expenses and other current assets”	1,266	3,733
Restricted cash included in “Other assets, net”	917	1,028
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows	$ 532,853	$ 78,117

	December 31,	
	2019	2018
Cash and cash equivalents	$ 164,798	$ 78,687
Restricted cash included in “Prepaid expenses and other current assets”	4,026	3,286
Restricted cash included in “Other assets, net”	921	1,283
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows	$ 169,745	$ 83,256

Restricted cash includes any cash that is legally restricted as to withdrawal or usage.

Supplemental cash flow information related to leases is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:				
Operating cash flows from operating leases	$ (29,333)	$ (29,908)	$ (88,570)	$ (89,175)
Operating cash flows from finance leases	$ (16)	$ (15)	$ (50)	$ (53)
Financing cash flows from finance leases	$ (102)	$ (411)	$ (525)	$ (1,523)
Lease assets obtained in exchange for lease liabilities:				
Operating leases	$ 16,619	$ 32,701	$ 56,970	$ 76,107
Finance leases	$ 275	$ 10	$ 1,158	$ 631

Additional supplemental cash flow information is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Cash (paid) received during the period for —				
Interest paid	$ (8,443)	$ (16,312)	$ (30,704)	$ (45,469)
Income taxes paid	$ (86,077)	$ (40,745)	$ (149,690)	$ (109,271)
Income tax refunds	$ 1,087	$ 4,730	$ 5,545	$ 6,058

During the nine months ended September 30, 2020, in connection with the disposition of a small business, Quanta recorded a note receivable in exchange for the transfer of $8.5 million of inventory.

Item 2. ***Management's Discussion and Analysis of Financial Condition and Results of Operations.***

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our condensed consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q (Quarterly Report) and with our Annual Report on Form 10-K for the year ended December 31, 2019 (2019 Annual Report), which was filed with the Securities and Exchange Commission (SEC) on February 28, 2020 and is available on the SEC's website at www.sec.gov and on our website at www.quantaservices.com. The discussion below contains forward-looking statements that are based upon our current expectations and are subject to uncertainty and changes in circumstances. Actual results may differ materially from these expectations due to inaccurate assumptions and known or unknown risks and uncertainties, including those identified in *Cautionary Statement About Forward-Looking Statements and Information* below, Item 1A. *Risk Factors* of Part II of this Quarterly Report and Item 1A. *Risk Factors* of Part I of our 2019 Annual Report.

Overview

We are a leading provider of specialty contracting services, delivering comprehensive infrastructure solutions for the electric and gas utility, energy and communications industries in the United States, Canada, Australia and select other international markets. The performance of our business generally depends on our ability to obtain contracts with customers and to effectively deliver the services provided under those contracts. The services we provide include the design, installation, upgrade, repair and maintenance of infrastructure within each of the industries we serve, such as electric power transmission and distribution networks; substation facilities; renewable energy related infrastructure; gas utility systems; refinery, petrochemical and industrial facilities; pipeline transmission systems and facilities; and telecommunications and cable multi-system operator networks. Our customers include many of the leading companies in the industries we serve, and we endeavor to develop and maintain strategic alliances and preferred service provider status with our customers. Our services are typically provided pursuant to master service agreements, repair and maintenance contracts and fixed price and non-fixed price installation contracts.

We report our results under two reportable segments: (1) Electric Power Infrastructure Services and (2) Pipeline and Industrial Infrastructure Services. This structure is generally focused on broad end-user markets for our services. Included within the Electric Power Infrastructure Services segment are the results related to our telecommunications infrastructure services.

Current Quarter Financial Results

Key financial results for the three months ended September 30, 2020 included:

- Consolidated revenues decreased 9.9% to $3.02 billion as compared to consolidated revenues of $3.35 billion for the three months ended September 30, 2019;
- Operating income increased 15.7%, or $32.8 million, to $242.2 million as compared to $209.4 million for the three months ended September 30, 2019;
- Net income attributable to common stock increased 19.7%, or $26.8 million, to $162.9 million as compared to $136.1 million for the three months ended September 30, 2019;
- Diluted earnings per share increased 22.8%, or $0.21, to $1.13 as compared to $0.92 for the three months ended September 30, 2019;
- Net cash provided by operating activities increased by $23.7 million to $114.9 million, as compared to net cash provided by operating activities of $91.2 million for the three months ended September 30, 2019;
- Remaining performance obligations decreased 16.2%, or $0.86 billion, to $4.44 billion as of September 30, 2020 as compared to $5.30 billion as of December 31, 2019; and
- Total backlog (a non-GAAP measure) increased 0.4%, or $0.07 billion, to $15.07 billion as of September 30, 2020, as compared to $15.00 billion as of December 31, 2019. For a reconciliation of backlog to remaining performance obligations, its most comparable GAAP measure, see *Remaining Performance Obligations and Backlog* below.

Key Segment Highlights and Significant Operational Trends and Events

During the three months ended September 30, 2020, we were impacted by certain significant operational trends and events as compared to the three months ended September 30, 2019 as described below.

Electric Power Infrastructure Services Segment

- Revenues increased by 12.3% to $2.11 billion, as compared to $1.88 billion.

- Operating income increased by 52.8% to $268.4 million, as compared to $175.7 million, and operating income as a percentage of revenues increased to 12.7% as compared to 9.4%.
- Revenues increased primarily due to increased contributions from larger projects in Canada, continued growth in our communications operations, and $65 million in revenues attributable to acquired businesses.
- Operating income increased due to improved performance across the segment and increased Canadian and emergency restoration services revenues, both of which contributed to improved equipment utilization and fixed cost absorption as compared to the three months ended September 30, 2019.
- Operating income for the three months ended September 30, 2019 included the impact of severe weather and other delays on certain larger transmission projects in Canada that resulted in elevated levels of unabsorbed costs.

Pipeline and Industrial Infrastructure Services Segment

- Revenues decreased by 38.2% to $912.5 million, as compared to $1.48 billion.
- Operating income decreased by 42.4% to $76.2 million, as compared to $132.4 million, and operating income as a percentage of revenues decreased to 8.4% as compared to 9.0%.
- Revenues decreased partially due to the impact of the COVID-19 pandemic and the significant decline in demand for refined petroleum products on certain industrial operations, which resulted in decreased capital spending by our customers on industrial services due to the significant decline in demand for refined petroleum products.
- Revenues associated with larger pipeline projects also decreased, as the timing of such projects is highly variable due to, among other things, permitting delays, worksite access limitations related to environmental regulations and seasonal weather patterns.
- Partially offsetting the decrease in revenues was approximately $70 million of incremental revenues from acquired businesses.
- Operating income and operating income as a percentage of revenues decreased primarily due to the decrease in revenues.

See *COVID-19 Pandemic – Response and Impact, Results of Operations* and *Liquidity and Capital Resources* below for additional information and discussion related to consolidated and segment results.

Debt Issuance and Amendment and Extension of Senior Credit Facility

During the three months ended September 30, 2020, we issued $1.00 billion aggregate principal amount of 2.900% Senior Notes due October 1, 2030 (the senior notes) and received proceeds of $986.7 million, net of the original issue discount, underwriting discounts and debt issuance costs. We used the net proceeds, together with cash on hand, to voluntarily prepay the $1.21 billion of term loans then-outstanding under our senior credit facility, which had a maturity date in October 2022. Additionally, we entered into an amendment to the credit agreement for our senior credit facility (the credit agreement) that, among other things, increased the aggregate revolving commitments from $2.14 billion to $2.51 billion, extended the maturity date from October 31, 2022 to September 22, 2025, released the liens on the collateral securing our obligations thereunder, released the subsidiary guarantors from their guarantees of such obligations and removed the collateral reinstatement provision that would have applied in the event our corporate credit rating were to fall below an investment grade rating. See *Liquidity and Capital Resources – Debt Instruments* for additional information on the senior notes issuance and the amendment to our credit agreement.

Recent Acquisitions and Investments

We continue to selectively evaluate acquisitions as part of our overall business strategy and acquired five businesses in the nine months ended September 30, 2020, including an industrial services business located in Canada that performs catalyst handling services, including changeover and shutdown maintenance, for customers in the refining and chemical industries; an electric power infrastructure business located in the United States that primarily provides underground conduit services; a professional engineering business located in the United States that provides infrastructure engineering and design services to electric utilities, gas utilities and communications services companies, as well as permitting and utility locating services; a contractor located in the United States that provides electric power distribution, transmission and substation maintenance and construction, directional boring and emergency restoration services; and a business located in the United States that specializes in the deployment of short- and long-haul fiber optic cable and utilities. During the three and nine months ended September 30, 2020, revenues were positively impacted by approximately $135 million and $325 million from acquired businesses. Beginning on the respective acquisition dates, the results of the acquired businesses have been included in our consolidated financial statements, with the results of the industrial services business generally included in the Pipeline and Industrial Infrastructure

Services segment and the results of the remaining businesses generally included in the Electric Power Infrastructure Services segment.

During the nine months ended September 30, 2020, a joint venture in which we own a 50% interest, LUMA Energy, LLC (LUMA), was selected for a 15-year operation and maintenance agreement to operate, maintain and modernize the approximately 18,000-mile electric transmission and distribution system in Puerto Rico. The 15-year operation and maintenance period is expected to begin following an approximately one-year transition period, during which LUMA will complete numerous steps necessary to transition operation and maintenance from the current operator to LUMA. During the transition period, LUMA receives a fixed transition services fee, payable in monthly installments, and is reimbursed for costs and expenses. During the operation and maintenance period, LUMA will continue to be reimbursed for costs and expenses and will receive a fixed annual management fee, with the opportunity to receive additional annual performance-based incentive fees. LUMA will not assume ownership of any electric transmission and distribution system assets and will not be responsible for operation of the power generation assets.

COVID-19 Pandemic – Response and Impact

During 2020, the COVID-19 pandemic has significantly impacted global economies, resulting in workforce and travel restrictions, supply chain and production disruptions and reduced demand and spending across many sectors. These factors have had, and continue to have, an adverse impact on portions of our operations, financial performance, customers and suppliers. However, we continue to operate substantially all of our activities as a provider of essential services in our industries. Additionally, we are continuing to collaborate with customers to minimize potential service disruptions and anticipate how the COVID-19 pandemic may continue to impact our operations, as the locations where we, our customers, our suppliers or our third-party business partners operate continue to experience challenges as a result of the pandemic. We have also taken proactive measures to protect the health and safety of our employees, such as the adoption of specialized training initiatives and the utilization of additional protective equipment for our employees operating in the field and additional sanitation measures for our offices, vehicles and equipment. We have also reduced non-essential business travel, applied work-from-home policies where appropriate and developed other human resource guidance to help employees.

Our results have been adversely impacted by the COVID-19 pandemic as a result of disruptions in our operations created by shelter-in-place restrictions in certain service areas, primarily during the first and second quarters of 2020 and in major metropolitan markets that have been meaningfully impacted by the pandemic, such as New York City, Detroit and Seattle. While the significant adverse impacts resulting from these shelter-in-place restrictions in major U.S. metropolitan markets subsided in the third quarter of 2020, the possibility of future restrictions remains. The COVID-19 pandemic has also compounded broader challenges in the energy market, resulting in a decline in commodity prices and volatility with respect to commodity production volumes that are affecting portions of our Pipeline and Industrial Infrastructure Services segment. As expected, this dynamic had a materially negative impact on segment results for the three and nine months ended September 30, 2020. In particular, demand for our industrial services operations has declined as customers are reducing and deferring regularly scheduled maintenance due to lack of demand for refined products. Additionally, smaller pipeline and industrial capital projects are expected to be negatively impacted for a prolonged period due to the low commodity price environment and resulting reductions in customer capital budgets. We are also experiencing some permitting and regulatory delays for projects due to the COVID-19 pandemic, and the pandemic has negatively impacted our Latin American operations due to shelter-in-place restrictions and other work disruptions. Furthermore, while we are not currently experiencing significant supply chain disruptions or workforce availability concerns, we are continuing to monitor these areas for potential issues.

Additionally, we are focused on maintaining a strong balance sheet to help us navigate the challenges presented by the COVID-19 pandemic. As of September 30, 2020, we had $216.9 million of cash and cash equivalents and, as a result of the amendment entered into during September 2020, had $1.95 billion of availability under our senior credit facility. We generated $114.9 million and $839.9 million of cash flow from operating activities in the three and nine months ended September 30, 2020 and $526.6 million in cash flow from operations in the year ended December 31, 2019. We are managing our costs through, among other things, reductions in discretionary spending, reductions in workforce at operations experiencing challenges, hiring and compensation increase deferrals, and deferrals of non-essential capital expenditures. Capital expenditures for 2020 are expected to be $250 million, which is approximately 17% less than our original estimate at the beginning of 2020. We will continue to maintain capital discipline and monitor rapidly changing market dynamics and adjust our costs and financing strategies accordingly.

As a result of the currently challenged energy market and recent oil price volatility, as well as the exacerbating effect of the COVID-19 pandemic, we assessed the expected negative impacts related to goodwill, intangible assets, long-lived assets, and investments as of September 30, 2020. We concluded that other than $18.0 million of impairments recognized during the first and second quarters of 2020, as described further in *Results of Operations* below, the impacts are not likely to result in any other impairments of such assets at this time. However, the potential impacts are uncertain and may change based on numerous factors. We will continue to monitor the impacts and should a reporting unit or investment suffer additional significant declines in actual or forecasted financial results, the risk of impairment would increase.

On March 27, 2020, the U.S. federal government enacted the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act). The CARES Act provides for various tax relief and tax incentive measures, which are not expected to have a material impact on our results of operations. During the three and nine months ended September 30, 2020, under the CARES Act, we deferred the payment of $41.0 million and $72.2 million of payroll taxes, 50% of which are due by December 31, 2021 and the remainder of which are due by December 31, 2022. The CARES Act permits deferral of payroll taxes through December 31, 2020, and we currently intend to continue to defer such payments.

The broader and longer-term implications of the COVID-19 pandemic on our results of operations and overall financial performance and position remain highly uncertain, and we expect continued operational challenges through at least the balance of the year and into 2021 as we operate during and adjust to an unprecedented health and economic environment. Therefore, we cannot predict the full impact that the pandemic, or any resulting market disruption and volatility, will have on our business, cash flows, liquidity, financial condition and results of operations at this time. The ultimate impact will depend on future developments, including, among others, the ongoing spread of COVID-19, the consequences of governmental and other measures designed to prevent the spread of COVID-19, the development and availability of effective treatments and vaccines, the duration and severity of the pandemic, actions taken by governmental authorities, customers, suppliers and other third parties, workforce availability, and the timing and extent to which normal economic and operating conditions resume and continue. For additional discussion regarding risks associated with the COVID-19 pandemic, see Item 1A. *Risk Factors* of Part II of this Quarterly Report.

Business Environment

Despite the current challenging economic conditions, we believe there are long-term growth opportunities across our industries, and we continue to have a positive long-term outlook. Although not without risks and challenges, including those discussed in *Overview* and in *Cautionary Statement About Forward-Looking Statements and Information* and included in Item 1A. *Risk Factors*, we believe, with our full-service operations, broad geographic reach, financial position and technical expertise, we are well positioned to capitalize on opportunities and trends in our industries.

Electric Power Infrastructure Services Segment. Utilities are investing significant capital in their electric power delivery systems, particularly transmission, substation and distribution infrastructure, through multi-year, multi-billion dollar grid modernization and reliability programs, which have provided, and are expected to continue to provide, demand for our services. Utilities are accommodating a changing fuel generation mix that is moving toward more sustainable sources such as natural gas and renewables and replacing aging infrastructure to support long-term economic growth. In order to reliably and efficiently deliver power, and in response to federal reliability standards, utilities are also integrating smart grid technologies into distribution systems in order to improve grid management and create efficiencies, and in preparation for emerging technologies such as electric vehicles. A number of utilities are also implementing system upgrades or hardening programs in response to recurring severe weather events, such as hurricanes and wildfires. In particular, current system resiliency initiatives in California and other regions in the western U.S. are designed to prevent and manage the impact of wildfires. However, while these resiliency initiatives provide opportunities for our services, they also increase our potential exposure to significant liabilities attributable to those events.

While the COVID-19 pandemic has resulted in an overall decline in electricity usage in the near term, primarily related to commercial and industrial users, we expect demand for electricity in North America to grow over the long term and believe that certain segments of the North American electric power grid are not adequate to efficiently serve the power needs of the future. As demand for power increases, we also expect an increase in new power generation facilities powered by certain traditional energy sources (e.g., natural gas) and renewable energy sources (e.g., solar and wind). To the extent this dynamic continues, we expect continued demand for new or expanded transmission and substation infrastructure to transport power and interconnect new generation facilities and the modification and reengineering of existing infrastructure as existing coal and nuclear generation facilities are retired or shut down.

With respect to our communications service offerings, consumer and commercial demand for communication and data-intensive, high-bandwidth wireline and wireless services and applications is driving significant investment in infrastructure and the deployment of new technologies. In particular, communications providers in North America are in the early stages of developing new fifth generation wireless services (5G), which are intended to facilitate bandwidth-intensive services at high speeds for consumers and a wide range of commercial applications. As a result of these industry trends, we believe there will be meaningful demand for our services in that market. While we continue to perform certain electric power and communications services in Latin America, we have completed a strategic review of those operations, and due to circumstances experienced in connection with a terminated telecommunications project in Peru during 2019 and political volatility in other areas of the region, concluded to pursue an orderly exit of our Latin American operations. While we have incurred costs and expect to incur additional costs in the near-term related to exiting these operations, we anticipate this decision will result in improved profitability of our overall services offerings.

Pipeline and Industrial Infrastructure Services Segment. For several years we have focused on increasing our pipeline and industrial services offerings related to specialty services and industries that we believe are driven by regulated utility spending, regulation, replacement and rehabilitation of aging infrastructure and safety and environmental initiatives, which we believe provide a greater level of business sustainability and predictability. These service offerings include gas utility services, pipeline integrity services and downstream industrial services, all of which we have expanded through organic growth, geographic expansion initiatives and select acquisitions. This strategy is also intended to mitigate the seasonality and cyclicality of our larger pipeline project activities, which we are not strategically investing in but continue to pursue to the extent they fit our margin and risk profiles and support the needs of our customers.

As discussed in *COVID-19 Pandemic - Response and Impact,* though we have experienced short-term disruptions due to the impact of the COVID-19 pandemic in certain metropolitan markets, in recent years demand has increased for our gas utility distribution services as a result of lower natural gas prices, increasing regulatory requirements and customer desire to upgrade and replace aging infrastructure. In particular, natural gas utilities have implemented multi-decade modernization programs to replace aging cast iron and bare steel gas system infrastructure with modern materials for safety, reliability and environmental purposes.

We believe there are also growth opportunities for our pipeline integrity, rehabilitation and replacement services, as regulatory measures have increased the frequency or stringency of pipeline integrity testing requirements. Regulatory requirements continue to encourage our customers to test, inspect, repair, maintain and replace pipeline infrastructure to ensure that it operates safely, reliably and in an environmentally conscious manner. Further, permitting challenges associated with construction of new pipelines can make existing pipeline infrastructure more valuable, motivating owners to extend the useful life of existing pipeline assets through integrity initiatives. Due to these dynamics, we expect demand to continue to grow for our pipeline integrity services.

We provide critical path solutions and related specialty services to refinery and chemical processing facilities, primarily along the Gulf Coast of the United States and in other select markets in North America. While the COVID-19 pandemic has resulted in an overall decline in global demand for refined products, we believe there are significant long-term opportunities for our services, including our high-pressure and critical-path turnaround services, as well as our capabilities with respect to instrumentation, piping, fabrication and storage, and other industrial services. We believe that processing facilities located along the U.S. Gulf Coast region should have certain long-term strategic advantages due to their proximity to affordable hydrocarbon resources. However, these processing facilities can be negatively impacted for short-term periods due to severe weather events, such as hurricanes, tropical storms and floods. Additionally, due to the COVID-19 pandemic and challenging overall energy market conditions, we have recently experienced a decrease in demand for certain of these services. While demand for our critical path catalyst solutions has remained solid, in the second quarter of 2020 customers began restricting onsite activity for our other services and have deferred maintenance and certain turnaround projects to 2021 or possibly 2022.

With respect to large pipeline project opportunities, a number of such projects from the North American shale formations and Canadian oil sands to power plants, refineries, liquefied natural gas (LNG) export facilities and other demand centers are in various stages of development. While we believe many of our customers remain committed to these projects given the cost and time required to move from conception to construction, the overall larger pipeline market is cyclical and there is risk the projects will not move forward or be delayed or canceled. For example, in July 2020, the project sponsors of an approximately 600-mile natural gas pipeline under construction in the eastern United States that one of our subsidiaries has been contracted to construct a portion of announced that they are no longer moving forward with the project. Furthermore, our revenues related to larger pipeline projects have declined over the last few years.

Due to its abundant supply and current low price, we also believe natural gas will remain a fuel of choice for both primary power generation and backup power generation for renewable-driven power plants in North America. The favorable characteristics of natural gas also position the United States as a leading competitor in the global LNG export market, which has the potential to continue to grow over the coming years as approved and proposed LNG export facilities are developed. In certain areas, the existing pipeline system infrastructure is insufficient to support these expected future developments, which could provide additional opportunities for our services.

Although portions of our pipeline and industrial infrastructure services are influenced by hydrocarbon production volume rather than shorter-term changes in commodity prices, the broader oil and gas industry is highly cyclical and subject to price volatility, such as the current low commodity price environment, which can impact demand for our services. For example, certain of our end markets where the price of oil is influential, such as Australia, the Canadian Oil Sands and certain oil-driven U.S. shale formations, have been materially impacted by the current challenging energy market conditions.

Regulatory Challenges and Opportunities. The regulatory environment creates both challenges and opportunities for our business, and in recent years electric power and pipeline infrastructure services margins have been impacted by regulatory and permitting delays in certain periods, particularly with respect to larger electric transmission and larger pipeline projects. Regulatory and environmental permitting processes continue to create uncertainty for projects and negatively impact customer spending, and delays have increased as the COVID-19 pandemic has impacted regulatory agency operations. As an example, a recent federal district court ruling vacating the U.S. Army Corps of Engineers Clean Water Act Section 404 Nationwide Permit 12 may result in increased costs and project interruptions or delays if we or our customers are forced to seek individual permits from the U.S. Army Corps of Engineers.

However, we believe that there are also several existing, pending or proposed legislative or regulatory actions that may alleviate certain regulatory and permitting issues and positively impact long-term demand, particularly in connection with electric power infrastructure and renewable energy spending. For example, regulatory changes affecting siting and right-of-way processes could potentially accelerate construction for transmission projects, and state and federal reliability standards are creating incentives for system investment and maintenance. We also consider renewable energy, including solar and wind generation facilities, to be an ongoing opportunity for our engineering, project management and installation services; however, the economic feasibility of some of these projects remains subject to the continued availability of tax incentive programs.

Labor Resource Availability. In addition to the health and safety measures we are taking to ensure labor resource availability during the COVID-19 pandemic, we continue to address the longer-term need for additional labor resources in our markets. Our customers continue to seek additional specialized labor resources to address an aging utility workforce and longer-term labor availability issues, increasing pressure to reduce costs and improve reliability, and increasing duration and complexity of their capital programs. We believe these trends will continue, possibly to the point where demand for labor resources will outpace supply. Furthermore, the cyclical nature of the natural gas and oil industry can create shortages of qualified labor in those markets during periods of high demand. Our ability to capitalize on available opportunities is limited by our ability to employ, train and retain the necessary skilled personnel, and we are taking proactive steps to develop our workforce, including through strategic relationships with universities, the military and unions and the expansion and development of our training facility and postsecondary educational institution. Although we believe these initiatives will help address workforce needs, meeting our customers' demand for labor resources could remain challenging.

Acquisitions and Investments. We believe potential acquisition and investment opportunities exist in our industries and adjacent industries, primarily due to the highly fragmented and evolving nature of those industries and inability of many companies to expand and modernize due to capital or liquidity constraints. We continue to evaluate opportunities that are expected to, among other things, broaden our customer base, expand our geographic area of operations, and grow and diversify our portfolio of services.

Significant Factors Impacting Results

Our revenues, margins and other results of operations can be influenced by a variety of factors in any given period, including those described in *Cautionary Statement About Forward-Looking Statements and Information* below, Item 1A. *Risk Factors* of Part II of this Quarterly Report and Item 1A. *Risk Factors* of Part I of our 2019 Annual Report, and those factors have caused fluctuations in our results in the past and are expected to cause fluctuations in our results in the future. Additional information with respect to certain of those factors is provided below.

Seasonality. Typically, our revenues are lowest in the first quarter of the year because cold, snowy or wet conditions can create challenging working environments that are more costly for our customers or cause delays on projects. In addition, infrastructure projects often do not begin in a meaningful way until our customers finalize their capital budgets, which typically occurs during the first quarter. Second quarter revenues are typically higher than those in the first quarter, as some projects begin, but continued cold and wet weather can often impact productivity. Third quarter revenues are typically the highest of the year, as a greater number of projects are underway and operating conditions, including weather, are normally more accommodating. Generally, revenues during the fourth quarter are lower than the third quarter but higher than the second quarter, as many projects are completed and customers often seek to spend their capital budgets before year end. However, the holiday season and inclement weather can sometimes cause delays during the fourth quarter, reducing revenues and increasing costs. These seasonal impacts are typical for our U.S. operations, but seasonality for our international operations may differ. For example, revenues in Canada are typically higher in the first quarter because projects are often accelerated in order to complete work while the ground is frozen and prior to the break up, or seasonal thaw, as productivity is adversely affected by wet ground conditions during warmer months. Additionally, as referenced above in *COVID-19 Pandemic – Response and Impact*, portions of our operations experienced significant challenges during the second quarter of 2020 as a result of the COVID-19 pandemic, which impacted typical seasonality, and we believe that the ongoing impact of the pandemic could impact our typical seasonality in 2021.

Weather, natural disasters and emergencies. The results of our business in a given period can be impacted by adverse weather conditions, severe weather events, natural disasters or other emergencies, which include, among other things, heavy or prolonged snowfall or rainfall, hurricanes, tropical storms, tornadoes, floods, blizzards, extreme temperatures, wildfires, pandemics (including the ongoing COVID-19 pandemic) and earthquakes. These conditions and events can negatively impact our financial results due to, among other things, the termination, deferral or delay of projects, reduced productivity and exposure to significant liabilities. See *COVID-19 Pandemic – Response and Impact* above for further discussion regarding the current and expected impact of the COVID-19 pandemic. However, in some cases, severe weather events can increase our emergency restoration services, which typically yield higher margins due in part to higher equipment utilization and absorption of fixed costs.

Cyclicality and demand for services. Our volume of business may be adversely affected by declines in demand for our services or delays in new and ongoing projects due to cyclicality, which may vary by geographic region. Project schedules also fluctuate, particularly in connection with larger, more complex or longer-term projects, which can affect the amount of work performed in a given period. For example, the timing of obtaining permits and other approvals on a larger project may be delayed, and we may need to maintain a portion of our workforce and equipment in an underutilized capacity to ensure we are strategically positioned to deliver on the project when it moves forward. Examples of other items that may cause demand for our services to fluctuate materially from quarter to quarter include: the financial condition of our customers and their access to capital; economic and political conditions on a regional, national or global scale, including interest rates, governmental regulations affecting the sourcing of certain materials and equipment, and other changes in U.S. and global trade relationships; our customers' capital spending, including on larger pipeline and electrical infrastructure projects; commodity and material prices; and project deferrals and cancellations. As described above in *COVID 19 Pandemic – Response and Impact,* we have experienced reductions in demand for certain of our services as a result of disruptions due to shelter-in-place and worksite access restrictions and delays in regulatory agency operations due to the COVID-19 pandemic, as well as the decline in commodity prices and decreased commodity production levels.

Revenue mix. The mix of revenues based on the types of services we provide in a given period will impact margins, as certain industries and services provide higher-margin opportunities. For example, installation work is often performed on a fixed price basis, while maintenance work is often performed under pre-established or negotiated prices or cost-plus pricing arrangements. Margins for installation work varies by project but can be higher than maintenance work due to higher risk. We have historically derived approximately 30% to 35% of our annual revenues from maintenance work, but a higher portion of maintenance work in any given period may affect our gross margins for that period. Additionally, the areas in which we operate during a given period can impact margins. Some areas offer the opportunity for higher margins due to their more difficult geographic characteristics, such as urban settings or mountainous and other difficult terrain. However, margins may also be negatively impacted by unexpected difficulties that can arise due to those same characteristics, as well as unexpected site conditions.

Size, scope and complexity of projects. Larger or more complex projects with higher voltage capacities; larger-diameter throughput capacities; increased engineering, design or construction complexities; more difficult terrain requirements; or longer distance requirements typically yield opportunities for higher margins as we assume a greater degree of performance risk and there is greater utilization of our resources for longer construction timeframes. Furthermore, smaller or less complex projects typically have a greater number of companies competing for them, and competitors at times may more aggressively pursue available work. A greater percentage of smaller scale or less complex work also could negatively impact margins due to the inefficiency of transitioning between a larger number of smaller projects versus continuous production on fewer larger projects. Also, at times we may choose to maintain a portion of our workforce and equipment in an underutilized capacity to ensure we are strategically positioned to deliver on larger projects when they move forward.

Project variability and performance. Margins for a single project may fluctuate period to period due to changes in the volume or type of work performed, the pricing structure under the project contract or job productivity. Additionally, our productivity and performance on a project can vary period to period based on a number of factors, including unexpected project difficulties or site conditions; project location, including locations with challenging operating conditions; whether the work is on an open or encumbered right of way; inclement weather or severe weather events; environmental restrictions or regulatory delays; protests, other political activity or legal challenges related to a project; and the performance of third parties.

Subcontract work and provision of materials. Work that is subcontracted to other service providers generally yields lower margins, and therefore an increase in subcontract work in a given period can decrease margins. In recent years, we have subcontracted approximately 15% to 20% of our work to other service providers. Our customers are usually responsible for supplying the materials for their projects; however, under some contracts we agree to procure all or part of the required materials. Margins may be lower on projects where we furnish a significant amount of materials, including projects where we provide engineering, procurement and construction (EPC) services, as our markup on materials is generally lower than our markup on labor costs. Furthermore, fluctuations in the price or availability of materials we or our customers procure, including as a result of changes in U.S. or global trade relationships, governmental regulations affecting the sourcing of certain materials and equipment or other economic or political conditions, may impact our margins or cause delays. In a given period, an increase in the percentage of work with higher materials procurement requirements may decrease our overall margins.

Foreign currency risk. Our financial performance is reported on a U.S. dollar-denominated basis but is partially subject to fluctuations in foreign currency exchange rates. Fluctuations in exchange rates relative to the U.S. dollar, primarily Canadian and Australian dollars, can materially impact margins and comparisons of our results of operations between periods.

Results of Operations

The results of acquired businesses have been included in the following results of operations beginning on their respective acquisition dates.

Consolidated Results

Three months ended September 30, 2020 compared to the three months ended September 30, 2019

The following table sets forth selected statements of operations data, such data as a percentage of revenues for the periods indicated, as well as the dollar and percentage change from the prior period (dollars in thousands):

	Three Months Ended September 30,				Change	
	2020		2019		$	%
Revenues	$ 3,020,161	100.0 %	$ 3,352,895	100.0 %	$ (332,734)	(9.9)%
Cost of services (including depreciation)	2,512,647	83.2	2,879,450	85.9	(366,803)	(12.7)%
Gross profit	507,514	16.8	473,445	14.1	34,069	7.2 %
Equity in earnings of integral unconsolidated affiliates	5,120	0.2	—	—	5,120	*
Selling, general and administrative expenses	(250,654)	(8.3)	(245,010)	(7.3)	(5,644)	2.3 %
Amortization of intangible assets	(19,687)	(0.7)	(15,264)	(0.5)	(4,423)	29.0 %
Change in fair value of contingent consideration liabilities	(78)	—	(3,777)	(0.1)	3,699	(97.9)%
Operating income	242,215	8.0	209,394	6.2	32,821	15.7 %
Interest expense	(11,049)	(0.4)	(18,369)	(0.5)	7,320	(39.8)%
Interest income	80	—	186	—	(106)	(57.0)%
Other income (expense), net	2,931	0.2	717	—	2,214	308.8 %
Income before income taxes	234,177	7.8	191,928	5.7	42,249	22.0 %
Provision for income taxes	70,477	2.4	54,906	1.6	15,571	28.4 %
Net income	163,700	5.4	137,022	4.1	26,678	19.5 %
Less: Net income attributable to non-controlling interests	787	—	954	—	(167)	(17.5)%
Net income attributable to common stock	$ 162,913	5.4 %	$ 136,068	4.1 %	$ 26,845	19.7 %

* The percentage change is not meaningful.

Revenues. Contributing to the decrease were lower revenues of $564.3 million from pipeline and industrial infrastructure services, partially offset by increased revenues of $231.5 million from electric power infrastructure services. See *Segment Results* below for additional information and discussion related to segment revenues.

Gross profit. The increase in gross profit was due to increased earnings from electric power infrastructure services based on improved performance across the segment and higher emergency restoration services, partially offset by decreased earnings from pipeline and industrial services primarily attributable to the decrease in revenues. See *Segment Results* below for additional information and discussion related to segment operating income (loss).

Equity in earnings of integral unconsolidated affiliates The amount for the three months ended September 30, 2020 primarily relates to the commencement of transition services under the agreement awarded to LUMA in June 2020 for the operation and maintenance of the electric transmission and distribution system in Puerto Rico.

Selling, general and administrative expenses. The increase was primarily attributable to a $13.1 million increase in compensation expense primarily due to increased non-cash stock-based compensation expense and a $4.9 million increase in expenses associated with acquired businesses. Also contributing to the increase in selling, general and administrative expense was a $3.3 million increase in the fair market value of deferred compensation liabilities during the three months ended

September 30, 2020, as compared to a $0.4 million increase in the fair market value of deferred compensation liabilities during the three months ended September 30, 2019. The fair market value changes in deferred compensation liabilities were partially offset by changes in the fair value of assets associated with the deferred compensation plan, which are included in other income (expense), net. Partially offsetting these increases were decreases in certain expenses related to our cost containment measures in the current operating environment, including a $7.9 million decrease in travel and related expenses. Also partially offsetting the increases was a $4.3 million decrease in legal and other contracted services. Selling, general and administrative expenses as a percentage of revenues increased to 8.3% for the three months ended September 30, 2020 from 7.3% for the three months ended September 30, 2019, primarily due to the decrease in revenues described above.

Amortization of intangible assets. The increase was primarily due to increased amortization of intangible assets associated with recently acquired businesses, partially offset by reduced amortization expense associated with previously acquired intangible assets, as certain of those assets became fully amortized.

Change in fair value of contingent consideration liabilities. The overall change was primarily due to changes in performance in post-acquisition periods by certain acquired businesses and the effect of present value accretion on fair value calculations. Further changes in fair value are expected to be recorded periodically until the contingent consideration liabilities are settled, with a significant portion of such obligations expected to be settled in late 2020 or early 2021. See *Contractual Obligations – Contingent Consideration Liabilities* for more information.

Interest expense. Interest expense decreased primarily due to the impact of a lower weighted average interest rate, and to a lesser extent due to decreased borrowing.

Other income (expense), net. The net other income for the three months ended September 30, 2020 primarily relates to a $2.8 million increase in the fair market value of assets associated with our deferred compensation plan, as compared to a $0.1 million increase in the fair market value of assets associated with our deferred compensation plan during the three months ended September 30, 2019. This incremental increase in the fair market value offsets the increase in selling, general, and administrative expenses discussed above.

Provision for income taxes. The effective tax rates for the three months ended September 30, 2020 and September 30, 2019 were 30.1% and 28.6%. The lower rate for the three months ended September 30, 2019 was primarily due to a decrease in reserves for uncertain tax positions during the quarter. We do not expect any significant benefits to the income tax provision as a result of the CARES Act.

Other comprehensive income (loss). Other comprehensive income (loss) results from translation of the balance sheets of our foreign operating units, which are primarily located in Canada and Australia and have functional currencies other than the U.S. dollar, and therefore are affected by the strengthening or weakening of the U.S. dollar against such currencies. The gain in the three months ended September 30, 2020 was impacted by the weakening of the U.S. dollar against both the Canadian and Australian dollars as of September 30, 2020 when compared to June 30, 2020. The loss in the three months ended September 30, 2019 was primarily impacted by the strengthening of the U.S. dollar against both the Canadian and Australian dollars as of September 30, 2019 when compared to June 30, 2019.

Nine months ended September 30, 2020 compared to the nine months ended September 30, 2019

The following table sets forth selected statements of operations data, such data as a percentage of revenues for the periods indicated, as well as the dollar and percentage change from the prior period (dollars in thousands):

	Nine Months Ended September 30,				Change	
	2020		2019		$	%
Revenues	$ 8,290,487	100.0 %	$ 8,999,353	100.0 %	$ (708,866)	(7.9)%
Cost of services (including depreciation)	7,095,513	85.6	7,842,422	87.1	(746,909)	(9.5)%
Gross profit	1,194,974	14.4	1,156,931	12.9	38,043	3.3 %
Equity in earnings of integral unconsolidated affiliates	6,165	0.1	—	—	6,165	*
Selling, general and administrative expenses	(709,299)	(8.6)	(700,862)	(7.8)	(8,437)	1.2 %
Amortization of intangible assets	(55,374)	(0.6)	(40,544)	(0.5)	(14,830)	36.6 %
Change in fair value of contingent consideration liabilities	(598)	—	(8,064)	(0.1)	7,466	(92.6)%
Operating income	435,868	5.3	407,461	4.5	28,407	7.0 %
Interest expense	(33,709)	(0.4)	(48,066)	(0.5)	14,357	(29.9)%
Interest income	1,114	—	762	—	352	46.2 %
Other income (expense), net	(3,649)	(0.1)	66,197	0.7	(69,846)	*
Income before income taxes	399,624	4.8	426,354	4.7	(26,730)	(6.3)%
Provision for income taxes	119,626	1.4	139,838	1.5	(20,212)	(14.5)%
Net income	279,998	3.4	286,516	3.2	(6,518)	(2.3)%
Less: Net income attributable to non-controlling interests	4,453	0.1	2,616	—	1,837	70.2 %
Net income attributable to common stock	$ 275,545	3.3 %	$ 283,900	3.2 %	$ (8,355)	(2.9)%

* The percentage change is not meaningful.

Revenues. Contributing to the decrease were lower revenues of $1.10 billion from pipeline and industrial infrastructure services, partially offset by increased revenues of $393.1 million from electric power infrastructure services. See *Segment Results* below for additional information and discussion related to segment revenues.

Gross profit. The increase in gross profit was primarily due to increased earnings from electric power infrastructure services, partially offset by lower earnings from pipeline and industrial services primarily due to the decrease in revenues. Contributing to the increase in electric power infrastructure services gross profit was an improvement related to our Latin American operations, which generated operating losses of $46.9 million during the nine months ended September 30, 2020 primarily related to negative operational impacts of the COVID-19 pandemic and accelerated project shut down activities, as compared to operating losses of $82.2 million during the nine months ended September 30, 2019, which included a $79.2 million charge associated with a terminated telecommunications project in Peru. See *Segment Results* below for additional information and discussion related to segment operating income (loss).

Equity in earnings of integral unconsolidated affiliates The amount for the nine months ended September 30, 2020 primarily relates to the commencement of transition services under the agreement awarded to LUMA in June 2020 for the operation and maintenance of the electric transmission and distribution system in Puerto Rico.

Selling, general and administrative expenses. This increase was primarily due to a $24.6 million increase in compensation expenses, largely associated with increased non-cash stock-based compensation expense and an $18.1 million increase in expenses associated with acquired businesses. Partially offsetting these increases were decreases in certain expenses related to our cost containment measures in the current operating environment, including a $14.6 million decrease in travel and related expenses. Also partially offsetting the increases were a $9.1 million decrease in legal and other contracted services and a $1.9 million increase in the fair market value of deferred compensation liabilities during the nine months ended September 30, 2020, as compared to a $5.8 million increase in the fair market value of deferred compensation liabilities during the nine months ended September 30, 2019. The fair market value changes in deferred compensation liabilities were offset by changes in the fair value of assets associated with the deferred compensation plan, which are included in other income (expense), net below. Additionally, selling, general and administrative expenses as a percentage of revenues increased to 8.6% for the nine months ended September 30, 2020 from 7.8% for the nine months ended September 30, 2019, primarily due to the decrease in revenues described above.

Amortization of intangible assets. The increase was primarily due to increased amortization of intangible assets associated with recently acquired businesses, partially offset by reduced amortization expense associated with previously acquired intangible assets as certain of these assets became fully amortized.

Change in fair value of contingent consideration liabilities. The overall change was primarily due to changes in performance in post-acquisition periods by certain acquired businesses and the effect of present value accretion on fair value calculations. Further changes in fair value are expected to be recorded periodically until the contingent consideration liabilities are settled, with a significant portion of such obligations expected to be settled in late 2020 or early 2021. See *Contractual Obligations - Contingent Consideration Liabilities* for more information.

Interest expense. Interest expense decreased due to a lower weighted average interest rate, partially offset by increased borrowing.

Other income (expense), net. The net other expense for the nine months ended September 30, 2020 was primarily related to a $9.3 million impairment associated with an investment in a water and gas pipeline infrastructure contractor located in Australia and $8.7 million of impairments associated with two non-integral equity investments that have been negatively impacted by the decline in demand for refined petroleum products, which were partially offset by an $8.9 million legal settlement received and the favorable impact of $4.9 million related to foreign currency transactions. The net other income for the nine months ended September 30, 2019 was primarily due to the deferral and subsequent recognition of earnings on a large electric transmission project in Canada that was substantially completed and placed into commercial operation during the three months ended March 31, 2019. As a result of the project completion, we recognized $60.3 million of earnings that were deferred in prior periods.

Provision for income taxes. The effective tax rates for the nine months ended September 30, 2020 and September 30, 2019 were 29.9% and 32.8%. The higher effective tax rate for the nine months ended September 30, 2019 was primarily due to the $79.2 million charge associated with the terminated telecommunications project in Peru, for which no income tax benefit was recognized.

Other comprehensive income (loss). Other comprehensive income (loss) results from translation of the balance sheets of our foreign operating units, which are primarily located in Canada and Australia and have functional currencies other than the U.S. dollar, and therefore are affected by the strengthening or weakening of the U.S. dollar against such currencies. The loss in the nine months ended September 30, 2020 was impacted primarily by the strengthening of the U.S. dollar against the Canadian dollar as of September 30, 2020 when compared to December 31, 2019. The gain in the nine months ended September 30, 2019 was impacted by the weakening of the U.S. dollar against the Canadian dollar as of September 30, 2019 when compared to December 31, 2018.

Segment Results

Reportable segment information, including revenues and operating income by type of work, is gathered from each operating unit for the purpose of evaluating segment performance. Classification of our operating unit revenues by type of work for segment reporting purposes can at times require judgment on the part of management. Our operating units may perform joint projects for customers in multiple industries, deliver multiple types of services under a single customer contract or provide service offerings to various industries. For example, we perform joint trenching projects to install distribution lines for electric power and natural gas customers. Our integrated operations and common administrative support for operating units require that certain allocations be made to determine segment profitability, including allocations of shared and indirect costs (e.g., facility costs), indirect operating expenses (e.g., depreciation), and general and administrative costs. Certain corporate costs are not allocated, including payroll and benefits, employee travel expenses, facility costs, professional fees, acquisition costs, non-cash stock-based compensation, amortization related to intangible assets, asset impairment related to goodwill and intangible assets and change in fair value of contingent consideration liabilities.

Three months ended September 30, 2020 compared to the three months ended September 30, 2019

The following table sets forth segment revenues, segment operating income (loss) and operating margins for the periods indicated, as well as the dollar and percentage change from the prior period. Operating margins are calculated by dividing operating income by revenues. Management utilizes operating margins as a measure of profitability, which can be helpful for monitoring how effectively we are performing under our contracts. Management also believes operating margins are a useful metric for investors to utilize in evaluating our performance. The following table shows dollars in thousands.

	Three Months Ended September 30,				Change	
	2020		2019		$	%
Revenues:						
Electric Power Infrastructure Services excluding Latin America	$ 2,107,150	69.8 %	$ 1,847,864	55.1 %	$ 259,286	14.0 %
Latin America	471	—	28,233	0.9	(27,762)	(98.3)%
Electric Power Infrastructure Services	2,107,621	69.8	1,876,097	56.0	231,524	12.3 %
Pipeline and Industrial Infrastructure Services	912,540	30.2	1,476,798	44.0	(564,258)	(38.2)%
Consolidated revenues	$ 3,020,161	100.0 %	$ 3,352,895	100.0 %	$ (332,734)	(9.9)%
Operating income (loss):						
Electric Power Infrastructure Services excluding Latin America	$ 278,653	13.2 %	$ 177,908	9.6 %	$ 100,745	56.6 %
Latin America	(15,396)	*	(2,216)	*	(13,180)	*
Equity in earnings of integral unconsolidated affiliates	5,119	N/A	—	N/A	5,119	*
Electric Power Infrastructure Services	268,376	12.7 %	175,692	9.4 %	$ 92,684	52.8 %
Pipeline and Industrial Infrastructure Services	76,220	8.4 %	132,424	9.0 %	(56,204)	(42.4)%
Corporate and non-allocated costs	(102,381)	N/A	(98,722)	N/A	(3,659)	3.7 %
Consolidated operating income	$ 242,215	8.0 %	$ 209,394	6.2 %	$ 32,821	15.7 %

* The percentage or percentage change is not meaningful.

Electric Power Infrastructure Services Segment Results

The increase in revenues for the three months ended September 30, 2020 was primarily due to increased contributions from larger transmission projects in Canada, continued growth in our North American communications operations and a $65 million increase in revenues attributable to acquired businesses. Additionally, revenues for the three months ended September 30, 2020 included a $127 million increase in emergency restoration services revenues, which was largely offset by a decrease in base distribution services as crews were reallocated to emergency restoration services, as well as decreased revenues associated with grid modernization and fire hardening programs in the western United States as compared to the three months ended September 30, 2019.

As a result of a contract termination associated with a large telecommunications project in Peru, which is discussed further below, and other considerations including the long-term political stability of the region, we decided to pursue an orderly exit of our operations in Latin America. Our Latin American operating results are separately provided above, and we believe providing visibility into these results is beneficial to understanding the performance of our ongoing operations. These operations have been adversely impacted by the COVID-19 pandemic due to shelter-in-place restrictions and other work disruptions, and as a result we have accelerated various contract terminations and other activities in order to expedite cessation of operations in the region. As a result of these factors, during the three months ended September 30, 2020, our Latin American operations generated an operating loss of $15.4 million as compared to an operating loss of $2.2 million during the three months ended September 30, 2019. As of September 30, 2020, more than 80% of the projects in Latin America that were active at the beginning of 2020 have been completed, and the remaining projects are not expected to be material individually or in the aggregate. For the full year of 2020, our Latin American operations are expected to generate revenues of $10 million to $15 million and an operating loss of $55 million to $60 million.

Operating income and operating income as a percentage of revenues were positively impacted by improved performance across the segment, including increased revenues for larger transmission projects in Canada and emergency restoration services revenues, both of which contributed to improved equipment utilization and fixed cost absorption. Additionally, operating income for the three months ended September 30, 2019 was negatively impacted by severe weather and other delays on certain larger transmission projects in Canada that resulted in elevated levels of unabsorbed costs. The positive factors were partially offset by a reduction in fire hardening services in the western United States during the three months ended September 30, 2020 as compared to the three months ended September 30, 2019. The equity in earnings of integral unconsolidated affiliates primarily relates to the commencement of transition services under the agreement awarded to LUMA in June 2020 for the operation and maintenance of the electric transmission and distribution system in Puerto Rico.

Pipeline and Industrial Infrastructure Services Segment Results

The decrease in revenues was primarily due to disruptions resulting from shelter-in-place and worksite access restrictions related to the COVID-19 pandemic and the compounding impact on the challenged energy market, including decreased capital spending by our customers on industrial services due to the significant decline in demand for refined petroleum products. Revenues associated with larger pipeline projects also decreased as compared to the three months ended September 30, 2019, as the timing of such projects is highly variable due to potential permitting delays, worksite access limitations related to environmental regulations and seasonal weather patterns. The decrease was partially offset by approximately $70 million in incremental revenues from acquired businesses. Our original expectations for 2020 included $500 million of revenues from larger pipeline projects, which we expect to be a normalized level of annual revenues for such projects in the near term. However, due to the aforementioned challenges, as well as the deferral of certain project opportunities into 2021, we expect contributions from larger pipelines projects to be significantly below such level in 2020.

The decreases in operating income and operating income as a percentage of revenues were primarily due to the decrease in revenues discussed above, including a decrease in revenues associated with industrial services that negatively impacted our ability to cover fixed and overhead costs and adverse weather conditions across our Canadian pipeline operations. However, the three months ended September 30, 2020 benefited from favorable adjustments on certain larger pipeline projects associated with the recognition of previously deferred milestone payments and reduced contingencies due to a reduction in the scope of work to be completed on a project, as well as the completion of certain other projects earlier than anticipated. We also expect that the project for which the scope of work was reduced will be terminated by the end of 2020 and are working with the customer to determine how the project will close out. We believe potential additional favorable adjustment on this project exists related to termination fees and other contract accounting; however, a final adjustment cannot be determined until any close-out scopes of work and related termination items are finally determined.

Corporate and Non-allocated Costs

The increase in corporate and non-allocated costs was primarily due to a $12.9 million increase in non-cash stock-based and incentive compensation expense and a $4.4 million increase in intangible asset amortization. Partially offsetting these increases were a $6.4 million decrease in acquisition and integration costs and decreases in certain expenses resulting from cost containment efforts in the current operating environment.

Nine months ended September 30, 2020 compared to the nine months ended September 30, 2019

The following table sets forth segment revenues, segment operating income (loss) and operating margins for the periods indicated, as well as the dollar and percentage change from the prior period (dollars in thousands):

	Nine Months Ended September 30,				Change	
	2020		2019		$	%
Revenues:						
Electric Power Infrastructure Services excluding Latin America	$ 5,659,965	68.3 %	$ 5,239,212	58.2 %	$ 420,753	8.0 %
Latin America	7,601	0.1	35,244	0.4	(27,643)	(78.4)%
Electric Power Infrastructure Services	$ 5,667,566	68.4	$ 5,274,456	58.6	$ 393,110	7.5 %
Pipeline and Industrial Infrastructure Services	2,622,921	31.6	3,724,897	41.4	(1,101,976)	(29.6)%
Consolidated revenues	$ 8,290,487	100.0 %	$ 8,999,353	100.0 %	$ (708,866)	(7.9)%
Operating income (loss):						
Electric Power Infrastructure Services excluding Latin America	$ 621,770	11.0 %	$ 512,403	9.8 %	$ 109,367	21.3 %
Latin America	(46,905)	*	(82,159)	*	35,254	*
Equity in earnings of integral unconsolidated affiliates	6,165	N/A	—	N/A	6,165	*
Electric Power Infrastructure Services	$ 581,030	10.3 %	$ 430,244	8.2 %	$ 150,786	35.0 %
Pipeline and Industrial Infrastructure Services	128,747	4.9 %	243,066	6.5 %	(114,319)	(47.0)%
Corporate and non-allocated costs	(273,909)	N/A	(265,849)	N/A	(8,060)	3.0 %
Consolidated operating income	$ 435,868	5.3 %	$ 407,461	4.5 %	$ 28,407	7.0 %

* The percentage change is not meaningful.

Electric Power Infrastructure Services Segment Results

The increase in revenues was primarily due to a $106 million increase in emergency restoration services revenues, higher revenues on larger transmission projects in Canada, a $118 million increase in revenues in our North American communication operations. and approximately $100 million of incremental revenues attributable to acquired businesses. Also contributing to the increase was increased customer spending on distribution services. These increases were partially offset by lower revenues associated with grid modernization and fire hardening programs in the western United States as compared to the prior comparable period.

As discussed above, we have decided to pursue an orderly exit of our Latin American operations, which have been adversely impacted by the COVID-19 pandemic due to shelter-in-place restrictions and other work disruptions that have resulted in our acceleration of various contract terminations and other activities in order to expedite cessation of operations in the region. As a result of these factors, during the nine months ended September 30, 2020 our Latin American operations generated an operating loss of $46.9 million. During the nine months ended September 30, 2019, the operating loss for our Latin American operations included the recognition of a $79.2 million charge associated with a terminated telecommunications project in Peru, which included a $48.8 million reversal of revenues and a $30.4 million increase in cost of services. The charge included a reduction of previously recognized earnings on the project, a reserve against a portion of the project costs incurred through the project termination date, a reserve against a portion of alleged liquidated damages and recognition of estimated costs to complete the project turnover and close out the project. See *Legal Proceedings* in Note 11 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report for additional information regarding this project.

Operating income and operating income as a percentage of revenues were positively impacted during the nine months ended September 30, 2020 by increased revenues from larger transmission projects in Canada and emergency restoration services revenues, both of which contributed to improved equipment utilization and fixed cost absorption. The nine months ended September 30, 2019 was negatively impacted by severe weather and other delays on certain larger transmission projects in Canada that resulted in elevated levels of unabsorbed costs. Partially offsetting these increases between periods was a reduction in fire hardening services in the western United States during the nine months ended September 30, 2020. The equity in earnings of integral unconsolidated affiliates primarily relates to the commencement of transition services under the operation and maintenance agreement awarded to LUMA in June 2020.

Pipeline and Industrial Infrastructure Services Segment Results

The decrease in revenues was primarily due to a decrease in services related to larger pipeline transmission projects, which accounted for as much as a $650 million decrease in revenues, as well as a decrease in industrial services that resulted from decreased capital spending by our customers primarily attributable to the challenging overall energy market conditions, disruptions due to shelter-in-place and worksite access restrictions related to the COVID-19 pandemic. The timing of construction for larger pipeline projects is highly variable due to potential permitting delays, worksite access limitations related to environmental regulations and seasonal weather patterns. These decreases were partially offset by approximately $225 million in revenues from acquired businesses.

The decreases in operating income and operating income as a percentage of revenues were primarily due to the reduction of revenues, including revenues related to larger pipeline transmission projects, which generally yield higher margins. Also contributing to this decrease were adverse impacts related to the COVID-19 pandemic, including lower revenues associated with industrial services, which negatively impacted margins and the ability to cover fixed and overhead costs. Additionally, segment results were adversely impacted by the overall challenged energy market, as discussed further above in *COVID-19 – Response and Impact.* The nine months ended September 30, 2019 included a $23.3 million loss associated with continued rework and start-up delays on a processing facility project in Texas, which was completed at September 30, 2020.

Corporate and Non-allocated Costs

The increase in corporate and non-allocated costs was primarily due to a $22.2 million increase in non-cash stock-based and incentive compensation and a $14.8 million increase in intangible asset amortization. Partially offsetting these increases were a $7.6 million decrease in acquisition and integration costs, a $4.0 million decrease in expense associated with the change in fair value of deferred compensation liabilities and decreases in certain expenses related to our cost containment measures in the current operating environment, including a $4.0 million decrease in travel and related expenses. Also offsetting the cost increases was a $0.6 million increase in the fair value of contingent consideration liabilities in the nine months ended September 30, 2020, as compared to an $8.1 million increase in the fair value of contingent consideration liabilities recognized during the nine months ended September 30, 2019.

Remaining Performance Obligations and Backlog

A performance obligation is a promise in a contract with a customer to transfer a distinct good or service. Our remaining performance obligations represent management's estimate of consolidated revenues that are expected to be realized from the remaining portion of firm orders under fixed price contracts not yet completed or for which work has not yet begun, which includes estimated revenues attributable to consolidated joint ventures and variable interest entities (VIEs), revenues from funded and unfunded portions of government contracts to the extent they are reasonably expected to be realized, and revenues from change orders and claims to the extent management believes they will be earned and are probable of collection.

We have also historically disclosed our backlog, a measure commonly used in our industry but not recognized under generally accepted accounting principles in the United States (GAAP). We believe this measure enables management to more effectively forecast our future capital needs and results and better identify future operating trends that may not otherwise be apparent. We believe this measure is also useful for investors in forecasting our future results and comparing us to our competitors. Our remaining performance obligations are a component of backlog, which also includes estimated orders under master service agreements (MSAs), including estimated renewals, and non-fixed price contracts expected to be completed within one year. Our methodology for determining backlog may not be comparable to the methodologies used by other companies.

As of September 30, 2020 and December 31, 2019, MSAs accounted for 61% and 53% of our estimated 12-month backlog and 69% and 61% of total backlog. The increase in MSA backlog resulted from our entry into several new multiyear MSAs with electric and gas utility customers during the three months ended September 30, 2020. Generally, our customers are not contractually committed to specific volumes of services under our MSAs, and most of our contracts can be terminated on short notice even if we are not in default. We determine the estimated backlog for these MSAs using recurring historical trends, factoring in seasonal demand and projected customer needs based upon ongoing communications. In addition, many of our MSAs are subject to renewal, and these potential renewals are considered in determining estimated backlog. As a result, estimates for remaining performance obligations and backlog are subject to change based on, among other things, project accelerations; project cancellations or delays, including but not limited to those caused by commercial issues, regulatory requirements, natural disasters, emergencies (including the ongoing COVID-19 pandemic) and adverse weather conditions; and final acceptance of change orders by customers. These factors can cause revenues to be realized in periods and at levels that are different than originally projected.

The following table reconciles total remaining performance obligations to our backlog (a non-GAAP measure) by reportable segment along with estimates of amounts expected to be realized within 12 months (in thousands):

	September 30, 2020		December 31, 2019	
	12 Month	Total	12 Month	Total
Electric Power Infrastructure Services				
Remaining performance obligations	$ 2,639,117	$ 3,747,653	$ 2,483,109	$ 3,957,710
Estimated orders under MSAs and short-term, non-fixed price contracts	3,310,329	7,044,445	2,873,446	5,864,527
Backlog	5,949,446	10,792,098	5,356,555	9,822,237
Pipeline and Industrial Infrastructure Services				
Remaining performance obligations	480,779	696,073	670,707	1,344,741
Estimated orders under MSAs and short-term, non-fixed price contracts	1,712,819	3,583,430	1,919,791	3,837,923
Backlog	2,193,598	4,279,503	2,590,498	5,182,664
Total				
Remaining performance obligations	3,119,896	4,443,726	3,153,816	5,302,451
Estimated orders under MSAs and short-term, non-fixed price contracts	5,023,148	10,627,875	4,793,237	9,702,450
Backlog	$ 8,143,044	$ 15,071,601	$ 7,947,053	$ 15,004,901

Liquidity and Capital Resources

Management monitors financial markets and national and global economic conditions for factors that may affect our liquidity and capital resources. We consider our investment policies related to cash and cash equivalents to be conservative in that we maintain a diverse portfolio of what we believe to be high-quality cash and cash equivalent investments with short-term maturities.

The extent of the impact of the COVID-19 pandemic on our future operational and financial performance will depend on future developments, all of which are uncertain and cannot be predicted. However, based on our current business forecast for 2020, including revenue and earnings prospects and other cost management actions taken in response to market conditions, we anticipate that our cash and cash equivalents on hand, future cash flows from operations and existing borrowing capacity under our senior credit facility, which we increased and extended the maturity of during the three months ended September 30, 2020, as well as other available financing alternatives, will provide sufficient funds to enable us to meet our interest payment and debt repayment obligations, fund ongoing operating needs, facilitate our ability to pay any future dividends we declare, fund acquisitions or strategic investments that facilitate the long-term growth and sustainability of our business, and fund essential capital expenditures during 2020.

In addition, we may seek to access the capital markets from time to time to raise additional capital, increase liquidity as necessary, refinance or extend the term of our existing indebtedness or otherwise fund our capital needs. For example, during the three months ended September 30, 2020, we issued $1.00 billion aggregate principal amount of our senior notes, receiving proceeds of $986.7 million, net of the original issue discount, underwriting discounts and debt issuance costs. We utilized those proceeds, together with cash on hand, to voluntarily prepay the $1.21 billion of outstanding term loans under our senior credit facility. We also entered into an amendment to our senior credit facility that, among other things, increased the aggregate revolving commitments from $2.14 billion to $2.51 billion and extended the maturity date from October 31, 2022 to September 22, 2025. Our ability to access the capital markets in the future depends on a number of factors, including our financial performance and financial position, our credit rating, industry conditions, general economic conditions, our backlog, capital expenditure commitments, market conditions and market perceptions of us and our industry.

For additional information regarding the current impact and potential risks related to the COVID-19 pandemic, see*COVID-19 Pandemic – Response and Impact* above and Item 1A. *Risk Factors* of Part II of this Quarterly Report.

Cash Requirements

Our available commitments under our senior credit facility and cash and cash equivalents at September 30, 2020 were as follows (in thousands):

		September 30, 2020
Total capacity available under our senior credit facility for revolving loans and letters of credit	$	2,510,000
Less:		
Borrowings of revolving loans under our senior credit facility		195,350
Letters of credit outstanding under our senior credit facility		364,463
Available commitments under senior credit facility for issuing revolving loans or new letters of credit		1,950,187
Plus:		
Cash and cash equivalents		216,935
Total available commitments under senior credit facility and cash and cash equivalents	$	2,167,122

Our industry is capital intensive, and we expect substantial capital expenditures and commitments under equipment lease and rental arrangements to be needed into the foreseeable future in order to meet anticipated demand for our services. We expect capital expenditures for the year ended December 31, 2020 to be approximately $250 million, which is $50 million less than our original estimate at the beginning of 2020. We also continue to evaluate opportunities for stock repurchases.

Refer to *Contractual Obligations* below for a summary of our future contractual obligations as of September 30, 2020 and *Off-Balance Sheet Transactions* and *Contingencies* below for a description of certain contingent obligations. Although some of these contingent obligations could require the use of cash in future periods, they are excluded from the Contractual Obligations table because we are unable to accurately predict the timing and amount of any such obligations as of September 30, 2020.

Sources and Uses of Cash

In summary, our cash flows for each period were as follows (in thousands):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020		2019		2020		2019	
Net cash provided by (used in) operating activities	$	114,859	$	91,167	$	839,887	$	(100,247)
Net cash used in investing activities	$	(230,555)	$	(391,797)	$	(356,302)	$	(607,124)
Net cash provided by (used in) financing activities	$	(198,504)	$	307,111	$	(435,214)	$	708,749

Operating Activities

Cash flow from operating activities is primarily influenced by demand for our services and operating margins but is also influenced by working capital needs associated with the various types of services that we provide. Our working capital needs may increase when we commence large volumes of work under circumstances where project costs, primarily labor, equipment and subcontractors, are required to be paid before the associated receivables are billed and collected. Accordingly, changes within working capital in accounts receivable, contract assets and contract liabilities are normally related and are typically affected on a collective basis by changes in revenue due to the timing and volume of work performed and variability in the timing of customer billings and payments. Additionally, working capital needs are generally higher during the summer and fall due to increased demand for our services when favorable weather conditions exist in many of our operating regions. Conversely, working capital assets are typically converted to cash during the winter. These seasonal trends can be offset by changes in project timing due to delays or accelerations and other economic factors that may affect customer spending.

Net cash provided by operating activities during the three and nine months ended September 30, 2020 were favorably impacted by increased earnings as compared to the three and nine months ended September 30, 2019. Also favorably impacting net cash provided by operating activities during the three and nine months ended September 30, 2020 was the deferral of payments of $41.0 million and $72.2 million of payroll taxes under the CARES Act, 50% of which are due by December 31, 2021 and the remainder of which are due by December 31, 2022. The CARES Act permits deferral of payroll taxes through December 31, 2020, and we currently intend to continue such deferrals. Net cash provided by operating activities during the nine months ended September 30, 2020 also included the receipt of $82.0 million of insurance proceeds associated with the settlement of two pipeline project claims in the fourth quarter of 2019.

Net cash provided by operating activities during the nine months ended September 30, 2019 included the payment of $112 million as a result of the exercise of on-demand advance payment and performance bonds in connection with the termination of the large telecommunications project in Peru, which is described in further detail in *Legal Proceedings* in Note 11 of the Notes to Condensed Consolidated Financial Statements in Item 1.*Financial Statements*. Net cash used in operating activities for the nine months ended September 30, 2019 was also impacted by higher working capital requirements, including mobilization and tooling costs, to support business growth and extended billing and collection cycles for certain utility customers.

Days sales outstanding (DSO) represents the average number of days it takes revenues to be converted into cash, which management believes is an important metric for assessing liquidity. A decrease in DSO has a favorable impact on cash flow from operating activities, while an increase in DSO has a negative impact on cash flow from operating activities. DSO is calculated by using the sum of current accounts receivable, net of allowance (which includes retainage and unbilled balances), plus contract assets less contract liabilities, divided by average revenues per day during the quarter. DSO at September 30, 2020 was 82 days, which aligns with our historical average over the last five years of 80 days. DSO at September 30, 2019 was 91 days, which was higher than our historical average due partially to a large outstanding retainage balance associated with a larger electric transmission project, as well as billing process changes for certain customers that negatively impacted DSO throughout 2019

Investing Activities

Net cash used in investing activities in the three months ended September 30, 2020 included $187.7 million used for acquisitions and $50.8 million of capital expenditures, which were partially offset by $5.8 million of proceeds from the sale of property and equipment. Net cash used in investing activities in the nine months ended September 30, 2020 included $212.1 million used for acquisitions, $167.0 million of capital expenditures, and $9.5 million of cash paid for investments in unconsolidated affiliates and other entities, which were partially offset by $18.5 million of proceeds from the sale of property and equipment and $11.1 million of proceeds from the disposition of businesses.

Net cash used in investing activities in the three months ended September 30, 2019 included $329.8 million used for acquisitions and $66.2 million of capital expenditures, which were partially offset by $4.9 million of proceeds from the sale of property and equipment. Net cash used in investing activities in the nine months ended September 30, 2019 included $385.2 million used for acquisitions, $207.6 million used for capital expenditures and $39.0 million of cash paid for investments in unconsolidated affiliates and other entities, which were partially offset by $24.2 million of proceeds from the sale of property and equipment.

Our industry is capital intensive, and we expect substantial capital expenditures and commitments under equipment lease and rental arrangements to be needed into the foreseeable future. We also have various contractual obligations related to investments in unconsolidated affiliates and other capital commitments that are detailed in *Contractual Obligations* below. In addition, we expect to continue to pursue strategic acquisitions and investments, although we cannot predict the timing or amount of the cash needed for these initiatives.

Financing Activities

On September 22, 2020, we received proceeds from the issuance of the senior notes of $990.1 million, which is net of the original issue discount and underwriting discounts, as described further in *Debt Instruments – 2.900% Senior Notes due October 2030*. These proceeds, together with cash on hand, were used to voluntarily prepay the then-outstanding term loans under the credit agreement, which is reflected in the $1.17 billion of net repayments under our senior credit facility. We also paid $7.8 million of debt issuance and amendment costs related to the senior notes issuance and amendment to the credit agreement and $7.0 million of cash dividends and dividend equivalents. Net cash used in financing activities in the nine months ended September 30, 2020 included $200.0 million of cash payments for common stock repurchases, $1,148.7 million of net repayments under our senior credit facility, $24.4 million of cash payments to satisfy tax withholding obligations associated with stock-based compensation, $21.5 million of cash payments for dividends and cash dividend equivalents, $10.4 million of payments to settle certain contingent consideration liabilities and $7.8 million of debt issuance and amendment costs.

Net cash provided by financing activities in the three months ended September 30, 2019 included $328.6 million of net borrowings under our senior credit facility partially offset by $11.2 million of net short-term repayments and $5.8 million of cash payments of dividends and cash dividend equivalents. Net cash provided by financing activities in the nine months ended September 30, 2019 included $795.3 million of net borrowings under our senior credit facility, partially offset by $27.1 million of net short-term repayments, $20.1 million of cash payments for common stock repurchases, $17.4 million of cash payments for dividends and cash dividend equivalents and $16.0 million of payments to satisfy tax withholding obligations associated with stock-based compensation.

Contingent Consideration Liabilities

Certain of our acquisitions include the potential payment of contingent consideration, payable in the event certain performance objectives are achieved by the acquired businesses during designated post-acquisition periods. The aggregate fair value of all of our contingent consideration liabilities was $75.8 million as of September 30, 2020, of which $68.5 million is included in “Accounts payable and accrued expenses” and $7.4 million is included in “Insurance and other non-current liabilities.” The measurement period for approximately $65.0 million of our outstanding contingent consideration liabilities was complete as of September 30, 2020. The remaining contingent consideration liabilities have an approximate aggregate fair value of $10.8 million, and the majority of the remaining liabilities are also subject to a maximum outstanding payment amount, which totaled $48.6 million as of September 30, 2020. The significant majority of these liabilities are expected to be paid at least 70% to 85% in cash. Cash payments up to the amount recognized for these liabilities at the respective acquisition dates, including measurement-period adjustments, will be classified as financing activities in our consolidated statements of cash flows. Any cash payments in excess of such amounts will be classified as operating activities in our consolidated statements of cash flows.

We made $11.0 million of cash payments and issued 4,277 shares of Quanta common stock to settle certain contingent consideration liabilities during the nine months ended September 30, 2020. The majority of cash payments have been classified as financing activities in our condensed consolidated statements of cash flows for the three and nine months ended September 30, 2020.

Stock Repurchases

We repurchased the following shares of common stock in the open market under our stock repurchase programs (in thousands):

Quarter ended:	**Shares**	**Amount**
September 30, 2020	—	$ —
June 30, 2020	—	$ —
March 31, 2020	5,960	$ 200,000
December 31, 2019	—	$ —
September 30, 2019	—	$ —
June 30, 2019	—	$ —
March 31, 2019	376	$ 11,953

Our policy is to record a stock repurchase as of the trade date; however, the payment of cash related to a repurchase is made on the settlement date of the trade. During the three months ended September 30, 2020 and 2019, there were no cash payments related to stock repurchases, and during the nine months ended September 30, 2020 and 2019, cash payments related to stock repurchases were $200.0 million and $20.1 million.

As of September 30, 2020, $86.8 million remained authorized under our stock repurchase program approved during the third quarter of 2018, which permits us to repurchase outstanding common stock from time to time through June 30, 2021. In August 2020, our Board of Directors authorized us to repurchase, from time to time through June 30, 2023, up to an additional $500 million in shares of our outstanding common stock under a new stock repurchase program, for an aggregate stock repurchase authorization of $586.8 million.

Repurchases under our repurchase programs may be implemented through open market or privately negotiated transactions, at management’s discretion, based on market and business conditions, applicable contractual and legal requirements, including restrictions under our senior credit facility, and other factors. We are not obligated to acquire any specific amount of common stock and the repurchase programs may be modified or terminated by our Board of Directors at any time at its sole discretion and without notice. For additional detail about our stock repurchases, refer to Note 9 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements.*

Dividends

We declared the following cash dividends and cash dividend equivalents during 2019 and the first nine months of 2020 (in thousands, except per share amounts):

Declaration Date	Record Date	Payment Date	Dividend Per Share	Dividends Declared
August 26, 2020	October 1, 2020	October 15, 2020	$ 0.05	$ 7,244
May 28, 2020	July 1, 2020	July 15, 2020	$ 0.05	$ 7,182
March 26, 2020	April 6, 2020	April 15, 2020	$ 0.05	$ 7,184
December 11, 2019	January 2, 2020	January 16, 2020	$ 0.05	$ 7,371
August 28, 2019	October 1, 2019	October 15, 2019	$ 0.04	$ 5,564
May 24, 2019	July 1, 2019	July 15, 2019	$ 0.04	$ 6,233
March 21, 2019	April 5, 2019	April 19, 2019	$ 0.04	$ 5,896

A significant majority of dividends declared were paid on the corresponding payment dates. Holders of restricted stock units (RSUs) awarded under the Quanta Services, Inc. 2011 Omnibus Equity Incentive Plan (the 2011 Plan) generally received cash dividend equivalent payments equal to the cash dividend payable on account of the underlying Quanta common stock. Holders of exchangeable shares of certain Canadian subsidiaries of Quanta received a cash dividend per exchangeable share equal to the cash dividend per share paid to Quanta common stockholders. Holders of RSUs awarded under the Quanta Services, Inc. 2019 Omnibus Equity Incentive Plan (the 2019 Plan) and holders of unearned and unvested performance stock units (PSUs) awarded under the 2011 Plan and the 2019 Plan receive cash dividend equivalent payments only to the extent such RSUs and PSUs become earned and/or vest. Additionally, cash dividend equivalent payments related to certain stock-based awards that have been deferred pursuant to the terms of a deferred compensation plan maintained by us are recorded as liabilities in such plans until the deferred awards are settled.

The declaration, payment and amount of future cash dividends will be at the discretion of Quanta's Board of Directors after taking into account various factors, including Quanta's financial condition, results of operations and cash flows from operations; current and anticipated capital requirements and expansion plans; the current and potential impact of the COVID-19 pandemic and other market, industry, economic and political conditions; income tax laws then in effect; and the requirements of Delaware law. In addition, as discussed below, Quanta's credit agreement restricts the payment of cash dividends unless certain conditions are met.

Debt Instruments

2.900% Senior Notes due October 2030

During the three months ended September 30, 2020, we issued $1.00 billion aggregate principal amount of the senior notes and received proceeds of $986.7 million from the offering, net of the original issue discount, underwriting discounts and debt issuance costs. We used the net proceeds, together with cash on hand, to voluntarily prepay the $1.21 billion of term loans then-outstanding under the credit agreement.

Interest on the senior notes is payable semi-annually in arrears on April 1 and October 1 of each year, commencing April 1, 2021. The maturity date for the senior notes is October 1, 2030. We may redeem all or a portion of the senior notes at any time prior to July 1, 2030 at a price equal to 100% of the principal amount plus a make-whole premium and accrued and unpaid interest, and at any time on or after July 1, 2030 at a price equal to 100% of the principal amount plus accrued and unpaid interest, in each case as further specified by terms of the senior notes and the indenture and supplemental indenture governing the senior notes (together, the indenture). Additionally, upon the occurrence of a Change of Control Triggering Event (as defined in the indenture), unless we have exercised our right to redeem the senior notes in full by giving irrevocable notice to the trustee, each noteholder will have the right to require us to purchase all or a portion of such holder's senior notes at a purchase price equal to 101% of the principal amount thereof plus any accrued and unpaid interest.

The indenture also contains customary events of default and covenants that, among other things, limit our ability to incur liens securing indebtedness, to engage in certain sale and leaseback transactions with respect to certain properties and to sell all or substantially all of our assets or merge or consolidate with or into other companies.

Senior Credit Facility

On September 22, 2020, we entered into an amendment to the credit agreement for our senior credit facility that, among other things, increased the aggregate revolving commitments from $2.14 billion to $2.51 billion and extended the maturity date for the revolving commitments from October 31, 2022 to September 22, 2025. Pursuant to the amendment, the pledge of capital stock of certain of our subsidiaries and the liens on the collateral that secured the obligations under the credit agreement were released and all of our subsidiaries that were guarantors of the obligations under the credit agreement were released from their guarantees of such obligations. In addition, the amendment removed the collateral reinstatement provision that would have applied in the event our corporate credit rating from either Moody's Investors Service, Inc or Standard & Poor's Financial Services LLC were to fall below an investment grade rating.

In addition, subject to the conditions specified in the credit agreement, we have the option to increase the capacity of the credit facility, in the form of an increase in the revolving commitments, term loans or a combination thereof, from time to time, upon receipt of additional commitments from new or existing lenders by up to an additional (i) $400.0 million plus (ii) additional amounts so long as the Incremental Leverage Ratio Requirement (as defined in the credit agreement) is satisfied at the time of such increase. The Incremental Leverage Ratio Requirement requires, among other things, after giving pro forma effect to such increase and the use of proceeds therefrom, compliance with the credit agreement's financial covenants as of the most recent fiscal quarter end for which financial statements were required to be delivered.

Borrowings under the credit agreement are to be used to refinance existing indebtedness and for working capital, capital expenditures, acquisitions and other general corporate purposes. The maturity date for the senior credit facility is September 22, 2025. During the three months ended September 30, 2020 and 2019, our weighted average interest rates associated with our senior credit facility were 1.57% and 3.86%, and during the nine months ended September 30, 2020 and 2019, our weighted average interest rates associated with our senior credit facility were 2.13% and 3.88%.

As of September 30, 2020, we had $195.4 million of outstanding revolving loans under the credit agreement and $364.5 million of letters of credit issued under our senior credit facility. As of September 30, 2020, we also had $91.9 million of letters of credit issued by a financial institution that ceased to be a lender under the senior credit facility subsequent to the September 2020 amendment to the credit agreement, which are collateralized by a $93.0 million letter of credit issued by a lender under our senior credit facility. As of September 30, 2020, subject to the applicable sublimits, the remaining $1.95 billion of available commitments under the senior credit facility was available for additional revolving loans or letters of credit in U.S. dollars and certain alternative currencies.

The credit agreement contains certain covenants, including (i) a maximum Consolidated Leverage Ratio of 3.5 to 1.0 (except that in connection with certain permitted acquisitions in excess of $200.0 million, such ratio is 4.0 to 1.0 for the fiscal quarter in which the acquisition is completed and the four subsequent fiscal quarters) and (ii) a minimum Consolidated Interest Coverage Ratio of 3.0 to 1.0. As of September 30, 2020, we were in compliance with all of the financial covenants under the credit agreement. Consolidated Leverage Ratio is the ratio of our Consolidated Funded Indebtedness to Consolidated EBITDA (as those terms are defined in the credit agreement). For purposes of calculating our Consolidated Leverage Ratio, Consolidated Funded Indebtedness is reduced by available cash and Cash Equivalents (as defined in the credit agreement) in excess of $25.0 million. Consolidated Interest Coverage Ratio is the ratio of (i) Consolidated EBIT (as defined in the credit agreement) for the four fiscal quarters most recently ended to (ii) Consolidated Interest Expense (as defined in the credit agreement) for such period (excluding all interest expense attributable to capitalized loan costs and the amount of fees paid in connection with the issuance of letters of credit on our behalf during such period).

The credit agreement provides for customary events of default and generally contains cross-default provisions with other debt instruments exceeding $150.0 million in borrowings or availability. The credit agreement also limits certain acquisitions, mergers and consolidations, indebtedness, asset sales and prepayments of indebtedness and, subject to certain exceptions, prohibits liens on our assets. The credit agreement allows cash payments for dividends and stock repurchases subject to compliance with the following requirements (including after giving effect to the dividend or stock repurchase): (i) no default or event of default under the credit agreement; (ii) continued compliance with the financial covenants in the credit agreement; and (iii) at least $100.0 million of availability under the senior credit facility and/or cash and cash equivalents on hand.

To address the transition in financial markets away from the London Interest Bank Offered Rate (LIBOR) by the end of 2021, our senior credit facility agreement includes provisions related to the replacement of LIBOR with a LIBOR Successor Rate (as defined in the credit agreement for such facility), which may be a rate based on the secured overnight financing rate published by the Federal Reserve Bank of New York. If no LIBOR Successor Rate has been determined at the time certain circumstances are present, the lenders' obligation to make or maintain loans based on a Eurocurrency rate could be suspended, and loans in U.S. dollars would default to the Base Rate (as described in Senior Credit Facility within Note 7 of the Notes to Consolidated Financial Statements in Item 1. Financial Statements) rather than a rate using the Eurocurrency Rate. Changing to an alternative interest rate or to the Base Rate may lead to additional volatility in interest rates and could cause our debt service obligations to increase significantly.

As referenced above, we used the net proceeds from the offering of our senior notes, together with cash on hand, to voluntarily prepay all the term loans then-outstanding under the credit agreement in the aggregate principal amount of $1.21

billion. We had borrowed $600.0 million in term loans in October 2018 and $675.0 million in term loans in September 2019 and used the majority of the proceeds from such loans to repay then-outstanding revolving loans under the credit agreement. Term loans bore interest at rates generally consistent with the revolving loans borrowed in U.S. dollars, except that the additional amount over the Eurocurrency Rate was 1.125% to 1.875%, as determined based on our Consolidated Leverage Ratio. We made quarterly principal payments of $7.5 million on the term loan through September 2019 and $16.1 million on the term loans through June 2020.

Contractual Obligations and Contingencies

The following table summarizes our future contractual obligations as of September 30, 2020, excluding certain amounts discussed below (in thousands):

	Total	Remainder of 2020	2021	2022	2023	2024	Thereafter
Long-term debt - principal (1)	$ 1,220,604	$ 1,117	$ 5,768	$ 4,468	$ 4,468	$ 4,468	$ 1,200,315
Long-term debt - cash interest (2)	292,827	241	29,900	29,708	29,536	29,364	174,078
Short-term debt (3)	2,887	2,887	—	—	—	—	—
Operating lease obligations (4)	298,773	26,795	90,838	65,176	44,619	27,344	44,001
Operating lease obligations that have not yet commenced (5)	3,445	53	591	511	493	424	1,373
Finance lease obligations (6)	1,530	147	564	390	280	149	—
Short-term lease obligations (7)	15,383	9,596	5,787	—	—	—	—
Contingent consideration obligations (8)	65,000	65,000	—	—	—	—	—
Deferral of tax payments (9)	72,248	—	36,124	36,124	—	—	—
Equipment purchase commitments (10)	72,250	55,366	16,884	—	—	—	—
Total contractual obligations	$ 2,044,947	$ 161,202	$ 186,456	$ 136,377	$ 79,396	$ 61,749	$ 1,419,767

(1) Amount represents the principal amount of our long-term debt. The cash interest obligations related to the fixed-rate portion of our long-term debt are included Long-term debt - cash interest; however, our $195.4 million of outstanding revolving loans under our senior credit facility bear interest at variable market rates. Assuming the principal amount outstanding and interest rate in effect at September 30, 2020 remained the same, the annual cash interest expense would be approximately $4.2 million, payable until September 22, 2025, the maturity date of the facility.

(2) Amount represents cash interest expense associated with our fixed-rate, long-term debt, which primarily includes our senior notes and financing transactions arising from the exercise of our equipment rental purchase options.

(3) Amount represents short-term borrowings recorded on our September 30, 2020 condensed consolidated balance sheet.

(4) Amounts represent undiscounted operating lease obligations at September 30, 2020. The operating lease obligations recorded on our September 30, 2020 condensed consolidated balance sheet represent the present value of these amounts.

(5) Amounts represent undiscounted operating lease obligations that have not commenced as of September 30, 2020. The operating lease obligations will be recorded on our consolidated balance sheet beginning on the commencement date of each lease.

(6) Amounts represent undiscounted finance lease obligations at September 30, 2020. The finance lease obligations recorded on our September 30, 2020 condensed consolidated balance sheet represent the present value of these amounts.

(7) Amounts represent short-term lease obligations that are not recorded on our September 30, 2020 condensed consolidated balance sheet due to our accounting policy election. Month-to-month rental expense associated primarily with certain equipment rentals is excluded from these amounts because we are unable to accurately predict future rental amounts.

(8) Amount represents the settlement of a contingent consideration liability that is anticipated to be paid by December 31, 2020. Because acquisition-related contingent consideration liabilities are contingent upon future events, we include these liabilities in the contractual obligations table when the contingencies are resolved.

(9) Amounts represent deferral of $72.2 million of payroll tax payments, 50% of which are due by December 31, 2021 and the remainder of which are due by December 31, 2022. The CARES Act permits deferral of payroll taxes through December 31, 2020, and we currently intend to continue such deferrals.

(10) Amount represents capital committed for the expansion of our vehicle fleet. Although we have committed to the purchase of these vehicles at the time of their delivery, we expect that these orders will be assigned to third-party leasing companies and made available to us under certain of our master equipment lease agreements.

As discussed below and in Notes 2 and 11 of the Notes to Condensed Consolidated Financial Statements in Item 1.*Financial Statements*, we have various contingencies and commitments that may require the use of cash in future periods. The Contractual Obligations table excludes the contingencies described below, as we are unable to accurately predict the timing and amount of any of the following contingent obligations.

Concentrations of Credit Risk

We are subject to concentrations of credit risk related primarily to our cash and cash equivalents and our net receivable position with customers, which includes amounts related to billed and unbilled accounts receivable and contract assets net of advanced billings with the same customer. Substantially all of our cash and cash equivalents are managed by what we believe to be high credit quality financial institutions. In accordance with our investment policies, these institutions are authorized to invest cash and cash equivalents in a diversified portfolio of what we believe to be high quality cash and cash equivalent investments, which consist primarily of interest-bearing demand deposits, money market investments and money market mutual funds. Although we do not currently believe the principal amount of these cash and cash equivalents is subject to any material risk of loss, changes in economic conditions could impact the interest income we receive from these investments. In addition, we grant credit under normal payment terms, generally without collateral, to our customers, which include electric power and energy companies, governmental entities, general contractors, and builders, owners and managers of commercial and industrial properties located primarily in the United States, Canada and Australia. While we generally have certain statutory lien rights with respect to services provided, we are subject to potential credit risk related to business, economic and financial market conditions that affect these customers and locations, which has been heightened as a result of the unfavorable and uncertain economic and financial market conditions resulting from the ongoing COVID-19 pandemic and the significant decline in commodity prices and volatility in commodity production volumes. Some of our customers have experienced significant financial difficulties (including bankruptcy), and customers may experience financial difficulties in the future. These difficulties expose us to increased risk related to collectability of billed and unbilled receivables and contract assets for services we have performed.

For example, on January 29, 2019, PG&E Corporation and its primary operating subsidiary, Pacific Gas and Electric Company (together, PG&E), one of our largest customers, filed for bankruptcy protection under Chapter 11 of the U.S. Bankruptcy Code, as amended. As of the bankruptcy filing date, we had $165 million of billed and unbilled receivables. During the bankruptcy case, the bankruptcy court approved the early assumption by PG&E of certain contracts with our subsidiaries. PG&E subsequently assumed its remaining contracts with our subsidiaries as part of its Chapter 11 plan of reorganization, which was confirmed by the bankruptcy court in June 2020. As of September 30, 2020, substantially all of Quanta's pre-petition receivables had been paid. Additionally, a customer within our Pipeline and Industrial Infrastructure Services segment is currently experiencing liquidity challenges that have resulted in delayed payment of certain receivables associated with a project. While we believe these receivables are adequately secured by the project asset, we are continuing to monitor potential credit risk with respect to this and other customers.

At September 30, 2020 and December 31, 2019, no customer represented 10% or more of our consolidated net receivable position. No customer represented 10% or more of our consolidated revenues for the three and nine months ended September 30, 2020 or the three months ended September 30, 2019. PG&E, a customer within our Electric Power Infrastructure Services segment, represented 10.5% of our consolidated revenues for the nine months ended September 30, 2019.

Legal Proceedings

We are from time to time party to various lawsuits, claims and other legal proceedings that arise in the ordinary course of business. These actions typically seek, among other things, compensation for alleged personal injury, breach of contract, negligence or gross negligence and/or property damages, wage and hour claims and other employment-related damages, punitive and consequential damages, civil penalties or other losses, or injunctive or declaratory relief. With respect to all such lawsuits, claims and proceedings, we record a reserve when it is probable that a loss has been incurred and the amount of loss can be reasonably estimated. In addition, we disclose matters for which management believes a material loss is at least reasonably possible. See Note 11 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* for additional information regarding litigation, claims and other legal proceedings.

Multiemployer Pension Plans

Certain of our operating units are parties to collective bargaining agreements with unions that represent certain of their employees, which require the operating units to pay specified wages, provide certain benefits to union employees and contribute certain amounts to multiemployer pension plans and employee benefit trusts. Our multiemployer pension plan contribution rates generally are made to the plans on a "pay-as-you-go" basis based on our union employee payrolls. The location and number of union employees that we employ at any given time and the plans in which they may participate vary depending on our need for union resources in connection with our ongoing projects. Therefore, we are unable to accurately predict our union employee payroll and the resulting multiemployer pension plan contribution obligations for future periods.

We may also be required to make additional contributions to our multiemployer pension plans if they become underfunded, and these additional contributions will be determined based on our union employee payrolls. Special funding and operational rules are generally applicable to certain of these multiemployer plans that are classified as "endangered," "seriously endangered" or "critical" status based on multiple factors. The amount, if any, that we may be obligated to contribute to these plans cannot be reasonably estimated and is not included in the above table due to uncertainty regarding the amount of future work involving covered union employees, future contribution levels and possible surcharges on plan contributions.

Furthermore, we may be subject to additional liabilities imposed by law as a result of our participation in multiemployer defined benefit pension plans, including in connection with a withdrawal or deemed withdrawal from a plan or a plan being terminated or experiencing a mass withdrawal. These liabilities include an allocable share of the unfunded vested benefits in the plan for all plan participants, not merely the benefits payable to a contributing employer's own retirees. As a result, participating employers may bear a higher proportion of liability for unfunded vested benefits if other participating employers cease to contribute or withdraw, with the reallocation of liability being more acute in cases when a withdrawn employer is insolvent or otherwise fails to pay its withdrawal liability. We are not currently aware of any material withdrawal liabilities that have been incurred or asserted and that remain outstanding. However, our future contribution obligations and potential withdrawal liability exposure could vary based on the investment and actuarial performance of the multiemployer pension plans to which we contribute and other factors, which could be negatively impacted as a result of the unfavorable and uncertain economic and financial market conditions resulting from the ongoing COVID-19 pandemic and related issues. We have been subject to significant withdrawal liabilities in the past, including in connection with our withdrawal from the Central States, Southeast and Southwest Areas Pension Plan. To the extent we are subject to material withdrawal liabilities in the future, such liability could adversely affect our business, financial condition, results of operations or cash flows.

Bonds and Parent Guarantees

Many customers, particularly in connection with new construction, require us to post performance and payment bonds. These bonds provide a guarantee that we will perform under the terms of a contract and pay our subcontractors and vendors. If we fail to perform, the customer may demand that the surety make payments or provide services under the bond, and we must reimburse the surety for any expenses or outlays it incurs. We may also be required to post letters of credit in favor of the sureties, which would reduce the borrowing availability under our senior credit facility. Under our underwriting, continuing indemnity and security agreement with our sureties, we had also granted security interests in certain of our assets as collateral for our obligations to the sureties. However, in connection with the September 2020 amendment to the credit agreement, these security interests were automatically released. On September 22, 2020, we also entered into an amendment to the underwriting, continuing indemnity and security agreement that further documented this release and removed the collateral reinstatement provision in the agreement that would have applied in the event our corporate credit rating from either of Moody's Investors Service, Inc. or Standard & Poor's Financial Services LLC were to fall below an investment grade rating.

We have not been required to make any material reimbursements to our sureties for bond-related costs except in connection with the exercise of approximately $112.0 million of advance payment and performance bonds related to the terminated telecommunications project in Peru, which is described further in *Legal Proceedings – Peru Project Dispute* in Note 11 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Statements. To the extent further reimbursements are required, the amounts could be material and could adversely affect our consolidated business, financial condition, results of operations or cash flows. As of September 30, 2020, we are not aware of any outstanding material obligations for payments related to bond obligations.

Performance bonds expire at various times ranging from mechanical completion of a project to a period extending beyond contract completion in certain circumstances, and as such a determination of maximum potential amounts outstanding requires the use of certain estimates and assumptions. Such amounts can also fluctuate from period to period based upon the mix and level of our bonded operating activity. As of September 30, 2020, the total amount of the outstanding performance bonds was estimated to be approximately $3.5 billion. Our estimated maximum exposure as it relates to the value of the performance bonds outstanding is lowered on each bonded project as the cost to complete is reduced, and each commitment under a performance bond generally extinguishes concurrently with the expiration of our related contractual obligation. The estimated cost to complete these bonded projects was approximately $1.4 billion as of September 30, 2020.

Additionally, from time to time, we guarantee certain obligations and liabilities of our subsidiaries that may arise in connection with, among other things, contracts with customers, equipment lease obligations, joint venture arrangements and contractor licenses. These guarantees may cover all of the subsidiary's unperformed, undischarged and unreleased obligations and liabilities under or in connection with the relevant agreement. For example, with respect to customer contracts, a guarantee may cover a variety of obligations and liabilities arising during the ordinary course of the subsidiary's business or operations, including, among other things, warranty and breach of contract claims, third-party and environmental liabilities arising from the subsidiary's work and for which it is responsible, liquidated damages, or indemnity claims. We are not aware of any claims under any of these guarantees that are material, except as set forth in *Legal Proceedings - Maurepas Project Dispute* within

Note 11 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements*. To the extent a subsidiary incurs a material obligation or liability and we have guaranteed the performance or payment of such liability, the recovery by a customer or other counterparty or a third party will not be limited to the assets of the subsidiary. As a result, responsibility under a guarantee could adversely affect our consolidated business, financial condition, results of operations and cash flows.

Insurance

Insurance Coverage. Losses under our insurance programs are accrued based upon our estimate of the ultimate liability for claims reported and an estimate of claims incurred but not reported, with assistance from third-party actuaries. These insurance liabilities are difficult to assess and estimate due to unknown factors, including the severity of an injury, the extent of damage, the determination of our liability in proportion to other parties and the number of incidents not reported. The accruals are based upon known facts and historical trends, and management believes such accruals are adequate. As of September 30, 2020 and December 31, 2019, the gross amount accrued for insurance claims totaled $304.6 million and $287.6 million, with $223.6 million and $212.9 million considered to be long-term and included in "Insurance and other non-current liabilities." Related insurance recoveries/receivables as of September 30, 2020 and December 31, 2019 were $31.8 million and $35.1 million, of which $0.3 million and $0.3 million are included in "Prepaid expenses and other current assets" and $31.5 million and $34.8 million are included in "Other assets, net."

We renew our insurance policies on an annual basis, and therefore deductibles and levels of insurance coverage may change in future periods. In addition, insurers may cancel our coverage or determine to exclude certain items from coverage, or we may elect not to obtain certain types or incremental levels of insurance based on the potential benefits considered relative to the cost of such insurance, or coverage may not be available at reasonable and competitive rates. In any such event, our overall risk exposure would increase, which could negatively affect our results of operations, financial condition and cash flows. For example, due to the increased occurrence and future risk of wildfires in California and other areas in the western United States, Australia and other locations, insurers have reduced coverage availability and increased the cost of insurance coverage for such events in recent years. As a result, our level of insurance coverage for wildfire events decreased, including in connection with our annual insurance renewals in the spring of 2020 and 2019, and our levels of coverage may not be sufficient to cover potential losses. Our third-party insurers could also decide to further reduce or exclude coverage for wildfires or other events in the future.

Hallen Acquisition Assumed Liability. As discussed in further detail in *Legal Proceedings* within Note 11 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements*, we assumed certain contingent liabilities in connection with the acquisition of Hallen. Hallen's liabilities associated with this matter are expected to be covered under applicable insurance policies or contractual remedies negotiated by us with the former owners of Hallen. As of September 30, 2020, we had not recorded an accrual for any probable and estimable loss related to this matter. However, the ultimate amount of liability in connection with this matter remains subject to uncertainties associated with pending litigation, including, among other things, the apportionment of liability among the defendants and other responsible parties and the likelihood and amount of potential damages claims. As a result, this matter could result in a loss that is in excess of, or not covered by, such insurance or contractual remedies, which could have a material adverse effect on our consolidated results of operations and cash flows.

Contingent Consideration Liabilities

The liabilities recorded represent the estimated fair values of future amounts payable to the former owners of the acquired businesses and are estimated by management based on entity-specific assumptions that are evaluated on an ongoing basis. Because acquisition-related contingent consideration liabilities are contingent upon future events, we include these liabilities in the contractual obligations table when the contingencies are resolved. We expect a significant portion of these liabilities to be settled by late 2020.

Aggregate fair values of these outstanding contingent consideration liabilities and their classification in the Consolidated Balance Sheets in Item 1. *Financial Statements* were as follows (in thousands):

	September 30, 2020	December 31, 2019
Accounts payable and accrued expenses	$ 68,466	$ 77,618
Insurance and other non-current liabilities	7,383	6,542
Total contingent consideration liabilities	$ 75,849	$ 84,160

The measurement period for approximately $65.0 million of our outstanding contingent consideration liabilities was complete as of September 30, 2020. The remaining contingent consideration liabilities have an approximate aggregate fair value of $10.8 million, and the majority are subject to a maximum outstanding payment amount, which totaled $48.6 million as of September 30, 2020.

The fair values of these liabilities were primarily determined using a Monte Carlo simulation valuation methodology based on probability-weighted performance projections and other inputs, including a discount rate and an expected volatility factor for each acquisition. The inputs for the remaining liabilities include an expected volatility factor of 30.0% based on historical asset volatility of selected guideline public companies. Depending on contingent consideration payment terms, the present values of the estimated payments are discounted based on a risk-free rate and/or our cost of debt, which ranged from 0.1% to 3.9% as of September 30, 2020 and had a weighted average of 2.4% based on fair value at acquisition. The fair value determinations incorporate significant inputs not observable in the market. Accordingly, the level of inputs used for these fair value measurements is the lowest level (Level 3), as further described in Note 2 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements*. Significant changes in any of these assumptions could result in a significantly higher or lower potential liability.

Our aggregate contingent consideration liabilities can change due to additional business acquisitions, settlement of outstanding liabilities, changes in the fair value of amounts owed based on performance in post-acquisition periods and accretion in present value. During the three and nine months ended September 30, 2020, we recognized net increases of $0.1 million and $0.6 million in the fair value of our aggregate contingent consideration liabilities. During the three and nine months ended September 30, 2019, we recognized net increases of $3.8 million and $8.1 million in the fair value of our aggregate contingent consideration liabilities. These changes are reflected in "Change in fair value of contingent consideration liabilities" in our condensed consolidated statements of operations. We settled certain contingent consideration liabilities with $11.0 million of cash payments and the issuance of 4,277 shares of Quanta common stock during the nine months ended September 30, 2020. The majority of the cash payments have been classified as a financing activity, with the remainder classified as an operating activity, in our condensed consolidated statements of cash flows for the nine months ended September 30, 2020.

Deferred Compensation Plans

We maintain nonqualified deferred compensation plans pursuant to which non-employee directors and certain key employees may defer receipt of some or all of their cash compensation and/or settlement of certain stock-based awards, subject to certain limitations. These plans are unfunded and unsecured compensation arrangements. Individuals participating in these plans may allocate deferred cash amounts among a group of notional accounts that mirror the gains and losses of various investment alternatives. Generally, participants receive distributions of deferred balances based on predetermined payout schedules or other events.

The plan covering key employees provides for employer matching contributions for certain officers and employees whose benefits under the 401(k) plan are limited by federal tax law. We may also make discretionary employer contributions to such plan. Matching contributions vest immediately, and discretionary employer contributions may be subject to a vesting schedule determined at the time of the contribution, provided that vesting accelerates upon a change in control or the participant's death or retirement. All matching and discretionary employer contributions, whether vested or not, are forfeited upon a participant's termination of employment for cause or upon the participant engaging in competition with us or any of our affiliates.

We made matching contributions to the eligible participants' accounts under the deferred compensation plans of $0.2 million and $0.2 million during the three months ended September 30, 2020 and 2019 and $1.0 million and $0.9 million during the nine months ended September 30, 2020 and 2019. We made no discretionary contributions during the nine months ended September 30, 2020 and 2019. At September 30, 2020 and December 31, 2019, obligations under these plans, including amounts contributed by us, were $51.4 million and $47.3 million and were included in "Insurance and other non-current liabilities" in our condensed consolidated balance sheets. We maintain investments to provide for future obligations related to these deferred compensation plans. At September 30, 2020 and December 31, 2019, these investments were primarily comprised of company-owned life insurance policies, had fair market values of $52.2 million and $45.8 million and were included in "Other assets, net" in our condensed consolidated balance sheets.

Undistributed Earnings of Foreign Subsidiaries and Unrecognized Tax Benefits

We generally do not provide for taxes related to undistributed earnings of our foreign subsidiaries because such earnings either would not be taxable when remitted or they are considered to be indefinitely reinvested. We could also be subject to additional foreign withholding taxes if we were to repatriate cash that is indefinitely reinvested outside the United States, but we do not expect such amounts to be material.

Quanta and certain subsidiaries remain under examination by various U.S. state, Canadian and other foreign tax authorities for multiple periods. We believe it is reasonably possible that within the next 12 months unrecognized tax benefits may decrease by up to $10.0 million as a result of settlement of these examinations or the expiration of certain statute of limitations periods.

Letters of Credit Fees and Commitment Fees

The Contractual Obligations table excludes letters of credit and commitment fees under our senior credit facility and other letters of credit outside of our senior credit facility because the amount of outstanding letters of credit, availability and applicable fees are all variable. Assuming that the amount of letters of credit outstanding and the fees as of September 30, 2020 remained the same, the annual cash expense for our letters of credit would be approximately $4.9 million. For additional information regarding our letters of credit and the associated fees and our borrowings under our senior credit facility, see *Liquidity and Capital Resources — Debt Instruments* above.

Off-Balance Sheet Transactions

As is common in our industry, we have entered into certain off-balance sheet arrangements in the ordinary course of business that result in risks not directly reflected in our balance sheets. Our significant off-balance sheet transactions include certain obligations relating to our investments and joint venture arrangements; short-term, non-cancelable leases and leases that have not yet commenced; letters of credit obligations; surety guarantees related to bonds; committed expenditures for the purchase of equipment; and certain multiemployer pension plan liabilities. See *Contractual Obligations* above and Note 11 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* for a description of these arrangements.

Critical Accounting Estimates and Policies Update

The discussion and analysis of our financial condition and results of operations are based on our condensed consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities known to exist as of the date the condensed consolidated financial statements are published and the reported amounts of revenues and expenses recognized during the periods presented. We review all significant estimates affecting our condensed consolidated financial statements on a recurring basis and record the effect of any necessary adjustments prior to their publication. Judgments and estimates are based on our beliefs and assumptions derived from information available at the time such judgments and estimates are made. Uncertainties with respect to such estimates and assumptions are inherent in the preparation of financial statements. There can be no assurance that actual results will not differ from those estimates. Management has reviewed its development and selection of critical accounting estimates with the audit committee of our Board of Directors. Our accounting policies are primarily described in Note 2 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* and should be read in conjunction with our critical accounting estimates detailed in Item 7 *Management's Discussion and Analysis of Financial Condition and Results of Operations* in Part II of our 2019 Annual Report. Significant changes to our critical accounting policies as a result of adopting new guidance related to credit losses effective January 1, 2020 are referenced below:

Revenue Recognition - See *Current and Long-Term Accounts Receivable, Notes Receivable and Allowance for Credit Losses* in Note 2 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report for information on the new accounting standard related to current expected credit losses.

Cautionary Statement About Forward-Looking Statements and Information

This Quarterly Report includes forward-looking statements reflecting assumptions, expectations, projections, intentions or beliefs about future events that are intended to qualify for the "safe harbor" from liability established by the Private Securities Litigation Reform Act of 1995. You can identify these statements by the fact that they do not relate strictly to historical or current facts. They use words such as "anticipate," "estimate," "project," "forecast," "may," "will," "should," "could," "expect," "believe," "plan," "intend" and other words of similar meaning. In particular, these include, but are not limited to, statements relating to the following:

- Projected revenues, net income, earnings per share, margins, cash flows, liquidity, weighted average shares outstanding, capital expenditures, tax rates and other projections of operating or financial results;
- Expectations regarding our business or financial outlook;
- Expectations regarding opportunities, competitive positioning, future economic and regulatory conditions and other trends in particular markets or industries;
- Expectations regarding the COVID-19 pandemic, including the potential impact of the COVID-19 pandemic and of governmental responses to the pandemic on our business, operations, supply chain, personnel, financial condition, results of operations, cash flows and liquidity;

- Expectations regarding our plans and strategies, including plans, effects and other matters relating to the COVID-19 pandemic and our exit, through potential sale or otherwise, from our Latin American operations;
- The business plans or financial condition of our customers, including with respect to or as a result of the COVID-19 pandemic;
- The potential impact of commodity prices and commodity production volumes on our business, financial condition, results of operations and cash flows and demand for our services;
- The potential benefits from, and future financial and operational performance of, acquired businesses and our investments, including our investment in LUMA;
- Beliefs and assumptions about the collectability of receivables;
- The expected value of contracts or intended contracts with customers, as well as the scope, services, term or results of any awarded or expected projects;
- The development of and opportunities with respect to future projects, including renewable energy projects and larger electric transmission and pipeline projects;
- Future capital allocation initiatives, including the amount, timing and strategies with respect to any future stock repurchases, and expectations regarding the declaration, amount and timing of any future cash dividends;
- The impact of existing or potential legislation or regulation;
- Potential opportunities that may be indicated by bidding activity or similar discussions with customers;
- The future demand for and availability of labor resources in the industries we serve;
- The expected realization of remaining performance obligations or backlog;
- The expected outcome of pending or threatened legal proceedings; and
- Possible recovery of pending or contemplated insurance claims, change orders and claims asserted against customers or third parties.

These forward-looking statements are not guarantees of future performance, involve or rely on a number of risks, uncertainties, and assumptions that are difficult to predict or are beyond our control, and reflect management's beliefs and assumptions based on information available at the time the statements are made. We caution you that actual outcomes and results may differ materially from what is expressed, implied or forecasted by our forward-looking statements and that any or all of our forward-looking statements may turn out to be inaccurate or incorrect. Those statements can be affected by inaccurate assumptions and by known or unknown risks and uncertainties, including the following:

- Market, industry, economic, financial or political conditions outside our control, including the outcome of the U.S. presidential election and resulting economic, energy and environmental policies and weakness in the capital markets or the ongoing and potential impact to financial markets and worldwide economic activity resulting from the COVID-19 pandemic and related governmental actions;
- Quarterly variations in our operating and financial results, liquidity, financial condition, cash flows, capital requirements, and reinvestment opportunities, including the ongoing and potential impact to our business, operations and supply chains resulting from the COVID-19 pandemic and related governmental actions;
- The severity, magnitude and duration of the COVID-19 pandemic, including impacts of the pandemic and of business and governmental responses to the pandemic (e.g., shelter-in-place and other mobility restrictions, business closures) on our operations, personnel and supply chains, and on commercial activity and demand across our and our customers' businesses;
- Our inability to predict the extent to which the COVID-19 pandemic and related impacts will adversely impact our business, financial performance, results of operations, financial position, the prices of our securities and the achievement of our strategic objectives, including with respect to governmental restrictions on our ability to operate, workforce and key personnel availability, regulatory and permitting delays, and future demand for energy and the resulting impact on demand for our services;
- Trends and growth opportunities in relevant markets, including our ability to obtain future project awards;
- The time and costs required to exit our Latin American operations, as well as the business and political climate in Latin America;

- Delays, deferrals, reductions in scope or cancellations of anticipated, pending or existing projects as a result of, among other things, the COVID-19 pandemic, weather, regulatory or permitting issues (including the court ruling vacating the U.S. Army Corps of Engineers' Nationwide Permit 12), environmental processes, project performance issues, claimed force majeure events, protests or other political activity, legal challenges, reductions or eliminations in governmental funding or customer capital constraints;
- The effect of commodity prices and commodity production volumes on our operations and growth opportunities and on our customers' capital programs and demand for our services, including as a result of the recent significant decrease in commodity prices;
- The successful negotiation, execution, performance and completion of anticipated, pending and existing contracts;
- Risks associated with operational hazards that arise due to the nature of the services we provide and the conditions in which we operate, including, among others, wildfires and explosions;
- Unexpected costs, liabilities, fines or penalties that may arise from legal proceedings, indemnity obligations, reimbursement obligations associated with letters of credit or bonds, multiemployer pension plans (e.g., underfunding of liabilities, termination or withdrawal liability) or other claims or actions asserted against us, including amounts that are not covered by, or are in excess of, our third-party insurance;
- Potential unavailability or cancellation of third-party insurance coverage, as well as the exclusion of coverage for certain losses, potential increases in premiums for coverage deemed beneficial to us, or the unavailability of coverage deemed beneficial to us at reasonable and competitive rates;
- Damage to our brands or reputation arising as a result of cyber-security breaches, environmental and occupational health and safety matters, corporate scandal, failure to successfully perform a high-profile project, involvement in a catastrophic event (e.g., fire, explosion) or other negative incidents;
- Our dependence on suppliers, subcontractors, equipment manufacturers and other third-party contractors and the impact of the COVID-19 pandemic on these service providers;
- Estimates and assumptions related to our financial results, remaining performance obligations and backlog;
- Our ability to attract and the potential shortage of skilled employees and our ability to retain key personnel and qualified employees and the impact of the COVID-19 pandemic on the availability and performance of our workforce and key personnel;
- Our dependence on fixed price contracts and the potential to incur losses with respect to these contracts;
- Adverse weather conditions, natural disasters and other emergencies, including wildfires, pandemics (including the ongoing COVID-19 pandemic), hurricanes, tropical storms, floods, earthquakes and other geological- and weather-related hazards;
- Our ability to generate internal growth;
- Competition in our business, including our ability to effectively compete for new projects and market share;
- The future development of natural resources;
- The failure of existing or potential legislative actions and initiatives to result in increased demand for our services;
- Fluctuations of prices of certain materials used in our and our customers' businesses, including as a result of the imposition of tariffs, governmental regulations affecting the sourcing of certain materials and equipment and other changes in U.S. trade relationships with other countries;
- Cancellation provisions within our contracts and the risk that contracts expire and are not renewed or are replaced on less favorable terms;
- Loss of customers with whom we have long-standing or significant relationships;
- The potential that participation in joint ventures or similar structures exposes us to liability and/or harm to our reputation for acts or omissions by our partners;
- Our inability or failure to comply with the terms of our contracts, which may result in additional costs, unexcused delays, warranty claims, failure to meet performance guarantees, damages or contract terminations;

- The inability or refusal of our customers or third-party contractors to pay for services, which could be attributable to, among other things, the COVID-19 pandemic or the recent decrease in commodity prices and which could include the failure to collect our outstanding receivables, failure to recover amounts billed to customers in bankruptcy, or failure to recover on change orders or contract claims;
- Budgetary or other constraints that may reduce or eliminate tax incentives or government funding for projects, which may result in project delays or cancellations;
- Our ability to successfully complete our remaining performance obligations or realize our backlog;
- Risks associated with operating in international markets, including instability of foreign governments, currency exchange fluctuations, and compliance with unfamiliar foreign legal systems and cultural practices, the U.S. Foreign Corrupt Practices Act and other applicable anti-bribery and anti-corruption laws, and complex U.S. and foreign tax regulations and international treaties;
- Our ability to successfully identify, complete, integrate and realize synergies from acquisitions, including the ability to retain key personnel from acquired businesses;
- The potential adverse impact resulting from uncertainty surrounding acquisitions and investments, including the potential increase in risks already existing in our operations and poor performance or decline in value of our investments;
- The adverse impact of impairments of goodwill, other intangible assets, receivables, long-lived assets or investments;
- Our growth outpacing our decentralized management and infrastructure;
- Inability to enforce our intellectual property rights or the obsolescence of such rights;
- The impact of our unionized workforce on our operations, including labor stoppages or interruptions due to strikes or lockouts;
- The ability to access sufficient funding to finance desired growth and operations, including our ability to access capital markets on favorable terms, as well as fluctuations in the price and trading volume of our common stock, debt covenant compliance, interest rate fluctuations and other factors affecting our financing and investing activities;
- Our ability to obtain bonds, letters of credit and other project security;
- Our ability to meet the regulatory requirements applicable to us and our subsidiaries, including the Sarbanes-Oxley Act of 2002 and the U.S. Investment Advisers Act of 1940;
- Rapid technological and other structural changes that could reduce the demand for our services;
- Risks related to the implementation of new information technology systems;
- New or changed tax laws, treaties or regulations;
- Our ability to realize deferred tax assets;
- Legislative or regulatory changes that result in increased costs, including with respect of labor and healthcare costs;
- Significant fluctuations in foreign currency exchange rates; and
- The other risks and uncertainties described elsewhere herein and in Item 1A. *Risk Factors* of Part II of this Quarterly Report, Item 1A. *Risk Factors* of Part I of our 2019 Annual Report and as may be detailed from time to time in our other public filings with the SEC.

All of our forward-looking statements, whether written or oral, are expressly qualified by these cautionary statements and any other cautionary statements that may accompany such forward-looking statements or that are otherwise included in this report. Although forward-looking statements reflect our good faith beliefs at the time made, reliance should not be placed on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which may cause our actual results, performance or achievements to differ materially from anticipated future results, performance or achievements expressed or implied by such forward-looking statements. In addition, we do not undertake and expressly disclaim any obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this report or otherwise.

Item 3. *Quantitative and Qualitative Disclosures about Market Risk.*

The information in this section should be read in connection with the information on financial market risk related to changes in interest rates and currency exchange rates in Item 7A. *Quantitative and Qualitative Disclosures About Market Risk* of Part II of our 2019 Annual Report. Our primary exposure to market risk relates to unfavorable changes in concentration of credit risk, interest rates and currency exchange rates.

Credit Risk. We are subject to concentrations of credit risk related to our cash and cash equivalents and net receivable position with customers, which includes amounts related to billed and unbilled accounts receivable and contract assets net of advanced billings with the same customer. Substantially all of our cash and cash equivalents are managed by what we believe to be high credit quality financial institutions. In accordance with our investment policies, these institutions are authorized to invest cash and cash equivalents in a diversified portfolio of what we believe to be high-quality investments, which primarily include interest-bearing demand deposits, money market investments and money market mutual funds. Although we do not currently believe the principal amounts of these cash and cash equivalents are subject to any material risk of loss, changes in economic conditions could impact the interest income we receive from these investments.

In addition, we grant credit under normal payment terms, generally without collateral, and therefore are subject to potential credit risk related to our customers' inability to pay for services provided. For example, in January 2019 one of our largest customers, PG&E, filed for bankruptcy protection under Chapter 11 of the U.S. Bankruptcy Code, as amended. See Item 2. *Management's Discussion and Analysis of Financial Condition and Results of Operations — Concentration of Credit Risk* for additional information regarding this bankruptcy matter. Furthermore, the risk of nonpayment may be heightened as a result of depressed economic and financial market conditions, including in connection with the ongoing COVID-19 pandemic and the significant decline in commodity prices and volatility in commodity production volumes. We believe the concentration of credit risk related to billed and unbilled receivables and contract assets is limited because of the diversity of our customers, and we perform ongoing credit risk assessments of our customers and financial institutions and in some cases obtain collateral or other security from our customers.

Interest Rate Risk. As of September 30, 2020, we had no derivative financial instruments to manage interest rate risk. As such, we were exposed to earnings and fair value risk due to changes in interest rates with respect to our long-term obligations. As of September 30, 2020, the fair value of our variable rate debt of $195.4 million approximated book value. Our weighted average interest rate on our variable rate debt for the three months ended September 30, 2020 was 1.57%. The annual effect on our pretax earnings of a hypothetical 50 basis point increase or decrease in variable interest rates would be approximately $1.0 million based on our September 30, 2020 balance of variable rate debt, which is comprised of borrowings under the credit agreement for our senior credit facility.

Foreign Currency Risk. The U.S. dollar is the functional currency for the majority of our operations, which are primarily located within the United States. The functional currency for our foreign operations, which are primarily located in Canada and Australia, is typically the currency of the country in which the foreign operating unit is located. Accordingly, our financial performance is subject to fluctuation due to changes in foreign currency exchange rates relative to the U.S. dollar. During the three and nine months ended September 30, 2020, revenues from our foreign operations accounted for 12.9% and 14.3% of our consolidated revenues. Fluctuations in foreign exchange rates during the three and nine months ended September 30, 2020 caused decreases of approximately $1 million and $23 million in foreign revenues compared to the three and nine months ended September 30, 2019.

We are also subject to foreign currency risk with respect to sales, purchases and borrowings that are denominated in a currency other than the respective functional currencies of our operating units. To minimize the risk from changes in foreign currency exchange rates, we may enter into foreign currency derivative contracts to hedge our foreign currency risk on a cash flow basis. There were no outstanding foreign currency derivative contracts at September 30, 2020.

We also have foreign exchange risk related to cash and cash equivalents in foreign banks. Based on the balance of cash and cash equivalents in foreign banks of $27.9 million as of September 30, 2020, an assumed 5% adverse change to foreign exchange rates would result in a fair value decline of $0.7 million.

Item 4. *Controls and Procedures.*

Attached as exhibits to this Quarterly Report on Form 10-Q are certifications of Quanta's Chief Executive Officer and Chief Financial Officer that are required in accordance with Rule 13a-14 of the Securities Exchange Act of 1934, as amended (the Exchange Act). This item includes information concerning the controls and controls evaluation referred to in the certifications, and it should be read in conjunction with the certifications for a more complete understanding of the topics presented.

Evaluation of Disclosure Controls and Procedures

Our management has established and maintains a system of disclosure controls and procedures that are designed to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act, such as this Quarterly Report, is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms. The disclosure controls and procedures are also designed to provide reasonable assurance that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

As of the end of the period covered by this Quarterly Report, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Rule 13a-15(b) of the Exchange Act. This evaluation was carried out under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer. Based on this evaluation, these officers have concluded that, as of September 30, 2020, our disclosure controls and procedures were effective to provide reasonable assurance of achieving their objectives.

Evaluation of Internal Control over Financial Reporting

No change in our internal control over financial reporting occurred during the quarter ended September 30, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Design and Operation of Control Systems

Our management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and breakdowns can occur because of simple errors or mistakes. Controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

PART II — OTHER INFORMATION

Item 1. *Legal Proceedings.*

We are from time to time party to various lawsuits, claims and other legal proceedings that arise in the ordinary course of business. These actions typically seek, among other things, compensation for alleged personal injury, breach of contract and/or property damages, employment-related damages, punitive damages, civil penalties or other losses, or injunctive or declaratory relief. With respect to all such lawsuits, claims and proceedings, we record a reserve when it is probable that a loss has been incurred and the amount of loss can be reasonably estimated. In addition, we disclose matters for which management believes a material loss is at least reasonably possible. See Note 11 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report, which is incorporated by reference in this Item 1, for additional information regarding litigation, claims and other legal proceedings.

Item 1A. *Risk Factors.*

Our business is subject to a variety of risks and uncertainties that are difficult to predict and many of which are outside of our control. For a detailed discussion of the risks that affect our business, refer to Item 1A. *Risk Factors* of Part I of our 2019 Annual Report. As of the date of this filing, there have been no material changes to the risk factors previously described in our 2019 Annual Report, except as set forth below and except that the potential effects of the COVID-19 pandemic may also have the effect of heightening many of the other risks described in our 2019 Annual Report

The matters specifically identified are not the only risks and uncertainties facing our company, and additional risks and uncertainties not known to us or not specifically identified may also impair our business. If any of these risks and uncertainties occur, our business, financial condition, results of operations and cash flows could be negatively impacted, which could negatively impact the value of an investment in our company.

The effects of the COVID-19 pandemic and related economic repercussions have materially affected how we and our customers are operating our businesses, and the duration and extent to which this will negatively impact our future results of operations and overall financial performance remains uncertain.

The COVID-19 pandemic has negatively impacted the global economy, disrupted consumer spending and global supply chains, and created significant volatility and disruption of financial markets. We have experienced some resulting disruptions to our business operations, and we expect the COVID-19 pandemic could continue to have a material adverse impact on our business and financial performance. The extent of the impact of the COVID-19 pandemic on our business and financial performance, including our ability to execute our near-term and long-term business strategies and initiatives in the expected time frame, will depend on future developments, including the duration and severity of the pandemic, the resulting governmental and other measures implemented to address the pandemic and the development and availability of effective treatments and vaccines, which are uncertain and cannot be predicted.

We have been negatively impacted by the COVID-19 pandemic as a result of the shelter-in-place restrictions and work disruptions in some of our service areas creating disruptions to portions of our operations, particularly in major metropolitan markets that have been meaningfully impacted by the pandemic and in Latin America. We have also experienced permitting and regulatory delays attributable to the COVID-19 pandemic. Restrictions on operations related to industrial facilities have also resulted in suspensions and delays related to our high-pressure and critical-path turnaround services to the downstream and midstream energy markets. In addition to these current dynamics, the COVID-19 pandemic may create or exacerbate risks related to our operations and regulatory and compliance matters, including as a result of:

- evolving governmental guidance or requirements, including travel and movement restrictions, that continue to impact our ability to perform services or complete projects in accordance with required delivery schedules, which could result in additional costs or penalties (e.g., liquidated damages);
- additional delays with respect to permitting and regulatory matters;
- additional project deferrals, delays, and cancellations and changes in customer spending patterns and strategic plans as a result of, among other things, prolonged decreases in energy demand, lack of available financing for our customers' businesses or termination of, or force majeure events arising under, existing customer agreements;
- governmental guidance or requirements, including work-from-home policies, or potential illness that negatively impact the availability or productivity of our key personnel or a significant number of employees or cause other disruptions to our business, corporate governance or financial reporting processes;
- increased payment risk associated with customers experiencing financial difficulties (including bankruptcy) and an increase in disputes with customers relating to billing and payment under contracts and change orders;

- potential liabilities and reputational harm related to occupational health and safety matters associated with COVID-19;
- our inability to execute our business strategy, including with respect to certain capital investments such as acquisitions, investments and service offering expansions;
- limitations on the ability of our suppliers, vendors and subcontractors to perform;
- asset impairment charges related to property and equipment, goodwill, other intangible assets, other long-lived assets and investments;
- additional costs associated with restructuring, severance and related matters, potential mandated increases in pay for critical infrastructure workers or other increased employment-related costs (e.g., workers' compensation insurance claims); and
- an increase in cyber-attacks and attempted intrusions into our information technology systems as a result of, among other things, increased reliance on such systems.

Additionally, oil demand has significantly deteriorated as a result of the COVID-19 pandemic and corresponding preventative measures taken around the world to mitigate the spread of the COVID-19. At the same time, prior increases in production of oil by certain producers created a significant surplus in the supply of oil. The impact of these events has resulted in downward pressure on commodity prices, which has negatively impacted, and may continue to negatively impact, certain services within our Pipeline and Industrial Infrastructure Services segment and has resulted in impairment losses of $8.7 million related to certain non-integral equity method investments and may result in future impairment losses associated with goodwill and other intangible assets. Lower commodity prices and production volumes, or perceived risk thereof, can also result in decreased or delayed spending by our customers, including with respect to larger pipeline and industrial projects. A decline in commodity prices, production or the development of resource plays can also negatively impact certain portions of our Electric Power Infrastructure Services segment.

Furthermore, given the uncertain duration of the COVID-19 pandemic, we may face potential challenges related to financing our business in the future. During the three months ended September 30, 2020, we completed the issuance of $1.00 billion aggregate principal amount of 2.900% Senior Notes due October 1, 2030, which allowed us to prepay the outstanding term loans under our senior credit facility, and amended our senior credit facility to, among other things, increase the aggregate revolving commitments from $2.14 billion to $2.51 billion and extended the maturity date to September 2025. While we do not currently anticipate the need for significant financing initiatives in the near term, fluctuations in economic, political and market conditions could limit our ability to further increase commitments under our senior credit facility, which is dependent on additional commitments from new or existing lenders, or secure additional financing on acceptable terms through capital markets or otherwise.

As a result of these factors, the extent of the impact of the COVID-19 pandemic on our business is highly uncertain and difficult to predict. At this point, we cannot reasonably estimate the duration and severity of the COVID-19 pandemic, or its ultimate impact on our business, financial condition, results of operations or cash flows.

Item 2. ***Unregistered Sales of Equity Securities and Use of Proceeds.***

Unregistered Sales of Equity Securities

On July 2, 2020, August 11, 2020 and September 1, 2020, we completed three acquisitions in which a portion of the consideration consisted of the unregistered issuance of shares of our common stock. The aggregate consideration paid at closing in these acquisitions included 1,087,774 shares of our common stock, valued at $45.5 million as of the acquisition dates. For additional information about these acquisitions, see Note 4 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report. The shares of common stock issued in this transaction were issued in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act of 1933, as amended, as the shares were issued to the owners of the business acquired in a privately negotiated transaction not involving any public offering or solicitation.

Issuer Purchases of Equity Securities During the Third Quarter of 2020

The following table contains information about our purchases of equity securities during the three months ended September 30, 2020.

Period	Total Number of Shares Purchased (1)(2)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares that may yet be Purchased Under the Plans or Programs (1)
July 1 - 31, 2020				
Open Market Stock Repurchases (1)	—	$ —	—	$ 86,756,136
Tax Withholdings (2)	5,759	$ 40.54	—	
August 1 - 31, 2020				
Open Market Stock Repurchases (1)	—	$ —	—	$ 586,756,136
Tax Withholdings (2)	9,804	$ 51.00	—	
September 1 - 30, 2020				
Open Market Stock Repurchases (1)	—	$ —	—	$ 586,756,136
Tax Withholdings (2)	1,535	$ 51.25	—	
Total	17,098		—	$ 586,756,136

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(1) Includes shares repurchased as of the trade date of such repurchases. On September 4, 2018, we issued a press release announcing that our Board of Directors approved a stock repurchase program that authorizes us to purchase, from time to time through June 30, 2021, up to $500.0 million of our outstanding common stock. Additionally, on August 6, 2020, we issued a press release announcing that our Board of Directors approved a stock repurchase program that authorizes us to purchase, from time to time through June 30, 2023, up to an additional $500.0 million of our outstanding common stock. Repurchases under these programs can be made in open market and privately negotiated transactions, at our discretion, based on market and business conditions, applicable contractual and legal requirements and other factors. These programs do not obligate us to acquire any specific amount of common stock and may be modified or terminated by our Board of Directors at any time at its sole discretion and without notice.

(2) Includes shares purchased from employees to satisfy tax withholding obligations in connection with the vesting of restricted stock unit and performance unit awards or the settlement of previously vested but deferred restricted stock unit awards.

Item 3. ***Defaults Upon Senior Securities.***

None.

Item 4. ***Mine Safety Disclosures.***

Not applicable.

Item 5. ***Other Information.***

None.

Item 6. ***Exhibits.***

Exhibit No.		Description
3.1		Restated Certificate of Incorporation of Quanta Services, Inc. (previously filed as Exhibit 3.1 to the Company's Form 8-K filed March 26, 2019 and incorporated herein by reference)
3.2		Bylaws of Quanta Services, Inc., as amended and restated December 6, 2018 (previously filed as Exhibit 3.1 to the Company's Form 8-K filed December 11, 2018 and incorporated herein by reference)
4.1		Indenture, dated as of September 22, 2020, between Quanta Services, Inc. and U.S. Bank National Association, as trustee (previously filed as Exhibit 4.1 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
4.2		First Supplemental Indenture, dated as of September 22, 2020, between Quanta Services, Inc. and U.S. Bank National Association, as trustee (previously filed as Exhibit 4.2 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
4.3		Form of 2.900% Senior Notes due 2030 (previously filed as Exhibit 4.3 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
10.1		Sixth Amendment to Fourth Amended and Restated Credit Agreement, dated as of September 22, 2020, among Quanta Services, Inc. and certain subsidiaries of Quanta Services, Inc., as Borrowers, certain subsidiaries of Quanta Services, Inc. identified therein as Guarantors, the lenders party thereto, Bank of America, N.A., as Administrative Agent, and the Swing Line Lenders and L/C Issuers party thereto (previously filed as Exhibit 10.1 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
10.2		Eighth Amendment to Underwriting, Continuing Indemnity and Security Agreement, dated as of September 22, 2020, among Federal Insurance Company, American Home Assurance Company, National Union Fire Insurance Company of Pittsburgh, Pa., The Insurance Company of the State of Pennsylvania, Liberty Mutual Insurance Company, Liberty Mutual Fire Insurance Company, Safeco Insurance Company of America, Quanta Services, Inc. and the other Indemnitors identified therein (previously filed as Exhibit 10.2 to the Company's Form 8-K filed September 25, 2020 and incorporated herein by reference)
31.1	*	Certification by Chief Executive Officer pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
31.2	*	Certification by Chief Financial Officer pursuant to Rule 13a -14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
32.1	*	Certification by Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
101	*	The following financial statements from the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, formatted in Inline XBRL: (i) Condensed Consolidated Balance Sheets, (ii) Condensed Consolidated Statements of Operations, (iii) Condensed Consolidated Statements of Comprehensive Income, (iv) Condensed Consolidated Statements of Cash Flows, (v) Condensed Consolidated Statements of Equity and (vi) Notes to Condensed Consolidated Financial Statements, tagged as blocks of text and with detailed tags
104	*	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, formatted in Inline XBRL (included as Exhibit 101)

* Filed or furnished herewith

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant, Quanta Services, Inc., has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

QUANTA SERVICES, INC.

By: /s/ JERRY K. LEMON

Jerry K. Lemon
Chief Accounting Officer
(Principal Accounting Officer)

Dated: October 30, 2020

Exhibit 31.1

I, Earl C. Austin, Jr., certify that:

1. I have reviewed this quarterly report on Form 10-Q of Quanta Services, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: October 30, 2020

By: /s/ EARL C. AUSTIN, JR.
Earl C. Austin, Jr.
President, Chief Executive Officer and Chief Operating Officer
(Principal Executive Officer)

Exhibit 31.2

I, Derrick A. Jensen, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Quanta Services, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: October 30, 2020

By: /s/ DERRICK A. JENSEN
Derrick A. Jensen
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION

PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO

SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Each of the undersigned officers of Quanta Services, Inc. (the "Company") hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to such officer's knowledge that:

(1) the accompanying Form 10-Q report for the period ending September 30, 2020 as filed with the U.S. Securities and Exchange Commission (the "Report") fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company as of the dates and for the periods expressed in the Report.

Dated: October 30, 2020

/s/ EARL C. AUSTIN, JR.

Earl C. Austin, Jr.
President, Chief Executive Officer and Chief Operating Officer

Dated: October 30, 2020

/s/ DERRICK A. JENSEN

Derrick A. Jensen
Chief Financial Officer