QUANTA SERVICES INC
Form 10-Q
May 09, 2018

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-Q
(Mark One)

þ	QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
	For the quarterly period ended March 31, 2018.
or	
o	TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
	For the transition period from to .

Commission file no. 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)

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 x No o
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes x No o
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 x	Accelerated filer o
Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o
	Emerging growth company o

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 revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

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

As of May 2, 2018, the number of outstanding shares of Common Stock of the Registrant was 149,609,186. As of the same date, 449,929 exchangeable shares of a Canadian subsidiary of the Registrant associated with one share of Series G Preferred Stock of the Registrant were outstanding and an additional 36,183 exchangeable shares of another Canadian subsidiary of the Registrant were outstanding.

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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)

	March 31, 2018	December 31, 2017
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 101,736	$ 138,285
Accounts receivable, net of allowances of $5,090 and $4,465	2,088,682	1,985,077
Contract assets	498,190	497,292
Inventories	94,548	80,890
Prepaid expenses and other current assets	173,913	168,363
Total current assets	2,957,069	2,869,907
Property and equipment, net of accumulated depreciation of $1,011,535 and $981,275	1,301,545	1,288,602
Other assets, net	221,091	189,866
Other intangible assets, net of accumulated amortization of $343,862 and $335,507	270,826	263,179
Goodwill	1,902,871	1,868,600
Total assets	$ 6,653,402	$ 6,480,154
LIABILITIES AND EQUITY		
Current Liabilities:		
Current maturities of long-term debt	$ 2,775	$ 1,220
Accounts payable and accrued expenses	1,040,661	1,057,460
Contract liabilities	506,203	433,387
Total current liabilities	1,549,639	1,492,067
Long-term debt and notes payable, net of current maturities	882,795	670,721
Deferred income taxes	196,892	179,381
Insurance and other non-current liabilities	377,111	342,356
Total liabilities	3,006,437	2,684,525
Commitments and Contingencies		
Equity:		
Common stock, $.00001 par value, 600,000,000 shares authorized, 156,828,701 and 155,219,154 shares issued, and 149,600,337 and 153,342,326 shares outstanding	2	2
Exchangeable shares, no par value, 486,112 shares issued and outstanding	—	—
Series G Preferred Stock, $.00001 par value, 1 share authorized, issued and outstanding	—	—
Additional paid-in capital	1,920,897	1,889,356
Retained earnings	2,226,916	2,191,059
Accumulated other comprehensive loss	(228,409)	(203,395)
Treasury stock, 7,228,364 and 1,876,828 common shares	(276,054)	(85,451)
Total stockholders’ equity	3,643,352	3,791,571
Non-controlling interests	3,613	4,058
Total equity	3,646,965	3,795,629

Total liabilities and equity	$6,653,402	$6,480,154

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 March 31,	
	2018	2017
Revenues	$2,417,576	$2,178,170
Cost of services (including depreciation)	2,116,528	1,911,982
Gross profit	301,048	266,188
Selling, general and administrative expenses	215,422	184,552
Amortization of intangible assets	10,405	6,562
Operating income	75,221	75,074
Interest expense	(6,778)	(3,965)
Interest income	146	287
Other income (expense), net	(11,975)	(364)
Income before income taxes	56,614	71,032
Provision for income taxes	18,003	22,592
Net income	38,611	48,440
Less: Net income attributable to non-controlling interests	997	173
Net income attributable to common stock	$37,614	$48,267
Earnings per share attributable to common stock - basic and diluted	$0.24	$0.31
Shares used in computing earnings per share:		
Weighted average basic shares outstanding	156,546	155,168
Weighted average diluted shares outstanding	157,556	155,168

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

QUANTA SERVICES, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In thousands)
(Unaudited)

	Three Months Ended March 31,	
	2018	2017
Net income	$38,611	$48,440
Other comprehensive income (loss), net of tax provision:		
Foreign currency translation adjustment, net of tax of $0 and $0	(25,014)	13,821
Other comprehensive income (loss)	(25,014)	13,821
Comprehensive income	13,597	62,261
Less: Comprehensive income attributable to non-controlling interests	997	173
Total comprehensive income attributable to Quanta stockholders	$12,600	$62,088

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

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QUANTA SERVICES, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Three Months Ended March 31, 2018	2017
Cash Flows from Operating Activities:		
Net income	$38,611	$48,440
Adjustments to reconcile net income to net cash provided by (used in) operating activities—		
Depreciation	48,719	42,693
Amortization of intangible assets	10,405	6,562
Equity in losses of unconsolidated affiliates	13,343	603
Amortization of debt issuance costs	288	340
Loss on sale of property and equipment	963	1,841
Foreign currency (gain) loss	(651)	221
Provision for doubtful accounts	845	865
Deferred income tax provision (benefit)	16,377	(36)
Non-cash stock-based compensation	14,687	11,866
Changes in operating assets and liabilities, net of non-cash transactions	(117,594)	(117,100)
Net cash provided by (used in) operating activities	25,993	(3,705)
Cash Flows from Investing Activities:		
Additions of property and equipment	(66,807)	(47,024)
Proceeds from sale of property and equipment	5,769	4,801
Proceeds from insurance settlements related to property and equipment	—	597
Cash paid for acquisitions, net of cash, cash equivalents and restricted cash acquired	(30,728)	(1,527)
Investments in and return of equity from unconsolidated affiliates	(838)	(3,725)
Cash received from (paid for) other investments, net	706	(1,701)
Net cash used in investing activities	(91,898)	(48,579)
Cash Flows from Financing Activities:		
Borrowings under credit facility	974,948	697,211
Payments under credit facility	(760,369)	(631,441)
Payments on other long-term debt	(346)	(1,529)
Payments on short-term debt	—	(2,783)
Distributions to non-controlling interests	(980)	(980)
Payments related to tax withholding for share-based compensation	(12,621)	(16,192)
Exercise of stock options	—	25
Repurchase of common stock	(173,913)	—
Net cash provided by financing activities	26,719	44,311
Effect of foreign exchange rate changes on cash, cash equivalents and restricted cash	691	1,095
Net decrease in cash, cash equivalents and restricted cash	(38,495)	(6,878)
Cash, cash equivalents and restricted cash, beginning of period	143,775	114,410
Cash, cash equivalents and restricted cash, end of period	$105,280	$107,532

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

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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, offering infrastructure solutions primarily to the electric power, oil and gas and communication industries in the United States, Canada, Australia, Latin America and select other international markets. Quanta reports its results under two reportable segments: (1) Electric Power Infrastructure Services and (2) Oil and Gas Infrastructure Services.

Electric Power Infrastructure Services Segment

The Electric Power Infrastructure Services segment provides comprehensive network solutions to customers in the electric power industry. 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 technologies, and the installation of “smart grid” technologies on electric power networks. In addition, this segment designs, installs and maintains renewable energy generation facilities, consisting of solar, wind and certain types of natural gas generation facilities, and related switchyards and transmission infrastructure. To a lesser extent, the segment also provides comprehensive communications infrastructure services to wireline, fiber and wireless carrier customers within the communications industry; services in connection with the construction of electric power generation facilities; the design, installation, maintenance and repair of commercial and industrial wiring; and the installation of traffic networks and cable and control systems for light rail lines. This segment also includes Quanta’s recently acquired postsecondary educational institution that provides pre-apprenticeship training and programs for experienced linemen.

Oil and Gas Infrastructure Services Segment

The Oil and Gas Infrastructure Services segment provides comprehensive network solutions to customers involved in the development, transportation, storage and processing of natural gas, oil and other pipeline products. Services performed by the Oil and Gas Infrastructure Services segment generally include the design, installation, repair and maintenance of pipeline transmission and distribution systems, gathering systems, production systems, storage systems and compressor and pump stations, as well as related trenching, directional boring and mechanized welding services. In addition, this segment’s services include pipeline protection, integrity testing, rehabilitation and replacement, and fabrication of pipeline support systems and related structures and facilities. Quanta also serves the offshore and inland water energy markets, primarily providing services to oil and gas exploration platforms, including mechanical installation (or “hook-ups”), electrical and instrumentation, pre-commissioning and commissioning, coatings, shallow water pipeline installation, fabrication and marine asset repair. Additionally, Quanta provides high-pressure and critical-path turnaround services to the downstream and midstream energy markets and instrumentation and electrical services, piping, fabrication and storage tank services. To a lesser extent, this segment designs, installs and maintains fueling systems, as well as water and sewer infrastructure.

Acquisitions

In January 2018, Quanta acquired an electrical infrastructure services business specializing in substation construction and relay services and a postsecondary educational institution that provides pre-apprenticeship training and programs for experienced linemen, both of which are located in the United States. The results of the acquired businesses have generally been included in Quanta’s Electric Power Infrastructure Services segment and consolidated financial statements beginning on the acquisition dates.

On July 20, 2017, Quanta acquired Stronghold, Ltd. and Stronghold Specialty, Ltd. (collectively Stronghold), a specialized services business located in the United States that provides high-pressure and critical-path solutions to the downstream and midstream energy markets. The results of the acquired business are generally included in Quanta’s Oil and Gas Infrastructure Services segment and have been included in Quanta’s consolidated financial statements beginning on the acquisition date.

During the year ended December 31, 2017, Quanta also acquired a communications infrastructure services contractor and an electrical and communications contractor, both of which are located in the United States. The results of these acquired businesses are generally included in Quanta’s Electric Power Infrastructure Services segment and have been included in Quanta’s consolidated financial statements beginning on the respective acquisition dates.

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 U.S. Generally Accepted Accounting Principles (US 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, 2017, which was filed with the SEC on February 28, 2018.

Reclassifications

Quanta reclassified certain prior period amounts related to restricted cash and proceeds from the settlement of insurance claims related to property and equipment in the accompanying condensed consolidated statements of cash flows to conform to the current period presentation under recently adopted accounting updates. See Note 3 for further details regarding these updates. Certain reclassifications have also been made to Quanta's condensed consolidated statements of operations for 2017 to conform to classifications for 2018. Additionally, the amounts previously reported as "Costs and estimated earnings in excess of billings on uncompleted contracts" and "Billings in excess of costs and estimated earnings on uncompleted contracts" on Quanta's condensed consolidated balance sheets have been included in the newly titled "Contract assets" and "Contract liabilities" in accordance with the newly adopted revenue recognition guidance discussed below and in Note 3.

Use of Estimates and Assumptions

The preparation of financial statements in conformity with US 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 doubtful accounts, valuation of inventory, useful lives of assets, fair value assumptions in analyzing goodwill, other intangibles and long-lived asset impairments, equity and other investments, loan receivables, purchase price allocations, acquisition-related contingent consideration liabilities, liabilities for insurance and other claims and guarantees, multiemployer pension plan withdrawal liabilities, contingent liabilities, revenue recognition for construction contracts inclusive of contractual change orders and claims, share-based compensation, operating results of reportable segments, as well as the provision for income taxes and the calculation of uncertain tax positions.

Cash and Cash Equivalents

Quanta had cash and cash equivalents of $101.7 million and $138.3 million as of March 31, 2018 and December 31, 2017. 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 March 31, 2018 and December 31, 2017, cash equivalents were $7.1 million and $7.1 million, and consisted primarily of money market investments and money market mutual funds and are discussed further in Fair Value Measurements below. As of March 31, 2018 and December 31, 2017, cash and cash equivalents held in domestic bank accounts were $78.0 million and $83.1 million, and cash and cash equivalents held in foreign bank accounts were $23.7 million and $55.2 million. As of March 31, 2018 and December 31, 2017, cash and cash equivalents held by joint ventures, which are either consolidated or proportionately consolidated, were $11.3 million and $16.7 million, of which $10.6 million and $10.0 million related to domestic joint ventures. Cash and cash equivalents held by the joint ventures are available to support joint venture operations, but Quanta cannot utilize those assets to support its other operations. Quanta generally has no right to the joint ventures' cash and cash equivalents other than participating in distributions and in the event of dissolution.

Current and Long-Term Accounts and Notes Receivable and Allowance for Doubtful Accounts

Quanta provides an allowance for doubtful accounts when collection of an account or note receivable is considered doubtful, and receivables are written off against the allowance when deemed uncollectible. Inherent in the assessment of the allowance for doubtful accounts are certain judgments and estimates regarding, among other factors, the customer's access to capital, the customer's willingness or ability to pay, general economic and market conditions, the ongoing relationship with the customer and uncertainties related to the resolution of disputed matters. Quanta considers accounts receivable delinquent after 30 days but does not generally include delinquent accounts in its analysis of the allowance for doubtful accounts unless the accounts receivable have been outstanding for at least 90 days. Quanta also includes accounts receivable balances that relate to customers in bankruptcy or with other known difficulties in its analysis of the allowance for doubtful accounts. Material changes in customers' business or cash flows, which may be impacted by negative economic and market conditions, could affect Quanta's ability to collect amounts due. As of March 31, 2018 and December 31, 2017, Quanta had allowances for doubtful accounts on current receivables of $5.1 million and $4.5 million. Long-term accounts receivable are included within "Other assets, net" in the accompanying condensed consolidated balance sheets.

Should customers experience financial difficulties or file for bankruptcy, or should anticipated recoveries relating to receivables in existing bankruptcies or other workout situations fail to materialize, Quanta could experience reduced cash flows and losses in excess of current allowances provided.

Some contracts allow customers to withhold a small percentage of billings pursuant to retainage provisions, and such amounts are generally due upon completion of the contracts and acceptance by the customer. Based on Quanta's experience with similar contracts in recent years, the majority of the retainage balances at each balance sheet date are expected to be collected within the next twelve months. Current retainage balances as of March 31, 2018 and December 31, 2017 were $277.7 million and $300.5 million and were included in "Accounts receivable." Retainage balances with settlement dates beyond the next twelve months were included in "Other assets, net," and as of March 31, 2018 and December 31, 2017 were $69.9 million and $41.9 million.

Quanta recognizes unbilled receivables 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, costs have been incurred but are yet to be billed under cost-reimbursement type contracts, 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 revenue recognized for work performed under fixed-price contracts, as these amounts are recorded as "Contract assets." At March 31, 2018 and December 31, 2017, the balances of unbilled receivables included in "Accounts receivable" were $387.9 million and $303.9 million.

Goodwill

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. An annual assessment for impairment is performed for each operating unit that carries a balance of goodwill. Quanta’s operating units are organized into one of two internal divisions: the Electric Power Infrastructure Services Division and the Oil and Gas 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 impairments.

An annual, or interim, goodwill impairment test is performed by comparing the fair value of a reporting unit with its carrying amount and recognizing an impairment charge for the amount by which the carrying amount exceeds the fair value. The income tax effect associated with an impairment of tax deductible goodwill is also considered in the measurement of the goodwill impairment.

Quanta has the option to first assess qualitative factors to determine whether it is necessary to perform the quantitative fair value-based impairment test described below. 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. Quanta can choose to perform the qualitative assessment on none, some or all of its reporting units. Quanta can also bypass the qualitative assessment for any reporting unit in any period and proceed directly to the quantitative impairment test, and then resume the qualitative assessment in any subsequent period. Qualitative indicators including deterioration in macroeconomic conditions, declining financial performance, or a sustained decrease in share price, among other things, may trigger the need for annual or interim impairment testing of goodwill associated with one or all of the reporting units.

Quanta's annual goodwill impairment assessment is performed in the fourth quarter of its fiscal year, or more frequently if events or circumstances arise which indicate that goodwill may be impaired. For instance, a decrease in Quanta's market capitalization below book value, a significant change in business climate or loss of a significant customer, as well as the qualitative indicators referenced above, may trigger the need for interim impairment testing of goodwill for a reporting unit. The quantitative impairment 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 consolidated statements of operations. Any goodwill impairment is limited to the total amount of goodwill allocated to that reporting unit.

Quanta determines the fair value of its reporting units using a weighted combination of the discounted cash flow, market multiple and market capitalization valuation approaches, with heavier weighting on the discounted cash flow method because management believes this method results in the most accurate calculation of fair value. Determining the fair value of a reporting unit requires judgment and the use of significant estimates and assumptions, including revenue growth rates, operating margins, discount rates, weighted average costs of capital and future market conditions. Quanta believes the estimates and assumptions used in its impairment assessments are reasonable and based on available market information, but variations in any of the assumptions could result in materially different calculations of fair value and determinations of whether or not an impairment is indicated.

Under the discounted cash flow method, Quanta determines fair value based on the estimated future cash flows of each reporting unit, discounted to present value using risk-adjusted industry discount rates, which reflect the overall level of inherent risk of a reporting unit and the rate of return an outside investor would expect to earn. Cash flow projections are derived from budgeted amounts and operating forecasts (typically a one-year model) plus an estimate of later period cash flows, all of which are evaluated by management. Subsequent period cash flows are developed for each reporting unit using growth rates that management believes are reasonably likely to occur, along with a terminal value derived from the reporting unit's earnings before interest, taxes, depreciation and amortization (EBITDA). The EBITDA multiples for each reporting unit are based on trailing twelve-month comparable industry data.

Under the market multiple and market capitalization approaches, Quanta determines the estimated fair value of each of its reporting units by applying transaction multiples 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. For the market capitalization approach, Quanta adds a reasonable control premium, which is estimated as the premium that would be received in a sale of the reporting unit in an orderly transaction between market participants.

For recently acquired reporting units, a quantitative impairment test may indicate a fair value that is substantially similar to the reporting unit's carrying amount. Such similarities in value are generally an indication that management's estimates of future cash flows associated with the recently acquired reporting unit remain relatively consistent with the assumptions that were used to derive its initial fair value.

During the fourth quarter of 2017, a quantitative fair-value based goodwill impairment analysis indicated that the fair value of each of Quanta's reporting units, with the exception of two reporting units in its Oil and Gas Infrastructure Services Division, was in excess of its carrying amount. Quanta recorded a $57.0 million non-cash charge in the fourth quarter of 2017 for the impairment of goodwill associated with a reporting unit that provides material handling services, which achieved lower operating

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

margins than anticipated during 2017 and is expected to continue to face a highly competitive environment in its select markets and a reporting unit that provides marine and offshore services, which has experienced prolonged periods of reduced revenues and operating margins and is expected to continue to experience lower levels of activity in the U.S. Gulf of Mexico and other offshore markets. Assuming a 10% decrease in the fair value of each of Quanta's reporting units, one additional reporting unit within Quanta's Oil and Gas Infrastructure Services Division would have had a fair value below its carrying amount. Circumstances such as market declines, unfavorable economic conditions, loss of a major customer or other factors could increase the risk of impairment of goodwill for this reporting unit in future periods.

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. Certain operating units have experienced declines over the short-term due to challenging macroeconomic conditions in certain geographic areas and low oil and natural gas prices, which have negatively impacted customer spending and resulted in project cancellations and delays. Additionally, customer capital spending has been constrained as a result of an increasingly complex regulatory and permitting environment. Certain operating units within Quanta's Oil and Gas Infrastructure Services Division that primarily operate within the midstream and smaller-scale transmission market, including the reporting units referenced above, have continued to be negatively impacted by these factors. Goodwill and intangible assets associated with these operating units were $49.4 million and $13.9 million at March 31, 2018. Quanta monitors these conditions and others to determine if it is necessary to perform the quantitative fair-value based impairment test for one or more operating units prior to the annual impairment assessment. No interim impairment charges were recorded during the three months ended March 31, 2018. Although Quanta is not aware of circumstances that would lead to additional goodwill impairments at this time, circumstances such as a continued market decline, the loss of a major customer or other factors could impact the valuation of goodwill in the future.

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. The 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 excess earnings method. This analysis 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 following table presents the significant estimates used by management in determining the fair values of customer relationships associated with acquisitions in the three months ended March 31, 2018 and year ended December 31, 2017:

	2018	2017
Discount rates	25%	17% to 25%
Customer attrition rates	20%	15% to 78%

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 value of trade names and curriculum are estimated using the relief-from-royalty method of the income approach. This approach 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 and curriculum.

Quanta amortizes intangible assets 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 subject to amortization 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. Intangible asset impairments are included within "Asset impairment charges" in the consolidated statements of operations, when applicable.

During the fourth quarter of 2017, Quanta recorded an impairment charge of $1.1 million related to a customer relationship intangible asset, which primarily resulted from a strategic decision to restructure a business within a reporting unit in the Oil and Gas Infrastructure Services Division.

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. As part of this strategy, Quanta formed a partnership with select investors that provides up to $1.0 billion of capital, including approximately $80.0 million from Quanta, available to invest in certain of these infrastructure projects through August 2024. 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 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. Quanta's share of net income or losses from unconsolidated equity investments is reported as equity in earnings (losses) of unconsolidated affiliates, which is included in "Other income (expense)" in the accompanying condensed consolidated statements of operations. Equity investments are reviewed for impairment by assessing whether any decline in the fair value of the investment below the carrying amount 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 an earnings capacity are evaluated in determining whether a loss in value should be recognized. Any impairment losses related to investments would be recognized in equity in earnings (losses) of unconsolidated affiliates. Equity method investments are carried at original cost and are included in "Other assets, net" in Quanta's accompanying condensed consolidated balance sheets and are adjusted for Quanta's proportionate share of the investees' income, losses and distributions.

Quanta has a minority ownership interest in a limited partnership that was selected during 2014 to build, own and operate a new electric transmission line and two substations in Alberta, Canada. The limited partnership contracted with a Quanta subsidiary to perform the engineering, procurement and construction (EPC) services for the project, and the Quanta subsidiary recognizes revenue and related cost of services as performance progresses on the project. However, due to Quanta's ownership interest, a proportional amount of the EPC profit is deferred until the electric transmission line and related substations are constructed and ownership of the assets is deemed to be transferred to the third party customer. The profit deferral has been recorded as a decrease to the equity method investment included in "Other assets, net" in the accompanying condensed consolidated balance sheets and as a component of equity in earnings (losses) of unconsolidated affiliates, which is included in "Other income (expense)" in the accompanying condensed consolidated statements of operations. See Notes 8 and 10 for additional disclosures related to investments.

Revenue Recognition

As discussed in Note 3, effective January 1, 2018, Quanta adopted new revenue recognition guidance using the modified retrospective transition method, applying the guidance to contracts with customers that were not substantially complete as of such date. Quanta's financial results for reporting periods after January 1, 2018 are presented under the new guidance, while financial results for prior periods will continue to be reported in accordance with the prior guidance and Quanta's historical accounting policy. The net cumulative adjustment due to adoption of the new guidance was a $1.8 million reduction to retained earnings as of January 1, 2018, which primarily related to certain contracts that are now accounted for as a single performance obligation but were previously accounted for separately for revenue recognition purposes. Quanta does not anticipate significant changes to the pattern of revenue recognition for contracts with customers and does not believe that the guidance surrounding the identification of contracts and performance obligations or the measurement of variable consideration will have a material impact on revenue recognition under its customary contractual arrangements.

Contracts

Quanta designs, installs, upgrades, repairs and maintains infrastructure for customers in the electric power, oil and gas 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-based contracts, cost-plus contracts and fixed price contracts. Transaction prices for unit-based 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 the customer. For contracts with multiple performance obligations, Quanta allocates the transaction price to each performance obligation using its best estimate of the standalone selling price of each distinct good or service in the contract. The standalone selling price is estimated using the expected costs plus a margin approach for each performance obligation.

At March 31, 2018, the aggregate transaction price allocated to unsatisfied or partially satisfied performance obligations was estimated to be approximately $5.19 billion, of which 80.0% was expected to be recognized in the subsequent twelve months. This amount represents 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 has not yet begun. For purposes of calculating remaining performance obligations, Quanta includes all estimated revenues attributable to consolidated joint ventures and 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 additional contract revenues will be earned and are deemed probable of collection. Excluded from remaining performance obligations were 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 such transaction price is then 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 of the continuous transfer of control of the deliverable to the customer. Quanta believes that the following methods provide a faithful depiction of when performance obligations under its contracts with customers are satisfied. Under unit-based contracts with an insignificant amount of partially completed units, Quanta recognizes revenue as units are completed based on contractual pricing amounts. Under unit-based 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 the 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.

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 under the newly adopted revenue recognition guidance. Such costs were not material during the three months ended March 31, 2018.

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 engineers, project managers and financial professionals. Some of the factors that may lead to changes in estimates include concealed or unknown environmental 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; weather conditions; 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 in profitability or losses associated with the related performance obligations. For example, estimated costs

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for a performance obligation may increase from the 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.

Changes in estimates on certain contracts may result in the issuance of change orders and/or claims, which may be approved or unapproved by the customer. Quanta determines the probability that such costs will be recovered based on, among other things, contractual entitlement, past practices with the customer, specific discussions or preliminary negotiations with the customer or verbal approvals by the customer. Quanta recognizes amounts associated with change orders and claims as costs of contract performance in the period incurred if it is not probable that the amounts will be recovered or 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 March 31, 2018 and December 31, 2017, Quanta had recognized revenues of $90.4 million and $144.0 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 were included in "Contract assets" in the accompanying condensed consolidated balance sheets, represent management's estimates of additional contract revenues that had been earned and were probable of collection. The amount ultimately realized by Quanta cannot currently be determined but 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.

During the three months ended March 31, 2018, revenues were favorably impacted by approximately $26 million related to performance obligations satisfied in previous periods. This amount related to changes in estimates for certain projects that had a corresponding impact on revenues.

Quanta's operating results for the three months ended March 31, 2018 were favorably impacted by $10.6 million, or 3.5% of gross profit, as a result of aggregate changes in estimates related to services performed prior to December 31, 2017 on fixed price contracts. The aggregate impact includes a $16.8 million positive change in estimate for an electric transmission project in Canada, on which Quanta successfully executed through project procurement, winter schedule and productivity risks during the first half of the project, resulting in a decrease of the cost contingency amounts associated with the project. This positive change was partially offset by an aggregate negative change in estimates on other ongoing projects. Quanta's operating results for the three months ended March 31, 2017 were negatively impacted by $0.5 million, or 0.2% of gross profit, as a result of aggregate changes in estimates related to services performed prior to December 31, 2016 on fixed price contracts. The aggregate impact included losses of $16.5 million on a natural gas transmission project resulting from weather delays that increased the estimated total costs necessary to complete the project. This project was completed later in 2017. The losses in that period were largely offset by a positive change in the estimate for an unrelated natural gas pipeline project as a result of better than expected performance.

Revenues by Category

The following tables present Quanta's revenue disaggregated by geographic location and contract type for the three months ended March 31, 2018 (in thousands):

	Three Months

	Ended March 31, 2018
By primary geographic location:	
United States	$1,712,427
Canada	538,358
Australia	119,457
Latin America and Other	47,334
Total revenues	$2,417,576

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	Three Months Ended March 31, 2018
By contract type:	
Unit-price contracts	$613,438
Fixed price contracts	1,225,089
Cost-plus contracts	579,049
Total revenues	$2,417,576

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 the intent is 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 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):

	March 31, 2018	December 31, 2017
Contract assets	$498,190	$497,292
Contract liabilities	$506,203	$433,387

The increase in contract liabilities was primarily due to an advanced billing position related to the electric transmission project in Canada mentioned above.

During the three months ended March 31, 2018, Quanta recognized revenue of approximately $264 million related to contract liabilities outstanding at December 31, 2017.

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 until a later date, costs have been incurred but are yet to be billed or if amounts arise from routine lags in billing. 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 $17.8 million and $16.0 million at March 31, 2018 and December 31, 2017.

Impairment losses recognized on contract assets were not material for the three months ended March 31, 2018.

Practical Expedients and Exemptions

Quanta utilizes certain practical expedients and exemptions associated with the new revenue recognition guidance. For example, Quanta elected the modified retrospective transition method, which allowed the guidance to be applied only to contracts that were not considered substantially complete as of January 1, 2018. Additionally, in cases where

Quanta has a right to consideration from a customer in an amount that corresponds directly with the value of Quanta's performance completed to date, Quanta recognizes revenue in the amount to which it has a right to invoice and does not disclose such performance as a remaining performance obligation. Also, contract consideration is not adjusted for the effects of a significant financing component if payment is expected to be collected less than one year from when the services are performed.

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 in those instances where Quanta 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 March 31, 2018, the total amount of unrecognized tax benefits relating to uncertain tax positions was $34.6 million, a decrease from December 31, 2017 of $1.6 million. This decrease resulted primarily from $2.8 million of payments related to uncertain tax positions for tax years 2012, 2013 and 2014, partially offset by a $1.2 million increase in reserves for uncertain tax positions to be taken for 2018. Although the Internal Revenue Service (IRS) completed its examination related to tax years 2010, 2011 and 2012 during the year ended December 31, 2016, Quanta and certain subsidiaries remain under examination by various U.S. state and Canadian and other 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 $13.7 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 are 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 its future consolidated balance sheets, consolidated statements of operations and consolidated statements of comprehensive income. For example, the Tax Cuts and Jobs Act of 2017 (the Tax Act) significantly revised the U.S. corporate tax regime and resulted in a reduction of Quanta’s future effective tax rate and a remeasurement of its deferred tax assets and liabilities.

The Tax Act, among other things, lowered the U.S. federal corporate income tax rate from 35% to 21% effective January 1, 2018, required companies to pay a one-time transition tax on earnings of certain foreign subsidiaries, limited and eliminated certain tax deductions and created new taxes on certain foreign-sourced earnings. Consequently, for the year ended December 31, 2017, Quanta recorded one-time net tax benefits of $70.1 million, including $85.3 million of tax benefits associated with the re-measurement of U.S. federal deferred tax assets and liabilities based on expected future rates (generally 21%), partially offset by an estimated $15.2 million transition tax on post-1986 earnings and profits of certain foreign subsidiaries. Also for the year ended December 31, 2017, an additional one-time tax benefit of $26.7 million was recorded associated with entity restructuring and recapitalization transactions completed by Quanta, partially offset by an $8.5 million decrease in the production activity-related tax benefit resulting from acceleration of certain deductions into 2017.

While Quanta has substantially completed its provisional analysis of the effects of the Tax Act and recorded a reasonable estimate of such effects, the net one-time benefits and calculation of income tax expense related to the Tax Act may differ, possibly materially, due to, among other things, further refinement of Quanta’s calculations, changes in interpretations and assumptions made, additional regulatory guidance, and actions and related accounting policy decisions resulting from the Tax Act. For example, the Tax Act imposes a tax on global intangible low-taxed income

(GILTI), and it is unclear if GILTI should be included in the period in which it is incurred or whether deferred tax assets and liabilities should be recognized for basis differences expected to reverse as GILTI in future years. Quanta continues to analyze the impacts of the GILTI provision; however, due to the complexity of the new rules, Quanta’s analysis is not yet complete. Accordingly, Quanta has not yet made an accounting policy election related to GILTI. Quanta will complete its analysis of the Tax Act over the one-year measurement period ending December 22, 2018, and any adjustments during the measurement period will be included within “Net income” as an adjustment to “Provision for income taxes” on Quanta’s consolidated statement of operations in the reporting period when such adjustments are determined.

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Earnings Per Share

Basic and diluted earnings per share attributable to common stock are computed using the weighted average number of common shares outstanding during the applicable period. Exchangeable shares that were issued pursuant to certain of Quanta's historical acquisitions (as further discussed in Note 8), 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) have been included in the calculation of basic and diluted earnings per share attributable to common stock for the portion of the periods that they were outstanding. Diluted earnings per share attributable to common stock is computed using the weighted average number of common shares 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 programs, the deductible for employer's liability is $1.0 million per occurrence, the deductible for workers' compensation is $5.0 million per occurrence, and the deductibles for auto liability and general liability are $10.0 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. 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 $0.5 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

Some of Quanta's operating units are parties to various 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 their union employees and contribute certain amounts to multiemployer pension plans and employee benefit trusts. Quanta's multiemployer pension plan contribution rates generally are specified in the collective bargaining agreements (usually on an annual basis), and contributions 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 the projects Quanta has ongoing at that time and the need for union resources in connection with those projects. Therefore, Quanta is unable to accurately predict the union employee payroll and the amount of the resulting multiemployer pension plan contribution obligation for future periods.

Stock-Based Compensation

Quanta recognizes compensation expense for restricted stock, restricted stock units (RSUs) and performance units to be settled in common stock based on the fair value of the awards, net of estimated forfeitures. The fair value of these awards is generally determined based on the number of shares or units granted and the closing price of Quanta's common stock on the date of grant; however, the fair value of performance units with market-based metrics is determined using a Monte Carlo simulation valuation methodology. An estimate of future forfeitures, based on historical data, is utilized to determine the period expense. Such estimates are subject to change and may impact the value that will ultimately be recognized as compensation expense. The resulting compensation expense for performance unit 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 performance units can also vary from period to period based on changes in the total number of shares of common stock that Quanta anticipates will be issued upon vesting of such performance units. 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 on the settlement date of one share of Quanta common stock, as specified in the applicable award agreement. For additional information on Quanta's restricted stock, RSU and performance unit awards, see Note 9.

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, Australia and Latin America, 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. The treatment of foreign currency translation gains or losses is dependent upon management's determination of the functional currency, and 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)" 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. Further details are presented in Note 10.

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 March 31, 2018 and December 31, 2017, 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, the payment of which is contingent upon the future financial and operational performance of the acquired businesses and, if earned, would be payable to the former owners of the acquired businesses. The liabilities recorded represent the estimated fair values of future amounts payable to the former owners, and the fair values are estimated by management based on entity-specific assumptions that are evaluated on an ongoing basis. As of March 31, 2018 and December 31, 2017, the aggregate fair value of these outstanding and unearned contingent consideration liabilities totaled $79.3 million and $65.7 million, which was included in "Insurance and other non-current liabilities" in the accompanying condensed consolidated balance sheets. The fair values of each contingent consideration liability as of March 31, 2018 were determined using a Monte Carlo simulation valuation methodology based on probability-weighted financial and operational performance projections and other inputs, including a discount rate and an expected volatility factor for each acquisition. The discount rates ranged from 2.1% to 3.4% depending on the settlement methods available and are generally based on a risk-free rate and/or Quanta's cost of debt. The expected volatility factors ranged from 23.0% to 31.1% based on historical asset volatility of selected guideline public companies. 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 expects a significant portion of these liabilities to be settled by late 2020 or early 2021.

The majority of Quanta’s contingent consideration liabilities are subject to a maximum payment amount, and the aggregate maximum payout amount for these liabilities was $154.6 million as of March 31, 2018. One contingent consideration liability is not subject to a maximum payout amount, and the fair value of that liability was $1.0 million as of March 31, 2018.

Quanta's aggregate contingent consideration liabilities can change due to additional business acquisitions, payments to settle outstanding liabilities, changes in the fair value of amounts owed, and foreign currency translation gains or losses. During the three months ended March 31, 2018, an acquisition increased Quanta's contingent consideration liabilities by $13.7 million. No acquisitions occurred during the three months ended March 31, 2017. Quanta made no payments related to contingent consideration liabilities during the three months ended March 31, 2018 and 2017. No significant changes to the aggregate fair value of Quanta's contingent consideration liabilities occurred during the three months ended March 31, 2018 and 2017. When applicable, changes in fair value of contingent consideration liabilities are reflected in operating income on Quanta's consolidated statements of operations.

Goodwill and Other Intangible Assets. In connection with Quanta's acquisitions, identifiable intangible assets acquired typically include goodwill, backlog, customer relationships, trade names, covenants not-to-compete, patented rights and developed technology and curriculum. Quanta utilizes the fair value premise as the primary basis for its valuation procedures, which is a market-based approach to determine the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. Quanta periodically engages the services of an independent valuation firm when a new business is acquired to assist management with this valuation process, including assistance with the selection of appropriate valuation methodologies and the development of market-based valuation assumptions. Based on these considerations, management utilizes various valuation methods, including an income approach, a market approach and a cost approach, to determine the fair value of intangible assets acquired based on the appropriateness of each method in relation to the type of asset being valued. The assumptions used in these valuation methods are analyzed and compared, where possible, to available market data, such as industry-based weighted average costs of capital and discount rates, trade name royalty rates, public company valuation multiples and recent market acquisition multiples. In accordance with its annual impairment test during the quarter ended December 31, 2017, the carrying amounts of such assets, including goodwill, were compared to their fair values. The level of inputs used for these fair value measurements is the lowest level (Level 3). Quanta uses the assistance of third party specialists to develop valuation assumptions. Quanta believes that these valuation methods appropriately represent the methods that would be used by other market participants in determining fair value.

Investments and Financial Instruments. Quanta also uses fair value measurements in connection with the valuation of its investments in private company equity interests and financial instruments. These valuations require significant management judgment due to the absence of quoted market prices, the inherent lack of liquidity and the long-term nature of such assets. 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 realizable. If an other-than-temporary decline in the value of an investment occurs, a fair value analysis would be performed to determine the degree to which the investment was impaired and a corresponding charge to earnings would be 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 judgment 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.

Other. The carrying amounts of cash equivalents, accounts receivable and accounts payable and accrued expenses approximate fair value due to the short-term nature of these instruments. The carrying amount of variable rate debt also approximates fair value. All of Quanta's cash equivalents were categorized as Level 1 assets at March 31, 2018 and December 31, 2017, as all values were based on unadjusted quoted prices for identical assets in an active market that Quanta has the ability to access.

3.NEW ACCOUNTING PRONOUNCEMENTS:

Adoption of New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued an update that superseded most revenue recognition guidance, as well as certain cost recognition guidance. The update, together with other clarifying updates, requires that the recognition of revenue related to the transfer of goods or services to customers reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The update also requires additional qualitative and quantitative disclosures about the nature, amount, timing and uncertainty of revenues and cash flows arising from customer contracts, including significant judgments and changes in judgments, and information about contract balances and performance obligations.

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Quanta adopted the new revenue recognition guidance using the modified retrospective transition method effective January 1, 2018, applying the guidance to contracts that were not substantially complete as of such date. Quanta's financial results for reporting periods after January 1, 2018 have been and will be presented under the new guidance, while financial results for prior periods will continue to be reported in accordance with the prior guidance and Quanta's historical accounting policy. The net cumulative adjustment resulting from adoption was a $1.8 million reduction to retained earnings as of January 1, 2018, which primarily related to certain contracts that are now accounted for as a single performance obligation but were previously accounted for separately for revenue recognition purposes. Quanta does not anticipate significant changes to the pattern of revenue recognition for its contracts and does not believe that the guidance surrounding identification of contracts and performance obligations or measurement of variable consideration will have a material impact on the revenue recognition under its customary contractual arrangements. For the three months ended March 31, 2018, the impact related to the adoption of the new revenue recognition guidance on revenues, contract assets and contract liabilities was immaterial. Quanta has also expanded its discussion in Note 2 above to address the quantitative and qualitative disclosure requirements of the new revenue recognition standard.

In January 2016, the FASB issued an update that addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments to provide users of financial statements with more decision-useful information. This update requires equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. Quanta adopted the new standard effective January 1, 2018. Quanta's equity investments that are within the scope of this update do not have readily determinable fair values. Accordingly, Quanta continues to measure these investments at cost less any impairments and also considers changes resulting from any observable price changes as described above. The new standard is not expected to have a material impact on Quanta's consolidated financial statements in the near-term based on the equity investments held at the time of adoption.

In August 2016, the FASB issued an update intended to standardize the classification of certain transactions on the statements of cash flows. These transactions include contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies and distributions received from equity method investments. The new standard requires application using a retrospective transition method. Quanta adopted this guidance effective January 1, 2018, and the changes did not have a material impact on its consolidated financial statements.

In October 2016, the FASB issued an update that requires a reporting entity to recognize the tax expense from the sale of an asset in the seller's tax jurisdiction when the transfer occurs, even though the pre-tax effects of that transaction are eliminated in consolidation. Any deferred tax asset that arises in the buyer's jurisdiction should be recognized at the time of the transfer. The new guidance does not apply to intra-entity transfers of inventory. The income tax consequences from the sale of inventory from one member of a consolidated entity to another will continue to be deferred until the inventory is sold to a third party. Quanta adopted this guidance effective January 1, 2018 utilizing the modified retrospective method, and the changes did not have a material impact on its consolidated financial statements.

In November 2016, the FASB issued an update intended to standardize the classification of restricted cash and cash equivalents transactions on the statement of cash flows. The new guidance requires net cash withdrawn from (deposited to) restricted cash to be removed from investing activities. Additionally, restricted cash balances for each period are included with "Cash and cash equivalents" in order to obtain beginning and ending balances for condensed consolidated statement of cash flow purposes, and any activity between "Cash and cash equivalents" and restricted cash is no longer reported on Quanta's consolidated statements of cash flows. Quanta adopted this guidance effective

January 1, 2018 utilizing the retrospective transition method, and the changes did not have a material impact on its consolidated financial statements. See Note 12 for reconciliations of “Cash and cash equivalents” and restricted cash.
In January 2017, the FASB issued an update intended to clarify whether transactions should be accounted for as acquisitions or disposals of assets or businesses. When substantially all of the fair value of the gross assets acquired or disposed of is concentrated in a single identifiable asset or group of similar identifiable assets, the asset or group is not a business. The update requires, among other things, that to be considered a business, a set of assets and activities must include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create output. Additionally, the update removes the evaluation of whether a market participant could replace missing elements in order to consider the set of assets and activities a business, provides

more stringent criteria for sets without outputs and narrows the definition of output. Quanta adopted this guidance effective January 1, 2018 utilizing the prospective transition method, and the changes did not materially impact its consolidated financial statements.

In May 2017, the FASB issued an update providing guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. A modification should be accounted for unless the following characteristics of the award are unchanged: the fair value, the vesting conditions and the classification as an equity instrument or a liability instrument. Quanta adopted this guidance effective January 1, 2018 using the prospective transition method, and the changes did not materially impact its consolidated financial statements.

Accounting Standards Not Yet Adopted

In February 2016, the FASB issued an update that requires companies to recognize on the balance sheet the contractual right to use assets and liabilities corresponding to the rights and obligations created by lease contracts. The new standard is effective for interim and annual periods beginning after December 15, 2018. While Quanta continues to evaluate the effect of the standard on its consolidated financial statements, it is anticipated that the adoption of the standard will materially impact its consolidated balance sheets. Quanta will adopt this guidance by January 1, 2019.

In June 2016, the FASB issued an update that will change the way companies measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. The update will require companies to use an “expected loss” model for instruments measured at amortized cost and to record allowances for available-for-sale debt securities rather than reduce the carrying amounts. The update will also require 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. Companies will apply this standard’s provisions as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. The new standard is effective for interim and annual reporting periods beginning after December 15, 2019. Quanta is currently evaluating the potential impact of this authoritative guidance on its consolidated financial statements and will adopt this guidance by January 1, 2020.

In August 2017, the FASB issued an update which amends and simplifies existing guidance for presenting the economic effects of risk management activities in the financial statements. The update is effective for interim and annual periods beginning after December 15, 2018. The amended presentation and disclosure guidance is required only prospectively, but certain amendments, if applicable, could require a cumulative-effect adjustment. Quanta is evaluating the impact of this new standard on its consolidated financial statements and will adopt the new standard by January 1, 2019; however, as of March 31, 2018, Quanta had no hedging relationships outstanding.

4. ACQUISITIONS:

In January 2018, Quanta acquired an electrical infrastructure services business specializing in substation construction and relay services and a postsecondary educational institution that provides pre-apprenticeship training and programs for experienced linemen, both of which are located in the United States. The aggregate consideration for these acquisitions was $39.3 million in cash, subject to certain adjustments, and 379,817 shares of Quanta common stock, which had a fair value of approximately $13.5 million as of the respective acquisition dates. Additionally, the acquisition of the postsecondary educational institution includes the potential payment of up to $15.0 million, payable if the acquired business achieves certain financial and operational objectives over a five-year period. Based on the estimated fair value of this contingent consideration, Quanta recorded a $13.7 million liability as of the acquisition date. The results of the acquired businesses have generally been included in Quanta’s Electric Power Infrastructure Services segment and consolidated financial statements beginning on the acquisition dates. As part of the acquisition of the postsecondary educational institution mentioned above, Quanta agreed to purchase certain properties and training facilities that are currently being leased from the former owners for a purchase price of $12.2 million in cash, which is expected to be paid in the second quarter of 2018.

On July 20, 2017, Quanta acquired Stronghold, a specialized services business located in the United States that provides high-pressure and critical-path solutions to the downstream and midstream energy markets. The aggregate consideration included $351.0 million in cash, subject to certain adjustments, and 2,693,680 shares of Quanta common stock, which had a fair value of $81.3 million at the acquisition date. Additionally, the acquisition includes the potential payment of up to $100.0 million of contingent consideration, payable if the acquired business achieves certain financial targets over a three-year period. Based on the estimated fair value of this contingent consideration, Quanta recorded a $51.1 million liability as of the acquisition date. The results of the acquired business have generally been included in Quanta’s Oil and Gas Infrastructure Services segment and consolidated financial statements since the acquisition date.

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During the year ended December 31, 2017, Quanta also acquired a communications infrastructure services contractor and an electrical and communications contractor, both of which are located in the United States. The aggregate consideration for these acquisitions consisted of $11.9 million paid or payable in cash, subject to certain adjustments, and 288,666 shares of Quanta common stock, with a fair value of $8.3 million as of the respective acquisition dates. The results of the acquired businesses have generally been included in Quanta's Electric Power Infrastructure Services segment and consolidated financial statements since the acquisition dates.

Quanta is in the process of finalizing its assessments of the fair values of the acquired assets and assumed liabilities related to businesses acquired subsequent to March 31, 2017, and further adjustments to the purchase price allocations may occur. As of March 31, 2018, the estimated fair values of the net assets acquired were preliminary, with possible updates primarily related to certain tax estimates. The aggregate purchase consideration of the businesses acquired subsequent to March 31, 2017 through March 31, 2018 was allocated to acquired assets and assumed liabilities, which resulted in an allocation of $102.4 million to net tangible assets, $123.6 million to identifiable intangible assets and $344.1 million to goodwill.

The following table summarizes the aggregate consideration paid or payable as of March 31, 2018 for the 2018 acquisitions and 2017 acquisitions and presents the allocation of these amounts to the net tangible and identifiable intangible assets based on their estimated fair values as of the respective acquisition dates, inclusive of any purchase price adjustments. This allocation requires a significant use of estimates and is 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. Third-party appraisal firms are engaged to assist in fair value determination of fixed assets, intangible assets and certain other assets and liabilities when appropriate (in thousands).

	2018	2017	
	All Acquisitions	Stronghold	Other Acquisitions
Consideration:			
Cash paid or payable	$ 39,291	$351,014	$ 11,904
Value of Quanta common stock issued	13,549	81,337	8,267
Contingent consideration	13,705	51,084	—
Fair value of total consideration transferred or estimated to be transferred	$ 66,545	$483,435	$ 20,171
Accounts receivable	$ 4,436	$77,478	$ 7,157
Contract assets	—	11,913	193
Other current assets	5,722	20,914	170
Property and equipment	6,716	51,258	1,480
Other assets	543	1,513	12
Identifiable intangible assets	19,836	95,700	8,091
Contract liabilities	—	(13,489)	(93)
Other current liabilities	(8,238)	(58,346)	(2,705)
Deferred tax liabilities, net	(4,179)	—	—
Other long-term liabilities	—	(48)	—
Total identifiable net assets	24,836	186,893	14,305
Goodwill	41,709	296,542	5,866
	$ 66,545	$483,435	$ 20,171

Goodwill represents the excess of the purchase price over the net amount of the fair values assigned to assets acquired and liabilities assumed. The 2018 and 2017 acquisitions strategically expanded Quanta's Canadian, Australian and domestic electric power, oil and gas and communications service offerings, which Quanta believes contributes to the recognition of the goodwill. In connection with the 2018 acquisitions, as of the acquisition dates, goodwill of $41.7 million was recorded for the acquired businesses that were included within Quanta's Electric Power Infrastructure Services Division. In connection with the 2017 acquisitions, as of the acquisition dates and inclusive of purchase price adjustments, goodwill of $5.9 million was recorded for the acquired businesses that were included within Quanta's Electric Power Infrastructure Services Division, and goodwill of $296.5 million was recorded for Stronghold, which is included within Quanta's Oil and Gas Infrastructure Services Division. Goodwill

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of $9.8 million related to the 2018 acquisitions is expected to be deductible for income tax purposes, and goodwill of $302.4 million related to the 2017 acquisitions is expected to be deductible for income tax purposes.
The following table summarizes the estimated fair values of identifiable intangible assets for the 2018 acquisitions 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	$ 3,328	5.0
Backlog	1,055	1.0
Trade names	6,257	15.0
Non-compete agreements	196	5.0
Curriculum	9,000	10.0
Total intangible assets subject to amortization acquired in 2018 acquisitions	$ 19,836	10.2

The following unaudited supplemental pro forma results of operations 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 March 31,	
	2018	2017
Revenues	$2,421,644	$2,303,467
Gross profit	$302,890	$299,110
Selling, general and administrative expenses	$216,396	$207,315
Amortization of intangible assets	$10,661	$10,926
Net income	$39,050	$50,851
Net income attributable to common stock	$38,053	$50,678
Earnings per share - basic and diluted	$0.24	$0.32

The pro forma combined results of operations for the three months ended March 31, 2018 and 2017 were prepared by adjusting the historical results of Quanta to include the historical results of the 2018 acquisitions as if they occurred January 1, 2017 and the historical results of the 2017 acquisitions as if they occurred January 1, 2016. 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; a reduction of interest income or an increase in interest expense as a result of the cash consideration paid net of cash received; an increase in amortization expense due to the incremental intangible assets recorded; changes in depreciation expense within cost of services 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 companies’ presentation to Quanta’s accounting policies. The pro forma 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 $8.1 million and a loss before income taxes of approximately $5.3 million, which included $5.6 million of acquisition-related costs, were included in Quanta's consolidated results of operations for the three months ended March 31, 2018 related to the 2018 acquisitions.

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5. GOODWILL AND OTHER INTANGIBLE ASSETS:

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

	Electric Power Infrastructure Services Division	Oil and Gas Infrastructure Services Division	Total
Balance at December 31, 2017:			
Goodwill	$ 1,272,527	$ 693,905	$ 1,966,432
Accumulated impairment	—	(97,832)	(97,832)
	1,272,527	596,073	1,868,600
Goodwill recorded related to 2018 acquisitions	41,709	—	41,709
Foreign currency translation adjustments	(4,699)	(2,739)	(7,438)
Balance at March 31, 2018:			
Goodwill	1,309,537	690,937	2,000,474
Accumulated impairment	—	(97,603)	(97,603)
	$ 1,309,537	$ 593,334	$ 1,902,871

Also, 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 above. 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 its predominant business evolves.

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

	As of March 31, 2018			As of December 31, 2017			As of March 31, 2018
	Intangible Assets	Accumulated Amortization	Intangible Assets, Net	Intangible Assets	Accumulated Amortization	Intangible Assets, Net	Remaining Weighted Average Amortization Period in Years
Customer relationships	$ 328,270	$ (143,979)	$ 184,291	$ 327,334	$ (137,333)	$ 190,001	7.1
Backlog	136,483	(135,277)	1,206	136,266	(135,847)	419	0.9
Trade names	80,654	(18,166)	62,488	74,797	(17,057)	57,740	15.9
Non-compete agreements	37,754	(28,234)	9,520	37,760	(27,659)	10,101	3.8
Patented rights and developed technology	22,527	(18,032)	4,495	22,529	(17,611)	4,918	3.1
Curriculum	9,000	(174)	8,826	—	—	—	9.8
Total intangible assets subject to amortization	$ 614,688	$ (343,862)	$ 270,826	$ 598,686	$ (335,507)	$ 263,179	9.0

Amortization expense for intangible assets was $10.4 million and $6.6 million for the three months ended March 31, 2018 and 2017.

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The estimated future aggregate amortization expense of intangible assets subject to amortization as of March 31, 2018 is set forth below (in thousands):

For the Fiscal Year Ending December 31,	
Remainder of 2018	$31,496
2019	38,878
2020	37,444
2021	35,106
2022	31,576
Thereafter	96,326
Total	$270,826

6. PER SHARE INFORMATION:

The amounts used to compute the basic and diluted earnings per share attributable to common stock for the three months ended March 31, 2018 and 2017 are illustrated below (in thousands):

	Three Months Ended March 31,	
	2018	2017
Amounts attributable to common stock:		
Net income attributable to common stock	$37,614	$48,267
Weighted average shares:		
Weighted average shares outstanding for basic earnings per share attributable to common stock	156,546	155,168
Effect of dilutive unvested non-participating stock-based awards	1,010	—
Weighted average shares outstanding for diluted earnings per share attributable to common stock	157,556	155,168

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. Exchangeable shares that were issued pursuant to certain of Quanta’s historical acquisitions (as further discussed in Note 8), 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) have been included in the calculation of basic and diluted earnings per share attributable to common stock for the portion of the periods that they were outstanding. Diluted earnings per share attributable to common stock is computed using the weighted average number of common shares 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):

	March 31, 2018	December 31, 2017
Borrowings under credit facility	$882,020	$ 668,427
Other long-term debt, interest rate of 2.4%	1,715	1,810
Capital leases, interest rates ranging from 2.5% to 3.8%	1,835	1,704
Total long-term debt obligations	885,570	671,941
Less — Current maturities of long-term debt	2,775	1,220
Total long-term debt obligations, net of current maturities	$882,795	$ 670,721

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Senior Secured Revolving Credit Facility

On December 18, 2015, Quanta entered into an amended and restated credit agreement with various lenders that provides for a $1.81 billion senior secured revolving credit facility. On October 31, 2017, Quanta and the lenders entered into an amendment to the credit facility which, among other things, extended the maturity date from December 18, 2020 to October 31, 2022 and adjusted the interest rates applicable to certain borrowings. 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. Up to $600.0 million of the credit facility may be used by certain subsidiaries of Quanta for revolving loans and letters of credit in certain alternative currencies. Up to $100.0 million of the credit facility may be used for swing line loans in U.S. dollars, up to $50.0 million of the credit facility may be used for swing line loans in Canadian dollars and up to $30.0 million of the credit facility may be used for swing line loans in Australian dollars. In addition, subject to the conditions specified in the credit agreement, Quanta has the option to increase the revolving commitments by up to $400.0 million from time to time upon receipt of additional commitments from new or existing lenders. Borrowings under the credit agreement are to be used to refinance existing indebtedness and for working capital, capital expenditures and other general corporate purposes.

As of March 31, 2018, Quanta had $446.8 million of outstanding letters of credit and bank guarantees under its credit facility, $242.1 million of which were denominated in U.S. dollars and $204.7 million of which were denominated in currencies other than the U.S. dollar, primarily in Australian or Canadian dollars. Quanta also had $882.0 million of outstanding revolving loans under its credit facility, $835.9 million of which were denominated in U.S. dollars and $46.1 million of which were denominated in Australian dollars. The remaining $481.2 million was available for revolving loans or new letters of credit or bank guarantees. Borrowings under the credit facility and the applicable interest rates during the three months ended March 31, 2018 and 2017 were as follows (dollars in thousands):

	Three Months Ended March 31,	
	2018	2017
Maximum amount outstanding under the credit facility during the period	$936,012	$490,995
Average daily amount outstanding under the credit facility	$684,947	$409,481
Weighted-average interest rate	3.34 %	2.61 %

Beginning on November 20, 2017, amounts borrowed in U.S. dollars bear interest, at Quanta’s option, at a rate equal to either (i) the Eurocurrency Rate plus 1.125% to 2.000%, as determined based on Quanta’s Consolidated Leverage Ratio, or (ii) the Base Rate plus 0.125% to 1.000%, as determined based on Quanta’s Consolidated Leverage Ratio. Amounts borrowed as revolving loans under the credit agreement 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 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.

From December 18, 2015 through November 19, 2017, amounts borrowed in U.S. dollars bore 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 2.125%, as determined based on Quanta’s Consolidated Leverage Ratio (as described below), or (ii) the Base Rate (as described below) plus 0.125% to 1.125%, as determined based on Quanta’s Consolidated Leverage Ratio. Amounts borrowed as revolving loans under the credit agreement in any currency other than U.S. dollars bore interest at a rate equal to the Eurocurrency Rate plus 1.125% to 2.125%, as determined based on Quanta’s Consolidated Leverage Ratio. Standby letters of credit issued under the credit agreement were subject to a letter of credit fee of 1.125% to 2.125%, 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 were subject to a letter of credit fee of 0.675% to 1.275%, based on Quanta’s Consolidated Leverage Ratio.

Quanta is also subject to a commitment fee of 0.20% to 0.40%, based on its Consolidated Leverage Ratio, on any unused availability under the credit agreement.

The 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. 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%.

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Subject to certain exceptions, the credit agreement is secured by substantially all the assets of Quanta and Quanta's wholly owned U.S. subsidiaries and by a pledge of all of the capital stock of Quanta's wholly owned U.S. subsidiaries and 65% of the capital stock of direct foreign subsidiaries of Quanta's wholly owned U.S. subsidiaries. Quanta's wholly owned U.S. subsidiaries also guarantee the repayment of all amounts due under the credit agreement. Subject to certain conditions, all collateral will automatically be released from the liens at any time Quanta maintains an Investment Grade Rating (defined in the credit agreement as two of the following three conditions being met: (i) a corporate credit rating that is BBB- or higher by Standard & Poor's Rating Services, (ii) a corporate family rating that is Baa3 or higher by Moody's Investors Services, Inc. or (iii) a corporate credit rating that is BBB- or higher by Fitch Ratings, Inc.).

The credit agreement contains certain covenants, including (1) a maximum Consolidated Leverage Ratio of 3.0 to 1.0 (provided that in connection with certain permitted acquisitions in excess of $200.0 million, such ratio is 3.5 to 1.0 for the fiscal quarter in which the acquisition is completed and the two subsequent fiscal quarters) and (2) a minimum Consolidated Interest Coverage Ratio (as defined in the credit agreement) of 3.0 to 1.0. As of March 31, 2018, Quanta was in compliance with all of the covenants in 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 (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 credit agreement and/or cash and cash equivalents on hand.

The credit agreement provides for customary events of default and contains cross-default provisions with Quanta's underwriting, continuing indemnity and security agreement with its sureties and all of Quanta's other debt instruments exceeding $100.0 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, terminate the commitments under the credit agreement, and foreclose on the collateral.

Other Facilities

Quanta has also entered into bilateral credit agreements with various lenders that provide for up to $49.0 million in aggregate availability in both U.S. dollars and certain alternative currencies, primarily Australian dollars. Quanta may utilize these facilities for, among other things, the issuance of letters of credit or bank guarantees and overdraft protection and had $8.8 million of letters of credit and bank guarantees outstanding under these facilities at March 31, 2018.

8. EQUITY:

Exchangeable Shares and Preferred Stock

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 may be exchanged at the option of the holders for Quanta common stock on a one-for-one basis. The holders of exchangeable shares can make an exchange only once in any calendar quarter and must exchange a minimum of either 50,000 shares or, if less, the total number of remaining exchangeable shares registered in the name of the holder making the request. Additionally, in connection with two of such acquisitions, Quanta issued one share of Quanta Series F preferred stock and one share of Quanta Series G preferred stock to voting trusts on behalf of the respective holders of the exchangeable shares issued in such acquisitions. The one share of Quanta Series F preferred stock was subsequently redeemed and retired effective October 6, 2017. The share of Quanta Series G preferred stock provides the holder of the associated exchangeable shares voting rights in Quanta common stock equivalent to the number of exchangeable shares outstanding. The holder of the exchangeable shares associated with the Quanta Series G preferred stock also has rights equivalent to

Quanta common stockholders with respect to dividends and other economic rights. The holders of exchangeable shares not associated with the Quanta Series G preferred stock have rights equivalent to Quanta common stockholders with respect to dividends and other economic rights but do not have voting rights.

During the three months ended March 31, 2018 and 2017, zero and 2.5 million exchangeable shares were exchanged for Quanta common stock. As of March 31, 2018, the Quanta Series G preferred stock remained outstanding and 0.5 million exchangeable shares remained outstanding, of which 0.4 million were associated with the Quanta Series G preferred stock.

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Treasury Stock

General

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

Shares withheld for tax withholding obligations

Under the stock incentive plans described in Note 9, the tax withholding obligations of employees upon vesting of restricted stock, RSUs and performance units settled in common stock are typically satisfied by Quanta making such tax payments and withholding the number of vested shares having a value on the date of vesting equal to the tax withholding obligation. For the settlement of these employee tax liabilities, Quanta withheld 0.4 million and 0.5 million shares of Quanta common stock during the three months ended March 31, 2018 and 2017, with a total market value of $13.4 million and $17.1 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 performance units that vest but the settlement of which is deferred under Quanta's deferred compensation plans, Quanta records a notional amount to treasury stock and an offsetting amount to APIC. However, no shares are added to outstanding treasury stock at vesting as the shares of Quanta common stock associated with deferred equity awards are not issued. Upon settlement of the deferred equity awards and issuance of the associated Quanta common stock, the original accounting entry is reversed. The net amounts recorded to treasury stock and APIC related to the deferred compensation plans during the three months ended March 31, 2018 and 2017 were $3.3 million and $3.2 million.

Stock repurchases

During the second quarter of 2017, Quanta's board of directors approved a stock repurchase program that authorizes Quanta to purchase, from time to time through June 30, 2020, up to $300.0 million of its outstanding common stock (the 2017 Repurchase Program). Repurchases under the 2017 Repurchase Program can be made in open market and privately negotiated transactions. During the three months ended March 31, 2018, Quanta repurchased 5.0 million shares of its common stock at a cost of $173.9 million in the open market under the 2017 Repurchase Program. During 2017, Quanta repurchased 1.4 million shares of its common stock at a cost of $50.0 million in the open market under the 2017 Repurchase Program.

Non-controlling Interests

Quanta holds interests in various entities through both joint venture entities that provide infrastructure 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 that may be entered into through the partnership structure Quanta has 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 $1.0 million and $0.2 million for the three months ended March 31, 2018 and 2017 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 held by Quanta in all of its VIEs was $6.4 million and $7.8 million at March 31, 2018 and December 31, 2017. The carrying amount of investments held by the non-controlling interests in these VIEs at March 31, 2018 and December 31, 2017 was $3.6 million and $4.1 million. During each of the three months ended March 31, 2018 and 2017, net distributions to non-controlling interests were $1.0 million. There was also a discharge of a note receivable from a joint venture partner of $0.5 million during the three months ended

March 31, 2018. There were no other changes in equity as a result of transfers to/from the non-controlling interests during the three months ended March 31, 2018 or 2017. See Note 10 for further disclosures related to Quanta’s joint venture arrangements.

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9. EQUITY-BASED COMPENSATION:

Stock Incentive Plans

On May 19, 2011, Quanta's stockholders approved the 2011 Omnibus Equity Incentive Plan (the 2011 Plan). The 2011 Plan provides for the award of non-qualified stock options, incentive (qualified) stock options, stock appreciation rights, restricted stock, RSUs, stock bonus awards, performance compensation awards (including performance units and cash bonus awards) or any combination of the foregoing. The purpose of the 2011 Plan is to attract and retain key personnel and provide participants with additional performance incentives by increasing their proprietary interest in Quanta. Employees, directors, officers, consultants or advisors of Quanta or its affiliates are eligible to participate in the 2011 Plan, as are prospective employees, directors, officers, consultants or advisors of Quanta who have agreed to serve Quanta in those capacities. An aggregate of 11,750,000 shares of Quanta common stock may be issued pursuant to awards granted under the 2011 Plan. Quanta also has a Restricted Stock Unit Plan (the RSU Plan), pursuant to which RSUs may be awarded to certain employees and consultants of Quanta's Canadian operations. The 2011 Plan and the RSU Plan are referred to as the Plans.

RSUs to be Settled in Common Stock

During the three months ended March 31, 2018 and 2017, Quanta granted 1.3 million and 1.1 million of RSUs to be settled in common stock under the 2011 Plan with weighted average grant date fair values of $34.46 and $38.18. 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 equal installments over a two-year, three-year or five-year period following the date of grant. Holders of RSUs to be settled in common stock are entitled to receive a cash dividend equivalent payment equal to any cash dividend payable on account of common shares.

During the three months ended March 31, 2018 and 2017, vesting activity consisted of 1.2 million and 1.3 million of RSUs settled in common stock with an approximate fair value at the time of vesting of $42.4 million and $50.5 million.

During each of the three months ended March 31, 2018 and 2017, Quanta recognized $11.2 million of non-cash stock compensation expense related to RSUs to be settled in common stock. As of March 31, 2018, there was $62.8 million of total unrecognized compensation cost 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 2.24 years.

Performance Units to be Settled in Common Stock

Performance units awarded pursuant to the 2011 Plan provide for the issuance of shares of common stock upon vesting. These performance units cliff-vest at the end of a three-year performance period based on achievement of certain performance metrics established by Quanta's compensation committee, including company performance goals and, with respect to certain awards, Quanta's total shareholder return as compared to a predetermined group of peer companies. The final number of shares of common stock issued related to performance units that vest can range from 0% to 200% of the number of performance units granted based on the level of achievement, as determined by Quanta's compensation committee.

During each of the three months ended March 31, 2018 and 2017, Quanta granted 0.3 million performance units to be settled in common stock under the 2011 Plan with a weighted average grant date fair value of $12.24 and $17.48 per unit. The grant date fair values for awards of performance units with market-based metrics, which were granted in the three months ended March 31, 2018 and 2017, were based on fair values as determined using a Monte Carlo simulation valuation methodology using the following key inputs:

	2018	2017
Valuation date stock price based on the February 28, 2018 and March 22, 2017 closing stock prices	$34.44	$36.31
Expected volatility	34 %	36 %
Risk-free interest rate	2.39 %	1.46 %
Term in years	2.84	2.78

Quanta recognizes expense related to performance units with market-based metrics based on the probability of achievement of the underlying performance metrics, multiplied by the portion of the three-year period that has expired and the fair value of the total number of shares of common stock that Quanta anticipates will be issued based on such achievement. Quanta recognizes expense related to performance units without market-based metrics based on the portion of the three-year period that has expired multiplied by the fair value of the total number of shares of common stock that Quanta anticipates will be issued. During the three months ended March 31, 2018 and 2017, Quanta recognized $3.5 million and $0.7 million in compensation expense associated with performance units. During each of the three months ended March 31, 2018 and 2017, 0.1 million performance units vested, and 0.1 million shares of common stock were issued in connection with performance units.

RSUs to be Settled in Cash

Certain RSUs granted by Quanta under the Plans 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 equity ownership in Quanta, typically vest in equal installments over a two-year or three-year period 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 cash settle a portion of their RSU awards, which generally vest upon conclusion of the director service year. 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 $1.3 million and $2.7 million for the three months ended March 31, 2018 and 2017. 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 earnings per share, and the estimated earned value of such RSUs is classified as a liability. Quanta paid $2.2 million and $2.4 million to settle liabilities related to cash-settled RSUs in the three months ended March 31, 2018 and 2017. Accrued liabilities for the estimated earned value of outstanding RSUs to be settled in cash were $3.7 million and $4.6 million at March 31, 2018 and December 31, 2017.

10. COMMITMENTS AND CONTINGENCIES:

Investments in Affiliates and Other Entities

As described in Note 8, Quanta holds investments in various entities, including joint venture entities that provide infrastructure services under specific customer contracts and partially owned entities that own and operate certain infrastructure assets constructed by Quanta. 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 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 of the 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, in the joint venture structures entered into by Quanta, typically each party indemnifies the other party for any liabilities incurred in excess of the liabilities such other party is obligated to bear under the respective joint venture agreement or in accordance with the scope of work subcontracted to each party. It is possible, however, that Quanta could be required to pay or perform obligations in excess of its share if the other party 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.

During 2014, a limited partnership in which Quanta is a partner was selected for an engineering, procurement and construction (EPC) electric transmission project to construct approximately 500 kilometers of transmission line and two 500 kV substations. A subsidiary of Quanta, engaged by the limited partnership, is contracted to provide turnkey EPC services for the entire project. As of March 31, 2018, Quanta made aggregate contributions to this unconsolidated affiliate of $65.1 million, received $62.7 million as a return of capital and had outstanding additional capital commitments associated with this project of $24.6 million, which are anticipated to be paid in 2019. Additionally, as of March 31, 2018, Quanta had outstanding capital commitments associated with investments in unconsolidated affiliates related to planned oil and gas infrastructure projects of $16.1 million, of which $14.3 million is expected to be paid in 2018. The remaining $1.8 million of these capital commitments is anticipated to be paid by May 31, 2022. As described in Note 2, Quanta has also formed a partnership with select infrastructure investors that provides up to $1.0 billion of capital, including approximately $80.0 million from Quanta, available to invest in certain specified infrastructure projects through August 2024.

Leases

Quanta leases certain land, buildings and equipment under non-cancelable lease agreements, including related party leases. The terms of these agreements vary from lease to lease, and certain leases include renewal options and escalation clauses. The following schedule shows the future minimum lease payments under these leases as of March 31, 2018 (in thousands):

	Operating Leases
Year Ending December 31 —	
Remainder of 2018	$92,891
2019	83,555
2020	56,587
2021	33,844
2022	19,878
Thereafter	40,297
Total minimum lease payments	$327,052

Rent expense related to operating leases was $76.0 million and $65.0 million for the three months ended March 31, 2018 and 2017.

Quanta has 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 termination of such leases. At March 31, 2018, the maximum guaranteed residual value was $634.6 million. Quanta believes that no significant payments will be made as a result of the difference between the fair market value of the leased equipment and the guaranteed residual value; however, there can be no assurance that significant payments will not be required in the future.

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 financial and operational performance metrics. As of March 31, 2018 and December 31, 2017, the estimated fair value of Quanta's contingent consideration liabilities totaled $79.3 million and $65.7 million.

Committed Expenditures

Quanta has capital commitments for the expansion of its vehicle fleet in order to accommodate manufacturer lead times on certain types of vehicles. As of March 31, 2018, $38.3 million of production orders were issued with expected delivery dates in 2018, and $1.1 million of production orders were issued with expected delivery dates in 2019. 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 to Quanta under certain of its 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 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, 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, separately or in the aggregate, 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.

Maurepas Project Dispute. During the third quarter of 2017, Maurepas Pipeline, LLC (Maurepas) notified QPS Engineering, LLC (QPS), a subsidiary of Quanta, of Maurepas' assertion of a 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. The matter remains subject to contractual dispute resolution measures; however, either party may choose to institute a formal legal proceeding upon completion of such measures. If, upon final resolution of this matter, Quanta is unsuccessful, any such liquidated damages would be recorded by QPS as additional costs on the project, and Quanta believes the range of reasonably possible loss could be up to $22.0 million, which is the maximum liability for liquidated damages pursuant to the contract terms.

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. In February 2018, a hearing was held on a final motion for summary judgment on damages filed by the plaintiff class seeking approximately $11.1 million for its claims; however, a final determination regarding the amount of damages was not made. Quanta believes the court’s decision on liability is 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 ruling on liability, the final determination with respect to any 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 $11.1 million, plus attorneys’ fees and expenses of the plaintiff class.

For additional information regarding other legal proceedings, see Collective Bargaining Agreements in this Note 10.

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, money market mutual funds and investment grade commercial paper with original maturities of three months or less. 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 oil and gas companies, governmental entities, general contractors, and builders, owners and managers of commercial and industrial properties located primarily in the United States, Canada, Australia and Latin America. Consequently, Quanta is subject to potential credit risk related to changes in business and economic factors throughout these locations, which may be heightened as a result of uncertain economic and financial market conditions that have existed in recent years. However, Quanta generally has certain statutory lien rights with respect to services provided. Some of Quanta's customers have experienced significant financial difficulties in the past, 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.

At March 31, 2018 and December 31, 2017, no customers represented 10% or more of Quanta's consolidated net receivable position. No customers represented 10% or more of Quanta's consolidated revenues for the three months ended March 31, 2018, and two customers within Quanta's Oil and Gas Infrastructure Services segment each accounted for approximately 10% of Quanta's consolidated revenues for the three months ended March 31, 2017.

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 March 31, 2018 and December 31, 2017, the gross amount accrued for insurance claims totaled $262.1 million and $254.7 million, with $201.5 million and $200.0 million considered to be long-term and included in "Insurance and other non-current liabilities." Related insurance recoveries/receivables as of March 31, 2018 and December 31, 2017 were $52.8 million and $50.4 million, of which $0.4 million and $0.4 million were included in "Prepaid expenses and other current assets" and $52.4 million and $50.0 million were 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 secured revolving 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. Quanta does not believe that it is likely that any material claims will be made under a letter of credit in the foreseeable future.

As of March 31, 2018, Quanta had $446.8 million in outstanding letters of credit and bank guarantees under its senior secured revolving 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 2018 and 2019. Quanta expects to renew the majority of the letters of credit related to the casualty insurance program for subsequent one-year periods upon maturity.

Performance Bonds and Parent Guarantees

In certain circumstances, Quanta is required to provide performance bonds in connection with its contractual commitments. Quanta has indemnified its sureties for any expenses paid out under these performance bonds. These performance bonds expire at various times ranging from mechanical completion of the related projects 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 March 31, 2018, the total amount of the outstanding performance bonds was estimated to be approximately $3.1 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 of its commitments under the performance bonds generally extinguishes concurrently with the expiration of its related contractual obligation. The estimated cost to complete these bonded projects was approximately $787 million as of March 31, 2018.

Additionally, from time to time, Quanta guarantees the obligations of its wholly owned subsidiaries, including obligations in connection with certain contracts with customers, lease obligations, joint venture arrangements and, in some states, contractors' licenses. Quanta is not aware of any material obligations for performance or payment asserted against it under any of these guarantees.

Employment Agreements

Quanta has various employment agreements with certain executives and other employees, which provide for compensation and certain other benefits and for severance payments under certain circumstances. Certain employment agreements also contain clauses that become effective upon a change in control of Quanta, and Quanta may be obligated to pay certain amounts to such employees upon the occurrence of any of the defined change in control events.

Collective Bargaining Agreements

Some of Quanta's operating units are parties to various 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 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 their union employees and contribute certain amounts to multiemployer pension plans and employee benefit trusts. Quanta's multiemployer pension plan contribution rates generally are specified in the collective bargaining agreements (usually on an annual basis), and contributions 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 the projects Quanta has ongoing at any time and the need for union resources in connection with those projects. Therefore, Quanta is unable to accurately predict its union employee payroll and the amount of the resulting multiemployer pension plan contribution obligations for future periods.

The Pension Protection Act of 2006 (PPA) 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, cash flow position and whether it 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 (which may take the form of 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 of additional funds, if any, that Quanta may be obligated to contribute to these plans in the future cannot be estimated due to uncertainty of the future levels of work that require the specific use of union employees covered by these plans, as well as the future contribution levels and possible surcharges on contributions applicable to these plans.

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 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 amounts of withdrawal liability 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.

Indemnities

Quanta generally indemnifies its customers for the services it provides under its contracts, as well as 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. As of March 31, 2018, except as otherwise set forth above in Legal Proceedings, Quanta does not believe any material liabilities for claims exist against it in connection with any of these indemnity obligations.

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, and the indemnitors may be unwilling or unable to pay the amounts owed to Quanta. Accordingly, Quanta may incur expenses for which it is not reimbursed. Quanta is currently in the process of negotiating certain pre-acquisition obligations associated with non-U.S. payroll taxes that may be due from a business acquired by Quanta in 2013. As of March 31, 2018, Quanta had recorded $11.4 million as its estimate of the pre-acquisition tax obligations and a corresponding indemnification asset, as management expects to recover from the indemnity counterparties any amounts that Quanta may be required to pay in connection with any such obligations.

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11. SEGMENT INFORMATION:

Quanta presents its operations under two reportable segments: (1) Electric Power Infrastructure Services and (2) Oil and Gas 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 the end user markets described above. Quanta's entrepreneurial business model allows each of its 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, namely, the Electric Power Infrastructure Services Division and the Oil and Gas Infrastructure Services Division. These internal divisions are closely aligned with the reportable segments and are based on their operating units' predominant type of work.

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. These classifications of Quanta's operating unit revenues by type of work for segment reporting purposes can at times 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 across 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 at each of its operating units require that certain allocations be made to determine segment profitability, including allocations of shared and indirect costs, such as facility costs, indirect operating expenses including depreciation, and general and administrative costs. Corporate costs, such as payroll and benefits, employee travel expenses, facility costs, professional fees, acquisition costs and amortization related to intangible assets are not allocated.

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

	Three Months Ended March 31,	
	2018	2017
Revenues:		
Electric Power Infrastructure Services	$1,568,507	$1,219,502
Oil and Gas Infrastructure Services	849,069	958,668
Consolidated	$2,417,576	$2,178,170
Operating income (loss):		
Electric Power Infrastructure Services	$140,895	$99,672
Oil and Gas Infrastructure Services	10,057	38,817
Corporate and non-allocated costs	(75,731)	(63,415)
Consolidated	$75,221	$75,074
Depreciation:		
Electric Power Infrastructure Services	$24,270	$22,086
Oil and Gas Infrastructure Services	20,695	17,364
Corporate and non-allocated costs	3,754	3,243
Consolidated	$48,719	$42,693

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, as well as 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.

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Foreign Operations

During the three months ended March 31, 2018 and 2017, Quanta derived $705.1 million and $655.5 million of its revenues from foreign operations. Of Quanta's foreign revenues, 76% and 83% were earned in Canada during the three months ended March 31, 2018 and 2017. In addition, Quanta held property and equipment of $320.1 million and $330.4 million in foreign countries, primarily Canada, as of March 31, 2018 and December 31, 2017.

12. 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 March 31,	
	2018	2017
Accounts and notes receivable	$(131,712)	$(94,838)
Contract assets	(6,184)	(80,710)
Inventories	(13,682)	(1,269)
Prepaid expenses and other current assets	(18,742)	(4,282)
Accounts payable and accrued expenses and other non-current liabilities	(27,211)	68,767
Contract liabilities	77,274	(11,814)
Other, net	2,663	7,046
Net change in operating assets and liabilities, net of non-cash transactions	$(117,594)	$(117,100)

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 are as follows (in thousands).

	March 31,	
	2018	2017
Cash and cash equivalents	$101,736	$106,514
Restricted cash included in "Prepaid expenses and other current assets"	3,160	591
Restricted cash included in "Other assets, net"	384	427
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows	$105,280	$107,532
	December 31,	
	2017	2016
Cash and cash equivalents	138,285	$112,183
Restricted cash included in "Prepaid expenses and other current assets"	5,106	1,709
Restricted cash included in "Other assets, net"	384	518
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows	$143,775	$114,410

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

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

	Three Months Ended March 31,	
	2018	2017
Cash (paid) received during the period for —		
Interest paid	$(5,960)	$(3,462)
Income taxes paid	$(17,957)	$(8,217)
Income tax refunds	$1,018	$2,206

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, 2017 (2017 Annual Report), which was filed with the Securities and Exchange Commission (SEC) on February 28, 2018 and is available on the SEC's website at www.sec.gov and on our website, which is 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 Uncertainty of 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 2017 Annual Report.

Introduction

We are a leading provider of specialty contracting services, offering infrastructure solutions primarily to the electric power, oil and gas and communications industries in the United States, Canada, Australia, Latin America and select other international markets. 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 facilities, and pipeline transmission and distribution systems and facilities.

Services Provided and Operating Segments

We report our results under two reportable segments: (1) Electric Power Infrastructure Services and (2) Oil and Gas Infrastructure Services. This structure is generally focused on broad end-user markets for our services. Our consolidated revenues for the three months ended March 31, 2018 were $2.42 billion, of which 64.9% was attributable to the Electric Power Infrastructure Services segment and 35.1% was attributable to the Oil and Gas Infrastructure Services segment.

The Electric Power Infrastructure Services segment provides comprehensive network solutions to customers in the electric power industry. 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 our proprietary robotic arm technologies, and the installation of "smart grid" technologies on electric power networks. In addition, this segment designs, installs and maintains renewable energy generation facilities, consisting of solar, wind and certain types of natural gas generation facilities, and related switchyards and transmission infrastructure. To a lesser extent, the segment also provides comprehensive communications infrastructure services to wireline, fiber and wireless carrier customers within the communications industry; services in connection with the construction of electric power generation facilities; the design, installation, maintenance and repair of commercial and industrial wiring; and the installation of traffic networks and cable and control systems for light rail lines. This segment also includes our recently acquired postsecondary educational institution that provides pre-apprenticeship training and programs for experienced linemen.

The Oil and Gas Infrastructure Services segment provides comprehensive network solutions to customers involved in the development, transportation, storage and processing of natural gas, oil and other pipeline products. Services performed by the Oil and Gas Infrastructure Services segment generally include the design, installation, repair and maintenance of pipeline transmission and distribution systems, gathering systems, production systems, storage systems and compressor and pump stations, as well as related trenching, directional boring and mechanized welding services. In addition, this segment's services include pipeline protection, integrity testing, rehabilitation and replacement, and fabrication of pipeline support systems and related structures and facilities. We also serve the offshore and inland water energy markets, primarily providing services to oil and gas exploration platforms, including mechanical installation (or "hook-ups"), electrical and instrumentation, pre-commissioning and commissioning, coatings, shallow water pipeline installation, fabrication and marine asset repair. To a lesser extent, this segment designs, installs and maintains fueling systems, as well as water and sewer infrastructure. Additionally, we provide high-pressure and critical-path turnaround services to the downstream and midstream energy markets and instrumentation and electrical services, piping, fabrication and storage tank services. To a lesser extent, this segment designs, installs and maintains fueling systems, as well as water and sewer infrastructure.

For internal management purposes, we are also organized into two internal divisions, namely, the Electric Power Infrastructure Services Division and the Oil and Gas Infrastructure Services Division. These internal divisions are closely aligned with the reportable segments and are based on the predominant type of work provided by the operating units within each division.

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 our market strategies. These classifications 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 services across 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 at each of our operating units requires that certain allocations be made to determine segment profitability, including allocations of shared and indirect costs, such as facility costs, indirect operating expenses including depreciation, and general and administrative costs. Corporate costs, such as payroll and benefits, employee travel expenses, facility costs, professional fees, acquisition costs and amortization related to intangible assets are not allocated.

Customer Relationships and Contracts

Our customers include many of the leading companies in the industries we serve. We have developed strong strategic alliances with numerous customers and strive to develop and maintain our status as a preferred service provider to our customers. Our services may be provided pursuant to master service agreements, 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-based contracts, cost-plus contracts and fixed price contracts. Transaction prices for unit-based 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 our revenues are recognized from contracts with 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.

A performance obligation is a promise in a contract with a customer to transfer a distinct good or service. Most of our contracts are considered to have a single performance obligation whereby we are required to integrate complex activities and equipment into a deliverable for the customer. For contracts with multiple performance obligations, we allocate the transaction price to each performance obligation using our best estimate of the standalone selling price of each distinct good or service in the contract. The standalone selling price is estimated using the expected costs plus a margin approach for each performance obligation.

A transaction price is determined for each contract, and such transaction price is then allocated to each performance obligation within the contract and recognized as revenue when, or as, the performance obligation is satisfied. We generally recognize revenue over time as we perform our obligations because of the continuous transfer of control of the deliverable to the customer. We believe that the following methods provide a faithful depiction of when performance obligations under our contracts with customers are satisfied. Under unit-based contracts with an insignificant amount of partially completed units, we recognize revenue as units are completed based on contractual pricing amounts. Under unit-based contracts with more than an insignificant amount of partially completed units and fixed price contracts, we recognize revenues as performance obligations are satisfied over time, with the percentage completion generally measured as the percentage of costs incurred to the total estimated costs for such performance obligation. Under cost-plus contracts, we recognize revenue on an input basis, as labor hours are incurred, materials are utilized and services are performed.

We also enter into strategic partnerships and investment arrangements with customers and infrastructure investors to provide fully integrated infrastructure services on certain projects, including planning and feasibility analysis, 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. As part of this strategy, we formed a partnership with select investors that provides up to $1.0 billion of capital, including approximately $80.0 million from us, available to invest in certain of these infrastructure projects through August 2024. 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.

Recent Investments, Acquisitions and Divestitures

Acquisitions

In January 2018, we acquired an electrical infrastructure services business specializing in substation construction and relay services and a postsecondary educational institution that provides pre-apprenticeship training and programs for experienced linemen, both of which are located in the United States. The aggregate consideration for these acquisitions was $39.3 million in cash, subject to certain adjustments, and 379,817 shares of Quanta common stock, which had a fair value of approximately $13.5 million as of the respective acquisition dates. Additionally, the acquisition of the postsecondary educational institution includes the potential payment of up to $15.0 million of contingent consideration, payable if the acquired business achieves certain financial and operational objectives over a five-year period. Based on the estimated fair value of this contingent consideration, we recorded a $13.7 million liability as of the acquisition date. The results of the acquired businesses have generally been included in our Electric Power Infrastructure Services segment and consolidated financial statements beginning on the acquisition dates. As part of the acquisition of the postsecondary educational institution mentioned above, we agreed to purchase certain properties and training facilities that are currently being leased from the former owners for $12.2 million in cash, which is expected to be paid in the second quarter of 2018.

On July 20, 2017, we acquired Stronghold, a specialized services business located in the United States that provides high-pressure and critical-path solutions to the downstream and midstream energy markets. The aggregate consideration included $351.0 million in cash, subject to certain adjustments, and 2,693,680 shares of Quanta common stock, which had a fair value of $81.3 million at the acquisition date. Additionally, the acquisition includes the potential payment of up to $100.0 million of contingent consideration, payable if the acquired business achieves certain financial targets over a three-year period. Based on the estimated fair value of this contingent consideration, we recorded a $51.1 million liability as of the acquisition date. The results of the acquired business have generally been included in our Oil and Gas Infrastructure Services segment and consolidated financial statements since the acquisition date.

During the year ended December 31, 2017, we also acquired a communications infrastructure services contractor and an electrical and communications contractor, both of which are located in the United States. The aggregate consideration for these acquisitions consisted of $11.9 million paid or payable in cash, subject to certain adjustments, and 288,666 shares of Quanta common stock, with a fair value of $8.3 million as of the respective acquisition dates. The results of the acquired businesses have generally been included in our Electric Power Infrastructure Services segment and consolidated financial statements since the acquisition dates.

Performance Obligations and Backlog

As discussed in Note 3 of the Notes to Consolidated Financial Statements in Item 1. Financial Information, effective January 1, 2018, we adopted the new revenue recognition guidance issued by the FASB. Pursuant to the new guidance, we are required to disclose, as of the end of each interim and annual period, the aggregate amount of the remaining performance obligations under our contracts with customers. A performance obligation is a promise in a contract with a customer to transfer a distinct good or service. As of March 31, 2018, our remaining performance obligations were $5.19 billion, 80.0% of which was expected to be recognized in the subsequent twelve months. 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. For purposes of calculating remaining performance obligations, we include all estimated revenues attributable to consolidated joint ventures and 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 additional contract revenues will be earned and are deemed probable of collection.

We have also historically disclosed our backlog, and while backlog is not a term recognized under US GAAP, it is a common measurement used in our industry. We also believe this non-GAAP measure enables us to more effectively forecast our future results and better identify future operating trends that may not otherwise be apparent. Our remaining performance obligations, as described above, are a component of our backlog calculation, which also includes estimated orders under 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.

Generally, our customers are not contractually committed to specific volumes of services under our MSAs, and most of our contracts may be terminated, typically upon 30 to 90 days notice, even if we are not in default under the contract. We determine the estimated amount of backlog for work under MSAs by using recurring historical trends for current MSAs, factoring in seasonal demand and projected customer needs based upon ongoing communications with the customer. In addition, many of our MSAs are subject to renewal, and these potential renewals are considered in determining the estimated amount of backlog. As of March 31, 2018 and December 31, 2017, MSAs accounted for 39% and 44% of our estimated 12-month backlog and 51% and 52% of total backlog. There can be no assurance as to our customers’ actual requirements or that our estimates are accurate.

Revenue estimates included in our remaining performance obligations and backlog can be subject to change as a result of project acceleration; cancellations or delays due to various factors, including but not limited to commercial issues, regulatory requirements and adverse weather; and final acceptance of change orders by our customers. These factors can also cause revenue amounts to be realized in periods and at levels different than originally projected.

The following table reconciles total remaining performance obligations to our backlog as of March 31, 2018, along with estimates of amounts expected to be realized within 12 months of March 31, 2018 (in thousands):

	12 Month	Total
Remaining performance obligations	$4,153,136	$5,193,446
Estimated orders under MSAs and short-term, non-fixed price contracts	2,729,632	6,463,772
Backlog	$6,882,768	$11,657,218

The following table presents our total backlog by reportable segment as of March 31, 2018 and December 31, 2017, along with an estimate of the backlog amounts expected to be realized within 12 months of each balance sheet date (in thousands):

	Backlog as of March 31, 2018		Backlog as of December 31, 2017	
	12 Month	Total	12 Month	Total
Electric Power Infrastructure Services	$4,214,769	$7,596,081	$4,032,379	$7,359,237
Oil and Gas Infrastructure Services	2,667,999	4,061,137	2,413,817	3,818,470
Total backlog	$6,882,768	$11,657,218	$6,446,196	$11,177,707

Seasonality; Fluctuations of Results; Economic Conditions

Our revenues and results of operations can be subject to seasonal and other variations. These variations are influenced by weather, customer spending patterns, bidding seasons, receipt of required regulatory approvals, permits and rights of way, project timing and schedules, and holidays. Typically, our revenues are lowest in the first quarter of the year because cold, snowy or wet conditions can cause delays on projects. In addition, many of our customers develop their annual capital budgets during the first quarter, and therefore do not begin infrastructure projects in a meaningful way until their capital budgets are finalized. 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 second quarter productivity. Third quarter revenues are typically the highest of the year, as a greater number of projects are underway, and weather is normally more accommodating. Generally, revenues during the fourth quarter of the year are lower than the third quarter but higher than the second quarter. Many projects are completed in the fourth quarter, and revenues are often impacted positively by customers seeking to spend their capital budgets before the end of the year. However, the holiday season and inclement weather can sometimes cause delays during the fourth quarter, reducing revenues and increasing costs. Productivity and operating activity in any quarter may be positively or negatively affected by atypical weather patterns in the areas we serve, such as severe weather, excessive rainfall or unusual winter weather. The timing of project awards and unanticipated changes in project schedules as a result of delays or accelerations can also create variations in the level of operating activity from quarter to quarter.

These seasonal impacts are typical for our U.S. operations, but as our foreign operations grow, this pattern may have a lesser impact on our quarterly revenues. For example, revenues in Canada are often higher in the first quarter because projects are often accelerated in order to complete work prior to the break up, or seasonal thaw, as productivity is adversely affected by wet ground conditions during the warmer spring and summer months. Also, although revenues from Australia and other international operations have not been significant relative to our overall revenues to date, their seasonal patterns may differ from those in North America and may impact our seasonality more in the future.

Additionally, our industry can be highly cyclical. Our volume of business may be adversely affected by declines or delays in new projects due to cyclicality, which may vary by geographic region. Project schedules, particularly in connection with larger, longer-term projects, can also create fluctuations in the amount of work performed in a given period. For example, in connection with larger and more complicated projects, the timing of obtaining permits and other approvals 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 such projects when they move forward. Examples of other items that may cause our results or demand for our services to fluctuate materially from quarter to quarter include: the financial condition of our customers and their access to capital; margins of projects performed during any particular period; economic, political and market conditions on a regional, national or global scale; our customers' capital spending, including on larger pipeline and electrical infrastructure projects; oil, natural gas and natural gas liquids prices; the timing of and costs associated with acquisitions; changes in the fair value of acquisition-related contingent consideration liabilities; dispositions; equity in earnings (losses) of unconsolidated affiliates; impairments of goodwill, intangible assets, long-lived assets or investments; effective tax rates; and interest rates. Accordingly, our operating results in any particular period may not be indicative of the results that can be expected for any other period. Please read Outlook and Understanding Margins for additional discussion of trends and challenges that may affect our financial condition, results of operations and cash flows.

Understanding Margins

Our gross margin is gross profit expressed as a percentage of revenues, and our operating margin is operating income expressed as a percentage of revenues. Cost of services, which is subtracted from revenues to obtain gross profit, consists primarily of salaries, wages and benefits to employees; depreciation; fuel and other equipment expenses; equipment rental expense; and costs related to subcontracted services, insurance, facilities, materials, parts and supplies. Selling, general and administrative expenses and amortization of intangible assets are then subtracted from gross profit to obtain operating income. Various factors, only some of which are within our control, can impact our margins on a quarterly or annual basis.

Seasonal and geographical. Seasonal weather patterns can have a significant impact on margins. Generally, business is slower in the winter months versus the warmer months of the year, resulting in lower productivity and consequently reducing our ability to cover fixed costs. This can be offset somewhat by increased demand for electrical service and repair work resulting from severe weather. Additionally, project schedules, including when projects begin and are completed, may impact margins. The mix of business conducted in the areas we serve will also affect margins, as some areas offer the opportunity for higher margins due to their geographic characteristics. For example, margins may be negatively impacted by operations in an urban setting as opposed to a less populated rural setting or over mountainous or other difficult terrain as opposed to open terrain. Site conditions, including unforeseen underground conditions, can also impact margins.

Weather. Adverse or favorable weather conditions can impact gross margins in a given period. For example, snowfall, rainfall or other severe weather may negatively impact our revenues and margins due to reduced productivity, as projects may be terminated, deferred or delayed until weather conditions improve or an affected area recovers from a severe weather event. Conversely, in periods when weather remains dry and temperatures are accommodating, more work can be done, sometimes at a lower cost. In some cases, severe weather, such as hurricanes and ice storms, can provide us with emergency restoration service work, which typically yields higher margins due in part to better equipment utilization rates and absorption of fixed costs.

Revenue mix. The mix of revenues derived from the industries we serve and the types of services we provide within an industry will impact margins, as certain industries and services provide higher-margin opportunities. Additionally, changes in our customers’ spending patterns can cause an imbalance in supply and demand and, therefore, affect margins and the mix of revenues.

Service and maintenance versus installation. 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 may vary from project to project, and may be higher than maintenance work, as work obtained on a fixed price basis has higher risk than other types of pricing arrangements. We typically derive approximately 30% of our annual revenues from maintenance work, but a higher portion of installation work in any given period may affect our gross margins for that period.

Subcontract work. Work that is subcontracted to other service providers generally yields lower margins. An increase in subcontract work in a given period may contribute to a decrease in margins. We typically subcontract approximately 20% to 25% of our work to other service providers.

Materials versus labor. Typically, our customers are responsible for supplying their own materials on projects; however, for some of our contracts we may 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 mark-up on materials is generally lower than our mark-up on labor costs. Furthermore, fluctuations in the price of materials we are required to procure may impact our margins. In a given period, an increase in the percentage of work with higher materials procurement requirements may decrease our overall margins.

Size, scope and complexity of projects. We may experience a decrease or fluctuations in margins when larger, more complex electric transmission and pipeline projects experience significant delays. Larger 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 allow for a higher degree of utilization of our resources for longer construction timeframes. Conversely, smaller or less complex electric transmission and pipeline projects typically provide lower margin opportunities as there are a greater number of competitors capable of performing in this market, and competitors at times may more aggressively pursue available volumes of work to absorb fixed costs. A greater mix of smaller scale or less complex electric transmission and pipeline work also could negatively impact margins due to the inefficiency of transitioning between a greater number of smaller projects versus continuous production on fewer larger projects. Our margins may be further impacted by delays in the timing of larger projects, extended bidding procedures for more complex EPC projects or temporary decreases in capital spending by our customers. Also, during these periods 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, more complicated electric transmission or pipeline projects when they move forward.

Depreciation. We include depreciation in cost of services, which is common practice in our industry. However, this can make comparability of our margins to those of other companies difficult and must be taken into consideration when comparing us to other companies.

Insurance. As discussed in Contractual Obligations - Insurance, we are insured for employer's liability, workers' compensation, auto liability and general liability claims. We also have employee health care benefit plans for most employees not subject to collective bargaining agreements. Margins could be impacted by fluctuations in insurance accruals as additional claims arise and as circumstances and conditions of existing claims change.

Project Variability and Performance. Margins for a single project may fluctuate quarter to quarter due to changes in the volume or type of work performed, the pricing structure under the project contract or job productivity. Productivity can be influenced by many factors, including where the work is performed (e.g., rural versus urban area or mountainous or rocky area versus open terrain), whether the work is on an open or encumbered right of way, inclement weather, environmental restrictions or regulatory delays, protests or other political activity on a project, legal challenges to a project or the performance of third parties on a project. These types of factors are not practicable to quantify through accounting data, but may individually or in the aggregate have a direct impact on the gross margin of a specific project.

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 the Canadian and Australian dollars, could cause material fluctuations in comparisons of our results of operations between periods.

Change in fair value of contingent consideration liabilities. We anticipate fluctuations in operating income margins as a result of changes in the fair value of contingent consideration liabilities. See Note 2 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Statements for more information about the valuation methodologies and assumptions related to the determination of the fair value of our contingent consideration liabilities.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consist primarily of compensation and related benefits, marketing and communications costs, office rent and utilities, professional fees, bad debt expense, acquisition costs, gains and losses on the sale of property and equipment, letter of credit fees and maintenance, training and conversion costs related to information technology systems.

Results of Operations

As previously discussed, the results of acquired businesses have been included in the following results of operations beginning on their respective acquisition dates. The following table sets forth selected statements of operations data and such data as a percentage of revenues for the three month periods indicated (dollars in thousands):

Consolidated Results

	Three Months Ended March 31,			
	2018		2017	
Revenues	$2,417,576	100.0 %	$2,178,170	100.0 %
Cost of services (including depreciation)	2,116,528	87.5	1,911,982	87.8
Gross profit	301,048	12.5	266,188	12.2
Selling, general and administrative expenses	215,422	8.9	184,552	8.5
Amortization of intangible assets	10,405	0.5	6,562	0.3
Operating income	75,221	3.1	75,074	3.4
Interest expense	(6,778)	(0.3)	(3,965)	(0.1)
Interest income	146	—	287	—
Other income (expense), net	(11,975)	(0.5)	(364)	—
Income before income taxes	56,614	2.3	71,032	3.3
Provision for income taxes	18,003	0.7	22,592	1.1
Net income	38,611	1.6	48,440	2.2
Less: Net income attributable to non-controlling interests	997	—	173	—
Net income attributable to common stock	$37,614	1.6 %	$48,267	2.2 %

Three months ended March 31, 2018 compared to the three months ended March 31, 2017

Revenues. Revenues increased $239.4 million, or 11.0%, to $2.42 billion for the three months ended March 31, 2018. Contributing to the increase were incremental revenues of $349.0 million from electric power infrastructure services, partially offset by a decrease in revenues of $109.6 million from oil and gas infrastructure services. The increase in revenues from electric power infrastructure services was primarily the result of increased customer spending associated with electric transmission projects, including favorable performance and progress on a large electric transmission project in Canada. Additionally, emergency restoration services revenues increased $23.8 million primarily from winter storms in the United States and Canada. The decrease in revenues from oil and gas services revenues was primarily the result of decreased capital spending by our customers on large diameter pipeline transmission projects. The timing of construction for these large diameter pipeline transmission projects is highly variable due to delays associated with obtaining permits, as well as worksite access limitations related to environmental regulations and seasonal weather patterns. Partially offsetting this reduced spending were approximately $155 million in revenues from an acquired business.

Gross profit. Gross profit increased $34.9 million, or 13.1%, to $301.0 million for the three months ended March 31, 2018. Gross profit as a percentage of revenues increased to 12.5% for the three months ended March 31, 2018 from 12.2% for the three months ended March 31, 2017. The increases in gross profit and gross profit as a percentage of revenues were primarily due to the overall increase in revenues described above. However, the lower revenues in the oil and gas infrastructure services segment negatively impacted resource utilization and included a lower proportion of large diameter pipeline transmission work, which typically yields higher margins. The three months ended March 31, 2017 were favorably impacted by a termination fee associated with a project cancellation and negatively impacted by lower margins on two distribution MSAs due to unexpected delays in the release of work after crews were mobilized.

Selling, general and administrative expenses. Selling, general and administrative expenses increased $30.9 million, or 16.7%, to $215.4 million for the three months ended March 31, 2018. This increase was primarily attributable to $25.2 million of incremental selling, general and administrative expenses associated with acquired businesses, including acquisition and integration costs of $7.2 million, and $6.5 million in higher compensation costs, largely associated with higher salaries due to increased personnel to support business growth and annual compensation increases. These increases were partially offset by $4.2 million of lower litigation costs in the three months ended March 31, 2018 associated with a matter involving our prior disposition of certain communications operations, which was resolved in last year's first quarter. Selling, general and administrative expenses as a percentage of revenues increased to 8.9% for the three months ended March 31, 2018 from 8.5% for the three months ended March 31, 2017, primarily due to higher acquisition-related costs.

Amortization of intangible assets. Amortization of intangible assets increased $3.8 million to $10.4 million for the three months ended March 31, 2018. This increase was primarily due to increased amortization of intangible assets associated with recently acquired companies, partially offset by reduced amortization expense from previously acquired intangible assets as certain of these assets became fully amortized.

Interest expense. Interest expense increased $2.8 million to $6.8 million for the three months ended March 31, 2018 as compared to the three months ended March 31, 2017 due to increased borrowing activity, primarily related to the acquisition of Stronghold, as well as a higher weighted average interest rate.

Other income (expense), net. Other income (expense), net was a net expense of $12.0 million for the three months ended March 31, 2018, as compared to a net expense of $0.4 million for the three months ended March 31, 2017. The increase in expense was primarily due to an increase in construction activity and related earnings on a large electric transmission project in Canada for an entity in which we have an equity investment. Due to such equity investment, a portion of the construction earnings are deferred by recognition of a decrease in equity earnings (losses), which is included in other income (expense), net.

Provision for income taxes. The provision for income taxes was $18.0 million for the three months ended March 31, 2018, with an effective tax rate of 31.8%. The provision for income taxes was $22.6 million for the three months ended March 31, 2017, with an effective tax rate of 31.8%. Although the effective tax rates are comparable between periods, the three months ended March 31, 2018 reflects the estimated impacts from the enactment of the Tax Act on December 22, 2017, which among other things, lowered the U.S. federal corporate tax rate from 35% to 21% effective January 1, 2018; partially offset by an increase in losses in foreign jurisdictions for which tax benefits are not expected to be realized. In addition, the three months ended March 31, 2017 reflects higher tax benefits associated with the vesting of stock-based compensation awards primarily based on a higher weighted average vesting date stock price. As a result of the Tax Act, our effective tax rate for 2018 is expected to be approximately 29%. For additional information on the status of our provisional analysis of the Tax Act, refer to Note 2 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Information.

Other comprehensive income. Other comprehensive income, net of taxes was a loss of $25.0 million in the three months ended March 31, 2018 compared to a gain of $13.8 million in the three months ended March 31, 2017. The loss in the three months ended March 31, 2018 was due to the strengthening of the U.S. dollar against foreign currencies associated with our international operations, primarily the Canadian and Australian dollars, as of March 31, 2018 when compared to December 31, 2017, and the gain in the three months ended March 31, 2017 was due to a strengthening of the foreign currencies associated with our international operations, primarily the Canadian and Australian dollars, against the U.S. dollar as of March 31, 2017 when compared to December 31, 2016.

Segment Results

The following table sets forth segment revenues and segment operating income (loss) for the periods indicated (dollars in thousands):

	Three Months Ended March 31,					
	2018			2017		
Revenues:						
Electric Power Infrastructure Services	$1,568,507	64.9	%	$1,219,502	56.0	%
Oil and Gas Infrastructure Services	849,069	35.1		958,668	44.0	
Consolidated revenues from external customers	$2,417,576	100.0	%	$2,178,170	100.0	%
Operating income (loss):						
Electric Power Infrastructure Services	$140,895	9.0	%	$99,672	8.2	%
Oil and Gas Infrastructure Services	10,057	1.2		38,817	4.0	
Corporate and non-allocated costs	(75,731)	N/A		(63,415)	N/A	
Consolidated operating income	$75,221	3.1	%	$75,074	3.4	%

Three months ended March 31, 2018 compared to the three months ended March 31, 2017

Electric Power Infrastructure Services Segment Results

Revenues increased $349.0 million, or 28.6%, to $1.57 billion for the three months ended March 31, 2018. This increase was primarily the result of increased customer spending associated with electric transmission projects, including favorable performance and progress on a large electric transmission project in Canada. Additionally, emergency restoration services revenues increased $23.8 million primarily from winter storms in the United States and Canada. Also contributing to the increase were more favorable foreign currency exchange rates during the three months ended March 31, 2018, which favorably impacted revenues by

approximately $18 million and were primarily attributable to the relationship between the U.S. dollar and the Canadian and Australian dollars and approximately $15 million in revenues from acquired companies.
Operating income increased $41.2 million, or 41.4%, to $140.9 million for the three months ended March 31, 2018. Operating income as a percentage of revenues increased to 9.0% for the three months ended March 31, 2018 from 8.2% for the three months ended March 31, 2017. These increases were primarily due to the increase in revenues described above, including the incremental emergency restoration services revenues, which typically yield higher margins due in part to higher equipment utilization and absorption of fixed costs. Additionally, operating results for the three months ended March 31, 2018 were favorably impacted by the electric transmission project in Canada that successfully executed through project procurement, winter schedule and productivity risks resulting in a decrease of the project cost contingencies.

Oil and Gas Infrastructure Services Segment Results

Revenues decreased $109.6 million, or 11.4%, to $849.1 million for the three months ended March 31, 2018. This decrease was primarily the result of decreased capital spending by our customers on large diameter pipeline projects. The timing of construction for these large diameter pipeline transmission projects is highly variable due to delays associated with obtaining permits, as well as worksite access limitations related to environmental regulations and seasonal weather patterns. Partially offsetting this reduced spending were approximately $155 million in revenues from an acquired business and more favorable foreign currency exchange rates during the three months ended March 31, 2018, which favorably impacted our international operations by approximately $11 million and was primarily attributable to the relationship between the U.S. dollar and the Canadian and Australian dollars.
Operating income decreased $28.8 million, or 74.1%, to $10.1 million for the three months ended March 31, 2018. Operating income as a percentage of revenues decreased to 1.2% for the three months ended March 31, 2018 from 4.0% for the three months ended March 31, 2017. These decreases were primarily due to lower overall revenues, which negatively impacted resource utilization and included a lower proportion of large diameter pipeline transmission work, which typically yields higher margins. The decreases were also due to the impact of severe weather on various ongoing projects resulting in lower productivity. The three months ended March 31, 2017 were favorably impacted by a termination fee associated with a project cancellation and negatively impacted by lower margins on two distribution MSAs due to unexpected delays in the release of work after crews were mobilized. Operating income and operating income as a percentage of revenues in the three months ended March 31, 2017 were also negatively impacted by a $1.9 million loss associated with the planned sale of a construction barge.

Corporate and Non-allocated Costs

Certain selling, general and administrative expenses and amortization of intangible assets are not allocated to segments. Corporate and non-allocated costs for the quarter ended March 31, 2018 increased $12.3 million to $75.7 million compared to the quarter ended March 31, 2017. This increase was primarily related to $7.2 million in higher acquisition-related costs; $4.8 million in higher compensation related costs, largely associated with increased personnel to support business growth and annual compensation increases as well as higher stock based compensation expense due to lower than estimated forfeiture rates; and $3.8 million in higher intangible amortization, primarily due to the Stronghold acquisition. These increases were partially offset by $4.2 million of lower litigation costs in the three months ended March 31, 2018 associated with a matter involving our prior disposition of certain communications operations, which was resolved in last year’s first quarter.

Liquidity and Capital Resources

Cash Requirements

Our cash and cash equivalents totaled $101.7 million and $138.3 million as of March 31, 2018 and December 31, 2017. As of March 31, 2018 and December 31, 2017, cash and cash equivalents held in domestic bank accounts were $78.0 million and $83.1 million, and cash and cash equivalents held in foreign bank accounts were $23.7 million and $55.2 million. As of March 31, 2018 and December 31, 2017, cash and cash equivalents held by our joint ventures, which are either consolidated or proportionately consolidated, were $11.3 million and $16.7 million, of which $10.6 million and $10.0 million related to domestic joint ventures. Cash and cash equivalents held by the joint ventures are available to support joint venture operations, but we cannot utilize those assets to support our other operations. We generally have no right to the joint ventures’ cash and cash equivalents other than participating in distributions and in the event of dissolution.

At March 31, 2018, we were in compliance with the covenants under the credit agreement for our senior secured revolving credit facility and the covenants under our other bilateral credit agreements discussed below in Debt Instruments. We anticipate that our cash and cash equivalents on hand, existing borrowing capacity under such credit facility, and our future cash flows from operations will provide sufficient funds to enable us to meet our future operating needs and our planned capital expenditures during 2018, as well as facilitate our ability to grow through acquisitions or otherwise in the foreseeable future.

Our industry is capital intensive, and we expect the need for substantial capital expenditures to continue into the foreseeable future to meet the anticipated demand for our services. Total capital expenditures are expected to be approximately $275 million for 2018, of which we have spent $66.8 million through March 31, 2018.

We also evaluate opportunities for strategic acquisitions from time to time that may require cash, as well as opportunities to make investments in strategic partnerships with customers and infrastructure investors where we anticipate performing services such as project management, engineering, procurement or construction services. These investment opportunities exist in the markets and industries we serve and may require the use of cash to purchase debt or equity investments.

Management continues to monitor the financial markets and general national and global economic conditions for factors that may affect our liquidity and capital resources. We consider our cash and cash equivalents investment policies 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. Accordingly, we do not anticipate that any weakness in the capital markets will have a material impact on the principal amounts of our cash and cash equivalents or our ability to rely upon our senior secured revolving credit facility for funds. To date, we have not experienced a loss of or lack of access to our cash or cash equivalents or funds under our senior secured revolving credit facility; however, our access to invested cash and cash equivalents or availability under our senior secured revolving credit facility could be impacted in the future by adverse conditions in the financial markets.

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.

Sources and Uses of Cash

As of March 31, 2018, we had cash and cash equivalents of $101.7 million and working capital of $1.41 billion. We also had $446.8 million of outstanding letters of credit and bank guarantees under our senior secured revolving credit facility, $242.1 million of which were denominated in U.S. dollars and $204.7 million of which were denominated in currencies other than the U.S. dollar, primarily in Australian or Canadian dollars. We also had $882.0 million of outstanding revolving loans under our senior secured revolving credit facility, $835.9 million of which were denominated in U.S. dollars and $46.1 million of which were denominated in Australian dollars. As of March 31, 2018, our $1.81 billion senior secured revolving credit facility had $481.2 million available for revolving loans or issuing new letters of credit or bank guarantees.

Operating Activities

Cash flow from operations is primarily influenced by demand for our services and operating margins but can also be influenced by working capital needs associated with the various types of services that we provide. In particular, working capital needs may increase when we commence large volumes of work under circumstances where project costs, primarily associated with labor, equipment and subcontractors, are required to be paid before the receivables resulting from the work performed 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 months 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 months. These seasonal trends can be offset by changes in the timing of projects due to delays or accelerations and other economic factors that may affect customer spending.

Operating activities provided net cash of $26.0 million during the three months ended March 31, 2018 as compared to $3.7 million used during the three months ended March 31, 2017. This increase in cash flows from operating activities was primarily due to lower working capital requirements related to fewer ongoing oil and gas infrastructure projects, partially offset by higher working capital requirements related to ongoing electric power infrastructure projects in the

three months ended March 31, 2018.
Days sales outstanding (DSO) as of March 31, 2018 was 77 days, as compared to 78 days at March 31, 2017. 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.
Investing Activities
During the three months ended March 31, 2018, we used net cash in investing activities of $91.9 million as compared to $48.6 million used during the three months ended March 31, 2017. Investing activities in the first quarter of 2018 included $30.7 million used for acquisitions and $66.8 million used for capital expenditures. These items were partially offset by $5.8 million of proceeds from the sale of property and equipment. Investing activities in the first quarter of 2017 included $47.0 million used for capital expenditures, partially offset by $4.8 million of proceeds from the sale of property and equipment.

Our industry is capital intensive, and we expect the need for substantial capital expenditures to continue into the foreseeable future to meet the anticipated demand for our services. We also have various contractual obligations related to investments in unconsolidated affiliates and other capital commitments which 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 magnitude of the potential cash outlays for these initiatives.

As part of the acquisition of the postsecondary educational institution mentioned above, we agreed to purchase certain properties and training facilities that are currently being leased from the former owners for a purchase price of $12.2 million in cash, which is expected to be paid in the second quarter of 2018.

Additionally, certain of our acquisitions included the potential payment of contingent consideration, payable in the event certain financial and operational targets are achieved by the acquired businesses. The majority of these contingent consideration liabilities are subject to a maximum payment amount, and the aggregate maximum amount of these liabilities was $154.6 million as of March 31, 2018. Included within this amount was contingent consideration of up to $15.0 million related to a January 2018 acquisition, payable at the end of two-year and five-year periods if the acquired business achieves certain financial and operational objectives and approximately $100.0 million related to the 2017 acquisition of Stronghold, payable at the end of a three-year period if the acquired business achieves certain financial targets. Each of these liabilities would be paid at least 70% in cash. The aggregate fair value of all of our contingent consideration liabilities, including those that are not subject to a maximum payment amount, was $79.3 million as of March 31, 2018.

Financing Activities

During the three months ended March 31, 2018, net cash provided by financing activities was $26.7 million as compared to net cash provided of $44.3 million during the three months ended March 31, 2017. Financing activities in the three months ended March 31, 2018 and 2017 included $214.6 million and $65.8 million of net borrowings under our senior secured revolving credit facility, $173.9 million and $0.0 million of common stock repurchases, and $12.6 million and $16.2 million of payments to satisfy tax withholding obligations associated with share-based compensation.

Stock Repurchases

During the second quarter of 2017, our board of directors approved a stock repurchase program that authorizes us to purchase, from time to time through June 30, 2020, up to $300.0 million of our outstanding common stock. Repurchases under this program can be made in open market and privately negotiated transactions. During the three months ended March 31, 2018, we repurchased 5.0 million shares of our common stock at a cost of $173.9 million in the open market and during 2017, we repurchased 1.4 million shares of our common stock at a cost of $50.0 million in the open market.

Debt Instruments

Senior Secured Revolving Credit Facility

On December 18, 2015, we entered into an amended and restated credit agreement with various lenders that provides for a $1.81 billion senior secured revolving credit facility. On October 31, 2017, we and the lenders entered into an amendment to the credit facility which, among other things, extended the maturity date from December 18, 2020 to October 31, 2022 and adjusted the interest rates applicable to certain borrowings. The entire amount available under the credit facility may be used by us for revolving loans and letters of credit in U.S. dollars and certain alternative currencies. Up to $600.0 million of the credit facility may be used by certain of our subsidiaries for revolving loans and letters of credit in certain alternative currencies. Up to $100.0 million of the credit facility may be used for swing line loans in U.S. dollars, up to $50.0 million of the credit facility may be used for swing line loans in Canadian dollars and up to $30.0 million of the credit facility may be used for swing line loans in Australian dollars. In addition, subject to the conditions specified in the credit agreement, we have the option to increase the revolving commitments by up to $400.0 million from time to time upon receipt of additional commitments from new or existing lenders. Borrowings under the credit agreement are to be used to refinance existing indebtedness and for working capital, capital expenditures and other general corporate purposes.

As of March 31, 2018, we had $446.8 million of outstanding letters of credit and bank guarantees under our credit facility, $242.1 million of which were denominated in U.S. dollars and $204.7 million of which were denominated in currencies other than the U.S. dollar, primarily in Australian or Canadian dollars. We also had $882.0 million of outstanding revolving loans under the credit facility, $835.9 million of which were denominated in U.S. dollars and $46.1 million of which were denominated in Australian dollars. The remaining $481.2 million was available for revolving loans or new letters of credit or bank guarantees.

Beginning on November 20, 2017, amounts borrowed in U.S. dollars bear interest, at our option, at a rate equal to either (i) the Eurocurrency Rate plus 1.125% to 2.000%, as determined based on our Consolidated Leverage Ratio, or (ii) the Base Rate plus 0.125% to 1.000%, as determined based on our Consolidated Leverage Ratio. Amounts borrowed as revolving loans under the credit agreement 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 our 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 our Consolidated Leverage Ratio, and Performance Letters of Credit 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 our Consolidated Leverage Ratio.

From December 18, 2015 through November 19, 2017, amounts borrowed in U.S. dollars bore interest, at our option, at a rate equal to either (i) the Eurocurrency Rate (as defined in the credit agreement) plus 1.125% to 2.125%, as determined based on our Consolidated Leverage Ratio (as described below), or (ii) the Base Rate (as described below) plus 0.125% to 1.125%, as determined based on our Consolidated Leverage Ratio. Amounts borrowed as revolving loans under the credit agreement in any currency other than U.S. dollars bore interest at a rate equal to the Eurocurrency Rate plus 1.125% to 2.125%, as determined based on our Consolidated Leverage Ratio. Standby or commercial letters of credit issued under the credit agreement were subject to a letter of credit fee of 1.125% to 2.125%, based on our 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 were subject to a letter of credit fee of 0.675% to 1.275%, based on our Consolidated Leverage Ratio.

We are also subject to a commitment fee of 0.20% to 0.40%, based on our Consolidated Leverage Ratio, on any unused availability under the credit agreement.

The 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. 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%.

Subject to certain exceptions, the credit agreement is secured by substantially all of our assets and the assets of our wholly owned U.S. subsidiaries and by a pledge of all of the capital stock of our wholly owned U.S. subsidiaries and 65% of the capital stock of direct foreign subsidiaries of our wholly owned U.S. subsidiaries. Our wholly owned U.S. subsidiaries also guarantee the repayment of all amounts due under the credit agreement. Subject to certain conditions, all collateral will automatically be released from the liens at any time we maintain an Investment Grade Rating (defined in the credit agreement as two of the following three conditions being met: (i) a corporate credit rating that is BBB- or higher by Standard & Poor’s Rating Services, (ii) a corporate family rating that is Baa3 or higher by Moody’s Investors Services, Inc. or (iii) a corporate credit rating that is BBB- or higher by Fitch Ratings, Inc.).

The credit agreement contains certain covenants, including (1) a maximum Consolidated Leverage Ratio of 3.0 to 1.0 (provided that in connection with certain permitted acquisitions in excess of $200.0 million, such ratio is 3.5 to 1.0 for the fiscal quarter in which the acquisition is completed and the two subsequent fiscal quarters) and (2) a minimum Consolidated Interest Coverage Ratio (as defined in the credit agreement) of 3.0 to 1.0. As of March 31, 2018, we were in compliance with all of the 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 our assets. The credit agreement allows cash payments for dividends and stock repurchases subject to compliance with the following requirements (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 credit agreement and/or cash and cash equivalents on hand.

The credit agreement provides for customary events of default and contains cross-default provisions with our underwriting, continuing indemnity and security agreement with our sureties and all of our other debt instruments exceeding $100.0 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 we provide cash collateral for all outstanding letter of credit obligations, terminate the commitments under the credit agreement, and foreclose on the collateral.

Other Facilities

We have also entered into bilateral credit agreements with various lenders that provide for up to $49.0 million in aggregate availability in both U.S. dollars and certain alternative currencies, primarily Australian dollars. We may utilize these facilities for, among other things, the issuance of letters of credit or bank guarantees and overdraft protection and had $8.8 million of letters of credit and bank guarantees outstanding under these facilities at March 31, 2018.

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, liabilities associated with non-cancelable operating leases, letters of credit obligations, surety guarantees related to performance bonds, commitments to purchase equipment and certain multiemployer pension plan liabilities.
Investments in Affiliates and Other Entities
Certain joint venture structures involve risks not directly reflected in our balance sheets. For example, in our joint venture structures that provide infrastructure 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 our participation in a joint venture qualifies as a general partnership, the joint venture partners are jointly and severally liable for all of the obligations of the joint venture, including obligations owed to the customer or any other person or entity. We are not aware of circumstances that would lead to future claims against us for material amounts in connection with these joint and several liabilities.
Additionally, in the joint venture structures entered into by us, typically each party indemnifies the other party for any liabilities incurred in excess of the liabilities such other party is obligated to bear under the respective joint venture agreement or in accordance with the scope of work subcontracted to each party. It is possible, however, that we could be required to pay or perform obligations in excess of our share if the other party is unable or refuses to pay or perform its share of the obligations. We are not aware of circumstances that would lead to future claims against us for material amounts that would not be indemnified.
Leases
We enter into non-cancelable operating leases for many of our facility, vehicle and equipment needs. These leases allow us to conserve cash by paying a monthly lease rental fee for use of the facilities, vehicles and equipment rather than purchasing them. We may decide to cancel or terminate a lease before the end of its term, in which case we are typically liable to the lessor for the remaining lease payments under the term of the lease.
We have guaranteed the residual value on certain of our 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 termination of such leases. At March 31, 2018, the maximum guaranteed residual value was $634.6 million. We believe that no significant payments will be made as a result of the difference between the fair market value of the leased equipment and the guaranteed residual value; however, there can be no assurance that significant payments will not be required in the future.
Letters of Credit
Certain of our vendors require letters of credit to ensure reimbursement for amounts they disburse on our behalf, such as to beneficiaries under our insurance programs. In addition, from time to time, certain customers require us to post letters of credit to ensure payment of subcontractors and vendors and guarantee performance under our contracts. Such letters of credit are generally issued by a bank or similar financial institution, typically pursuant to our credit agreement. Each letter of credit commits the issuer to pay specified amounts to the holder of the letter of credit if the holder claims that we have failed to perform specified actions. If this were to occur, we would be required to reimburse the issuer of the letter of credit. Depending on the circumstances of such a reimbursement, we may also be required to record a charge to earnings for the reimbursement. We do not believe that it is likely that any material claims will be made under a letter of credit in the foreseeable future.
As of March 31, 2018, we had $446.8 million in outstanding letters of credit and bank guarantees under our senior secured revolving credit facility securing our casualty insurance program and various contractual commitments. These are irrevocable stand-by letters of credit with maturities generally expiring at various times throughout 2018 and 2019. We expect to renew the majority of the letters of credit related to the casualty insurance program for subsequent one-year periods upon maturity.

Performance Bonds and Parent Guarantees

Many customers, particularly in connection with new construction, require us to post performance and payment bonds issued by a financial institution known as a surety. These bonds provide a guarantee to the customer that we will perform under the terms of a contract and that we will pay subcontractors and vendors. If we fail to perform, the customer may demand that the surety make payments or provide services under the bond. We must reimburse the surety for any expenses or outlays it incurs. Under our underwriting, continuing indemnity and security agreement with our sureties and with the consent of the lenders that are party to our credit agreement, we have granted security interests in certain of our assets to collateralize our obligations to the sureties. Subject to certain conditions and consistent with terms of our credit agreement, these security interests will be automatically released if we maintain a credit rating that meets two of the following three conditions: (i) a corporate credit rating that is BBB- or higher by Standard & Poor’s Rating Services, (ii) a corporate family rating that is Baa3 or higher by Moody’s Investors Services, Inc. or (iii) a corporate credit rating that is BBB- or higher by Fitch Ratings, Inc. We may be required to post letters of credit or other collateral in favor of the sureties or our customers in the future, which would reduce the borrowing availability under our senior secured revolving credit facility. To date, we have not been required to make any reimbursements to our sureties for bond-related costs. While we believe that it is unlikely that we will have to fund significant claims under our surety arrangements in the foreseeable future, to the extent a reimbursement is required, the amount could be material.

As of March 31, 2018, the total amount of outstanding performance bonds was estimated to be approximately $3.1 billion. Our estimated maximum exposure as it relates to the value of performance bonds outstanding is lowered on each bonded project as the cost to complete is reduced, and each of our commitments under the performance bonds generally extinguishes concurrently with the expiration of our related contractual obligation. The estimated cost to complete these bonded projects was approximately $787 million as of March 31, 2018.

Additionally, from time to time, we guarantee the obligations of our wholly owned subsidiaries, including obligations in connection with certain contracts with customers, lease obligations, joint venture arrangements and, in some states, contractors' licenses. We are not aware of any material obligations for performance or payment asserted against us under any of these guarantees.

Equipment Purchase Commitments

See Contractual Obligations - Equipment Purchase Obligations below for a description of these obligations.

Multiemployer Pension Plans

See Contractual Obligations - Multiemployer Pension Plans below for a description of these obligations.

Contractual Obligations

The following table summarizes our future contractual obligations as of March 31, 2018, excluding amounts related to certain capital commitments related to investments in unconsolidated affiliates, unrecognized tax benefits, multiemployer pension plan obligations, interest associated with letters of credit and bank guarantees, commitment fees under our senior secured revolving credit facility, commitments associated with our insurance liabilities and acquisition-related contingent consideration liabilities (in thousands):

	Total	Remainder of 2018	2019	2020	2021	2022	Thereafter
Long-term debt - principal (1)	$883,735	$115	$1,600	$—	$—	$882,020	$—
Long-term debt - cash interest (2)	37	31	6	—	—	—	—
Operating lease obligations	327,052	92,891	83,555	56,587	33,844	19,878	40,297
Capital lease and related interest obligations (3)	1,835	863	752	118	102	—	—
Equipment purchase commitments	39,323	38,259	1,064	—	—	—	—
Capital commitment related to investments in unconsolidated affiliates	38,841	14,283	24,558	—	—	—	—
Total	$1,290,823	$146,442	$111,535	$56,705	$33,946	$901,898	$40,297

(1) Amounts were recorded in our March 31, 2018 condensed consolidated balance sheet and included $882.0 million of outstanding revolving loans under our senior secured revolving credit facility, which bear interest at variable market rates. Assuming the principal amount outstanding at March 31, 2018 remained outstanding and the interest rate in effect at March 31, 2018 remained the same, the annual cash interest expense with respect to our senior secured revolving credit facility would be approximately $34.5 million, payable for the remainder of the term of such credit facility, which matures in October 2022.

(2) Amounts relate to cash interest expense on our fixed-rate long-term debt, which excludes our senior secured revolving credit facility.

(3) Principal amounts of capital lease obligations were recorded in our March 31, 2018 condensed consolidated balance sheet.

Equipment Purchase Commitments
We have committed capital for the expansion of our vehicle fleet in order to accommodate manufacturer lead times on certain types of vehicles. As of March 31, 2018, $38.3 million of production orders were issued with expected delivery dates in 2018, and $1.1 million of production orders were issued with expected delivery dates in 2019. Although we have committed to the purchase

of these vehicles at the time of their delivery, we intend that these orders will be assigned to third party leasing companies and made available to us under certain of our master equipment lease agreements, which will release us from our capital commitment.

Capital Commitments Related to Investments in Unconsolidated Affiliates

During the year ended December 31, 2017, we formed a partnership with select investors that provides up to $1.0 billion of capital, including approximately $80.0 million from us, available to invest in certain specified types of infrastructure projects through August 2024. Because we are not obligated to invest this amount and are unable to determine the timing of any such investments, we have excluded this capital commitment from the Contractual Obligations table.

Unrecognized Tax Benefits

Although the IRS completed its examination related to tax years 2010, 2011 and 2012 during the year ended December 31, 2016, 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 $13.7 million as a result of settlement of these examinations or the expiration of certain statute of limitations periods. Because we are unable to accurately predict the timing and amounts of any obligations related to unrecognized tax benefits, we have excluded unrecognized tax benefits from the Contractual Obligations table.

Multiemployer Pension Plans

The previously presented table of estimated contractual obligations does not reflect the obligations under the multiemployer pension plans in which our union employees participate. Some of our operating units are parties to various collective bargaining agreements that represent certain of their employees. The agreements require the operating units to pay specified wages, provide certain benefits to their union employees and contribute certain amounts to multiemployer pension plans and employee benefit trusts. Our multiemployer pension plan contribution rates generally are specified in the collective bargaining agreements (usually on an annual basis), and contributions 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 the projects we have ongoing at any time and the need for union resources in connection with those projects. Therefore, we are unable to accurately predict our union employee payroll and the amount of 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. The Pension Protection Act of 2006 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. 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 (which may take the form of a surcharge on benefit contributions) and/or modifications to retiree benefits. A number of multiemployer plans to which our operating units contribute or may contribute in the future are in “endangered,” “seriously endangered” or “critical” status. The amount of additional funds, if any, that we may be obligated to contribute to these plans in the future cannot be reasonably estimated and are not included in the above table due to uncertainty of the future levels of work that require the specific use of the union employees covered by these plans, as well as the future contribution levels and possible surcharges on contributions applicable to these plans.

We may also have additional liabilities imposed by law as a result of our participation in multiemployer defined benefit pension plans. The Employee Retirement Income Security Act of 1974, as amended by the Multiemployer Pension Plan Amendments Act of 1980, imposes certain liabilities upon employers who are contributors to a multiemployer plan if the employer withdraws 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. We are not aware of any material amounts of withdrawal liability that have been incurred or asserted and that remain outstanding as a result of our withdrawal from a multiemployer defined benefit pension plan.

Letters of Credit and Bank Guarantee Fees and Commitment Fees

We have excluded from the Contractual Obligations table interest associated with letters of credit and bank guarantees and commitment fees under our senior secured revolving credit facility and other bilateral credit agreements because the outstanding letters of credit and bank guarantees, availability and applicable interest rates and fees are variable. For additional information regarding our letters of credit and bank guarantees and the interest rates and fees associated with these items and our borrowings under our senior secured revolving credit facility, see Liquidity and Capital Resources - Debt Instruments above.

Insurance
We are insured for employer's liability, workers' compensation, auto liability and general liability claims. Under these programs, the deductible for employer's liability is $1.0 million per occurrence, the deductible for workers' compensation is $5.0 million per occurrence, and the deductibles for auto liability and general liability are $10.0 million per occurrence. We manage and maintain a portion of our casualty risk through our wholly-owned captive insurance company, which insures all claims up to the amount of the applicable deductible of our third-party insurance programs. In connection with our casualty insurance programs, we are required to issue letters of credit to secure our obligations. We also have 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 $0.5 million per claimant per year.
Losses under all of these 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 March 31, 2018 and December 31, 2017, the gross amount accrued for insurance claims totaled $262.1 million and $254.7 million, with $201.5 million and $200.0 million considered to be long-term and included in "Insurance and other non-current liabilities." Related insurance recoveries/receivables as of March 31, 2018 and December 31, 2017 were $52.8 million and $50.4 million, of which $0.4 million and $0.4 million were included in "Prepaid expenses and other current assets" and $52.4 million and $50.0 million were 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 if we believe that the cost to obtain such coverage exceeds any additional benefits. In any such event, our overall risk exposure would increase, which could negatively affect our results of operations, financial condition and cash flows. The Contractual Obligations table excludes commitments associated with our insurance liabilities, as we are unable to determine the timing of payments related to these obligations.
Contingent Consideration Liabilities
We have excluded from the Contractual Obligations table acquisition-related contingent consideration liabilities, which represent the estimated fair value of future amounts payable to the former owners of certain acquired businesses, because the amounts have not been earned and we are unable to determine the portion of the liabilities that will be settled in cash and the exact timing of any such payments as of March 31, 2018. Payment of such consideration is contingent on the future financial and operational performance of such acquired businesses, and the fair value of such consideration is estimated by management based on entity-specific assumptions that are evaluated on an ongoing basis. As of March 31, 2018 and December 31, 2017, the fair value of these contingent consideration liabilities totaled $79.3 million and $65.7 million, all of which was included in "Insurance and other non-current liabilities" on our condensed consolidated balance sheets. 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 or early 2021.
The fair values of the contingent consideration liabilities as of March 31, 2018 were determined using a Monte Carlo simulation valuation methodology based on probability-weighted financial and operational performance projections and other inputs including a discount rate and an expected volatility factor for each acquisition. The discount rates ranged from 2.1% to 3.4% depending on the settlement methods available and are generally based on a risk-free rate and/or our cost of debt. The expected volatility factors ranged from 23.0% to 31.1% based on historical asset volatility of selected guideline public companies. 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.

The majority of our contingent consideration liabilities are subject to a maximum payment amount, and the aggregate maximum amount of these liabilities was $154.6 million as of March 31, 2018. One contingent consideration liability is not subject to a maximum payout amount, and the fair value of that liability was $1.0 million as of March 31, 2018. Our aggregate contingent consideration liabilities can change due to additional business acquisitions, payments to settle outstanding liabilities, changes in the fair value of amounts owed to former owners of the acquired businesses, and foreign currency translation gains or losses. During the three months ended March 31, 2018, an acquisition increased our contingent consideration liabilities by $13.7 million. No acquisitions occurred during the three months ended March 31, 2017. We made no payments related to contingent consideration liabilities during the three months ended March 31, 2018 and 2017. No significant changes to the aggregate fair value of our contingent consideration liabilities have occurred during the three months ended March 31, 2018 and

2017. When applicable, changes in fair value of contingent consideration liabilities are reflected in operating income on our consolidated statements of operations.

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, money market mutual funds and investment grade commercial paper with original maturities of three months or less. 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 oil and gas companies, governmental entities, general contractors, and builders, owners and managers of commercial and industrial properties located primarily in the United States, Canada, Australia and Latin America. Consequently, we are subject to potential credit risk related to changes in business and economic factors throughout these locations, which may be heightened as a result of uncertain economic and financial market conditions that have existed in recent years. However, we generally have certain statutory lien rights with respect to services provided. Some of our customers have experienced significant financial difficulties in the past, 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.

At March 31, 2018 and December 31, 2017, no customers represented 10% or more of our consolidated net receivable position. No customers represented 10% or more of our consolidated revenues for the three months ended March 31, 2018, and two customers within our Oil and Gas Infrastructure Services segment each accounted for approximately 10% of our consolidated revenues for the three months ended March 31, 2017.

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 Legal Proceedings and Collective Bargaining Agreements in Note 10 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Statements of Part I of the Quarterly Report for additional information regarding litigation, claims and other legal proceedings.

Related Party Transactions

In the normal course of business, we enter into transactions from time to time with related parties. Our significant related party transactions typically take the form of facility leases with prior owners of certain acquired companies.

Critical Accounting Policies Update

The discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which have been prepared in accordance with US GAAP. The preparation of these 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 consolidated financial statements are published and the reported amounts of revenues and expenses recognized during the periods presented. Our critical accounting estimates are detailed in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in Part II of our Annual Report on Form 10-K for the year ended December 31, 2017.

Significant changes to our critical accounting policies as a result of adopting new revenue recognition guidance effective January 1, 2018 are referenced below:

Revenue Recognition

See Revenue Recognition 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 revenue recognition guidance and related disclosures.

Outlook

We believe there are growth opportunities across the industries we serve and continue to have a positive long-term outlook. Overall, favorable end-market drivers have spurred demand for infrastructure services in both our Electric Power Infrastructure Services and Oil and Gas Infrastructure Services segments, and we believe both segments are generally in a renewed multi-year up-cycle. We are focused on long-term profitable growth and continuing to distinguish ourselves through safe execution and best-in-class field leadership. Though not without risks and challenges, including those discussed below and referenced in Item 1A. Risk Factors of Part II of this Quarterly Report and Uncertainty of Forward-Looking Statements and Information below, we believe we are well-positioned to capitalize on opportunities and trends in the industries we serve with our full-service operations, broad geographic reach, financial position and technical expertise.

Electric Power Infrastructure Services Segment

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. These factors have affected and will continue to affect reliability, requiring utilities to upgrade, modernize and expand their existing transmission and distribution systems. Furthermore, current federal legislation also requires the power industry to meet federal reliability standards for its transmission and distribution systems. In response to these dynamics, over the past several years, many utilities across North America have begun to implement plans to upgrade their transmission and distribution systems in order to improve reliability and reduce congestion.

As demand for power increases, we expect the need for new power generation facilities to also increase. The development of such facilities, expected to be powered by certain types of traditional energy sources and renewable energy sources such as solar and wind, would necessitate new or expanded transmission infrastructure to transport power to demand centers. Furthermore, we anticipate that the access to low cost natural gas resources from unconventional shale formations in the United States and Canada will continue to increase the amount of electricity generated by natural gas powered plants. To the extent this dynamic continues, transmission and substation infrastructure will be needed to interconnect new natural gas-fired generation facilities. We also anticipate that modification and reengineering of existing transmission and substation infrastructure will be required as existing coal and nuclear generation facilities are retired or shut down.

With respect to distribution systems, a number of utilities are implementing system upgrades or hardening programs in response to severe weather events that have occurred over the past several years, which is increasing distribution investment in some regions of the United States. We also anticipate that utilities will continue to integrate smart grid technologies into their distribution systems over time to improve grid management and create efficiencies. Further, to the extent adoption of electrical vehicle technology increases, we believe upgrades to distribution and other electrical infrastructure will be required to accommodate increased load demand.

We believe that several existing, pending or proposed legislative or regulatory actions may also positively impact long-term demand for the services we provide, particularly in connection with electric power infrastructure and renewable energy spending. For example, legislative or regulatory action that alleviates some of the siting and right-of-way challenges that impact transmission projects would potentially accelerate future construction, and federal reliability standards for transmission and distribution systems could create 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 these projects may depend on the availability of tax incentive programs and there is no assurance that existing incentive programs will be extended or that new incentive programs will be implemented.

Despite these positive trends, the regulatory and environmental permitting processes remain a hurdle for some proposed transmission and renewable energy projects, and these factors continue to create uncertainty as to timing of projects and customer spending. In the near term, margins for our electric power infrastructure services operations have been impacted by regulatory and permitting delays and unfavorable economic and market conditions, particularly for larger transmission projects. We anticipate many of these issues to be resolved over the long term, as a number of these projects are currently underway, and we expect this segment’s backlog to remain strong during 2018. Our customers are also seeking additional specialized labor resources to address an aging utility workforce and labor availability issues, increasing pressure to reduce costs and improve reliability, and increasing duration and complexity of customer capital programs. We believe these trends will continue, possibly to the point where customer demand for labor resources will outpace the supply of industry resources. Our ability to take advantage of this opportunity is limited by our ability to employ, train and retain the necessary skilled personnel. We are taking proactive steps to develop our workforce, including through the

establishment and expansion of our training facility, our recent acquisition of a postsecondary educational institution that provides pre-apprenticeship training and programs for experienced linemen, and other strategic relationships.
With respect to our communications service offerings, consumer and commercial demand in North America and Latin America 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, we believe there is increasing demand to upgrade or build fiber optic networks that are closer or connected to the end user, and in North America there are plans for new wireless networks and improvements to existing wireless networks. As a result of these near- and longer-term industry trends, we believe there will be meaningful demand for our services.
Oil and Gas Infrastructure Services Segment
We continue to see growth opportunities in our Oil and Gas Infrastructure Services segment, primarily with respect to installation and maintenance of larger pipeline systems and related facilities and services related to pipeline integrity, natural gas distribution, horizontal directional drilling and downstream industrial services. A number of larger pipeline projects from the North American shale formations and Canadian oil sands to power plants, refineries and other demand centers are in various stages of development. While there is risk the projects will not move forward or could be delayed, we believe many of our customers remain committed to them given the cost and time required to move from conception to construction. We expect to continue to execute on a significant number of larger pipeline projects during 2018.
Due to its abundant supply and current low price, we believe the demand for North American natural gas will continue to increase in the future and that natural gas will be the fuel of choice for both primary power generation and backup power generation for renewable-driven power plants. In certain areas of North America, the existing pipeline system infrastructure is insufficient to support this expected future development. Furthermore, the abundance of low price natural gas in the United States, Canada and Australia has also resulted in efforts to develop liquefied natural gas (LNG) export facilities to serve higher-price international markets, which could provide pipeline and related facilities development opportunities for us. Although fluctuating commodity prices, regulatory issues and changing economic conditions may impact the number of projects that ultimately move forward, we believe our comprehensive service offerings and broad geographic presence enable us to competitively pursue opportunities that become available.
We also believe there are growth opportunities for some of our other pipeline services over the long term, including pipeline integrity, rehabilitation and replacement services. Regulatory measures have increased, and could continue to increase, the frequency or stringency of pipeline integrity testing requirements, which we expect to result in increased capital expenditures by our customers. We have also experienced an increase in demand for our natural gas distribution services as a result of improved economic conditions, lower natural gas prices and a significant need to upgrade and replace aging infrastructure.
Despite these positive trends, a challenging regulatory and permitting environment has caused the delay of some larger pipeline projects during the past several years. These dynamics negatively impacted our segment margins, in part as a result of our inability to adequately cover certain fixed costs. Margins for larger pipeline projects are also subject to significant performance risk, which can arise from adverse weather conditions, challenging geography, customer decisions and crew productivity. Specific opportunities for larger pipeline projects are also sometimes difficult to predict because of the seasonality of bidding and construction cycles.
Additionally, the oil and gas industry is highly cyclical and subject to volatility as a result of fluctuations in natural gas, natural gas liquids and oil prices. Certain of our end markets remain challenged as the broader energy market has not fully recovered from the significant decline in prices that began in mid-2014. Exploration and production companies and midstream companies significantly reduced capital spending in response to the decline, and demand in areas where the price of oil is influential, such as Australia, the Canadian Oil Sands, certain oil-driven U.S. shale formations and the Gulf of Mexico, has been adversely impacted by low oil prices. If oil and natural gas prices decline further or remain at lower levels over the long term, our outlook may change and demand for our services could be materially impacted.

We have also recently expanded our industrial services offerings, including high-pressure and critical-path turnaround services to the downstream and midstream energy markets, and enhanced our capabilities with respect to instrumentation and electrical services, piping, fabrication and storage tank services. While these services were negatively impacted in 2017 by historic adverse weather events in the U.S. Gulf Coast region, we believe, looking at trends and estimates for process facility utilization rates and overall refining capacity, North America will be the largest downstream maintenance market in the world over the next several years. Furthermore, we believe processing facilities located along the U.S. Gulf Coast region should have certain strategic advantages due to their access and proximity to affordable hydrocarbon resources.

Overall, we remain optimistic about this segment’s operations. From a near- and medium-term perspective, we continue to believe that larger pipeline opportunities can provide significant profitability, although these projects are often subject to more cyclicality and execution risk than our other service offerings. We have also taken steps to diversify and expand our operations in this segment through other services, such as pipeline integrity, natural gas distribution, and downstream industrial services.

Strategic Acquisitions and Investments

We continue to evaluate potential strategic acquisitions and investments to broaden our customer base, expand our geographic area of operations, grow our portfolio of services and increase opportunities across our operations. We believe that attractive growth opportunities exist primarily due to the highly fragmented and evolving nature of the industries in which we operate and adjacent industries, along with the inability of many companies to expand and modernize due to capital or liquidity constraints. We will pursue opportunities designed to enhance our core business and leadership position in the industries we serve and provide innovative solutions to our customers. We also believe our unique operating model and entrepreneurial mindset will continue to be attractive to acquisition candidates.

Uncertainty of Forward-Looking Statements and Information

This Quarterly Report on Form 10-Q 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 but are not limited to, statements relating to the following:

- Projected revenues, net income, earnings per share, margins, weighted average shares outstanding, capital expenditures, tax rates and other projections of operating or financial results;
- Expectations regarding our business or financial outlook, growth, trends or opportunities in particular markets;
- The expected value of contracts or intended contracts with customers;
- Future capital allocation initiatives;
- The scope, services, term and results of any projects awarded or expected to be awarded for services to be provided by us;
- The development of larger electric transmission and oil and natural gas pipeline projects and the level of oil, natural gas and natural gas liquids prices and their impact on our business or demand for our services;
- The impact of existing or potential legislation or regulation, including the Tax Act;
- 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 potential benefits from investments or acquisitions, including Stronghold;
- The expected outcome of pending or threatened litigation;
- Beliefs and assumptions about the collectability of receivables;
- The business plans or financial condition of our customers;
- Our plans and strategies;
- Possible recovery on pending or contemplated change orders or other claims against customers or third parties; and
- The current economic and regulatory conditions and trends in the industries we serve.

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 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 conditions;
- The effects of industry, economic, financial or political conditions outside our control, including weakness in the capital markets;
- Quarterly variations in our operating results;
- Trends and growth opportunities in relevant markets;
- Delays, reductions in scope or cancellations of anticipated, pending or existing projects, including as a result of weather, regulatory or permitting issues, environmental processes, project performance issues, claimed force majeure events, protests or other political activity, legal challenges or our customers' capital constraints;
- The successful negotiation, execution, performance and completion of anticipated, pending and existing contracts, including the ability to obtain future project awards;
- Our dependence on suppliers, subcontractors, equipment manufacturers and other third-party contractors;
- Our ability to attract and the potential shortage of skilled employees and our ability to retain key personnel and qualified employees;
- Our dependence on fixed price contracts and the potential to incur losses with respect to these contracts;
- Estimates relating to our use of percentage-of-completion accounting;
- Adverse weather conditions or events;
- Our ability to generate internal growth;
- Competition in our business, including our ability to effectively compete for new projects and market share;
- The effect of natural gas, natural gas liquids and oil prices on our operations and growth opportunities and on our customers' capital programs and demand for our services;
- The future development of natural resources;
- The failure of existing or potential legislative actions and initiatives to result in demand for our services;
- Unexpected costs or liabilities that may arise from pending or threatened litigation, indemnity obligations or other claims asserted against us, including liabilities and costs for which we are not covered by third-party insurance and liabilities associated with multiemployer pension plans;
- The outcome of pending or threatened litigation;
- Risks relating to the potential unavailability or cancellation of third-party insurance, the exclusion of coverage for certain losses, and potential increases in premiums for coverage deemed beneficial to us;
- 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 to pay for services, including failure to collect our outstanding receivables;
- The failure to recover on payment claims against project owners or third-party contractors or to obtain adequate compensation for customer-requested change orders;
- The failure of our customers to comply with regulatory requirements applicable to their projects, which may result in project delays and cancellations;
- Budgetary or other constraints that may reduce or eliminate tax incentives or government funding for projects, which may result in project delays or cancellations;
- Estimates and assumptions in determining our financial results, remaining performance obligations and backlog;
- Our ability to successfully complete our performance obligations or realize our backlog;
- Risks associated with operating in international markets, including instability of foreign governments, currency fluctuations, tax and investment strategies, as well as compliance with foreign legal systems and cultural practices, the U.S. Foreign Corrupt Practices Act and other applicable anti-bribery and anti-corruption laws;
- Our ability to successfully identify, complete, integrate and realize synergies from acquisitions, including Stronghold;
- The potential adverse impact resulting from uncertainty surrounding acquisitions and investments, including the ability to retain key personnel from acquired businesses, the potential increase in risks already existing in our operations and poor performance or decline in value of our investments in infrastructure assets;
- The adverse impact of impairments of goodwill, other intangible assets, receivables, long-lived assets or investments;
- Our growth outpacing our decentralized management and infrastructure;
- Requirements relating to governmental regulation and changes thereto;
- Inability to enforce our intellectual property rights or the obsolescence of such rights;
- Risks related to the implementation of new information technology solutions;
- The impact of our unionized workforce on our operations, including labor stoppages or interruptions due to strikes or lockouts;
- Potential liabilities and other adverse effects arising from occupational health and safety matters;
- The cost of borrowing, availability of cash and credit, fluctuations in the price and volume of our common stock, debt covenant compliance, interest rate fluctuations and other factors affecting our financing and investing activities;
- Fluctuations of prices of certain materials used in our business;
- The ability to access sufficient funding to finance desired growth and operations;
- Our ability to obtain performance bonds;
- Potential exposure to environmental liabilities;
- Our ability to meet the regulatory requirements applicable to us and our subsidiaries, including the Sarbanes-Oxley Act of 2002;

- Rapid technological and other structural changes that could reduce the demand for our services;
- New or changed tax laws, treaties or regulations;
- Increased healthcare costs arising from healthcare reform legislation or other legislative action;
- Regulatory changes that result in increased labor 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 I of our 2017 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. 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 2017 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 with original maturities of three months or less. 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, as we grant credit under normal payment terms, generally without collateral, we are subject to potential credit risk related to our customers' ability to pay for services provided. This risk may be heightened as a result of depressed economic and financial market conditions. However, 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. We perform ongoing credit risk assessments of our customers and financial institutions, and in some cases, we obtain collateral or other security from our customers.

Interest Rate Risk. As of March 31, 2018, 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 March 31, 2018, the fair value of our variable rate debt of $882.0 million approximated book value. Our weighted average interest rate on our variable rate debt for the three months ended March 31, 2018 was 3.34%. The annual effect on our pretax earnings of a hypothetical 50 basis point increase or decrease in variable interest rates would be approximately $4.4 million based on our March 31, 2018 balance of variable rate debt.

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, Australia and Latin America, 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 months ended March 31, 2018, revenues from our foreign operations accounted for 29.2% of our consolidated revenues. Fluctuations in foreign exchange rates during the three months ended March 31, 2018 caused an increase of approximately $29 million in foreign revenues compared to the three months ended March 31, 2017.

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 March 31, 2018.

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 $23.7 million as of March 31, 2018, an assumed 5% adverse change to foreign exchange rates would result in a fair value decline of $1.2 million. Fluctuations in fair value are recorded in "Accumulated other comprehensive income (loss)", a separate component of stockholders' equity.

Item 4. Controls and Procedures.

Attached as exhibits to this Quarterly Report 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 4. section 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 March 31, 2018, our disclosure controls and procedures were effective to provide reasonable assurance of achieving their objectives.

Evaluation of Internal Control over Financial Reporting

Effective January 1, 2018, we adopted Accounting Standards Codification Topic 606, Revenue from Contracts with Customers, and the related Accounting Standards Updates. While the adoption of this new revenue recognition guidance did not have a significant effect on our results of operations, financial condition or cash flows, we implemented certain updates to internal controls related to our revenue recognition processes during the quarter ended March 31, 2018. There have been no other changes in our internal control over financial reporting during the quarter ended March 31, 2018 that have materially affected, or are 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 Legal Proceedings and Collective Bargaining Agreements in Note 10 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Statements of Part I of this Quarterly Report, which are incorporated by reference into this Item 1. Legal Proceedings of Part II of this Quarterly Report, for additional information regarding litigation, claims and other legal proceedings.

Item 1A. Risk Factors.

As of the date of this filing, there have been no material changes from the risk factors previously disclosed in Item 1A. Risk Factors of Part I of our 2017 Annual Report. An investment in our common stock or other equity securities involves various risks. When considering an investment in our company, you should carefully consider all of the risk factors described herein and in our 2017 Annual Report. The matters specifically identified are not the only risks and uncertainties we face, and there may be additional matters that are not known to us or that we currently consider immaterial. All of these risks and uncertainties could adversely affect our business, financial condition or future results, and thus the value of an investment in our company.

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

Unregistered Sales of Equity Securities

On January 19, 2018 and January 22, 2018, we completed acquisitions in which a portion of the consideration for each acquisition consisted of the unregistered issuance of shares of our common stock. The aggregate consideration paid at closing in these acquisitions included 379,817 shares of our common stock valued at approximately $13.5 million as of the acquisition dates. For additional information about these acquisitions, including additional consideration, see Note 4 of the Notes to Consolidated Financial Statements in Item 1. Financial Information of Part I of this Quarterly Report. The shares of common stock issued in these acquisitions 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 businesses acquired in privately negotiated transactions not involving any public offering or solicitation.

Issuer Purchases of Equity Securities During the First Quarter of 2018

The following table contains information about our purchases of equity securities during the three months ended March 31, 2018.

Period	Total Number of Shares Purchased (1)	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(2)
January 1-31, 2018				
Open Market Stock Repurchases	—	$ —	—	$ 250,000,030
Tax Withholdings (1)	7,177	$ 39.24	—	
February 1-28, 2018				
Open Market Stock Repurchases(2)	140,400	$ 35.60	140,400	$ 245,002,113
Tax Withholdings (1)	352,682	$ 34.99	—	
March 1-31, 2018				
Open Market Stock Repurchases(2)	4,828,861	$ 34.98	4,828,861	$ 76,086,713
Tax Withholdings (1)	22,416	$ 34.08	—	
Total	5,351,536		4,969,261	$ 76,086,713

(1) 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.

(2) Includes shares repurchased as of the settlement date of the repurchases. On May 25, 2017, 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, 2020, up to $300.0 million of our outstanding common stock. Repurchases under this program 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. This program does 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. As of March 31, 2018, we had repurchased 6.4 million shares of our common stock under this program at a cost of $223.9 million. Accordingly, $76.1 million remained available under the program.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

None.

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 3.3 to the Company's Form 8-K filed May 25, 2011 and incorporated herein by reference)
3.2		Certificate of Designation of Series G Preferred Stock (previously filed as Exhibit 3.1 to the Company's Form 8-K filed January 17, 2014 and incorporated herein by reference)
3.3		Bylaws of Quanta Services, Inc., as amended and restated March 27, 2014 (previously filed as Exhibit 3.1 to the Company's Form 8-K filed March 31, 2014 and incorporated herein by reference)
10.1^		Quanta Services, Inc. Term Sheet for 2018 Annual Incentive Plan - Corporate Employees, Quanta Services, Inc. Terms Sheet for 2018 Senior Leadership Long-Term Incentive Plan and Quanta Services, Inc. Term Sheet for 2018 Discretionary Plan - All Employees (previously filed as Exhibit 10.1 to the Company's Form 8-K (No. 001-13831) filed March 2, 2018 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.INS	*	XBRL Instance Document
101.SCH	*	XBRL Taxonomy Extension Schema Document
101.CAL	*	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	*	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	*	XBRL Taxonomy Extension Definition Linkbase Document

* Filed or furnished herewith
^ Management contracts or compensatory plans or arrangements

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: May 9, 2018

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