UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(MARK ONE)

x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE QUARTERLY PERIOD ENDED MARCH 31, 2019

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM ______ TO ______

COMMISSION FILE NUMBER 1-10596

ESCO TECHNOLOGIES INC.

(Exact name of registrant as specified in its charter)

MISSOURI (State or other jurisdiction of incorporation or organization)	43-1554045 (I.R.S. Employer Identification No.)
9900A CLAYTON ROAD ST. LOUIS, MISSOURI (Address of principal executive offices)	63124-1186 (Zip Code)

(314) 213-7200
(Registrant’s telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	ESE	New York Stock Exchange

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

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

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

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

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

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

Indicate the number of shares outstanding of each of the issuer’s classes of common stock, as of the latest practicable date.

Class	**Shares outstanding at April 30, 2019**
Common stock, $.01 par value per share	25,977,687

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

ESCO TECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)
(Dollars in thousands, except per share amounts)

	Three Months Ended March 31,	
	2019	**2018**
Net sales	$ 193,949	174,778
Costs and expenses:		
Cost of sales	121,946	112,370
Selling, general and administrative expenses	41,673	40,749
Amortization of intangible assets	4,620	4,564
Interest expense, net	1,925	2,036
Other expenses, net	2,430	1,475
Total costs and expenses	172,594	161,194
Earnings before income taxes	21,355	13,584
Income tax expense	2,558	3,590
Net earnings	$ 18,797	9,994
Earnings per share:		
Basic - Net earnings	$ 0.73	0.39
Diluted - Net earnings	$ 0.72	0.38

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)
(Dollars in thousands, except per share amounts)

	Six Months Ended March 31, 2019	Six Months Ended March 31, 2018
Net sales	$ 376,546	348,273
Costs and expenses:		
Cost of sales	240,854	224,106
Selling, general and administrative expenses	82,666	82,903
Amortization of intangible assets	9,272	9,010
Interest expense, net	3,815	4,221
Other (income) expenses, net	(4,673)	1,648
Total costs and expenses	331,934	321,888
Earnings before income taxes	44,612	26,385
Income tax expense (benefit)	8,498	(18,280)
Net earnings	$ 36,114	44,665
Earnings per share:		
Basic - Net earnings	$ 1.39	1.73
Diluted - Net earnings	$ 1.38	1.72

See accompanying notes to consolidated financial statements.

ESCO TECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)
(Dollars in thousands)

	Three Months Ended March 31,		Six Months Ended March 31,	
	2019	**2018**	**2019**	**2018**
Net earnings	$ 18,797	9,994	36,114	44,665
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments	677	2,837	(3,852)	4,125
Net unrealized gain on derivative instruments	126	138	100	155
Total other comprehensive income (loss), net of tax	803	2,975	(3,752)	4,280
Comprehensive income	$ 19,600	12,969	32,362	48,945

See accompanying notes to consolidated financial statements.

ESCO TECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Unaudited)
(Dollars in thousands)

	March 31, 2019	September 30, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 34,955	30,477
Accounts receivable, net	159,923	163,740
Contract assets	100,540	53,034
Inventories	124,493	135,416
Other current assets	16,048	13,356
Total current assets	435,959	396,023
Property, plant and equipment, net of accumulated depreciation of $120,886 and $115,728, respectively	132,806	134,954
Intangible assets, net of accumulated amortization of $101,546 and $92,274, respectively	338,514	345,353
Goodwill	381,304	381,652
Other assets	5,380	7,140
Total assets	$ 1,293,963	1,265,122
LIABILITIES AND SHAREHOLDERS’ EQUITY		
Current liabilities:		
Current maturities of long-term debt	$ 20,000	20,000
Accounts payable	58,090	63,033
Contract liabilities	55,453	49,035
Accrued salaries	27,239	29,379
Accrued other expenses	41,163	39,083
Total current liabilities	201,945	200,530
Pension obligations	15,991	16,286
Deferred tax liabilities	62,938	64,794
Other liabilities	21,693	24,102
Long-term debt	197,000	200,000
Total liabilities	499,567	505,712
Shareholders’ equity:		
Preferred stock, par value $.01 per share, authorized 10,000,000 shares	–	–
Common stock, par value $.01 per share, authorized 50,000,000 shares, issued 30,633,742 and 30,534,786 shares, respectively	305	305
Additional paid-in capital	293,612	291,190
Retained earnings	643,018	606,837
Accumulated other comprehensive loss, net of tax	(35,280)	(31,528)
	901,655	866,804
Less treasury stock, at cost: 4,615,627 and 4,623,958 common shares, respectively	(107,259)	(107,394)
Total shareholders’ equity	794,396	759,410
Total liabilities and shareholders’ equity	$ 1,293,963	1,265,122

See accompanying notes to consolidated financial statements.

ESCO TECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)
(Dollars in thousands)

	Six Months Ended March 31, 2019	2018
Cash flows from operating activities:		
Net earnings	$ 36,114	44,665
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation and amortization	18,779	18,798
Stock compensation expense	2,557	2,648
Changes in assets and liabilities	(28,847)	(5,570)
Change in property, plant and equipment due to gain on sale of building	(8,922)	-
Effect of deferred taxes	(1,856)	(26,533)
Pension contributions	(833)	(537)
Net cash provided by operating activities	16,992	33,471
Cash flows from investing activities:		
Acquisition of businesses, net of cash acquired	-	(11,369)
Additions to capitalized software	(4,494)	(4,608)
Capital expenditures	(17,425)	(10,095)
Proceeds from sale of building and land	17,201	-
Net cash used by investing activities	(4,718)	(26,072)
Cash flows from financing activities:		
Proceeds from long-term debt	23,000	36,000
Principal payments on long-term debt	(26,000)	(46,000)
Dividends paid	(4,146)	(4,134)
Other	370	560
Net cash used by financing activities	(6,776)	(13,574)
Effect of exchange rate changes on cash and cash equivalents	(1,020)	3,564
Net increase (decrease) in cash and cash equivalents	4,478	(2,611)
Cash and cash equivalents, beginning of period	30,477	45,516
Cash and cash equivalents, end of period	$ 34,955	42,905
Supplemental cash flow information:		
Interest paid	$ 3,594	4,167
Income taxes paid (including state and foreign)	13,450	3,737

See accompanying notes to consolidated financial statements.

1. BASIS OF PRESENTATION

The accompanying consolidated financial statements, in the opinion of management, include all adjustments, consisting of normal recurring accruals, necessary for a fair presentation of the results for the interim periods presented. The consolidated financial statements are presented in accordance with the requirements of Form 10-Q and consequently do not include all the disclosures required for annual financial statements by accounting principles generally accepted in the United States of America (GAAP). For further information, refer to the consolidated financial statements and related notes included in the Company’s Annual Report on Form 10-K for the fiscal year ended September 30, 2018.

The Company’s results for the three and six-month periods ended March 31, 2019 are not necessarily indicative of the results for the entire 2019 fiscal year. References to the second quarters of 2019 and 2018 represent the fiscal quarters ended March 31, 2019 and 2018, respectively.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities. Actual results could differ from those estimates.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES UPDATE

Our significant accounting policies are included in Note 1 of our Annual Report on Form 10-K for the year ended September 30, 2018. On October 1, 2018, we adopted ASU No. 2014-09, *Revenue from Contracts with Customers (ASC 606)*. Significant changes to our policies resulting from the adoption are provided below. We adopted ASC 606 using the modified retrospective transition method applied to contracts that were not substantially complete at the end of fiscal year 2018. We recorded a $4.2 million adjustment to increase retained earnings to reflect the cumulative impact of adopting this standard at the beginning of fiscal year 2019, primarily related to certain long-term contracts our Filtration and Technical Packaging segments have that converted to the cost-to-cost method for revenue recognition. The comparative information has not been restated and is reported under the accounting standards in effect for those periods. A reconciliation of the financial statement line items impacted for the three and six months ended March 31, 2019 under ASC 606 to the prior accounting standards is provided in Note 14.

Revenue Recognition
Revenue is recognized when control of the goods or services promised under the contract is transferred to the customer either at a point in time (e.g., upon delivery) or over time (e.g., as we perform under the contract). We account for a contract when it has approval and commitment from both parties, the rights and payment terms of the parties are identified, the contract has commercial substance and collectability of consideration is probable. Contracts are reviewed to determine whether there is one or multiple performance obligations. A performance obligation is a promise to transfer a distinct good or service to a customer and represents the unit of accounting for revenue recognition. For contracts with multiple performance obligations, the expected consideration, or the transaction price, is allocated to each performance obligation identified in the contract based on the relative standalone selling price of each performance obligation. Revenue is then recognized for the transaction price allocated to the performance obligation when control of the promised goods or services underlying the performance obligation is transferred.

Payment terms with customers vary by the type and location of the customer and the products or services offered. The Company does not adjust the promised amount of consideration for the effects of significant financing components based on the expectation that the period between when the Company transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less. Arrangements with customers that include payment terms extending beyond one year are not significant.

Filtration: Within the Filtration segment, approximately 48% of revenues (approximately 18% of consolidated revenues) are recognized at a point in time when products are shipped (when control of the goods transfers) to unaffiliated customers. The related contracts are with commercial and military customers and have a single performance obligation as there is only one good promised or the promise to transfer the goods or services is not distinct or separately identifiable from other promises in the contract. The transaction price for these contracts reflects our estimate of returns, rebates and discounts, which are based on historical, current and forecasted information to determine the expected amount to which the Company will be entitled in exchange for transferring the promised goods or services to the customer. The realization of variable consideration occurs within a short period of time from product delivery; therefore, the time value of money effect is not significant. Amounts billed to customers for shipping and handling are included in the transaction price as the related activities are performed prior to customer obtaining control of the products. They generally are not treated as separate performance obligations as these costs fulfill a promise to transfer the product to the customer and are expensed in selling, general, and other costs in the period they are incurred. Taxes collected from customers and remitted to government authorities are recorded on a net basis. We primarily provide standard warranty programs for products in our commercial businesses for periods that typically range from one to two years. These assurance-type programs typically cannot be purchased separately and do not meet the criteria to be considered a performance obligation.

Approximately 52% of the segment's revenues (approximately 19% of consolidated revenues) are accounted for over time as the product does not have an alternative use and the Company has an enforceable right to payment for costs incurred plus a reasonable margin or the inventory is owned by the customer. The related contracts are primarily cost-plus or fixed price contracts related to the design, development and manufacture of complex fluid control products, quiet valves, manifolds, shock and vibration dampening, thermal insulation and systems primarily for the commercial aerospace and military (U.S. Government) markets. The contracts may contain multiple products, which are capable of being distinct as the customer could benefit from each product on its own or together with other readily available resources. Each product is separately identifiable from the other products in the contract. Therefore, each product is distinct in context of the contract and will be accounted for as a separate performance obligation. Our contracts are frequently modified for changes in contract specifications and requirements. Most of our contract modifications are for products that are not distinct from the existing contract and are accounted for as part of that existing contract.

Contracts with the U.S. Government generally contain clauses that provide lien rights to work-in-process along with clauses that allow the customer to unilaterally terminate the contract for convenience, pay us for costs incurred plus a reasonable profit and take control of any work-in-process. Due to the continuous transfer of control to the U.S. Government, we recognize revenue over the time that we perform under the contract.

Selecting the method to measure progress towards completion for the commercial and military contracts requires judgment and is based on the nature of the products or service to be provided. We generally use the cost-to-cost method to measure progress for our Filtration segment contracts the rate at which costs are incurred to fulfill a contract best depicts the transfer of control to the customer. Under this measure, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the estimated costs at completion of the performance obligation, and revenue is recorded proportionally as costs are incurred based on an estimated profit margin.

The transaction price for our contracts represents our best estimate of the consideration we will receive and includes assumptions regarding variable consideration as applicable. Certain of our long-term contracts contain incentive fees that can increase the transaction price. These variable amounts generally are awarded upon achievement of certain performance metrics, program milestones or cost targets and can be based upon customer discretion. We include estimated amounts in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of our anticipated performance and all other information that is reasonably available to us.

Total contract cost is estimated utilizing current contract specifications and expected engineering requirements. Contract costs typically are incurred over a period of several months to one or more years, and the estimation of these costs requires substantial judgment. Our cost estimation process is based on the professional knowledge and experience of engineers and program managers along with finance professionals. We review and update our projections of costs quarterly or more frequently when circumstances significantly change.

Under the typical payment terms of our long term fixed price contracts, the customer pays us either performance-based or progress payments. Performance-based payments represent interim payments based on quantifiable measures of performance or on the achievement of specified events or milestones. Progress payments are interim payments of costs incurred as the work progresses. Because of the timing difference of revenue recognition and customer billing, these contracts will often result in revenue recognized in excess of billings and billings in excess of costs incurred, which we present as contract assets and contract liabilities, respectively, in the Consolidated Balance Sheets. Amounts billed and due from our customers are classified in Accounts receivable, net. For short term fixed price and cost-type contracts, we are generally paid within a short period of time.

For contracts where revenue is recognized over time, we generally recognize changes in estimated contract revenues, costs and profits using the cumulative catch-up method of accounting. This method recognizes the cumulative effect of changes on current and prior periods with the impact of the change from inception-to-date recorded in the current period. Anticipated losses on contracts are recognized in full in the period in which the losses become probable and estimable.

Test: Within the Test segment, approximately 25% of revenues (approximately 6% of consolidated revenues) are recognized at a point in time when products such as, antennas and probes are shipped (when control of the goods transfers) to unaffiliated customers. The related contracts are with commercial customers. The contracts may contain multiple products which are capable of being distinct as the customer could benefit from each product on its own or together with other readily available resources. Each product is separately identifiable from the other products in the contract. Therefore, each product is distinct in context of the contract and will be accounted for as a separate performance obligation. The transaction price for these contracts reflects our estimate of variable consideration in the form of returns, rebates and discounts, which are based on historical, current and forecasted information to determine the expected amount to which the Company will be entitled in exchange for transferring the promised goods or services to the customer. The realization of variable consideration occurs within a short period of time from product delivery; therefore, the time value of money effect is not significant. Amounts billed to customers for shipping and handling are included in the transaction price as the related activities are performed prior to customer obtaining control of the products. They generally are not treated as separate performance obligations as these costs fulfill a promise to transfer the product to the customer and are expensed in selling, general, and other costs in the period they are incurred. Taxes collected from customers and remitted to government authorities are recorded on a net basis. We primarily provide standard warranty programs for products in our commercial businesses for periods that typically range from one to two years. These assurance-type programs typically cannot be purchased separately and do not meet the criteria to be considered a performance obligation.

Approximately 75% of the segment’s revenues (approximately 17% of consolidated revenues) are recorded over time as the product does not have an alternative use and the Company has an enforceable right to payment for costs incurred plus a reasonable margin. Products accounted for under this guidance include the construction and installation of complex test chambers to a buyer’s specifications that provide its customers with the ability to measure and contain magnetic, electromagnetic and acoustic energy. The goods and services related to each installed test chamber are not distinct due to the significant amount of integration provided and each installed chamber is accounted for as a single performance obligation. Selecting the method to measure progress towards completion for these contracts requires judgment and is based on the nature of the products and service to be provided. We use milestones to measure progress for our Test segment contracts because it best depicts the transfer of control to the customer that occurs as we incur costs on our contracts. For arrangements that are accounted for under this guidance, the Company estimates profit as the difference between total revenue and total estimated cost of a contract and recognizes these revenues and costs based primarily on contract milestones. The transaction price for our contracts represents our best estimate of the consideration we will receive and includes assumptions regarding variable consideration as applicable.

Total contract cost is estimated utilizing current contract specifications and expected engineering requirements. Contract costs typically are incurred over a period of several months to a year, and the estimation of these costs requires substantial judgment. Our cost estimation process is based on the professional knowledge and experience of engineers and program managers along with finance professionals. We review and update our projections of costs quarterly or more frequently when circumstances significantly change.

Under the typical payment terms of our fixed price contracts, the customer pays us either performance-based or progress payments. Performance-based payments represent interim payments based on quantifiable measures of performance or on the achievement of specified events or milestones. Progress payments are interim payments of costs incurred as the work progresses. Because of the timing difference of revenue recognition and customer billing, these contracts result in revenue recognized in excess of billings and billings in excess of costs incurred, which we present as contract assets and contract liabilities, respectively, in the Consolidated Balance Sheets. Amounts billed and due from our customers are classified in Accounts receivable, net.

For contracts where revenue is recognized over time, we generally recognize changes in estimated contract revenues, costs and profits using the cumulative catch-up method of accounting. This method recognizes the cumulative effect of changes on current and prior periods with the impact of the change from inception-to-date recorded in the current period. Anticipated losses on contracts are recognized in full in the period in which the losses become probable and estimable.

USG: Within the USG segment, approximately 80% of revenues (approximately 24% of consolidated revenues) are recognized at a point in time when products are shipped (when control of the goods transfers) to unaffiliated customers. The related contracts are with commercial customers. The contracts may contain multiple products which are capable of being distinct as the customer could benefit from each product on its own or together with other readily available resources. Each product is separately identifiable from the other products in the contract. Therefore, each product is distinct in context of the contract and will be accounted for as a separate performance obligation. The transaction price for these contracts reflects our estimate of variable consideration in the form of returns, rebates and discounts, which are based on historical, current and forecasted information to determine the expected amount to which the Company will be entitled in exchange for transferring the promised goods or services to the customer. The realization of variable consideration occurs within a short period of time from product delivery; therefore, the time value of money effect is not significant. Amounts billed to customers for shipping and handling are included in the transaction price as the related activities are performed prior to customer obtaining control of the products. They generally are not treated as separate performance obligations as these costs fulfill a promise to transfer the product to the customer and are expensed in selling, general, and other costs in the period they are incurred. Taxes collected from customers and remitted to government authorities are recorded on a net basis. We primarily provide standard warranty programs for products in our commercial businesses for periods that typically range from one to two years. These assurance-type programs typically cannot be purchased separately and do not meet the criteria to be considered a performance obligation.

Approximately 20% of the segment’s revenues (approximately 6% of consolidated revenues) are recognized over time as services are performed. The services accounted for under this method include an obligation to provide testing services using hardware and embedded software, software maintenance, training, lab testing, and consulting services. The related contracts contain a bundle of goods and services that are integrated in the context of the contract. Therefore, the goods and services are not distinct and the Company has a single performance obligation. Selecting the method to measure progress towards completion for these contracts requires judgment and is based on the nature of the products and service to be provided. We will recognize revenue as a series of distinct services based on each day of providing services (straight-line over the contract term) for our USG segment contracts. The transaction price for our contracts represents our best estimate of the consideration we will receive and includes assumptions regarding variable consideration as applicable. Under the typical payment terms of our service contracts, the customer pays us in advance of when services are performed. Because of the timing difference of revenue recognition and customer payment, which is typically received upon commencement of the contract, these contracts result in deferred revenue, which we present as contract liabilities, in the Consolidated Balance Sheets.

Included in this category, approximately 8% of the segment's revenues (approximately 2% of consolidated revenues) are recognized based on the terms of the software contract. For contracts that transfer a software license to the customer, revenue will be recognized at a point in time. These type of software contracts represent a right to use the software, or a functional license, in which revenue should be recognized upon transfer of the license. For contracts in software as a service (SaaS) arrangements, revenue will be recognized over time. The customer receives and consumes the benefits of the SaaS arrangement through access to the system which is for a stated period. We will recognize revenue based on each day of providing access (straight-line over the contract term). The transaction price for our contracts represent our best estimate of the consideration we will receive and includes assumptions regarding variable consideration as applicable. Under the typical payment terms of our software contracts, the customer pays us in advance of when services are performed. Because of the timing difference of revenue recognition and customer payment, these contracts result in deferred revenue, which we present as contract liabilities, in the Consolidated Balance Sheets.

Technical Packaging: Within the Technical Packaging segment, 100% of the revenues (approximately 10% of consolidated revenues) are recognized over time as the product does not have an alternative use and the Company has an enforceable right to payment. Selecting the method to measure progress towards completion for the contracts requires judgment and is based on the nature of the products to be provided. We use the cost-to-cost method to measure progress for our Technical Packaging segment contracts because it best depicts the transfer of control to the customer that occurs as we incur costs on our contracts. Under this measure, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the estimated costs at completion of the performance obligation, and revenue is recorded proportionally as costs are incurred. The transaction price for our contracts reflects our estimate of variable consideration in the form of returns, rebates and discounts, which are based on historical, current and forecasted information to determine the expected amount to which the Company will be entitled in exchange for transferring the promised goods or services to the customer. The realization of variable consideration occurs within a short period of time from product delivery; therefore, the time value of money effect is not significant.

Total contract cost is estimated utilizing current contract specifications and expected engineering requirements. Contract costs typically are incurred over a period of weeks, minimizing the amount of judgment in developing the cost estimate. Our cost estimation process is based on the professional knowledge and experience of engineers and program managers along with finance professionals. We review and update our projections of costs quarterly or more frequently when circumstances significantly change.

Under the typical payment terms of our contracts, the customer is billed upon shipment of product. Amounts billed and due from our customers are classified in Accounts receivable, net. Because of the timing difference of revenue recognition and customer billing, these contracts result in revenue recognized in excess of billings, which we present as contract assets in the Consolidated Balance Sheets.

For contracts where revenue is recognized over time, we generally recognize changes in estimated contract revenues, costs and profits using the cumulative catch-up method of accounting. This method recognizes the cumulative effect of changes on current and prior periods with the impact of the change from inception-to-date recorded in the current period. Anticipated losses on contracts are recognized in full in the period in which the losses become probable and estimable.

Contract Assets and Liabilities

Contract assets arise from contracts when revenue is recognized over time and the amount of revenue recognized, including our estimate of variable consideration that has been included in the transaction price, exceeds the amount billed to the customer. These amounts are included in contract assets until the right to payment is no longer conditional on events other than the passage of time. These contract assets are reclassified to receivables when the right to consideration becomes unconditional. Contract liabilities include deposits, deferred revenue, upfront payments and billings in excess of revenue recognized. Liabilities for customer rebates and discounts are included in other current liabilities in the accompanying balance sheet.

3. EARNINGS PER SHARE (EPS)

Basic EPS is calculated using the weighted average number of common shares outstanding during the period. Diluted EPS is calculated using the weighted average number of common shares outstanding during the period plus shares issuable upon the assumed exercise of dilutive common share options and vesting of performance-accelerated restricted shares (restricted shares) by using the treasury stock method. The number of shares used in the calculation of earnings per share for each period presented is as follows (in thousands):

	Three Months Ended March 31,		Six Months Ended March 31,	
	2019	2018	2019	2018
Weighted Average Shares Outstanding - Basic	25,918	25,844	25,915	25,840
Dilutive Options and Restricted Shares	118	144	163	195
Adjusted Shares - Diluted	26,036	25,988	26,078	26,035

4. SHARE-BASED COMPENSATION

The Company provides compensation benefits to certain key employees under several share-based plans providing for performance-accelerated restricted shares (restricted shares), and to non-employee directors under a non-employee directors compensation plan.

Performance-Accelerated Restricted Share Awards

Compensation expense related to the restricted share awards was $0.9 million and $2.0 million for the three and six-month periods ended March 31, 2019, respectively, and $1.0 million and $2.1 million for the corresponding periods of 2018. There were 204,392 non-vested shares outstanding as of March 31, 2019.

Non-Employee Directors Plan

Compensation expense related to the non-employee director grants was $0.3 million and $0.5 million for the three and six-month periods ended March 31, 2019, respectively, and $0.3 million and $0.5 million for the corresponding periods of 2018.

The total share-based compensation cost that has been recognized in the results of operations and included within selling, general and administrative expenses (SG&A) was $1.2 million and $2.6 million for the three-and six-month periods ended March 31, 2019, respectively, and $1.3 million and $2.6 million for the three and six-month periods ended March 31, 2018. The total income tax benefit recognized in results of operations for share-based compensation arrangements was $0.3 million and $0.6 million for the three and six-month periods ended March 31, 2019, respectively, and $0.4 million and $0.7 million for the three and six-month periods ended March 31, 2018, respectively. As of March 31, 2019, there was $5.6 million of total unrecognized compensation cost related to share-based compensation arrangements. That cost is expected to be recognized over a remaining weighted-average period of 1.2 years.

5. INVENTORIES

Inventories consist of the following:

(In thousands)	**March 31, 2019**	**September 30, 2018**
Finished goods	$ 19,029	26,678
Work in process	41,677	47,765
Raw materials	63,787	60,973
Total inventories	$ 124,493	135,416

6. GOODWILL AND OTHER INTANGIBLE ASSETS

Included on the Company's Consolidated Balance Sheets at March 31, 2019 and September 30, 2018 are the following intangible assets gross carrying amounts and accumulated amortization:

(Dollars in thousands)	**March 31, 2019**	**September 30, 2018**
Goodwill	$ 381,304	381,652
Intangible assets with determinable lives:		
Patents		
Gross carrying amount	$ 1,866	1,833
Less: accumulated amortization	846	791
Net	$ 1,020	1,042
Capitalized software		
Gross carrying amount	$ 75,789	71,294
Less: accumulated amortization	45,304	41,624
Net	$ 30,485	29,670
Customer relationships		
Gross carrying amount	$ 184,924	185,333
Less: accumulated amortization	53,030	47,802
Net	$ 131,894	137,531
Other		
Gross carrying amount	$ 5,303	5,468
Less: accumulated amortization	2,365	2,056
Net	$ 2,938	3,412
Intangible assets with indefinite lives:		
Trade names	$ 172,177	173,698

The changes in the carrying amount of goodwill attributable to each business segment for the six months ended March 31, 2019 is as follows:

(Dollars in millions)	**USG**	**Test**	**Filtration**	**Packaging**	**Total**
Balance as of September 30, 2018	254.1	34.1	73.7	19.8	381.7
Foreign currency translation	-	-	-	(0.4)	(0.4)
Balance as of March 31, 2019	$ 254.1	34.1	73.7	19.4	381.3

7. BUSINESS SEGMENT INFORMATION

The Company is organized based on the products and services that it offers, and classifies its business operations in four reportable segments for financial reporting purposes: Filtration/Fluid Flow (Filtration), RF Shielding and Test (Test), Utility Solutions Group (USG) and Technical Packaging. The Filtration segment's operations consist of PTI Technologies Inc. (PTI), VACCO Industries (VACCO), Crissair, Inc. (Crissair), Westland Technologies Inc. (Westland), and Mayday Manufacturing Co. and its affiliate Hi-Tech Metals, Inc. (collectively referred to as Mayday). The companies within this segment primarily design and manufacture specialty filtration products, including hydraulic filter elements used in commercial aerospace applications, unique filter mechanisms used in micro-propulsion devices for satellites and custom designed filters for manned and unmanned aircraft; manufacture elastomeric-based signature reduction solutions for the U.S. Navy; and manufacture landing gear components for the aerospace and defense industry. The Test segment's operations consist primarily of ETS-Lindgren Inc. (ETS-Lindgren). ETS-Lindgren is an industry leader in providing its customers with the ability to identify, measure and contain magnetic, electromagnetic and acoustic energy. The USG segment's operations consist primarily of Doble Engineering Company (Doble), Morgan Schaffer Inc. (Morgan Schaffer), and NRG Systems, Inc. (NRG). Doble provides high-end, intelligent diagnostic test solutions for the electric power delivery industry and is a leading supplier of partial discharge testing instruments used to assess the integrity of high voltage power delivery equipment. Morgan Schaffer provides an integrated offering of dissolved gas analysis, oil testing, and data management solutions for the electric power industry. NRG designs and manufactures decision support tools for the renewable energy industry, primarily wind. The Technical Packaging segment's operations consist of Thermoform Engineered Quality LLC (TEQ) and Plastique Limited and Plastique Sp. z o.o. (together, Plastique). The companies within this segment provide innovative solutions to the medical and commercial markets for thermoformed packages and specialty products using a wide variety of thin gauge plastics and pulp.

Management evaluates and measures the performance of its reportable segments based on "Net Sales" and "EBIT", which are detailed in the table below. EBIT is defined as earnings before interest and taxes.

(In thousands)	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018	Six Months Ended March 31, 2019	Six Months Ended March 31, 2018
NET SALES				
Filtration	$ 79,478	65,775	145,702	125,810
Test	42,875	40,805	84,161	78,334
USG	48,890	46,699	104,745	102,453
Technical Packaging	22,706	21,499	41,938	41,676
Consolidated totals	$ 193,949	174,778	376,546	348,273
EBIT				
Filtration	$ 17,443	11,118	28,053	20,764
Test	5,554	5,300	8,864	7,895
USG	8,767	5,626	30,313	16,277
Technical Packaging	1,602	1,885	1,708	2,850
Corporate (loss)	(10,086)	(8,309)	(20,511)	(17,180)
Consolidated EBIT	23,280	15,620	48,427	30,606
Less: Interest expense	(1,925)	(2,036)	(3,815)	(4,221)
Earnings before income taxes	$ 21,355	13,584	44,612	26,385

Non-GAAP Financial Measures

The financial measure "EBIT" is presented in the above table and elsewhere in this Report. EBIT on a consolidated basis is a non-GAAP financial measure. Management believes that EBIT is useful in assessing the operational profitability of the Company's business segments because it excludes interest and taxes, which are generally accounted for across the entire Company on a consolidated basis. EBIT is also one of the measures used by management in determining resource allocations within the Company as well as incentive compensation. A reconciliation of EBIT to net earnings is set forth in Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations – EBIT.

The Company believes that the presentation of EBIT provides important supplemental information to investors to facilitate comparisons with other companies, many of which use similar non-GAAP financial measures to supplement their GAAP results. However, the Company's non-GAAP financial measures may not be comparable to other companies' non-GAAP financial performance measures. Furthermore, the use of non-GAAP financial measures is not intended to replace any measures of performance determined in accordance with GAAP.

8. DEBT

The Company's debt is summarized as follows:

(In thousands)		March 31, 2019	September 30, 2018
Total borrowings	$	217,000	220,000
Short-term borrowings and current portion of long-term debt		(20,000)	(20,000)
Total long-term debt, less current portion	$	197,000	200,000

The Company's existing credit facility ("the Credit Facility") matures December 21, 2020. The Credit Facility includes a $450 million revolving line of credit as well as provisions allowing for the increase of the credit facility commitment amount by an additional $250 million, if necessary, with the consent of the lenders. The bank syndication supporting the facility is comprised of a diverse group of nine banks led by JPMorgan Chase Bank, N.A., as Administrative Agent.

At March 31, 2019, the Company had approximately $207.0 million available to borrow under the Credit Facility, and a $250 million increase option, in addition to $35.0 million cash on hand. At March 31, 2019, the Company had $217.0 million of outstanding borrowings under the Credit Facility in addition to outstanding letters of credit of $8.3 million. The Company classified $20.0 million as the current portion of long-term debt as of March 31, 2019, as the Company intends to repay this amount within the next twelve month period; however, the Company has no contractual obligation to repay such amount during the next twelve month period.

The Credit Facility requires, as determined by certain financial ratios, a facility fee ranging from 12.5 to 27.5 basis points per year on the unused portion. The terms of the facility provide that interest on borrowings may be calculated at a spread over the London Interbank Offered Rate (LIBOR) or based on the prime rate, at the Company's election. The facility is secured by the unlimited guaranty of the Company's material domestic subsidiaries and a 65% pledge of the material foreign subsidiaries' share equity. The financial covenants of the Credit Facility include a leverage ratio and an interest coverage ratio. The weighted average interest rates were 3.20% and 3.23% for the three and six-month periods ending March 31, 2019, respectively, and 2.99% and 2.87% for the corresponding periods of 2018. At March 31, 2019, the Company was in compliance with all debt covenants.

9. INCOME TAX EXPENSE

The second quarter 2019 effective income tax rate was 12.0% compared to 26.4% in the second quarter of 2018. The income tax expense for the first six months of 2019 was $8.5 million compared to income tax benefit of $18.3 million for the first six months of 2018. The effective income tax rate for the first six months of 2019 was 19.0% compared to (69.3%) for the first six months of 2018. The income tax expense in the second quarter and first six months of 2019 was favorably impacted by tax planning strategies to increase foreign tax credits claimed retrospectively. The Company reduced the valuation allowance for excess foreign tax credits by $2.3 million and recorded an amended return receivable of $0.2 million which favorably impacted the second quarter and year-to-date effective tax rate by 12.1% and 5.8%, respectively.

H.R. 1, *Tax Cuts and Jobs Act* ("TCJA"), was signed into law on December 22, 2017. The total impact of the TCJA in the second quarter and first six months of 2018 was a net expense of $0.7 million and a net benefit of $24.4 million, respectively. The impacts were as follows: First, the Company's 2018 federal statutory rate dropped from 35.0% to 24.5% which required an adjustment to the value of its deferred tax assets and liabilities. This adjustment ($30.3 million provisional amount recorded in Q1) favorably impacted the year-to-date 2018 effective tax rate by 114.9%. Second, the TCJA subjected the Company's cumulative foreign earnings to federal income tax ($3.6 million provisional amount of which $2.9 million was recorded in the first quarter of 2018 and $0.7 million was recorded in the second quarter of 2018) which unfavorably impacted the second quarter and year-to-date 2018 effective tax rate by 4.9% and 13.6%, respectively.

In the first quarter of 2018, the Company recorded a $2.3 million provisional estimate of the income tax effects of the future repatriation of the cumulative earnings of its foreign subsidiaries which unfavorably impacted the year-to-date effective tax rate by 8.9%. An additional $7.5 million pension contribution for the 2017 plan year was approved during the second quarter of 2018 increasing the value of the deferred tax liability by $1.0 million. This favorable adjustment, net of the $0.3 million unfavorable impact to the 2017 Domestic Production Deduction, favorably impacted the second quarter and year-to-date effective tax rate by 5.8% and 3.0%, respectively. The income tax expense in the second quarter and first six months of 2018 was also unfavorably impacted by the cancellation of debt income triggered by the dissolution of a foreign subsidiary increasing the second quarter and year-to-date effective tax rate by 1.5% and 0.8%, respectively.

Provisions under the TCJA that became effective for the Company in the current fiscal year include a further reduction in the U.S. statutory rate to 21%, a new minimum tax on global intangible low-taxed income ("GILTI"), the benefit of the deduction for foreign-derived intangible income ("FDII"), and changes to IRC Section 162(m) related to the deductibility of executive compensation.

10. SHAREHOLDERS' EQUITY

The change in shareholders' equity for the first six months of 2019 is shown below (in thousands):

Balance at September 30, 2018	$	759,410
Net earnings		36,114
Other comprehensive (loss)		(3,752)
Cash dividends		(4,146)
Impact of ASC 606, Revenue Recognition		4,213
Stock compensation plans		2,557
Balance at March 31, 2019	$	794,396

11. RETIREMENT PLANS

A summary of net periodic benefit expense for the Company's defined benefit plans for the three and six-month periods ended March 31, 2019 and 2018 is shown in the following table. Net periodic benefit cost for each period presented is comprised of the following:

	Three Months Ended March 31,		Six Months Ended March 31,	
(In thousands)	**2019**	**2018**	**2019**	**2018**
Defined benefit plans				
Interest cost	$ 875	821	1,750	1,641
Expected return on assets	(1,086)	(975)	(2,172)	(1,950)
Amortization of:				
Prior service cost	-	-	-	-
Actuarial loss	487	548	974	1,097
Net periodic benefit cost	$ 276	394	552	788

12. DERIVATIVE FINANCIAL INSTRUMENTS

Market risks relating to the Company's operations result primarily from changes in interest rates and changes in foreign currency exchange rates. The Company is exposed to market risk related to changes in interest rates and selectively uses derivative financial instruments, including forward contracts and swaps, to manage these risks. In 2018, the Company entered into three interest rate swaps with a notional amount of $150 million to hedge some of its exposure to variability in future LIBOR-based interest payments on variable rate debt. In addition, the Company's Canadian subsidiary Morgan Schaffer enters into foreign exchange contracts to manage foreign currency risk as a portion of their revenue is denominated in U.S. dollars. The Company expects hedging gains or losses to be essentially offset by losses or gains on the related underlying exposures. All derivative instruments are reported in either accrued expenses or other receivables on the balance sheet at fair value. For derivative instruments designated as cash flow hedges, the gain or loss on the derivative is deferred in accumulated other comprehensive income until recognized in earnings with the underlying hedged item. The interest rate swaps entered into during 2018 were not designated as cash flow hedges and, therefore, the gain or loss on the derivative is reflected in earnings each period.

The following is a summary of the notional transaction amounts and fair values for the Company's outstanding derivative financial instruments by risk category and instrument type as of March 31, 2018:

(In thousands)	**Notional amount**		**Fair Value (US$)**	**Float Rate**	**Fix Rate**
Forward contracts	700	GBP	7		
Forward contracts	7,500	USD	(227)		
Interest rate swap	150,000	USD	327	2.48%	2.09%
Interest rate swap *	150,000	USD	(101)	N/A	2.24%

*This swap represents a forward contract and will be effective in November 2019.

13. FAIR VALUE MEASUREMENTS

The accounting guidance establishes a three-level hierarchy for disclosure of fair value measurements, based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date, as follows:

- Level 1 – inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 – inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.
- Level 3 – inputs to the valuation methodology are unobservable and significant to the fair value measurement.

Financial Assets and Liabilities

The Company has estimated the fair value of its financial instruments as of March 31, 2019 and September 30, 2018 using available market information or other appropriate valuation methodologies. The carrying amounts of cash and cash equivalents, receivables, inventories, payables, debt and other current assets and liabilities approximate fair value because of the short maturity of those instruments.

Fair Value of Financial Instruments

The Company's forward contracts are classified within Level 2 of the valuation hierarchy in accordance with FASB Accounting Standards Codification (ASC) 825, as presented below as of March 31, 2019:

(In thousands)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets (Liabilities):				
Forward contracts	$ -	6	$ -	6

Valuation was based on third party evidence of similarly priced derivative instruments.

Nonfinancial Assets and Liabilities

The Company's nonfinancial assets such as property, plant and equipment, and other intangible assets are not measured at fair value on a recurring basis; however they are subject to fair value adjustments in certain circumstances, such as when there is evidence that an impairment may exist. No impairments were recorded during the three and six-month periods ended March 31, 2019.

14. REVENUES

Disaggregation of Revenues

Our revenues by customer type, geographic location, and revenue recognition method for the three and six-month periods ended March 31, 2019 are presented in the table below as the Company deems it best depicts how the nature, amount, timing and uncertainty of net sales and cash flows are affected by economic factors. The table below also includes a reconciliation of the disaggregated revenue within our reportable segments.

Three Months Ended March 31, 2019 ***(In thousands)***	**Filtration**	**Test**	**USG**	**Technical Packaging**	**Total**
Customer type:					
Commercial	$ 46,325	$ 37,451	$ 47,551	$ 22,630	$ 153,957
Government	33,153	5,424	1,339	76	39,992
Total revenues	$ 79,478	$ 42,875	$ 48,890	$ 22,706	$ 193,949
Geographic location:					
United States	$ 66,068	$ 26,694	$ 33,798	$ 11,457	$ 138,017
International	13,410	16,181	15,092	11,249	55,932
Total revenues	$ 79,478	$ 42,875	$ 48,890	$ 22,706	$ 193,949
Revenue recognition method:					
Point in time	$ 42,400	$ 12,166	$ 36,874	$ -	$ 91,440
Over time	37,078	30,709	12,016	22,706	102,509
Total revenues	$ 79,478	$ 42,875	$ 48,890	$ 22,706	$ 193,949

Six Months Ended March 31, 2019 *(In thousands)*	Filtration	Test	USG	Technical Packaging	Total
Customer type:					
Commercial	$ 83,546	$ 73,688	$ 102,206	$ 41,744	$ 301,184
Government	62,156	10,473	2,539	194	75,362
Total revenues	$ 145,702	$ 84,161	$ 104,745	$ 41,938	$ 376,546
Geographic location:					
United States	$ 120,833	$ 55,148	$ 73,879	$ 21,306	$ 271,166
International	24,869	29,013	30,866	20,632	105,380
Total revenues	$ 145,702	$ 84,161	$ 104,745	$ 41,938	$ 376,546
Revenue recognition method:					
Point in time	$ 74,214	$ 22,608	$ 81,107	$ -	$ 177,929
Over time	71,488	61,553	23,638	41,938	198,617
Total revenues	$ 145,702	$ 84,161	$ 104,745	$ 41,938	$ 376,546

Remaining Performance Obligations

Our remaining performance obligations, which is the equivalent of our backlog, represent the expected transaction price allocated to our contracts that we expect to recognize as revenue in future periods when we perform under the contracts. These remaining obligations include amounts that have been formally appropriated under contracts with the U.S. Government, and exclude unexercised contract options and potential orders under ordering-type contracts such as Indefinite Delivery, Indefinite Quantity contracts. At March 31, 2019, we had $436.1 million in remaining performance obligations of which we expect to recognize revenues of 83% in the next twelve months.

Contract assets and liabilities

Assets and liabilities related to our contracts with customers are reported on a contract-by-contract basis at the end of each reporting period. At March 31, 2019, contract assets and liabilities totaled $100.5 million and $55.5 million, respectively. Upon adoption of ASC 606 on October 1, 2018, contract assets and liabilities related to our contracts with customers were $87 million and $51 million, respectively. During the first six months of 2019, we recognized approximately $30 million in revenues that were included in the contract liabilities balance at the adoption date.

Reconciliation of ASC 606 to Prior Accounting Standards

The amount by which each financial statement line item is affected in 2019 as a result of applying the new accounting standard as discussed in Note 2 is presented below:

	March 31, 2019		
(In thousands)	As Reported	Effect of the adoption of ASC 606	Under Prior Accounting
Consolidated Balance Sheets			
Contract assets (1)	$ 100,540	$ (39,565)	$ 60,975
Inventories	124,493	34,692	159,185
Total current assets	435,959	(4,874)	431,085
Total assets	1,293,963	(4,874)	1,289,089
Contract liabilities (2)	55,453	1,754	57,207
Total current liabilities	201,945	1,754	203,699
Deferred tax liabilities	62,938	(1,122)	61,816
Total liabilities	499,567	631	500,198
Retained earnings	643,018	(5,505)	637,513
Total shareholders’ equity	794,396	(5,505)	788,891
Total liabilities and shareholders’ equity	$ 1,293,963	(4,874)	1,289,089

(1) Previously “cost and estimated earnings on long-term contracts”
(2) Previously “advance payments on long-term contracts” and “current portion of deferred revenue”

	Three Months Ended March 31, 2019		
(In thousands, except per share amounts)	**As Reported**	**Effect of the adoption of ASC 606**	**Under Prior Accounting**
Consolidated Statements of Operations			
Net sales	$ 193,949	$ (2,879)	$ 191,070
Cost of sales	121,946	(3,719)	118,227
Total costs and expenses	172,594	(3,719)	168,875
Earnings before income tax	21,355	839	22,194
Income tax expense (benefit)	2,558	117	2,675
Net earnings	18,797	723	19,520
Earnings per share:			
Basic:			
Net earnings	$ 0.73	$ 0.02	$ 0.75
Diluted:			
Net earnings	$ 0.72	$ 0.03	$ 0.75
Consolidated Statements of Comprehensive Income			
Net earnings	$ 18,797	$ 723	$ 19,520
Comprehensive income	19,600	723	20,323

	Six Months Ended March 31, 2019		
(In thousands, except per share amounts)	**As Reported**	**Effect of the adoption of ASC 606**	**Under Prior Accounting**
Consolidated Statements of Operations			
Net sales	$ 376,546	$ (5,779)	$ 370,767
Cost of sales	240,854	(6,981)	233,873
Total costs and expenses	331,934	(6,981)	324,953
Earnings before income tax	44,612	1,201	45,813
Income tax expense (benefit)	8,498	228	8,726
Net earnings	36,114	973	37,087
Earnings per share:			
Basic:			
Net earnings	$ 1.39	$ 0.04	$ 1.43
Diluted:			
Net earnings	$ 1.38	$ 0.04	$ 1.42
Consolidated Statements of Comprehensive Income			
Net earnings	$ 36,114	$ 973	$ 37,087
Comprehensive income	32,363	973	33,336
Consolidated Statements of Cash flows			
Net earnings	$ 36,114	$ 973	$ 37,087
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Change in assets and liabilities	$ (28,847)	(973)	$ (29,820)
Net cash provided by operating activities	16,992	-	16,992

15. NEW ACCOUNTING STANDARDS

In February 2016, the FASB issued ASU No. 2016-062, *Leases (Topic 842)*, which, among other things, requires an entity to recognize lease assets and lease liabilities on the balance sheet and disclose key information about leasing arrangements. This standard will increase an entities' reported assets and liabilities. The standard is effective for fiscal years beginning after December 15, 2018 and mandates a modified retrospective transition period for all entities. The Company is currently assessing the impact of this standard on its consolidated financial statements and related disclosures.

In October 2016, the FASB issued ASU No. 2016-16, *Intra-Entity Transfers of Assets Other Than Inventory*, which eliminates the exception for all intra-entity sale of assets other than inventory. This standard is effective for annual periods beginning after December 15, 2017. There was no significant impact to the Company's consolidated financial statements as a result of adopting this new standard.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

RESULTS OF OPERATIONS

References to the second quarters of 2019 and 2018 represent the three-month periods ended March 31, 2019 and 2018, respectively.

OVERVIEW

In the second quarter of 2019, sales, net earnings and diluted earnings per share were $193.9 million, $18.8 million and $0.72 per share, respectively, compared to $174.8 million, $10.0 million and $0.38 per share, respectively, in the second quarter of 2018. In the first six months of 2019, sales, net earnings and diluted earnings per share were $376.5 million, $36.1 million and $1.38, respectively, compared to $348.3 million, $44.7 million and $1.72 per share, respectively, in the first six months of 2018.

NET SALES

In the second quarter of 2019, net sales of $193.9 million were $19.1 million, or 10.9%, higher than the $174.8 million in the second quarter of 2018. In the first six months of 2019, net sales of $376.5 million were $28.2 million, or 8.1%, higher than the $348.3 million in the first six months of 2018. The increase in net sales in the second quarter of 2019 as compared to the second quarter of 2018 was due to a $13.7 million increase in the Filtration segment, a $2.2 million increase in the USG segment, a $2.1 million increase in the Test segment and a $1.2 million increase in the Technical Packaging segment. The increase in net sales in the first six months of 2019 as compared to the first six months of 2018 was due to a $19.9 million increase in the Filtration segment, a $2.3 million increase in the USG segment, a $5.8 million increase in the Test segment and a $0.3 million increase in the Technical Packaging segment.

-Filtration

In the second quarter of 2019, net sales of $79.5 million were $13.7 million, or 20.8%, higher than the $65.8 million in the second quarter of 2018. In the first six months of 2019, net sales of $145.7 million were $19.9 million, or 15.8%, higher than the $125.8 million in the first six months of 2018. The increase in the second quarter of 2019 compared to the second quarter of 2018 was mainly due to a $4.8 million increase in net sales at Crissair due to higher aerospace shipments, a $3.5 million increase in net sales at PTI due to higher aerospace assembly and element shipments, a $2.3 million increase in net sales at VACCO due to higher shipments of defense spares, a $1.8 million increase in net sales at Mayday due to higher aerospace shipments and a $1.3 million increase in net sales at Westland due to timing of shipments. The increase in the first six months of 2019 compared to the first six months of 2018 was primarily due to an $8.0 million increase in net sales at Crissair due to higher aerospace shipments, a $5.0 million increase in net sales at PTI due to higher aerospace assembly and element shipments, a $3.6 million increase in net sales at Westland due to timing of shipments on government programs and a $3.3 million increase in net sales at Mayday due to higher aerospace shipments.

-Test

In the second quarter of 2019, net sales of $42.9 million were $2.1 million, or 5.1%, higher than the $40.8 million in the second quarter of 2018. In the first six months of 2019, net sales of $84.2 million were $5.9 million, or 7.5%, higher than the $78.3 million in the first six months of 2018. The increase in the second quarter and first six months of 2019 compared to the corresponding periods of 2018 was primarily due to higher sales from the segment's U.S. operations due to the timing of test and measurement chamber projects.

-Utility Solutions Group (USG)

In the second quarter of 2019, net sales of $48.9 million were $2.2 million, or 4.7%, higher than the $46.7 million in the second quarter of 2018. In the first six months of 2019, net sales of $104.7 million were $2.3 million, or 2.2%, higher than the $102.5 million in the first six months of 2018. The increase in the second quarter and first six months of 2019 compared to the corresponding periods of 2018 was mainly due to the sales contributions from the Vanguard Instruments and Manta product lines and new products and software solutions at Doble.

-Technical Packaging

In the second quarter of 2019, net sales of $22.7 million were $1.2 million, or 5.6%, higher than the $21.5 million in the second quarter of 2018. In the first six months of 2019, net sales of $41.9 million were $0.2 million, or 0.6%, higher than the $41.7 million in the first six months of 2018. The increase in the second quarter and first six months of 2019 compared to the corresponding periods of 2018 was primarily due to the increase in net sales from TEQ due to increased shipments to new customers.

ORDERS AND BACKLOG

Backlog was $436.1 million at March 31, 2019 compared with $382.8 million at September 30, 2018. The Company received new orders totaling $231.7 million in the second quarter of 2019 compared to $187.3 million in the second quarter of 2018. Of the new orders received in the second quarter of 2019, $100.8 million related to Filtration products, $57.6 million related to Test products, $51.0 million related to USG products, and $22.3 million related to Technical Packaging products. Of the new orders received in the second quarter of 2018, $67.8 million related to Filtration products, $48.1 million related to Test products, $52.5 million related to USG products, and $18.9 million related to Technical Packaging products.

The Company received new orders totaling $429.8 million in the first six months of 2019 compared to $387.8 million in the first six months of 2018. Of the new orders received in the first six months of 2019, $184.5 million related to Filtration products, $103.0 million related to Test products, $103.0 million related to USG products, and $39.3 million related to Technical Packaging products. Of the new orders received in the first six months of 2018, $133.2 million related to Filtration products, $106.4 million related to Test products, $110.1 million related to USG products, and $38.1 million related to Technical Packaging products.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative (SG&A) expenses for the second quarter of 2019 were $41.7 million (21.5% of net sales), compared with $40.7 million (23.3% of net sales) for the second quarter of 2018. For the first six months of 2019, SG&A expenses were $82.7 million (22.0% of net sales) compared to $82.9 million (23.8% of net sales) for the first six months of 2018. The increase in SG&A in the second quarter and first six months of 2019 compared to the corresponding periods of 2018 was mainly due to an increase in the USG segment due to the Company's recent acquisitions (Manta) and additional sales and marketing expenses to support future revenue growth.

AMORTIZATION OF INTANGIBLE ASSETS

Amortization of intangible assets was $4.6 million and $9.3 million for the second quarter and first six months of 2019, respectively, compared to $4.6 million and $9.0 million for the corresponding periods of 2018. Amortization expenses consist of amortization of acquired intangible assets from acquisitions and other identifiable intangible assets (primarily software). The increase in amortization expense in the first six months of 2019 compared to the first six months of 2018 was mainly due to an increase in amortization of intangibles related to the Manta acquisition.

OTHER EXPENSES (INCOME), NET

Other expenses, net, was $2.4 million in the second quarter of 2019 compared to $1.5 million in the second quarter of 2018. The principal components in other expenses, net, in the second quarter of 2019 were $1.3 million of restructuring charges related to the closure of Plastique’s headquarters in Tunbridge Wells, UK; the consolidation of VACCO’s aircraft/aerospace business into PTI’s aerospace facility in Oxnard, California; the completion of other restructuring activities begun in 2018; and losses on derivative instruments. The principal components in other expenses, net, in the second quarter of 2018 were $2.1 million of charges primarily related to the USG segment restructuring activities, including the Doble facility consolidations, partially offset by gains on derivative instruments. The restructuring charges mainly related to severance and compensation benefits, professional fees and asset impairment charges related to abandoned assets.

Other income, net, was $4.7 million in the first six months of 2019 compared to other expenses, net, of $1.6 million in the first six months of 2018. The principal component in other income, net, in the first six months of 2019 was a gain of approximately $8 million on the sale of the Doble Watertown, MA building and land, partially offset by certain restructuring activities at Doble, PTI, VACCO and Plastique and losses on derivative instruments. The principal components in other expenses, net, in the first six months of 2018 were $2.1 million of charges related to the USG segment restructuring activities as mentioned above, partially offset by gains on derivative instruments.

EBIT

The Company evaluates the performance of its operating segments based on EBIT, and provides EBIT on a consolidated basis, which is a non-GAAP financial measure. Please refer to the discussion of non-GAAP financial measures in Note 7 to the Consolidated Financial Statements, above. EBIT was $23.3 million (12.0% of net sales) for the second quarter of 2019 compared to $15.6 million (8.9% of net sales) for the second quarter of 2018. For the first six months of 2019, EBIT was $48.4 million (12.9% of net sales) compared to $30.6 million (8.8% of net sales) for the first six months of 2018.

The following table presents a reconciliation of EBIT to net earnings.

(In thousands)	**Three Months Ended March 31,**		**Six Months Ended March 31,**	
	2019	**2018**	**2019**	**2018**
Consolidated EBIT	$ 23,280	15,620	48,427	30,606
Less: Interest expense, net	(1,925)	(2,036)	(3,815)	(4,221)
(Less) Plus: Income tax	(2,558)	(3,590)	(8,498)	18,280
Net earnings	$ 18,797	9,994	36,114	44,665

-Filtration

EBIT in the second quarter of 2019 was $17.4 million (21.9% of net sales) compared to $11.1 million (16.9% of net sales) in the second quarter of 2018. EBIT in the first six months of 2019 was $28.1 million (19.3% of net sales) compared to $20.8 million (16.5% of net sales) in the first six months of 2018. The increase in EBIT in the second quarter compared to the second quarter of 2018 was mainly due to an increase across all companies within the segment due to the higher sales volumes as mentioned above. The increase in EBIT in the first six months of 2019 compared to the first six months of 2018 was mainly due to an increase at PTI, Crissair, Westland and Mayday due to the higher sales volumes as mentioned above partially offset by a decrease in EBIT at VACCO. EBIT in the second quarter and first six months of 2019 was negatively impacted by restructuring charges incurred related to the consolidation of VACCO’s aircraft/aerospace business into PTI’s aerospace facility in Oxnard, California, ($0.4 million in the second quarter of 2019 and $0.5 million in the first six months of 2019). These charges consisted primarily of severance and compensation benefits.

-Test

EBIT in the second quarter of 2019 was $5.6 million (13.0% of net sales) compared to $5.3 million (13.0% of net sales) in the second quarter of 2018. EBIT in the first six months of 2019 was $8.9 million (10.5% of net sales) compared to $7.9 million (10.1% of net sales) in the first six months of 2018. The increase in EBIT in the second quarter and first six months of 2019 compared to the corresponding prior year periods was primarily due to the increased sales volumes mainly from the segment’s U.S. operations.

-Utility Solutions Group

EBIT in the second quarter of 2019 was $8.8 million (17.9% of net sales) compared to $5.6 million (12.0% of net sales) in the second quarter of 2018. EBIT in the first six months of 2019 was $30.3 million (28.9% of net sales) compared to EBIT of $16.3 million (15.9% of net sales) in the first six months of 2018. The increase in EBIT in the second quarter and first six months of 2019 compared to the corresponding periods of 2018 was mainly due to the gain on sale of the Doble Watertown facility of approximately $8 million in the first quarter of 2019, as well as an increase in EBIT from Morgan Schaffer and Manta product lines partially offset by a decrease in EBIT from NRG due to market softness.

-Technical Packaging

EBIT in the second quarter of 2019 was $1.6 million (7.1% of net sales) compared to $1.9 million (8.8% of net sales) in the second quarter of 2018. EBIT in the first six months of 2019 was $1.7 million (4.1% of net sales) compared to $2.9 million (6.8% of net sales) in the first six months of 2018. The decrease in EBIT in the second quarter and first six months of 2019 compared to the corresponding periods of 2018 was mainly due to the restructuring charges incurred related to the Plastique facility consolidation, ($0.4 million in the second quarter of 2019 and $0.7 million in the first six months of 2019). These charges consisted primarily of severance and compensation benefits and asset impairment charges.

-Corporate

Corporate costs included in EBIT were $10.0 million and $20.5 million in the second quarter and first six months of 2019, respectively, compared to $8.3 million and $17.2 million in the corresponding periods of 2018. The increase in Corporate costs in the second quarter and first six months of 2019 compared to the corresponding periods of 2018 was primarily due to higher professional fees and timing of other Corporate costs recorded in the first six months of 2019.

INTEREST EXPENSE, NET

Interest expense was $1.9 million and $3.8 million in the second quarter and first six months of 2019, respectively, and $2.0 million and $4.2 million in the corresponding periods of 2018. The decrease in interest expense in the first six months of 2019 compared to the first six months of 2018 was mainly due to lower average outstanding borrowings ($215 million compared to $264 million).

INCOME TAX EXPENSE

The second quarter 2019 effective income tax rate was 12.0% compared to 26.4% in the second quarter of 2018. The income tax expense for the first six months of 2019 was $8.5 million compared to income tax benefit of $18.3 million for the first six months of 2018. The effective income tax rate for the first six months of 2019 was 19.0% compared to (69.3%) for the first six months of 2018. The income tax expense in the second quarter and first six months of 2019 was favorably impacted by tax planning strategies to increase foreign tax credits claimed retrospectively. The Company reduced the valuation allowance for excess foreign tax credits by $2.3 million and recorded an amended return receivable of $0.2 million which favorably impacted the second quarter and year-to-date effective tax rate by 12.1% and 5.8%, respectively.

H.R. 1, *Tax Cuts and Jobs Act* (“TCJA”), was signed into law on December 22, 2017. The total impact of the TCJA in the second quarter and first six months of 2018 was a net expense of $0.7 million and a net benefit of $24.4 million, respectively. The impacts were as follows: First, the Company’s 2018 federal statutory rate dropped from 35.0% to 24.5% which required an adjustment to the value of its deferred tax assets and liabilities. This adjustment ($30.3 million provisional amount recorded in Q1) favorably impacted the year-to-date 2018 effective tax rate by 114.9%. Second, the TCJA subjected the Company’s cumulative foreign earnings to federal income tax ($3.6 million provisional amount of which $2.9 million was recorded in the first quarter of 2018 and $0.7 million was recorded in the second quarter of 2018) which unfavorably impacted the second quarter and year-to-date 2018 effective tax rate by 4.9% and 13.6%, respectively.

In the first quarter of 2018, the Company recorded a $2.3 million provisional estimate of the income tax effects of the future repatriation of the cumulative earnings of its foreign subsidiaries which unfavorably impacted the year-to-date effective tax rate by 8.9%. An additional $7.5 million pension contribution for the 2017 plan year was approved during the second quarter of 2018 increasing the value of the deferred tax liability by $1.0 million. This favorable adjustment, net of the $0.3 million unfavorable impact to the 2017 Domestic Production Deduction, favorably impacted the second quarter and year-to-date effective tax rate by 5.8% and 3.0%, respectively. The income tax expense in the second quarter and first six months of 2018 was also unfavorably impacted by the cancellation of debt income triggered by the dissolution of a foreign subsidiary increasing the second quarter and year-to-date effective tax rate by 1.5% and 0.8%, respectively.

Provisions under the TCJA that became effective for the Company in the current fiscal year include a further reduction in the U.S. statutory rate to 21%, a new minimum tax on global intangible low-taxed income (“GILTI”), the benefit of the deduction for foreign-derived intangible income (“FDII”), and changes to IRC Section 162(m) related to the deductibility of executive compensation.

CAPITAL RESOURCES AND LIQUIDITY

The Company's overall financial position and liquidity remains strong. Working capital (current assets less current liabilities) increased to $234.0 million at March 31, 2019 from $195.5 million at September 30, 2018. Inventories decreased by $10.9 million during this period mainly due to a $12.9 million decrease within the Filtration segment resulting primarily from the adoption of ASU No. 2014-09, *Revenue from Contracts with Customers* (ASC 606). Contract assets increased $47.5 million in the first six months of 2019 mainly due to the adoption of ASC 606 within the Filtration segment.

Net cash provided by operating activities was $17.0 million and $33.5 million in the first six months of 2019 and 2018, respectively. The decrease in net cash provided by operating activities in the first six months of 2019 as compared to the first six months of 2018 was due to higher working capital requirements.

Capital expenditures were $17.4 million and $10.1 million in the first six months of 2019 and 2018, respectively. The increase in the first six months of 2019 was mainly due to a $7.1 million facility expansion at TEQ. In addition, the Company incurred expenditures for capitalized software of $4.5 million and $4.6 million in the first six months of 2019 and 2018, respectively.

Credit Facility

At March 31, 2019, the Company had approximately $207.0 million available to borrow under its bank credit facility, a $250 million increase option, and $35.0 million cash on hand. At March 31, 2019, the Company had $217.0 million of outstanding borrowings under the credit facility in addition to outstanding letters of credit of $8.3 million. Cash flow from operations and borrowings under the Company's credit facility are expected to meet the Company's capital requirements and operational needs for the foreseeable future. The Company's ability to access the additional $250 million increase option of the credit facility is subject to acceptance by participating or other outside banks.

New Accounting Standards

In February 2016, the FASB issued ASU No. 2016-062, *Leases (Topic 842)*, which, among other things, requires an entity to recognize lease assets and lease liabilities on the balance sheet and disclose key information about leasing arrangements. This standard will increase an entities' reported assets and liabilities. The standard is effective for fiscal years beginning after December 15, 2018 and mandates a modified retrospective transition period for all entities. The Company is currently assessing the impact of this standard on its consolidated financial statements and related disclosures.

In October 2016, the FASB issued ASU No. 2016-16, *Intra-Entity Transfers of Assets Other Than Inventory*, which eliminates the exception for all intra-entity sale of assets other than inventory. This standard is effective for annual periods beginning after December 15, 2017. There was no significant impact to the Company's consolidated financial statements as a result of adopting this new standard.

Dividends

A dividend of $0.08 per share, totaling $2.1 million, was paid on October 17, 2018 to stockholders of record as of October 3, 2018. A dividend of $0.08 per share, totaling $2.1 million, was paid on January 18, 2019 to stockholders of record as of January 3, 2019. Subsequent to March 31, 2019, a quarterly dividend of $0.08 per share, totaling $2.1 million, was paid on April 18, 2019 to stockholders of record as of April 3, 2019.

OUTLOOK

As a result of the Company's year-to-date performance and its improved outlook for the remainder of the year, Management is raising its 2019 Adjusted EPS guidance to $3.05 to $3.10 per share from its earlier expectations of $2.95 to $3.05 per share. Management is excluding the following expected adjustments to 2019 GAAP EPS: A pre-tax gain from the October 2018 sale of Doble's headquarters building in Watertown, Massachusetts; and pre-tax costs related to the relocation of Doble's headquarters, the closure of Plastique's headquarters in Tunbridge Wells, UK and the consolidation of its product design and administrative functions into its facilities in Nottingham, UK and Poznan, Poland; the consolidation of VACCO's aircraft/aerospace business into PTI's aerospace facility in Oxnard, California; and the completion of other restructuring activities begun in 2018. Management expects the 2019 third quarter Adjusted EPS to be in the range of $0.75 to $0.80.

CRITICAL ACCOUNTING POLICIES

Management has evaluated the accounting policies used in the preparation of the Company’s financial statements and related notes and believes those policies to be reasonable and appropriate. Certain of these accounting policies require the application of significant judgment by management in selecting appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. These judgments are based on historical experience, trends in the industry, information provided by customers and information available from other outside sources, as appropriate. The most significant areas involving management judgments and estimates may be found in the Critical Accounting Policies section of Management’s Discussion and Analysis and in Note 1 to the Consolidated Financial Statements contained in the Company’s Annual Report on Form 10-K for the fiscal year ended September 30, 2018.

OTHER MATTERS

Contingencies

As a normal incident of the business in which the Company is engaged, various claims, charges and litigation are asserted or commenced against the Company. Additionally, the Company is currently involved in various stages of investigation and remediation relating to environmental matters. In the opinion of management, the aggregate costs involved in the resolution of these matters, and final judgments, if any, which might be rendered against the Company, are adequately reserved, are covered by insurance, or would not have a material adverse effect on the Company’s results from operations, capital expenditures, or competitive position.

FORWARD LOOKING STATEMENTS

Statements contained in this Form 10-Q regarding future events and the Company’s future results that reflect or are based on current expectations, estimates, forecasts, projections or assumptions about the Company’s performance and the industries in which the Company operates are considered “forward-looking statements” within the meaning of the safe harbor provisions of the Federal securities laws. These include, but are not necessarily limited to, statements about: the amount and timing of future sales, revenues, cash flows, growth, Adjusted EPS and EPS; the adequacy of the Company’s credit facility and the Company’s ability to increase it; the outcome of current litigation, claims and charges; income taxation of foreign earnings and the future repatriation, reinvestment or distribution of foreign earnings; future income tax liabilities and effective tax rate; timing of the repayment of the current portion of the Company’s long-term debt; changes in the amount of unrecognized tax benefits; the recognition and timing of costs related to share-based compensation arrangements; returns on retirement plan assets; estimates or projections made in connection with the Company’s accounting policies; market risks relating to the Company’s operations and changes in interest rates; the extent to which hedging gains or losses are offset by losses or gains on related underlying exposures; the Company’s ability to hedge against or otherwise manage them through the use of derivative financial instruments; and any other statements contained herein which are not strictly historical. Words such as expects, anticipates, targets, goals, projects, intends, plans, believes, estimates, variations of such words, and similar expressions are intended to identify such forward-looking statements.

Investors are cautioned that such statements are only predictions and speak only as of the date of this Form 10-Q, and the Company undertakes no duty to update them except as may be required by applicable laws or regulations. The Company’s actual results in the future may differ materially from those projected in the forward-looking statements due to risks and uncertainties that exist in the Company’s operations and business environment, including but not limited to those described in Item 1A, “Risk Factors,” of the Company’s Annual Report on Form 10-K for the fiscal year ended September 30, 2018, and the following: the impacts of natural disasters on the Company’s operations and those of the Company’s customers and suppliers; the timing and content of future contract awards or customer orders; the appropriation, allocation and availability of Government funds; the termination for convenience of Government and other customer contracts or orders; financial exposure in connection with Company guarantees of certain Aclara contracts; weakening of economic conditions in served markets; the success of the Company’s competitors; changes in customer demands or customer insolvencies; competition; intellectual property rights; technical difficulties; the availability of selected acquisitions; delivery delays or defaults by customers; performance issues with key customers, suppliers and subcontractors; material changes in the costs and availability of certain raw materials; labor disputes; changes in U.S. tax laws and regulations; other changes in laws and regulations including but not limited to changes in accounting standards and foreign taxation; changes in interest rates; costs relating to environmental matters arising from current or former facilities; uncertainty regarding the ultimate resolution of current disputes, claims, litigation or arbitration; and the integration of recently acquired businesses.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risks relating to the Company’s operations result primarily from changes in interest rates and changes in foreign currency exchange rates. The Company is exposed to market risk related to changes in interest rates and selectively uses derivative financial instruments, including forward contracts and swaps, to manage these risks. In 2018, the Company entered into three interest rate swaps with a notional amount of $150 million to hedge some of its exposure to variability in future LIBOR-based interest payments on variable rate debt. In addition, the Company’s Canadian subsidiary Morgan Schaffer enters into foreign exchange contracts to manage foreign currency risk as a portion of their revenue is denominated in U.S. dollars. All derivative instruments are reported on the balance sheet at fair value. For derivative instruments designated as cash flow hedges, the gain or loss on the respective derivative is deferred in accumulated other comprehensive income until recognized in earnings with the underlying hedged item. The interest rate swaps entered into during 2018 were not designated as cash flow hedges and, therefore, the gain or loss on the derivative is reflected in earnings each period. There has been no material change to the Company’s market risks since September 30, 2018. See Note 12 to the Consolidated Financial Statements in Item 1 of this Report for a summary of the Company’s outstanding derivative financial instruments as of March 31, 2019. Refer to the Company’s Annual Report on Form 10-K for the fiscal year ended September 30, 2018 for further discussion about market risk.

ITEM 4. CONTROLS AND PROCEDURES

The Company carried out an evaluation, under the supervision and with the participation of management, including the Company’s Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company’s disclosure controls and procedures as of the end of the period covered by this report. Based upon that evaluation, due to the material weakness in the Company’s internal control over financial reporting related to the ineffective design and operation of controls impacting the deferred revenue general ledger account, the Company’s Chief Executive Officer and Chief Financial Officer concluded that the Company’s disclosure controls and procedures were ineffective as of that date.

As previously disclosed in Part II Item 9A in the Company’s Annual Report on Form 10-K for the year ended September 30, 2018, management concluded there was a material weakness in the Company’s internal control over financial reporting related to the ineffective design and operation of controls impacting the deferred revenue general ledger account. Remedial actions have been identified to address these controls, including enhancing our policies and procedures related to the deferred revenue reconciliation and review, and providing additional training to our segment finance department. These new procedures are in the process of being implemented but have not been in place long enough to provide sufficient assurances to support the conclusion that the above identified material weakness has been fully remediated as of March 31, 2019.

Other than the above, there have been no changes in the Company’s internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) during the period covered by this report that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 6. EXHIBITS

Exhibit Number	Description	Document Location
3.1(a)	Restated Articles of Incorporation	Exhibit 3(a) to Form 10-K for the fiscal year ended September 30, 1999
3.1(b)	Amended Certificate of Designation, Preferences and Rights of Series A Participating Cumulative Preferred Stock of the Registrant	Exhibit 4(e) to Form 10-Q for the fiscal quarter ended March 31, 2000
3.1(c)	Articles of Merger effective July 10, 2000	Exhibit 3(c) to Form 10-Q for the fiscal quarter ended June 30, 2000
3.1(d)	Amendment of Articles of Incorporation effective February 5, 2018	Exhibit 3.1 to Form 8-K filed February 7, 2018
3.2	Bylaws	Exhibit 3.2 to Form 8-K filed February 7, 2018
4.1	Specimen revised Common Stock Certificate	Exhibit 4.1 to Form 10-Q for the fiscal quarter ended March 31, 2010
4.2	Amended and Restated Credit Agreement dated as of December 21, 2015 among the Registrant, the Foreign Subsidiary Borrowers from time to time party thereto, the Lenders from time to time party thereto, JP Morgan Chase Bank, N.A. as Administrative Agent, and Bank of America, N.A., BMO Harris Bank, N.A., SunTrust Bank and Wells Fargo Bank, National Association as Co-Documentation Agents	Exhibit 4.1 to Form 8-K filed December 23, 2015
4.3	Amendment No. 1 to December 21, 2015 Credit Agreement, effective September 30, 2016	Exhibit 4.4 to Form 10-K for the fiscal year ended September 30, 2016
4.4	Amendment No. 2 to December 21, 2015 Credit Agreement, effective May 15, 2017	Exhibit 4.4 to Form 10-Q for the fiscal quarter ended June 30, 2017
31.1	Certification of Chief Executive Officer relating to Form 10-Q for period ended March 31, 2019	Filed herewith
31.2	Certification of Chief Financial Officer relating to Form 10-Q for period ended March 31, 2019	Filed herewith
32	Certification of Chief Executive Officer and Chief Financial Officer relating to Form 10-Q for period ended March 31, 2019	Filed herewith
101.INS	XBRL Instance Document*	Submitted herewith
101.SCH	XBRL Schema Document*	Submitted herewith
101.CAL	XBRL Calculation Linkbase Document*	Submitted herewith
101.DEF	XBRL Definition Linkbase Document*	Submitted herewith
101.LAB	XBRL Label Linkbase Document*	Submitted herewith
101.PRE	XBRL Presentation Linkbase Document*	Submitted herewith

* Exhibit 101 to this report consists of documents formatted in XBRL (Extensible Business Reporting Language). The financial information contained in the XBRL – related documents is “unaudited” or “unreviewed”.

SIGNATURE

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

ESCO TECHNOLOGIES INC.

/s/ Gary E. Muenster

Gary E. Muenster
Executive Vice President and Chief Financial Officer
(As duly authorized officer and principal accounting and financial officer of the registrant)

Dated: May 9, 2019

Exhibit 31.1

CERTIFICATION

I, Victor L. Richey, certify that:

1. I have reviewed this quarterly report on Form 10-Q of ESCO Technologies Inc.;

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

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

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

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

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

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

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

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

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

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

Date: May 9, 2019

/s/ Victor L. Richey
Victor L. Richey
Chairman, Chief Executive Officer and President

Exhibit 31.2

CERTIFICATION

I, Gary E. Muenster, certify that:

1. I have reviewed this quarterly report on Form 10-Q of ESCO Technologies Inc.;

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

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

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

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

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

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

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

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

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

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

Date: May 9, 2019

/s/ Gary E. Muenster

Gary E. Muenster
Executive Vice President and Chief Financial Officer

Exhibit 32

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the quarterly report of ESCO Technologies Inc. (the "Company") on Form 10-Q for the period ended March 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Victor L. Richey, Chairman, Chief Executive Officer and President of the Company, and Gary E. Muenster, Executive Vice President and Chief Financial Officer of the Company, certify, to the best of our knowledge, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: May 9, 2019

/s/ Victor L. Richey
Victor L. Richey
Chairman, Chief Executive Officer and President
ESCO Technologies Inc.

/s/ Gary E. Muenster
Gary E. Muenster
Executive Vice President and Chief Financial Officer
ESCO Technologies Inc.