NORTHROP GRUMMAN CORP /DE/
Form 10-Q
April 24, 2019
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

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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

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

Commission File Number 1-16411

NORTHROP GRUMMAN CORPORATION

(Exact name of registrant as specified in its charter)

DELAWARE	80-0640649
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
2980 Fairview Park Drive, Falls Church, Virginia	22042
(Address of principal executive offices)	(Zip Code)

(703) 280-2900

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes x No o

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes x No o

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

Large accelerated filer x	Accelerated filer o
Non-accelerated filer o	Smaller reporting company o
Emerging growth company o	

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes o No x

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

As of April 19, 2019, 169,799,679 shares of common stock were outstanding.

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

CONDENSED CONSOLIDATED STATEMENTS OF EARNINGS AND COMPREHENSIVE INCOME

(Unaudited)

	Three Months Ended March 31	
$ in millions, except per share amounts	2019	2018
Sales		
Product	$5,728	$4,289
Service	2,461	2,446
Total sales	8,189	6,735
Operating costs and expenses		
Product	4,517	3,269
Service	1,976	1,907
General and administrative expenses	760	711
Operating income	936	848
Other (expense) income		
Interest expense	(138)	(143)
FAS (non-service) pension benefit	200	254
Other, net	36	40
Earnings before income taxes	1,034	999
Federal and foreign income tax expense	171	159
Net earnings	$863	$840
Basic earnings per share	$5.08	$4.82
Weighted-average common shares outstanding, in millions	170.0	174.3
Diluted earnings per share	$5.06	$4.79
Weighted-average diluted shares outstanding, in millions	170.7	175.4
Net earnings (from above)	$863	$840
Other comprehensive loss		
Change in unamortized prior service credit, net of tax	(11)	(15)
Change in cumulative translation adjustment and other, net	4	(3)
Other comprehensive loss, net of tax	(7)	(18)
Comprehensive income	$856	$822

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

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CONDENSED CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
(Unaudited)

$ in millions, except par value	March 31, 2019	December 31, 2018
Assets		
Cash and cash equivalents	$ 755	$ 1,579
Accounts receivable, net	2,166	1,448
Unbilled receivables, net	5,785	5,026
Inventoried costs, net	778	654
Prepaid expenses and other current assets	959	973
Total current assets	10,443	9,680
Property, plant and equipment, net of accumulated depreciation of $5,493 for 2019 and $5,369 for 2018	6,420	6,372
Operating lease right-of-use assets	1,283	—
Goodwill	18,698	18,672
Intangible assets, net	1,289	1,372
Deferred tax assets	84	94
Other non-current assets	1,534	1,463
Total assets	$ 39,751	$ 37,653
Liabilities		
Trade accounts payable	$ 1,932	$ 2,182
Accrued employee compensation	1,404	1,676
Advance payments and billings in excess of costs incurred	1,969	1,917
Other current liabilities	3,516	2,499
Total current liabilities	8,821	8,274
Long-term debt, net of current portion of $523 for 2019 and $517 for 2018	13,863	13,883
Pension and other postretirement benefit plan liabilities	5,646	5,755
Operating lease liabilities	1,098	—
Deferred tax liabilities	133	108
Other non-current liabilities	1,451	1,446
Total liabilities	31,012	29,466
Commitments and contingencies (Note 7)		
Shareholders' equity		
Preferred stock, $1 par value; 10,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $1 par value; 800,000,000 shares authorized; issued and outstanding: 2019—169,873,750 and 2018—170,607,336	170	171
Paid-in capital	—	—
Retained earnings	8,628	8,068
Accumulated other comprehensive loss	(59)	(52)
Total shareholders' equity	8,739	8,187
Total liabilities and shareholders' equity	$ 39,751	$ 37,653

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

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CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three Months Ended March 31	
$ in millions	2019	2018
Operating activities		
Net earnings	$863	$840
Adjustments to reconcile to net cash provided by operating activities:		
Depreciation and amortization	234	122
Non-cash lease expense	68	—
Stock-based compensation	26	19
Deferred income taxes	33	(22)
Changes in assets and liabilities:		
Accounts receivable, net	(718)	(187)
Unbilled receivables, net	(759)	(404)
Inventoried costs, net	(124)	(37)
Prepaid expenses and other assets	(23)	13
Accounts payable and other liabilities	(480)	(590)
Income taxes payable, net	140	197
Retiree benefits	(142)	(190)
Other, net	(31)	2
Net cash used in operating activities	(913)	(237)
Investing activities		
Capital expenditures	(284)	(305)
Other, net	4	(2)
Net cash used in investing activities	(280)	(307)
Financing activities		
Net payments to credit facilities	(20)	(14)
Net borrowings on commercial paper	814	—
Common stock repurchases	(60)	—
Cash dividends paid	(211)	(198)
Payments of employee taxes withheld from share-based awards	(61)	(79)
Other, net	—	(21)
Net cash provided by (used in) financing activities	462	(312)
Decrease in cash, cash equivalents and restricted cash	(731)	(856)
Cash, cash equivalents and restricted cash, beginning of year	1,579	11,225
Cash, cash equivalents and restricted cash, end of period	$848	$10,369

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

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CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Unaudited)

	Three Months Ended March 31	
$ in millions, except per share amounts	2019	2018
Common stock		
Beginning of year	$171	$174
Common stock repurchased	(1)	—
End of period	170	174
Paid-in capital		
Beginning of year	—	44
Stock compensation	—	(44)
End of period	—	—
Retained earnings		
Beginning of year	8,068	6,913
Impact from adoption of ASU 2018-02 and ASU 2016-01	—	(21)
Common stock repurchased	(62)	—
Net earnings	863	840
Dividends declared	(206)	(195)
Stock compensation	(35)	(35)
End of period	8,628	7,502
Accumulated other comprehensive (loss) income		
Beginning of year	(52)	1
Impact from adoption of ASU 2018-02 and ASU 2016-01	—	21
Other comprehensive loss, net of tax	(7)	(18)
End of period	(59)	4
Total shareholders' equity	$8,739	$7,680
Cash dividends declared per share	$1.20	$1.10

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

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NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)

1. BASIS OF PRESENTATION

Principles of Consolidation and Reporting

These unaudited condensed consolidated financial statements (the "financial statements") include the accounts of Northrop Grumman Corporation and its subsidiaries and joint ventures or other investments for which we consolidate the financial results (herein referred to as "Northrop Grumman," the "company," "we," "us," or "our"). Material intercompany accounts, transactions and profits are eliminated in consolidation. Investments in equity securities and joint ventures where the company has significant influence, but not control, are accounted for using the equity method.

On June 6, 2018 (the "Merger date"), the company completed its previously announced acquisition of Orbital ATK, Inc. ("Orbital ATK") (the "Merger"). On the Merger date, Orbital ATK became a wholly-owned subsidiary of the company and its name was changed to Northrop Grumman Innovation Systems, Inc., which we established as a new, fourth business sector ("Innovation Systems"). The operating results of Innovation Systems subsequent to the Merger date have been included in the company's unaudited condensed consolidated results of operations. See Note 2 for further information regarding the Merger.

These financial statements are prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP" or "FAS") and in accordance with the rules of the Securities and Exchange Commission (SEC) for interim reporting. The financial statements include adjustments of a normal recurring nature considered necessary by management for a fair presentation of the company's unaudited condensed consolidated financial position, results of operations and cash flows.

The results reported in these financial statements are not necessarily indicative of results that may be expected for the entire year. These financial statements should be read in conjunction with the information contained in the company's 2018 Annual Report on Form 10-K.

The quarterly information is labeled using a calendar convention; that is, first quarter is consistently labeled as ending on March 31, second quarter as ending on June 30 and third quarter as ending on September 30. It is legacy Northrop Grumman's long-standing practice to establish actual interim closing dates using a "fiscal" calendar, in which we close our books on a Friday near these quarter-end dates in order to normalize the potentially disruptive effects of quarterly closings on business processes. Similarly, Innovation Systems uses a "fiscal" calendar by closing its books on a Sunday near these quarter-end dates and will continue this practice until its business processes are aligned with legacy Northrop Grumman's. This practice is only used at interim periods within a reporting year.

As previously announced, effective January 1, 2019, we adopted Accounting Standards Codification (ASC) Topic 842, Leases, using the optional transition method to apply the standard through a cumulative effect adjustment in the period of adoption. The adoption of this standard is reflected in the amounts and disclosures set forth in this Form 10-Q.

Accounting Estimates

Preparation of the financial statements requires management to make estimates and judgments that affect the reported amounts of assets and liabilities and the disclosure of contingencies at the date of the financial statements, as well as the reported amounts of sales and expenses during the reporting period. Estimates have been prepared using the most current and best available information; however, actual results could differ materially from those estimates.

Revenue Recognition

The majority of our sales are derived from long-term contracts with the U.S. government for the production of goods, the provision of services, or a combination of both. The company classifies sales as product or service based on the predominant attributes of each contract.

The company recognizes revenue for each separately identifiable performance obligation in a contract representing a promise to transfer a distinct good or service to a customer. In most cases, goods and services provided under the company's contracts are accounted for as single performance obligations due to the complex and integrated nature of our products and services. These contracts generally require significant integration of a group of goods and/or services to deliver a combined output. In some contracts, the company provides multiple distinct goods or services to a

customer, most commonly when a contract covers multiple phases of the product lifecycle (e.g., development, production, sustainment, etc.). In those cases, the company accounts for the distinct contract deliverables as separate performance obligations and allocates the transaction price to each performance obligation based on its relative standalone selling price, which is generally estimated using a cost plus a reasonable margin approach. Warranties are

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provided on certain contracts, but do not typically provide for services beyond standard assurances and are therefore not considered to be separate performance obligations. Our accounting for costs to obtain or fulfill a contract are not material.

Contracts are often modified for changes in contract specifications or requirements, which may result in scope and/or price changes. Most of the company's contract modifications are for goods or services that are not distinct in the context of the contract and are therefore accounted for as part of the original performance obligation through a cumulative estimate-at-completion (EAC) adjustment.

The company recognizes revenue as control is transferred to the customer, either over time or at a point in time. In general, our U.S. government contracts contain termination for convenience and/or other clauses that generally provide the customer rights to goods produced and/or in-process. Similarly, our non-U.S. government contracts generally contain contractual termination clauses or entitle the company to payment for work performed to date for goods and services that do not have an alternative use. As control is effectively transferred while we perform on our contracts, we generally recognize revenue over time using the cost-to-cost method (cost incurred relative to total cost estimated at completion) as the company believes this represents the most appropriate measurement towards satisfaction of its performance obligations. Revenue for contracts in which the control of goods produced does not transfer until delivery to the customer is recognized at a point in time (i.e., typically upon delivery).

Contract Estimates

Use of the cost-to-cost method requires us to make reasonably dependable estimates regarding the revenue and cost associated with the design, manufacture and delivery of our products and services. The company estimates profit on these contracts as the difference between total estimated sales and total estimated cost at completion and recognizes that profit as costs are incurred. Significant judgment is used to estimate total revenue and cost at completion. Contract sales may include estimates of variable consideration, including cost or performance incentives (such as award and incentive fees), contract claims and requests for equitable adjustment (REAs). Variable consideration is included in total estimated sales to the extent it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved. We estimate variable consideration as the most likely amount to which we expect to be entitled.

We recognize changes in estimated contract sales or costs and the resulting changes in contract profit on a cumulative basis. Cumulative EAC adjustments represent the cumulative effect of the changes on current and prior periods; sales and operating margins in future periods are recognized as if the revised estimates had been used since contract inception. If it is determined that a loss is expected to result on an individual performance obligation, the entire amount of the estimable future loss, including an allocation of general and administrative (G&A) costs, is charged against income in the period the loss is identified. Each loss provision is first offset against costs included in Unbilled receivables or Inventoried costs; remaining amounts are reflected in Other current liabilities.

Significant EAC adjustments on a single contract could have a material effect on the company's financial statements. When such adjustments occur, we generally disclose the nature, underlying conditions and financial impact of the adjustments. No discrete event or adjustments to an individual contract were material to the financial statements during the three months ended March 31, 2019 and 2018.

The following table presents the effect of aggregate net EAC adjustments:

	Three Months Ended March 31	
$ in millions, except per share data	2019	2018
Operating income	$138	$116
Net earnings[(1)]	109	92
Diluted earnings per share[(1)]	0.64	0.52

(1) Based on a 21 percent statutory tax rate.

Revenue recognized from performance obligations satisfied in previous reporting periods was $166 million and $133 million for the three months ended March 31, 2019 and 2018, respectively.

Backlog

Backlog represents the future sales we expect to recognize on firm orders received by the company and is equivalent to the company's remaining performance obligations at the end of each period. It comprises both funded backlog (firm orders for which funding is authorized and appropriated) and unfunded backlog. Unexercised contract options

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and indefinite delivery indefinite quantity (IDIQ) contracts are not included in backlog until the time the option or IDIQ task order is exercised or awarded.

Company backlog as of March 31, 2019 was $57.3 billion. We expect to recognize approximately 50 percent and 75 percent of our March 31, 2019 backlog as revenue over the next 12 and 24 months, respectively, with the remainder to be recognized thereafter.

Contract Assets and Liabilities

For each of the company's contracts, the timing of revenue recognition, customer billings, and cash collections results in a net contract asset or liability at the end of each reporting period. Fixed-price contracts are typically billed to the customer either using progress payments, whereby amounts are billed monthly as costs are incurred or work is completed, or performance based payments, which are based upon the achievement of specific, measurable events or accomplishments defined and valued at contract inception. Cost-type contracts are typically billed to the customer on a monthly or semi-monthly basis.

Contract assets are equivalent to and reflected as Unbilled receivables in the unaudited condensed consolidated statements of financial position and are primarily related to long-term contracts where revenue recognized under the cost-to-cost method exceeds amounts billed to customers. Unbilled receivables are classified as current assets and, in accordance with industry practice, include amounts that may be billed and collected beyond one year due to the long-cycle nature of many of our contracts. Accumulated contract costs in unbilled receivables include costs such as direct production costs, factory and engineering overhead, production tooling costs, and allowable G&A. Unbilled receivables also include certain estimates of variable consideration described above. These contract assets are not considered a significant financing component of the company's contracts as the payment terms are intended to protect the customer in the event the company does not perform on its obligations under the contract.

Contract liabilities are equivalent to and reflected as Advance payments and billings in excess of costs incurred in the unaudited condensed consolidated statements of financial position. Certain customers make advance payments prior to the company's satisfaction of its obligations on the contract. These amounts are recorded as contract liabilities until such obligations are satisfied, either over time as costs are incurred or at a point in time when deliveries are made. Contract liabilities are not a significant financing component as they are generally utilized to pay for contract costs within a one-year period or are used to ensure the customer meets contractual requirements.

The amount of revenue recognized for the three months ended March 31, 2019 and 2018 that was included in the contract liability balances at the beginning of each year was $674 million and $706 million, respectively.

Disaggregation of Revenue

See Note 11 for information regarding the company's sales by customer type, contract type and geographic region for each of our segments. We believe those categories best depict how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors.

Accumulated Other Comprehensive Loss

The components of accumulated other comprehensive loss are as follows:

$ in millions	March 31, 2019	December 31, 2018
Unamortized prior service credit, net of tax expense of $28 for 2019 and $32 for 2018	$ 87	$ 98
Cumulative translation adjustment	(143)	(144)
Other, net	(3)	(6)
Total accumulated other comprehensive loss	$ (59)	$ (52)

Reclassifications from accumulated other comprehensive loss to net earnings related to the amortization of prior service credit were $11 million and $15 million, net of taxes, for the three months ended March 31, 2019 and 2018, respectively. The reclassifications are included in the computation of net periodic pension cost (benefit). See Note 8 for further information.

Reclassifications from accumulated other comprehensive loss to net earnings relating to cumulative translation adjustments and effective cash flow hedges were not material for the three months ended March 31, 2019 and 2018.

Leases

The company leases certain buildings, land and equipment. Under ASC 842, at contract inception we determine whether the contract is or contains a lease and whether the lease should be classified as an operating or a financing

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lease. Operating leases are included in Operating lease right-of-use (ROU) assets, Other current liabilities, and Operating lease liabilities in our unaudited condensed consolidated statements of financial position.

The company recognizes operating lease ROU assets and operating lease liabilities based on the present value of the future minimum lease payments over the lease term at commencement date. We use our incremental borrowing rate based on the information available at commencement date to determine the present value of future payments and the appropriate lease classification. Many of our leases include renewal options aligned with our contract terms. We define the initial lease term to include renewal options determined to be reasonably certain. In our adoption of ASC 842, we elected not to recognize a right-of-use asset and a lease liability for leases with an initial term of 12 months or less; we recognize lease expense for these leases on a straight-line basis over the lease term. We elected the practical expedient to not separate lease components from nonlease components and applied that practical expedient to all material classes of leased assets.

Many of the company's real property lease agreements contain incentives for tenant improvements, rent holidays, or rent escalation clauses. For tenant improvement incentives, if the incentive is determined to be a leasehold improvement owned by the lessee, the company generally records a deferred rent liability and amortizes the deferred rent over the term of the lease as a reduction to rent expense. For rent holidays and rent escalation clauses during the lease term, the company records rental expense on a straight-line basis over the term of the lease. For these lease incentives, the company uses the date of initial possession as the commencement date, which is generally when the company is given the right of access to the space and begins to make improvements in preparation for intended use.

Finance leases are not material to our unaudited condensed consolidated financial statements and the company is not a lessor in any material arrangements. We do not have any material restrictions or covenants in our lease agreements, sale-leaseback transactions, land easements or residual value guarantees.

Restricted Cash

On occasion, we are required to maintain cash deposits with banks in connection with certain contingent obligations. This restricted cash is included in Prepaid expenses and other current assets in the unaudited condensed consolidated statements of financial position. As of March 31, 2019 our restricted cash totaled approximately $93 million. We had no restricted cash as of December 31, 2018.

Related Party Transactions

The company had no material related party transactions in any period presented.

Accounting Standards Updates

On February 25, 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842). ASC Topic 842 supersedes existing lease guidance, including ASC 840 - Leases. Among other things, ASU 2016-02 requires recognition of a right-of-use asset and liability for future lease payments for contracts that meet the definition of a lease and requires disclosure of certain information about leasing arrangements. On July 30, 2018, the FASB issued ASU No. 2018-11, Leases (Topic 842): Targeted Improvements, which, among other things, allows companies to elect an optional transition method to apply the new lease standard through a cumulative-effect adjustment in the period of adoption.

We adopted the standard on January 1, 2019 using the optional transition method and, as a result, did not recast prior period unaudited condensed comparative financial statements. All prior period amounts and disclosures are presented under ASC 840. We elected the package of practical expedients, which, among other things, allows us to carry forward our prior lease classifications under ASC 840. We did not elect to adopt the hindsight practical expedient and are therefore maintaining the lease terms we previously determined under ASC 840. Adoption of the new standard resulted in the recording of additional lease assets and lease liabilities on the unaudited condensed consolidated statements of financial position with no cumulative impact to retained earnings and did not have a material impact on our results of operations or cash flows.

Other accounting standards updates adopted and/or issued, but not effective until after March 31, 2019, are not expected to have a material effect on the company's unaudited condensed consolidated financial position, annual results of operations and/or cash flows.

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2. ACQUISITION OF ORBITAL ATK

On June 6, 2018, the company completed its previously announced acquisition of Orbital ATK, by acquiring all of the outstanding shares of Orbital ATK for a purchase price of $7.7 billion in cash. On the Merger date, Orbital ATK became a wholly-owned subsidiary of the company and its name was changed to Northrop Grumman Innovation Systems, Inc. We established Innovation Systems as a new, fourth business sector. Its main products include precision munitions and armaments; tactical missiles and subsystems; ammunition; launch vehicles; space and strategic propulsion systems; aerospace structures; space exploration products; and national security and commercial satellite systems and related components/services. The acquisition was financed with proceeds from the company's debt financing completed in October 2017 and cash on hand. We believe this acquisition will enable us to broaden our capabilities and offerings, provide additional innovative solutions to meet our customers' emerging requirements, create value for shareholders and provide expanded opportunities for our combined employees.

Preliminary Purchase Price Allocation

The acquisition was accounted for as a purchase business combination. As such, the company recorded the assets acquired and liabilities assumed at fair value, with the excess of the purchase price over the fair value of assets acquired and liabilities assumed recorded as goodwill. Determining the fair value of assets acquired and liabilities assumed requires significant judgment, including the amount and timing of expected future cash flows, long-term growth rates and discount rates. In some cases, the company used discounted cash flow analyses, which were based on our best estimate of future sales, earnings and cash flows after considering such factors as general market conditions, customer budgets, existing firm and future orders, changes in working capital, long term business plans and recent operating performance. Use of different estimates and judgments could yield materially different results.

During the second quarter of 2018, the company completed a preliminary analysis to determine the fair values of the assets acquired and liabilities assumed and the amounts recorded reflected management's initial assessment of fair value as of the Merger date. Based on additional information obtained to date, the company refined its initial assessment of fair value and recognized the following significant adjustments to our preliminary purchase price allocation: Intangible assets increased $220 million, Other current liabilities increased $114 million, Pension and other postretirement benefit (OPB) plan liabilities increased $56 million, Other non-current liabilities increased $53 million and Goodwill decreased $47 million. These adjustments did not result in a material impact on the financial results of prior periods.

The company expects to finalize its purchase price allocation within one year of the Merger date. We are continuing to analyze and assess relevant information in the following areas to determine the fair value of assets acquired and liabilities assumed as of the Merger date: certain income tax, legal and contract-related matters. The final fair value determination could result in material adjustments to the values presented in the preliminary purchase price allocation table below.

The Merger date fair value of the consideration transferred totaled $7.7 billion in cash, which was comprised of the following:

$ in millions, except per share amounts	Purchase price
Shares of Orbital ATK common stock outstanding as of the Merger date	57,562,152
Cash consideration per share of Orbital ATK common stock	$ 134.50
Total purchase price	$ 7,742

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The following preliminary purchase price allocation table presents the company's refined estimate of the fair values of assets acquired and liabilities assumed at the Merger date:

$ in millions	As of June 6, 2018
Cash and cash equivalents	$85
Accounts receivable	596
Unbilled receivables	1,264
Inventoried costs	220
Other current assets	226
Property, plant and equipment	1,509
Goodwill	6,248
Intangible assets	1,525
Other non-current assets	151
Total assets acquired	11,824
Trade accounts payable	(397)
Accrued employee compensation	(158)
Advance payments and billings in excess of costs incurred	(222)
Below market contracts[(1)]	(151)
Other current liabilities	(412)
Long-term debt	(1,687)
Pension and OPB plan liabilities	(613)
Deferred tax liabilities	(253)
Other non-current liabilities	(189)
Total liabilities assumed	(4,082)
Total purchase price	$7,742

[(1)] Included in Other current liabilities in the unaudited condensed consolidated statements of financial position.

The following table presents a summary of purchased intangible assets and their related estimated useful lives:

	Fair Value (in millions)	Estimated Useful Life in Years
Customer contracts	$ 1,245	9
Commercial customer relationships	280	13
Total customer-related intangible assets	$ 1,525	

The preliminary purchase price allocation resulted in the recognition of $6.2 billion of goodwill, a majority of which was allocated to the Innovation Systems sector. The goodwill recognized is attributable to expected revenue synergies generated by the integration of Aerospace Systems, Mission Systems and Technology Services products and technologies with those of legacy Orbital ATK, synergies resulting from the consolidation or elimination of certain costs, and intangible assets that do not qualify for separate recognition, such as the assembled workforce of Orbital ATK. None of the goodwill is expected to be deductible for tax purposes.

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Unaudited Supplemental Pro Forma Information

The following table presents unaudited pro forma financial information prepared in accordance with Article 11 of Regulation S-X and computed as if Orbital ATK had been included in our results as of January 1, 2017:

$ in millions, except per share amounts	Three Months Ended March 31, 2018
Sales	$ 8,000
Net earnings	914
Diluted earnings per share	5.21

The unaudited supplemental pro forma financial data has been calculated after applying our accounting policies and adjusting the historical results of Orbital ATK with pro forma adjustments, net of tax, that assume the acquisition occurred on January 1, 2017. Significant pro forma adjustments include the following:

1. The elimination of intercompany sales and costs of sales between the company and Orbital ATK of $47 million for the three months ended March 31, 2018.
2. The elimination of nonrecurring transaction costs incurred by the company and Orbital ATK in connection with the Merger of $7 million for the three months ended March 31, 2018.
3. The recognition of additional depreciation expense, net of removal of historical depreciation expense, of $6 million for the three months ended March 31, 2018 related to the step-up in fair value of acquired property, plant and equipment.
4. The recognition of additional amortization expense, net of removal of historical amortization expense, of $66 million for the three months ended March 31, 2018 related to the fair value of acquired intangible assets.
5. The elimination of Orbital ATK's historical amortization of net actuarial losses and prior service credits and impact of the revised pension and OPB net periodic benefit cost as determined under the company’s plan assumptions of $31 million for the three months ended March 31, 2018.
6. The income tax effect on the pro forma adjustments, which was calculated using the federal statutory tax rate, of $7 million for the three months ended March 31, 2018.

The unaudited pro forma financial information does not reflect the potential realization of revenue synergies or cost savings, nor does it reflect other costs relating to the integration of the two companies. This unaudited pro forma financial information should not be considered indicative of the results that would have actually occurred if the acquisition had been consummated on January 1, 2017, nor are they indicative of future results.

3. EARNINGS PER SHARE, SHARE REPURCHASES AND DIVIDENDS ON COMMON STOCK

Basic Earnings Per Share

We calculate basic earnings per share by dividing net earnings by the weighted-average number of shares of common stock outstanding during each period.

Diluted Earnings Per Share

Diluted earnings per share include the dilutive effect of awards granted to employees under stock-based compensation plans. The dilutive effect of these securities totaled 0.7 million shares and 1.1 million shares for the three months ended March 31, 2019 and 2018, respectively.

Share Repurchases

On September 16, 2015, the company’s board of directors authorized a share repurchase program of up to $4.0 billion of the company’s common stock (the “2015 Repurchase Program”). Repurchases under the 2015 Repurchase Program commenced in March 2016.

On December 4, 2018, the company’s board of directors authorized a new share repurchase program of up to an additional $3.0 billion in share repurchases of the company’s common stock (the “2018 Repurchase Program”). By its

terms, repurchases under the 2018 Repurchase Program will commence upon completion of the 2015 Repurchase Program and will expire when we have used all authorized funds for repurchases.

During the fourth quarter of 2018, the company entered into an accelerated share repurchase (ASR) agreement with Goldman Sachs & Co. LLC (Goldman Sachs) to repurchase $1.0 billion of the company's common stock under the 2015 Repurchase Program. Under the agreement, we made a payment of $1.0 billion to Goldman Sachs and

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received an initial delivery of 3.0 million shares valued at $800 million that were immediately canceled by the company. The remaining balance was settled on January 4, 2019 with a final delivery of 0.9 million shares from Goldman Sachs. The final average purchase price was $260.32 per share.

As of March 31, 2019, repurchases under the 2015 Repurchase Program totaled $3.0 billion; $1.0 billion remained under this share repurchase authorization. By its terms, the 2015 Repurchase Program is set to expire when we have used all authorized funds for repurchases.

Share repurchases take place from time to time, subject to market conditions and management's discretion, in the open market and in privately negotiated transactions. The company retires its common stock upon repurchase and, in the periods presented, has not made any purchases of common stock other than in connection with these publicly announced repurchase programs.

The table below summarizes the company's share repurchases to date under the authorizations described above:

Repurchase Program Authorization Date	Amount Authorized (in millions)	Total Shares Retired (in millions)	Average Price Per Share[1]	Date Completed	Shares Repurchased (in millions) Three Months Ended March 31	
					2019	2018
September 16, 2015	$ 4,000	12.4	$241.36		1.1	—
December 4, 2018	$ 3,000	—	$—		—	—

[1] Includes commissions paid.

Dividends on Common Stock

In May 2018, the company increased the quarterly common stock dividend 9 percent to $1.20 per share from the previous amount of $1.10 per share.

In January 2018, the company increased the quarterly common stock dividend 10 percent to $1.10 per share from the previous amount of $1.00 per share.

4. INCOME TAXES

	Three Months Ended March 31	
$ in millions	2019	2018
Federal and foreign income tax expense	$171	$159
Effective income tax rate	16.5 %	15.9 %

The effective tax rate for the first quarter of 2019 increased to 16.5 percent from 15.9 percent in the first quarter of 2018 primarily due to lower tax benefits related to employee share-based compensation and claims for prior year manufacturing deductions, partially offset by higher research credits. The company's effective rate for the first quarter of 2019 includes $31 million of research credits and $13 million of excess tax benefits for employee share-based compensation. The company's effective tax rate for the first quarter of 2018 included $26 million of excess tax benefits for employee share-based compensation, $20 million of research credits and $8 million of claims for prior year manufacturing deductions.

During the three months ended March 31, 2019, we increased our unrecognized tax benefits related to our methods of accounting associated with the Tax Cuts and Jobs Act by approximately $15 million and it is reasonably possible that within the next twelve months those unrecognized tax benefits may increase by up to an additional $70 million.

We file income tax returns in the U.S. federal jurisdiction and in various state and foreign jurisdictions. The Northrop Grumman 2014-2017 federal tax returns and refund claims related to its 2007-2016 federal tax returns are currently under IRS examination. In addition, legacy Orbital ATK federal tax returns for the year ended March 31, 2015, the nine-month transition period ended December 31, 2015 and calendar year 2016 are currently under IRS examination.

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5. FAIR VALUE OF FINANCIAL INSTRUMENTS

The company holds a portfolio of marketable securities consisting of securities to partially fund non-qualified employee benefit plans. A portion of these securities are held in common/collective trust funds and are measured at fair value using net asset value (NAV) per share as a practical expedient; and therefore are not required to be categorized in the fair value hierarchy table below. Marketable securities are included in Other non-current assets in the unaudited condensed consolidated statements of financial position.

The company's derivative portfolio consists primarily of commodity forward contracts and foreign currency forward contracts. The company periodically uses commodity forward contracts to hedge forecasted purchases of certain commodities. The contracts generally establish a fixed price for the underlying commodity and are designated and qualify as effective cash flow hedges of such commodity purchases. Commodity derivatives are valued based on prices of future exchanges and recently reported transactions in the marketplace. For foreign currency forward contracts, where model-derived valuations are appropriate, the company utilizes the income approach to determine the fair value and uses the applicable London Interbank Offered Rate (LIBOR) swap rates.

The following table presents the financial assets and liabilities the company records at fair value on a recurring basis identified by the level of inputs used to determine fair value:

	March 31, 2019			December 31, 2018		
$ in millions	Level 1	Level 2	Total	Level 1	Level 2	Total
Financial Assets (Liabilities)						
Marketable securities	$347	$ —	$347	$319	$ 1	$320
Marketable securities valued using NAV	—	—	16	—	—	15
Total marketable securities	347	—	363	319	1	335
Derivatives	—	(5)	(5)	—	(10)	(10)

At March 31, 2019, the company had commodity forward contracts outstanding that hedge forecasted commodity purchases of 19 million pounds of copper and 7 million pounds of zinc. Gains or losses on the commodity forward contracts are recognized in product and service cost as the performance obligations on related contracts are satisfied.

The notional value of the company's foreign currency forward contracts at March 31, 2019 and December 31, 2018 was $111 million and $114 million, respectively. The portion of notional value designated as a cash flow hedge at March 31, 2019 was $12 million. At December 31, 2018, no portion of the notional value was designated as a cash flow hedge.

The derivative fair values and related unrealized gains/losses at March 31, 2019 and December 31, 2018 were not material. There were no transfers of financial instruments between the three levels of the fair value hierarchy during the three months ended March 31, 2019.

The carrying value of cash and cash equivalents and commercial paper approximates fair value.

Long-term Debt

The estimated fair value of long-term debt was $14.8 billion and $14.3 billion as of March 31, 2019 and December 31, 2018, respectively. We calculated the fair value of long-term debt using Level 2 inputs, based on interest rates available for debt with terms and maturities similar to the company's existing debt arrangements. The carrying value of long-term debt was $14.4 billion as of March 31, 2019 and December 31, 2018. The current portion of long-term debt is recorded in Other current liabilities in the unaudited condensed consolidated statements of financial position.

6. INVESTIGATIONS, CLAIMS AND LITIGATION

Litigation

On May 4, 2012, the company commenced an action, Northrop Grumman Systems Corp. v. United States, in the U.S. Court of Federal Claims. This lawsuit relates to an approximately $875 million firm fixed-price contract awarded to the company in 2007 by the U.S. Postal Service (USPS) for the construction and delivery of flats sequencing systems (FSS) as part of the postal automation program. The FSS have been delivered. The company's lawsuit is based on

various theories of liability. The complaint seeks approximately $63 million for unpaid portions of the contract price, and approximately $115 million based on the company's assertions that, through various acts and omissions over the life of the contract, the USPS adversely affected the cost and schedule of performance and materially altered the company's obligations under the contract. The United States responded to the company's

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complaint with an answer, denying most of the company's claims, and counterclaims seeking approximately $410 million, less certain amounts outstanding under the contract. The principal counterclaim alleges that the company delayed its performance and caused damages to the USPS because USPS did not realize certain costs savings as early as it had expected. On April 2, 2013, the U.S. Department of Justice informed the company of a False Claims Act complaint relating to the FSS contract that was filed under seal by a relator in June 2011 in the U.S. District Court for the Eastern District of Virginia. On June 3, 2013, the United States filed a Notice informing the Court that the United States had decided not to intervene in this case. The relator alleged that the company violated the False Claims Act in a number of ways with respect to the FSS contract, alleged damage to the USPS in an amount of at least approximately $179 million annually, alleged that he was improperly discharged in retaliation, and sought an unspecified partial refund of the contract purchase price, penalties, attorney's fees and other costs of suit. The relator later voluntarily dismissed his retaliation claim and reasserted it in a separate arbitration, which he also ultimately voluntarily dismissed. On September 5, 2014, the court granted the company's motion for summary judgment and ordered the relator's False Claims Act case be dismissed with prejudice. On December 19, 2014, the company filed a motion for partial summary judgment asking the court to dismiss the principal counterclaim referenced above. On June 29, 2015, the Court heard argument and denied that motion without prejudice to filing a later motion to dismiss. On February 16, 2018, both the company and the United States filed motions to dismiss many of the claims and counterclaims in whole or in part. The United States also filed a motion seeking to amend its answer and counterclaim, including to reduce its counterclaim to approximately $193 million, which the court granted on June 11, 2018. On October 17, 2018, the court granted in part and denied in part the parties' motions to dismiss. On December 17, 2018, the court issued a Scheduling Order, proposed by the parties, providing for the parties to engage in mediation through March 1, 2019. After the government shutdown, the mediation was rescheduled for May 2019. The Scheduling Order provides for pretrial activities to resume, if and as necessary, with trial to commence on or about September 23, 2019. Although the ultimate outcome of these matters ("the FSS matters," collectively), including any possible loss, cannot be predicted or reasonably estimated at this time, the company intends vigorously to pursue and defend the FSS matters.

On August 8, 2013, the company received a court-appointed expert's report in litigation pending in the Second Federal Court of the Federal District in Brazil brought by the Brazilian Post and Telegraph Corporation (ECT), a Brazilian state-owned entity, against Solystic SAS (Solystic), a French subsidiary of the company, and two of its consortium partners. In this suit, commenced on December 17, 2004, and relatively inactive for some period of time, ECT alleges the consortium breached its contract with ECT and seeks damages of approximately R$111 million (the equivalent of approximately $28 million as of March 31, 2019), plus interest, inflation adjustments and attorneys' fees, as authorized by Brazilian law, which amounts could be significant over time. The original suit sought R$89 million (the equivalent of approximately $23 million as of March 31, 2019) in damages. In October 2013, ECT asserted an additional damage claim of R$22 million (the equivalent of approximately $6 million as of March 31, 2019). In its counterclaim, Solystic alleges ECT breached the contract by wrongfully refusing to accept the equipment Solystic had designed and built and seeks damages of approximately €31 million (the equivalent of approximately $35 million as of March 31, 2019), plus interest, inflation adjustments and attorneys' fees, as authorized by Brazilian law. The Brazilian court retained an expert to consider certain issues pending before it. On August 8, 2013 and September 10, 2014, the company received reports from the expert, which contain some recommended findings relating to liability and the damages calculations put forth by ECT. Some of the expert's recommended findings were favorable to the company and others were favorable to ECT. In November 2014, the parties submitted comments on the expert's most recent report. On June 16, 2015, the court published a decision denying the parties' request to present oral testimony. In a decision dated November 13, 2018, the trial court ruled in ECT's favor on one of its claims against Solystic, and awarded damages of R$41 million (the equivalent of approximately $10 million as of March 31, 2019) against Solystic and its consortium partners, with that amount to be adjusted for inflation and interest from November 2004 through any appeal, in accordance with the Manual of Calculations of the Federal Justice, as well as attorneys' fees. On March 22, 2019, ECT appealed the trial court's decision to the intermediate court of appeals. Solystic filed its appeal on April 11, 2019. The

parties are exploring possible resolution under a newly-established short term ECT dispute resolution program.

We are engaged in remediation activities relating to environmental conditions allegedly resulting from historic operations at the former United States Navy and Grumman facilities in Bethpage, New York. For over 20 years, we have worked closely with the United States Navy, the United States Environmental Protection Agency, the New York State Department of Environmental Conservation, the New York State Department of Health and other federal, state and local governmental authorities, to address legacy environmental conditions in Bethpage. We have incurred, and expect to continue to incur, as included in Note 7, substantial remediation costs related to these environmental conditions. The remediation standards or requirements to which we are subject are being reconsidered and may

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change and costs may increase materially. The State of New York has notified us that it intends to seek to impose additional remedial requirements and, among other things, is also evaluating natural resource damages. In addition, we are a party to various, and expect to become a party to additional, legal proceedings and disputes related to remediation and/or alleged environmental impacts in Bethpage, including with federal and state entities, local municipalities and water districts, insurance carriers and class action and individual plaintiffs alleging personal injury and property damage and seeking both monetary and non-monetary relief. These Bethpage matters could result in additional costs, fines, penalties, sanctions, compensatory or other damages (including natural resource damages), determinations on allocation, allowability and coverage, and non-monetary relief. We cannot at this time predict or reasonably estimate the potential cumulative outcomes or ranges of possible liability of these aggregate Bethpage matters.

On August 12, 2016, a putative class action complaint, naming Orbital ATK and two of its then-officers as defendants, Steven Knurr, et al. v. Orbital ATK, Inc., No. 16-cv-01031 (TSE-MSN), was filed in the United States District Court for the Eastern District of Virginia. The complaint asserts claims on behalf of purchasers of Orbital ATK securities for violations of Sections 10(b) and 20(a) of the Exchange Act and Rule 10b-5, allegedly arising out of false and misleading statements and the failure to disclose that: (i) Orbital ATK lacked effective control over financial reporting; and (ii) as a result, it failed to record an anticipated loss on a long-term contract with the U.S. Army to manufacture and supply small caliber ammunition at the U.S. Army's Lake City Army Ammunition Plant. On April 24, 2017 and October 10, 2017, the plaintiffs filed amended complaints naming additional defendants and asserting claims for alleged violations of additional sections of the Exchange Act and alleged false and misleading statements in Orbital ATK’s Form S-4 filed in connection with the Orbital-ATK Merger. The complaint seeks damages, reasonable costs and expenses at trial, including counsel and expert fees, and such other relief as deemed appropriate by the Court. On August 8, 2018, plaintiffs sought leave to file an additional amended complaint; defendants filed an opposition. The parties engaged in mediation on November 6, 2018. On December 27, 2018, the parties reached a preliminary agreement to resolve the litigation for $108 million subject to agreement on additional terms and to court approval. On February 22, 2019, the court preliminarily approved the parties’ proposed settlement and set a schedule for final settlement proceedings, including a final approval settlement hearing on June 7, 2019. The company is also negotiating with and pursuing coverage litigation against various of its insurance carriers. The company intends vigorously to defend itself in connection with these matters. We currently expect related contingencies will continue to be included in the company’s measurement period adjustments of the fair value of assets acquired and liabilities assumed in the Merger (see Note 2).

The SEC is investigating Orbital ATK’s historical accounting practices relating to the restatement of Orbital’s unaudited condensed consolidated financial statements for the quarterly periods ended July 5, 2015 and October 4, 2015 described in the Transition Report on Form 10-K for the nine-month period ending December 31, 2015 previously filed on March 15, 2016. The SEC is also investigating matters relating to a voluntary disclosure Orbital ATK made concerning the restatement described in Orbital ATK’s Form 10-K/A for the nine-month period ending December 31, 2015 filed on February 24, 2017. The ultimate outcome of these matters, including any possible loss, cannot be predicted or reasonably estimated at this time and the company intends to continue to cooperate with the SEC.

The company is a party to various other investigations, lawsuits, arbitration, claims, enforcement actions and other legal proceedings, including government investigations and claims, that arise in the ordinary course of our business. The nature of legal proceedings is such that we cannot assure the outcome of any particular matter. However, based on information available to the company to date, the company does not believe that the outcome of any of these other matters pending against the company is likely to have a material adverse effect on the company’s unaudited condensed consolidated financial position as of March 31, 2019, or its annual results of operations and/or cash flows.

7. COMMITMENTS AND CONTINGENCIES

U.S. Government Cost Claims

From time to time, the company is advised of claims by the U.S. government concerning certain potential disallowed costs, plus, at times, penalties and interest. When such findings are presented, the company and U.S. government representatives engage in discussions to enable the company to evaluate the merits of these claims, as well as to assess the amounts being claimed. Where appropriate, provisions are made to reflect the company's estimated exposure for such potential disallowed costs. Such provisions are reviewed periodically using the most recent information available. The company believes it has adequately reserved for disputed amounts that are probable and reasonably estimable, and that the outcome of any such matters would not have a material adverse

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effect on its unaudited condensed consolidated financial position as of March 31, 2019, or its annual results of operations and/or cash flows.

Environmental Matters

The table below summarizes management's estimate of the range of reasonably possible future costs for environmental remediation, the amount accrued within that range, and the deferred costs expected to be recoverable through overhead charges on U.S. government contracts as of March 31, 2019 and December 31, 2018:

$ in millions	Range of Reasonably Possible Future Costs[1]	Accrued Costs[2]	Deferred Costs[3]
March 31, 2019	$460 - $836	$ 473	$ 353
December 31, 2018	447 - 835	461	343

(1) Estimated remediation costs are not discounted to present value. The range of reasonably possible future costs does not take into consideration amounts expected to be recoverable through overhead charges on U.S. government contracts.

(2) As of March 31, 2019, $172 million is recorded in Other current liabilities and $301 million is recorded in Other non-current liabilities.

(3) As of March 31, 2019, $139 million is deferred in Prepaid expenses and other current assets and $214 million is deferred in Other non-current assets.

Although management cannot predict whether new information gained as our environmental remediation projects progress, or as changes in facts and circumstances occur, will materially affect the estimated liability accrued, except with respect to Bethpage, we do not anticipate that future remediation expenditures associated with our currently identified projects will have a material adverse effect on the company's unaudited condensed consolidated financial position as of March 31, 2019, or its annual results of operations and/or cash flows. With respect to Bethpage, as described in Note 6, we cannot at this time estimate the range of reasonably possible additional future costs that could result from potential changes to remediation standards or requirements to which we are subject.

Financial Arrangements

In the ordinary course of business, the company uses standby letters of credit and guarantees issued by commercial banks and surety bonds issued principally by insurance companies to guarantee the performance on certain obligations. At March 31, 2019, there were $493 million of stand-by letters of credit and guarantees and $200 million of surety bonds outstanding.

Commercial Paper

The company maintains a commercial paper program that serves as a source of short-term financing with capacity to issue unsecured commercial paper notes up to $2.0 billion. At March 31, 2019, there were $1.0 billion of outstanding short-term commercial paper borrowings at a weighted-average interest rate of 3.04 percent that have original maturities of three months or less from the date of issuance. The outstanding balance of commercial paper borrowings is recorded in Other current liabilities in the unaudited condensed consolidated statements of financial position.

Credit Facilities

The company maintains a five-year senior unsecured credit facility in an aggregate principal amount of $2.0 billion (the "2018 Credit Agreement") that matures in August 2023. At March 31, 2019, there was no balance outstanding under this facility; however, the outstanding balance of commercial paper borrowings reduces the amount available for borrowing under the 2018 Credit Agreement.

In December 2016, a subsidiary of the company entered into a two-year credit facility, with two additional one-year option periods, in an aggregate principal amount of £120 million (the equivalent of approximately $156 million as of March 31, 2019) (the "2016 Credit Agreement"). The company exercised the second option to extend the maturity to December 2020. The 2016 Credit Agreement is guaranteed by the company. At March 31, 2019, there was £70 million (the equivalent of approximately $91 million) outstanding under this facility, which bears interest at a rate of LIBOR plus 1.10 percent. All of the borrowings outstanding under this facility mature less than one year from the date of issuance, but may be renewed under the terms of the facility. Based on our intent and ability to refinance the

obligations on a long-term basis, a large majority of the borrowings are classified as non-current.
At March 31, 2019, the company was in compliance with all covenants under its credit agreements.

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8. RETIREMENT BENEFITS

The cost to the company of its retirement plans is shown in the following table:

	Three Months Ended March 31			
	Pension Benefits		OPB	
$ in millions	2019	2018	2019	2018
Components of net periodic benefit cost				
Service cost	$92	$99	$4	$5
Interest cost	340	290	20	19
Expected return on plan assets	(525)	(529)	(23)	(25)
Amortization of prior service credit	(15)	(15)	(1)	(5)
Net periodic benefit cost (benefit)	$(108)	$(155)	$—	$(6)

Employer Contributions

The company sponsors defined benefit pension and OPB plans, as well as defined contribution plans. We fund our defined benefit pension plans annually in a manner consistent with the Employee Retirement Income Security Act of 1974, as amended by the Pension Protection Act of 2006.

Contributions made by the company to its retirement plans are as follows:

	Three Months Ended March 31	
$ in millions	2019	2018
Defined benefit pension plans	$23	$ 22
OPB plans	12	11
Defined contribution plans	191	104

9. STOCK COMPENSATION PLANS AND OTHER COMPENSATION ARRANGEMENTS

Stock Awards

The following table presents the number of restricted stock rights (RSRs) and restricted performance stock rights (RPSRs) granted to employees under the company's long-term incentive stock plan and the grant date aggregate fair value of those stock awards for the periods presented:

	Three Months Ended March 31	
in millions	2019	2018
RSRs granted	0.1	0.1
RPSRs granted	0.2	0.2
Grant date aggregate fair value	$91	$ 87

RSRs typically vest on the third anniversary of the grant date, while RPSRs generally vest and pay out based on the achievement of financial metrics over a three-year period.

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Cash Awards

The following table presents the minimum and maximum aggregate payout amounts related to cash units (CUs) and cash performance units (CPUs) granted to employees in the periods presented:

$ in millions	Three Months Ended March 31 2019	2018
Minimum aggregate payout amount	$36	$ 35
Maximum aggregate payout amount	203	196

CUs typically vest and settle in cash on the third anniversary of the grant date, while CPUs generally vest and pay out in cash based on the achievement of financial metrics over a three-year period.

10. LEASES

As described in Note 1, effective January 1, 2019, we adopted ASC 842 using the optional transition method. In accordance with the optional transition method, we did not recast the prior period unaudited condensed consolidated financial statements and all prior period amounts and disclosures are presented under ASC 840. Finance leases are not material to our unaudited condensed consolidated financial statements and are therefore not included in the following disclosures.

Total Lease Cost

Total lease cost is included in Product and Service costs and General and administrative expenses in the unaudited condensed consolidated statement of earnings and comprehensive income and is recorded net of immaterial sublease income. Total lease cost is comprised of the following:

$ in millions	Three Months Ended March 31, 2019
Operating lease cost	$ 82
Variable lease cost	2
Short-term lease cost	17
Total lease cost	$ 101

Supplemental Balance Sheet Information

Supplemental operating lease balance sheet information consists of the following:

$ in millions	March 31, 2019
Operating lease right-of-use assets	$1,283
Other current liabilities	229
Operating lease liabilities	1,098
Total operating lease liabilities	$1,327

Other Supplemental Information

Other supplemental operating lease information consists of the following:

$ in millions	Three Months

	Ended March 31, 2019
Cash paid for amounts included in the measurement of operating lease liabilities	$ 84
Right-of-use assets obtained in exchange for new lease liabilities	54
Weighted average remaining lease term	11.0 years
Weighted average discount rate	4.0 %

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Maturities of Lease Liabilities

Maturities of operating lease liabilities as of March 31, 2019 were as follows:

$ in millions	
Year Ending December 31	
2019[1]	$208
2020	260
2021	207
2022	170
2023	134
Thereafter	737
Total lease payments	1,716
Less: imputed interest	(389)
Present value of operating lease liabilities	$1,327

(1) Excludes the three months ended March 31, 2019.

As of March 31, 2019, we have a rental commitment of $226 million for a real estate lease that has not yet commenced. This operating lease is expected to commence in the fourth quarter of 2019 with a lease term of approximately 17 years.

Rental expense for operating leases classified under ASC 840 for the three months ended March 31, 2018 was $92 million, net of immaterial amounts of sublease income. As of December 31, 2018, future minimum lease payments under long-term non-cancelable operating leases as classified under ASC 840 were as follows:

$ in millions	
Year Ending December 31	
2019	$312
2020	270
2021	221
2022	186
2023	152
Thereafter	939
Total minimum lease payments	$2,080

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11. SEGMENT INFORMATION

The company is aligned in four operating sectors, which also comprise our reportable segments: Aerospace Systems, Innovation Systems, Mission Systems and Technology Services.

The following table presents sales and operating income by segment:

	Three Months Ended March 31	
$ in millions	2019	2018
Sales		
Aerospace Systems	$3,496	$3,280
Innovation Systems	1,438	—
Mission Systems	2,886	2,883
Technology Services	977	1,144
Intersegment eliminations	(608)	(572)
Total sales	8,189	6,735
Operating income		
Aerospace Systems	382	341
Innovation Systems	167	—
Mission Systems	383	371
Technology Services	102	122
Intersegment eliminations	(67)	(72)
Total segment operating income	967	762
Net FAS (service)/CAS pension adjustment	108	127
Unallocated corporate expense	(139)	(41)
Total operating income	$936	$848

Net FAS (Service)/CAS Pension Adjustment

For financial statement purposes, we account for our employee pension plans in accordance with FAS. However, the cost of these plans is charged to our contracts in accordance with the Federal Acquisition Regulation (FAR) and the related U.S. Government Cost Accounting Standards (CAS). The net FAS (service)/CAS pension adjustment reflects the difference between CAS pension expense included as cost in segment operating income and the service cost component of FAS expense included in total operating income.

Unallocated Corporate Expense

Unallocated corporate expense includes the portion of corporate costs not considered allowable or allocable under applicable CAS or FAR, and therefore not allocated to the segments, such as a portion of management and administration, legal, environmental, compensation, retiree benefits and other corporate unallowable costs. Unallocated corporate expense also includes costs not considered part of management’s evaluation of segment operating performance, such as amortization of purchased intangible assets and the additional depreciation expense related to the step-up in fair value of property, plant and equipment acquired through business combinations.

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Disaggregation of Revenue

Sales by Customer Type	Three Months Ended March 31			
	2019		2018	
$ in millions	$	%[3]	$	%[3]
Aerospace Systems				
U.S. government [1]	$3,022	86 %	$2,908	89 %
International [2]	394	11 %	271	8 %
Other customers	34	1 %	42	1 %
Intersegment sales	46	2 %	59	2 %
Aerospace Systems sales	3,496	100%	3,280	100%
Innovation Systems				
U.S. government [1]	1,015	71 %	—	—
International [2]	247	17 %	—	—
Other customers	114	8 %	—	—
Intersegment sales	62	4 %	—	—
Innovation Systems sales	1,438	100%	—	—
Mission Systems				
U.S. government [1]	2,167	75 %	2,190	76 %
International [2]	367	13 %	379	13 %
Other customers	34	1 %	30	1 %
Intersegment sales	318	11 %	284	10 %
Mission Systems sales	2,886	100%	2,883	100%
Technology Services				
U.S. government [1]	553	57 %	602	53 %
International [2]	209	21 %	220	19 %
Other customers	33	3 %	93	8 %
Intersegment sales	182	19 %	229	20 %
Technology Services sales	977	100%	1,144	100%
Total				
U.S. government [1]	6,757	83 %	5,700	85 %
International [2]	1,217	15 %	870	13 %
Other customers	215	2 %	165	2 %
Total Sales	$8,189	100%	$6,735	100%

[1] Sales to the U.S. government include sales from contracts for which we are the prime contractor, as well as those for which we are a subcontractor and the ultimate customer is the U.S. government. Each of the company's segments derives substantial revenue from the U.S. government.

[2] International sales include sales from contracts for which we are the prime contractor, as well as those for which we are a subcontractor and the ultimate customer is an international customer. These sales include foreign military sales contracted through the U.S. government.

[3] Percentages calculated based on total segment sales.

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Sales by Contract Type	Three Months Ended March 31			
	2019		2018	
$ in millions	$	%(1)	$	%(1)
Aerospace Systems				
Cost-type	$2,002	58%	$1,902	59%
Fixed-price	1,448	42%	1,319	41%
Intersegment sales	46		59	
Aerospace Systems sales	3,496		3,280	
Innovation Systems				
Cost-type	408	30%	—	—
Fixed-price	968	70%	—	—
Intersegment sales	62		—	
Innovation Systems sales	1,438		—	
Mission Systems				
Cost-type	1,274	50%	1,279	49%
Fixed-price	1,294	50%	1,320	51%
Intersegment sales	318		284	
Mission Systems sales	2,886		2,883	
Technology Services				
Cost-type	392	49%	437	48%
Fixed-price	403	51%	478	52%
Intersegment sales	182		229	
Technology Services sales	977		1,144	
Total				
Cost-type	4,076	50%	3,618	54%
Fixed-price	4,113	50%	3,117	46%
Total Sales	$8,189		$6,735	

(1) Percentages calculated based on external customer sales.

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Sales by Geographic Region	Three Months Ended March 31			
	2019		2018	
$ in millions	$	%(2)	$	%(2)
Aerospace Systems				
United States	$3,056	89%	$2,950	92%
Asia/Pacific	239	7 %	129	4 %
All other (1)	155	4 %	142	4 %
Intersegment sales	46		59	
Aerospace Systems sales	3,496		3,280	
Innovation Systems				
United States	1,129	82%	—	—
Asia/Pacific	45	3 %	—	—
All other (1)	202	15%	—	—
Intersegment sales	62		—	
Innovation Systems sales	1,438		—	
Mission Systems				
United States	2,201	86%	2,220	85%
Asia/Pacific	146	5 %	153	6 %
All other (1)	221	9 %	226	9 %
Intersegment sales	318		284	
Mission Systems sales	2,886		2,883	
Technology Services				
United States	586	74%	695	76%
Asia/Pacific	38	4 %	32	3 %
All other (1)	171	22%	188	21%
Intersegment sales	182		229	
Technology Services sales	977		1,144	
Total				
United States	6,972	85%	5,865	87%
Asia/Pacific	468	6 %	314	5 %
All other (1)	749	9 %	556	8 %
Total Sales	$8,189		$6,735	

(1) All other is principally comprised of Europe and the Middle East.

(2) Percentages calculated based on external customer sales.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
Northrop Grumman Corporation
Falls Church, Virginia

Results of Review of Interim Financial Information

We have reviewed the accompanying condensed consolidated statement of financial position of Northrop Grumman Corporation and subsidiaries (the "Company") as of March 31, 2019, and the related condensed consolidated statements of earnings and comprehensive income, cash flows and changes in shareholders' equity for the three-month periods ended March 31, 2019 and 2018, and the related notes (collectively referred to as the "interim financial information"). Based on our review, we are not aware of any material modifications that should be made to the accompanying interim financial information for it to be in conformity with accounting principles generally accepted in the United States of America.

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statement of financial position of Northrop Grumman Corporation and subsidiaries as of December 31, 2018, and the related consolidated statements of earnings and comprehensive income, changes in shareholders' equity, and cash flows for the year then ended (not presented herein); and in our report dated January 30, 2019, we expressed an unqualified opinion on those consolidated financial statements, which included an explanatory paragraph regarding the Company's change in its method of accounting for recognizing pension and other postretirement benefit plans actuarial gains and losses and the manner in which it accounts for revenue from contracts with customers. In our opinion, the accompanying condensed consolidated statement of financial position as of December 31, 2018, is consistent, in all material respects, with the audited consolidated financial statements from which it has been derived.

Basis for Review Results

This interim financial information is the responsibility of the Company's management. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our reviews in accordance with standards of the PCAOB. A review of interim financial information consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with the standards of the PCAOB, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

/s/ Deloitte & Touche LLP
McLean, Virginia
April 23, 2019

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NORTHROP GRUMMAN CORPORATION

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

OVERVIEW

Northrop Grumman Corporation (herein referred to as "Northrop Grumman," the "company," "we," "us," or "our") is a leading global security company. We offer a broad portfolio of capabilities and technologies that enable us to deliver innovative platforms, systems and solutions for applications that range from undersea to outer space and into cyberspace. We provide capabilities in autonomous systems; cyber; command, control, communications and computers, intelligence, surveillance and reconnaissance (C4ISR); space; strike; and logistics and modernization. We participate in many high-priority defense and government programs in the United States (U.S.) and abroad. We conduct most of our business with the U.S. government, principally the Department of Defense (DoD) and intelligence community. We also conduct business with foreign, state and local governments, as well as commercial customers.

The following discussion should be read along with the financial statements included in this Form 10-Q, as well as our 2018 Annual Report on Form 10-K, which provides additional information on our business and the environment in which we operate and our operating results.

Acquisition of Orbital ATK

On June 6, 2018 (the "Merger date"), the company completed its previously announced acquisition of Orbital ATK, Inc. ("Orbital ATK") (the "Merger"). On the Merger date, Orbital ATK became a wholly-owned subsidiary of the company and its name was changed to Northrop Grumman Innovation Systems, Inc., which we established as a new, fourth business sector ("Innovation Systems"). The operating results of Innovation Systems subsequent to the Merger date have been included in the company's unaudited condensed consolidated results of operations. See Note 2 to the financial statements for further information regarding the acquisition of Orbital ATK.

U.S. Political and Economic Environment

Since the filing of our 2018 Annual Report on Form 10-K, full year appropriations for FY 2019 have been enacted for all remaining U.S. government agencies and the President has proposed a FY 2020 budget requesting $750 billion for national security, which will be the subject of debate in Congress. The President's budget request addresses various capabilities highlighted in the U.S. National Security Strategy, the National Defense Strategy and the Missile Defense Review. We believe our capabilities in space, missiles, missile defense, hypersonics, counter-hypersonics, survivability and cyber will allow us to continue to profitably grow our business in support of our customers' needs.

CONSOLIDATED OPERATING RESULTS

Selected financial highlights are presented in the table below:

	Three Months Ended March 31		%
$ in millions, except per share amounts	2019	2018	Change
Sales	$8,189	$6,735	22 %
Operating costs and expenses	7,253	5,887	23 %
Operating costs and expenses as a % of sales	88.6 %	87.4 %	
Operating income	936	848	10 %
Operating margin rate	11.4 %	12.6 %	
Federal and foreign income tax expense	171	159	8 %
Effective income tax rate	16.5 %	15.9 %	
Net earnings	863	840	3 %
Diluted earnings per share	$5.06	$4.79	6 %

Sales

First quarter 2019 sales increased $1.5 billion primarily due to the addition of $1.4 billion of sales from Innovation Systems and higher sales at Aerospace Systems, partially offset by lower sales at Technology Services.

See "Segment Operating Results" below for further information by segment and "Product and Service Analysis" for product and service detail. See Note 11 to the financial statements for information regarding the company's sales by

customer type, contract type and geographic region for each of our segments.

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Operating Income and Margin Rate

First quarter 2019 operating income increased $88 million, or 10 percent, primarily due to higher segment operating income, including $167 million of operating income from Innovation Systems, partially offset by a $98 million increase in unallocated corporate expense due to intangible asset amortization and PP&E step-up depreciation. First quarter 2019 operating margin rate declined to 11.4 percent from 12.6 percent due to the increase in unallocated corporate expense, partially offset by improved segment performance.

General and administrative (G&A) costs as a percentage of sales for the first quarter of 2019 decreased to 9.3 percent from 10.6 percent primarily due to cost management and the addition of Innovation Systems at a lower G&A rate.

For information regarding product and service operating costs and expenses, see “Product and Service Analysis” below.

Federal and Foreign Income Taxes

The effective tax rate for the first quarter of 2019 increased to 16.5 percent from 15.9 percent in the first quarter of 2018. See Note 4 to the financial statements for additional information.

Net Earnings

Net earnings for the first quarter of 2019 increased $23 million primarily due to the increase in operating income, partially offset by a $54 million decrease in our FAS (non-service) pension benefit and the higher effective tax rate.

Diluted Earnings Per Share

Diluted earnings per share for the first quarter of 2019 increased $0.27, or 6 percent, reflecting a 3 percent increase in net earnings and a 3 percent reduction in weighted-average diluted shares outstanding.

SEGMENT OPERATING RESULTS

Basis of Presentation

The company is aligned in four operating sectors, which also comprise our reportable segments: Aerospace Systems, Innovation Systems, Mission Systems and Technology Services. As described above, on the effective date of the Merger, we established Innovation Systems as a new, fourth business sector. The segment operating results below include sales and operating income for Innovation Systems subsequent to the Merger date.

We present our sectors in the following business areas, which are reported in a manner reflecting core capabilities:

Aerospace Systems	Innovation Systems	Mission Systems	Technology Services
Autonomous Systems	Defense Systems	Advanced Capabilities	Global Logistics and Modernization
Manned Aircraft	Flight Systems	Cyber and ISR	Global Services
Space	Space Systems	Sensors and Processing	

Effective January 1, 2019, the former Advanced Defense Services and System Modernization and Services business areas of Technology Services were merged to create the Global Services business area. This change had no impact on the segment operating results of Technology Services as a whole.

This section discusses segment sales, operating income and operating margin rates. In evaluating segment operating performance, we look primarily at changes in sales and operating income. Where applicable, significant fluctuations in operating performance attributable to individual contracts or programs, or changes in a specific cost element across multiple contracts, are described in our analysis. Based on this approach and the nature of our operations, the discussion of results of operations below first focuses on our four segments before distinguishing between products and services. Changes in sales are generally described in terms of volume, while changes in margin rates are generally described in terms of performance and/or contract mix. For purposes of this discussion, volume generally refers to increases or decreases in sales or cost from production/service activity levels and performance generally refers to non-volume related changes in profitability. Contract mix generally refers to changes in the ratio of contract type and/or lifecycle (e.g., cost-type, fixed-price, development, production, and/or sustainment).

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Segment Operating Income and Margin Rate

Segment operating income, as reconciled in the table below, and segment operating margin rate (segment operating income divided by sales) are non-GAAP (accounting principles generally accepted in the United States of America) measures that reflect total earnings from our four segments, including allocated pension expense recognized under the Federal Acquisition Regulation (FAR) and the related U.S. Government Cost Accounting Standards (CAS), and excluding FAS pension expense and unallocated corporate expenses (certain corporate-level expenses, which are not considered allowable or allocable under applicable CAS or FAR, and costs not considered part of management's evaluation of segment operating performance). These non-GAAP measures may be useful to investors and other users of our financial statements as supplemental measures in evaluating the financial performance and operational trends of our sectors. These measures may not be defined and calculated by other companies in the same manner and should not be considered in isolation or as alternatives to operating results presented in accordance with GAAP.

	Three Months Ended March 31		%
$ in millions	2019	2018	Change
Segment operating income	$967	$762	27 %
Segment operating margin rate	11.8 %	11.3 %	
CAS pension expense	200	226	(12)%
Less: FAS (service) pension expense	(92)	(99)	(7)%
Net FAS (service)/CAS pension adjustment	108	127	(15)%
Intangible asset amortization and PP&E step-up depreciation	(96)	—	NM
Other unallocated corporate expense	(43)	(41)	5 %
Unallocated corporate expense	(139)	(41)	239 %
Operating income	$936	$848	10 %

First quarter 2019 segment operating income increased $205 million, or 27 percent, primarily due to the addition of $167 million of operating income from Innovation Systems and higher operating income at Aerospace Systems. Segment operating margin rate increased due to improved performance at Aerospace Systems and Mission Systems.

Net FAS (service)/CAS Pension Adjustment

The decrease in our net FAS (service)/CAS pension adjustment during the first quarter of 2019 is primarily due to lower CAS expense largely as a result of changes in actuarial assumptions as of December 31, 2018, partially offset by increased CAS expense due to the addition of Innovation Systems.

Unallocated Corporate Expense

The increase in unallocated corporate expense during the first quarter of 2019 is primarily due to $96 million of intangible asset amortization and PP&E step-up depreciation.

Net Estimate-at-Completion (EAC) Adjustments - We record changes in estimated contract earnings at completion (net EAC adjustments) using the cumulative catch-up method of accounting. Net EAC adjustments can have a significant effect on reported sales and operating income and the aggregate amounts are presented in the table below:

	Three Months Ended March 31	
$ in millions	2019	2018
Favorable EAC adjustments	$235	$207
Unfavorable EAC adjustments	(97)	(91)
Net EAC adjustments	$138	$116

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Net EAC adjustments by segment are presented in the table below:

$ in millions	Three Months Ended March 31 2019	2018
Aerospace Systems	$50	$54
Innovation Systems[1]	50	—
Mission Systems	30	45
Technology Services	11	22
Eliminations	(3)	(5)
Net EAC adjustments	$138	$116

(1) Amounts reflect EAC adjustments after the percent complete on Innovation Systems contracts was reset to zero as of the Merger date.

For purposes of the discussion in the remainder of this Segment Operating Results section, references to operating income and operating margin rate reflect segment operating income and segment operating margin rate, respectively.

AEROSPACE SYSTEMS	Three Months Ended March 31		%
$ in millions	2019	2018	Change
Sales	$3,496	$3,280	7 %
Operating income	382	341	12 %
Operating margin rate	10.9 %	10.4 %	

Sales

First quarter 2019 sales increased $216 million, or 7 percent, due to higher sales in all three business areas. Manned Aircraft sales reflect higher volume on restricted, F-35 and E-2D programs. Autonomous Systems sales increased due to higher volume on several programs, including Triton, partially offset by lower NATO AGS volume as that program nears completion. Space sales reflect higher volume on a secure communications satellite program.

Operating Income

First quarter 2019 operating income increased $41 million, or 12 percent, due to higher sales and a higher operating margin rate. Operating margin rate increased to 10.9 percent from 10.4 percent principally due to improved performance on Manned Aircraft and Autonomous Systems programs, partially offset by the timing of risk retirements and changes in contract mix on Space programs.

INNOVATION SYSTEMS	Three Months Ended March 31		%
$ in millions	2019	2018	Change
Sales	$1,438	—	—
Operating income	167	—	—
Operating margin rate	11.6 %	—	

The sales and operating income above reflect the operating results of Innovation Systems subsequent to the Merger date. In our comparative discussion below, we reference pro forma sales prepared in accordance with Article 11 of Regulation S-X and computed as if Orbital ATK had been included in our results in the year prior to the Merger, or as of January 1, 2017. Refer to Note 2 to the financial statements for additional supplemental consolidated pro forma financial information. This pro forma financial information should not be considered indicative of the results that would have actually occurred if the Merger had been consummated on January 1, 2017, nor are they indicative of future results.

Sales

First quarter 2019 sales increased $126 million, or 10 percent, compared with pro forma sales of $1.3 billion in the first quarter of 2018, due to higher sales in all three business areas. Space Systems sales reflect higher volume on national security satellite systems. Defense Systems sales increased due to higher volume on tactical missiles and subsystems, including the Advanced Anti-Radiation Guided Missile (AARGM) program, and precision munitions

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and armament products, partially offset by lower sales on ammunition products. Flight Systems sales reflect higher volume on launch vehicles, principally Ground-based Midcourse Defense, and aerospace structures.

Operating Income

First quarter 2019 operating income totaled $167 million and operating margin rate was 11.6 percent. First quarter results benefited from the timing of favorable negotiations on certain commercial contracts.

MISSION SYSTEMS	Three Months Ended March 31		%
$ in millions	2019	2018	Change
Sales	$2,886	$2,883	— %
Operating income	383	371	3 %
Operating margin rate	13.3 %	12.9 %	

Sales

First quarter 2019 sales were comparable to the first quarter of 2018, and reflect higher Cyber and ISR volume, offset by lower Advanced Capabilities and Sensors and Processing volume. Cyber and ISR sales increased principally due to higher volume on space payloads and mission programs. Advanced Capabilities sales decreased due to lower missile defense volume, primarily related to the JRDC program, which completed during the first quarter of 2018, partially offset by higher volume on advanced technology restricted programs. Sensors and Processing sales reflect lower volume on targeting programs and communications programs, partially offset by higher restricted volume.

Operating Income

First quarter 2019 operating income increased $12 million, or 3 percent, due to a higher operating margin rate. Operating margin rate increased to 13.3 percent from 12.9 percent, primarily due to improved performance on Advanced Capabilities and Sensors and Processing programs, partially offset by lower performance on Cyber and ISR programs.

TECHNOLOGY SERVICES	Three Months Ended March 31		%
$ in millions	2019	2018	Change
Sales	$977	$1,144	(15)%
Operating income	102	122	(16)%
Operating margin rate	10.4 %	10.7 %	

Sales

First quarter 2019 sales declined $167 million, or 15 percent, primarily due to program completions across the sector. Global Services sales declined principally due to the completion of a state and local services contract and certain defense services contracts, largely the JRDC program. Global Logistics and Modernization sales declined primarily due to the completion of a manned aircraft sustainment program, KC-10, partially offset by sales growth on strategic and electronic systems sustainment programs.

Operating Income

First quarter 2019 operating income declined $20 million, or 16 percent, primarily due to lower sales. Operating margin rate decreased to 10.4 percent from 10.7 percent.

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PRODUCT AND SERVICE ANALYSIS

The following table presents product and service sales and operating costs and expenses by segment:

	Three Months Ended March 31			
$ in millions	2019		2018	
Segment Information:	Sales	Operating Costs and Expenses	Sales	Operating Costs and Expenses
Aerospace Systems				
Product	$2,974	$ 2,652	$2,751	$ 2,465
Service	522	462	529	474
Innovation Systems				
Product	1,240	1,096	—	—
Service	198	175	—	—
Mission Systems				
Product	1,784	1,523	1,719	1,476
Service	1,102	980	1,164	1,036
Technology Services				
Product	123	116	106	97
Service	854	759	1,038	925
Segment Totals				
Total Product	$6,121	$ 5,387	$4,576	$ 4,038
Total Service	2,676	2,376	2,731	2,435
Intersegment eliminations	(608)	(541)	(572)	(500)
Total segment[1]	$8,189	$ 7,222	$6,735	$ 5,973

[1] A reconciliation of segment operating income to total operating income is included in “Segment Operating Results.”

Product Sales and Costs

First quarter 2019 product sales increased $1.5 billion, or 34 percent. The increase was primarily due to the addition of $1.2 billion of product sales from Innovation Systems and higher restricted and F-35 volume at Aerospace Systems.

First quarter 2019 product costs increased $1.3 billion, or 33 percent, consistent with the higher product sales described above and reflects higher product margin rates at Mission Systems and Aerospace Systems.

Service Sales and Costs

First quarter 2019 service sales decreased $55 million, or 2 percent. The decrease was primarily driven by lower service sales at Technology Services and Mission Systems principally due to several program completions, partially offset by the addition of $198 million of service sales from Innovation Systems.

First quarter 2019 service costs decreased $59 million, or 2 percent, consistent with the lower service sales described above and reflects higher service margin rates at Aerospace Systems.

BACKLOG

Backlog represents the future sales we expect to recognize on firm orders received by the company and is equivalent to the company’s remaining performance obligations at the end of each period. It comprises both funded backlog (firm orders for which funding is authorized and appropriated) and unfunded backlog. Unexercised contract options and indefinite delivery indefinite quantity (IDIQ) contracts are not included in backlog until the time the option or IDIQ task order is exercised or awarded. Backlog is converted into sales as costs are incurred or deliveries are made.

Backlog consisted of the following as of March 31, 2019 and December 31, 2018:

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	March 31, 2019			2018	
$ in millions	Funded	Unfunded	Total Backlog	Total Backlog	% Change in 2019
Aerospace Systems	$12,269	$ 15,841	$28,110	$26,440	6 %
Innovation Systems	5,623	2,478	8,101	8,207	(1)%
Mission Systems	11,073	6,767	17,840	15,408	16 %
Technology Services	2,797	487	3,284	3,445	(5)%
Total backlog	$31,762	$ 25,573	$57,335	$53,500	7 %

New Awards

First quarter 2019 net awards totaled $12.3 billion. Significant new awards include $3.2 billion for restricted space, $1.0 billion for submarine subsystems production, $805 million for F-35, $633 million for IBCS - Poland and $323 million for AARGM-ER.

LIQUIDITY AND CAPITAL RESOURCES

We endeavor to ensure the most efficient conversion of operating income into cash for deployment in our business and to maximize shareholder value through cash deployment activities. In addition to our cash position, we use various financial measures to assist in capital deployment decision-making, including cash provided by operating activities and free cash flow, a non-GAAP measure described in more detail below.

Cash and cash equivalents and cash generated from operating activities, supplemented by borrowings under credit facilities, commercial paper and/or in the capital markets, if needed, are expected to be sufficient to fund our operations for at least the next 12 months.

Operating Cash Flow

The table below summarizes key components of cash flow used in operating activities:

	Three Months Ended March 31		%
$ in millions	2019	2018	Change
Net earnings	$863	$840	3 %
Non-cash items[1]	361	119	203 %
Changes in assets and liabilities:			
Trade working capital	(1,964)	(1,008)	95 %
Retiree benefits	(142)	(190)	(25)%
Other, net	(31)	2	NM
Net cash used in operating activities	$(913)	$(237)	(285)%

(1) Includes depreciation and amortization, non-cash lease expense, stock based compensation expense and deferred income taxes.

Net cash used in operating activities during the first quarter of 2019 increased $676 million, principally due to changes in trade working capital. These changes reflect the completion of an ERP conversion as well as the inclusion of Innovation Systems. Although successfully completed, the ERP conversion delayed billings and cash receipts of approximately $350 million, which the company expects will be recovered in the second quarter of 2019. Innovation Systems used approximately $250 million of operating cash during the quarter. First quarter cash trends are generally consistent with prior years where operating cash flows have been heavily weighted toward the second half of the year.

Free Cash Flow

Free cash flow, as reconciled in the table below, is a non-GAAP measure defined as net cash used in operating activities less capital expenditures, and may not be defined and calculated by other companies in the same manner. We use free cash flow as a key factor in our planning for, and consideration of, acquisitions, the payment of dividends and stock repurchases. This non-GAAP measure may be useful to investors and other users of our financial statements

as a supplemental measure of our cash performance, but should not be considered in isolation, as a measure of residual cash flow available for discretionary purposes, or as an alternative to operating cash flows presented in accordance with GAAP.

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The table below reconciles net cash used in operating activities to free cash flow:

$ in millions	Three Months Ended March 31 2019	2018	% Change
Net cash used in operating activities	$(913)	$(237)	(285)%
Less: capital expenditures	(284)	(305)	(7)%
Free cash flow	$(1,197)	$(542)	(121)%

First quarter 2019 free cash flow decreased $655 million, principally due to the increase in net cash used in operating activities.

Investing Cash Flow

Net cash used in investing activities during the first quarter of 2019 decreased to $280 million from $307 million principally due to lower capital expenditures.

Financing Cash Flow

Net cash provided by financing activities during the first quarter of 2019 was $462 million, as compared to net cash used in financing activities of $312 million for the same period in 2018, principally driven by net commercial paper borrowings of $814 million.

Credit Facilities, Commercial Paper and Financial Arrangements - See Note 7 to the financial statements for further information on our credit facilities, commercial paper and our use of standby letters of credit and guarantees.

Share Repurchases - See Note 3 to the financial statements for further information on our share repurchase programs.

Long-term Debt - See Note 5 to the financial statements for further information.

CRITICAL ACCOUNTING POLICIES, ESTIMATES AND JUDGMENTS

There have been no material changes to our critical accounting policies, estimates or judgments from those discussed in our 2018 Annual Report on Form 10-K.

ACCOUNTING STANDARDS UPDATES

See Note 1 to our financial statements for further information on accounting standards updates.

FORWARD-LOOKING STATEMENTS AND PROJECTIONS

This Form 10-Q and the information we are incorporating by reference contain statements that constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "will," "expect," "anticipate," "intend," "may," "could," "should," "plan," "project," "forecast," "believe," "estimate," "outl and similar expressions generally identify these forward-looking statements. Forward-looking statements include, among other things, statements relating to our future financial condition, results of operations and/or cash flows. Forward-looking statements are based upon assumptions, expectations, plans and projections that we believe to be reasonable when made, but which may change over time. These statements are not guarantees of future performance and inherently involve a wide range of risks and uncertainties that are difficult to predict. Specific risks that could cause actual results to differ materially from those expressed or implied in these forward-looking statements include, but are not limited to, those identified and discussed more fully in the section entitled "Risk Factors" in our 2018 Annual Report on Form 10-K and from time to time in our other filings with the Securities and Exchange Commission (SEC). They include:

- our dependence on the U.S. government for a substantial portion of our business
- significant delays or reductions in appropriations for our programs and U.S. government funding more broadly
- investigations, claims, disputes, enforcement actions and/or litigation
- the use of estimates when accounting for our contracts and the effect of contract cost growth and/or changes in estimated contract revenues and costs
- our exposure to additional risks as a result of our international business, including risks related to geopolitical and economic factors, laws and regulations

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- the improper conduct of employees, agents, subcontractors, suppliers, business partners or joint ventures in which we participate and the impact on our reputation, our ability to do business, and our financial position, results of operations and/or cash flows
- cyber and other security threats or disruptions faced by us, our customers or our suppliers and other partners
- the performance and financial viability of our subcontractors and suppliers and the availability and pricing of raw materials, chemicals and components
- changes in procurement and other laws, regulations and practices applicable to our industry, findings by the U.S. government as to our compliance with such laws and regulations, and changes in our customers' business practices globally
- increased competition within our markets and bid protests
- the ability to maintain a qualified workforce
- our ability to meet performance obligations under our contracts, including obligations that are technologically complex, require certain manufacturing expertise or are dependent on factors not wholly within our control
- environmental matters, including unforeseen environmental costs and government and third party claims
- natural disasters
- the adequacy and availability of our insurance coverage, customer indemnifications or other liability protections
- products and services we provide related to hazardous and high risk operations, including the production and use of such products, which subject us to various environmental, regulatory, financial, reputational and other risks
- the future investment performance of plan assets, changes in actuarial assumptions associated with our pension and other postretirement benefit plans and legislative or other regulatory actions impacting our pension, postretirement and health and welfare plans
- our ability successfully to integrate the Orbital ATK business and realize fully the anticipated benefits of the acquisition, without adverse consequences
- our ability to exploit or protect intellectual property rights
- our ability to develop new products and technologies and maintain technologies, facilities, and equipment to win new competitions and meet the needs of our customers
- changes in business conditions that could impact business investments and/or recorded goodwill or the value of other long-lived assets
- unanticipated changes in our tax provisions or exposure to additional tax liabilities, including qualification of the Alliant Techsystems Inc. spin-off of Vista Outdoor Inc. as a tax-free transaction

You are urged to consider the limitations on, and risks associated with, forward-looking statements and not unduly rely on the accuracy of forward-looking statements. These forward-looking statements speak only as of the date this report is first filed or, in the case of any document incorporated by reference, the date of that document. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

CONTRACTUAL OBLIGATIONS

There have been no material changes to our contractual obligations from those discussed in our 2018 Annual Report on Form 10-K.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

There have been no material changes to our market risks from those discussed in our 2018 Annual Report on Form 10-K.

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NORTHROP GRUMMAN CORPORATION

Item 4. Controls and Procedures

DISCLOSURE CONTROLS AND PROCEDURES

Our principal executive officer (Chief Executive Officer and President) and principal financial officer (Corporate Vice President and Chief Financial Officer) have evaluated the company's disclosure controls and procedures (as defined in Rule 13a-15(e) and Rule 15d-15(e) of the Securities Exchange Act of 1934 (the Exchange Act)) as of March 31, 2019, and have concluded that these controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. These disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in the reports that we file or submit is accumulated and communicated to management, including the principal executive officer and the principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

As part of our ongoing integration of Northrop Grumman Innovation Systems, we have integrated certain controls and related procedures for legacy Orbital ATK with those of legacy Northrop Grumman. During the three months ended March 31, 2019, no changes occurred in our internal control over financial reporting that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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NORTHROP GRUMMAN CORPORATION

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

We have provided information about certain legal proceedings in which we are involved in Notes 6 and 7 to the financial statements.

We are a party to various investigations, lawsuits, arbitration, claims, enforcement actions and other legal proceedings, including government investigations and claims, that arise in the ordinary course of our business. These types of matters could result in administrative, civil or criminal fines, penalties or other sanctions (which terms include judgments or convictions and consent or other voluntary decrees or agreements); compensatory, treble or other damages; non-monetary relief or actions; or other liabilities. Government regulations provide that certain allegations against a contractor may lead to suspension or debarment from future government contracts or suspension of export privileges for the company or one or more of its components. The nature of legal proceedings is such that we cannot assure the outcome of any particular matter. For additional information on pending matters, please see Notes 6 and 7 to the financial statements, and for further information on the risks we face from existing and future investigations, lawsuits, arbitration, claims, enforcement actions and other legal proceedings, please see “Risk Factors” in our 2018 Annual Report on Form 10-K.

Item 1A. Risk Factors

For a discussion of our risk factors please see the section entitled “Risk Factors” in our 2018 Annual Report on Form 10-K.

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

Purchases of Equity Securities – The table below summarizes our repurchases of common stock during the first quarter of 2019:

Period	Number of Shares Purchased	Average Price Paid per Share[1][2]	Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased under the Plans or Programs ($ in millions)
January 1, 2019 - January 25, 2019	876,678	NM[2]	876,678	$ 4,084
January 26, 2019 - February 22, 2019	75,264	$ 282.15	75,264	4,063
February 23, 2019 - March 29, 2019	153,777	275.40	153,777	4,021
Total	1,105,719	NM[2]	1,105,719	$ 4,021

(1) Includes commissions paid.

(2) In October 2018, the company entered into an accelerated share repurchase (ASR) agreement with Goldman Sachs & Co. LLC, which was completed in January 2019 with a final delivery of 0.9 million shares. Pursuant to the terms of the ASR, a total of approximately 3.9 million shares of our common stock were repurchased with an average final purchase price of $260.32 per share.

Share repurchases take place from time to time, subject to market conditions and management’s discretion, in the open market and in privately negotiated transactions. The company retires its common stock upon repurchase and, in the periods presented, has not made any purchases of common stock other than in connection with these publicly announced repurchase programs.

See Note 3 to the financial statements for further information on our share repurchase programs.

Item 3. Defaults Upon Senior Securities

No information is required in response to this item.

Item 4. Mine Safety Disclosures

No information is required in response to this item.

Item 5. Other Information

No information is required in response to this item.

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NORTHROP GRUMMAN CORPORATION

Item 6. Exhibits

2.1	Agreement and Plan of Merger among Titan II, Inc. (formerly Northrop Grumman Corporation), Northrop Grumman Corporation (formerly New P, Inc.) and Titan Merger Sub Inc., dated March 30, 2011 (incorporated by reference to Exhibit 10.1 to Form 8-K filed April 4, 2011, File No. 001-16411)
2.2	Separation and Distribution Agreement dated as of March 29, 2011, among Titan II, Inc. (formerly Northrop Grumman Corporation), Northrop Grumman Corporation (formerly New P, Inc.), Huntington Ingalls Industries, Inc., Northrop Grumman Shipbuilding, Inc. and Northrop Grumman Systems Corporation (incorporated by reference to Exhibit 10.2 to Form 8-K filed April 4, 2011, File No. 001-16411)
2.3	Agreement and Plan of Merger, dated as of September 17, 2017, among Northrop Grumman Corporation, Neptune Merger, Inc. and Orbital ATK, Inc. (incorporated by reference to Exhibit 2.1 to Form 8-K filed September 18, 2017)
2.4	Transaction Agreement, dated as of April 28, 2014, among Alliant Techsystems Inc., Vista Spinco Inc., Vista Merger Sub Inc. and Orbital Sciences Corporation (incorporated by reference to Exhibit 2.1 to Alliant Techsystems Inc. (now known as Northrop Grumman Innovation Systems, Inc.) Form 8-K filed May 2, 2014)
+*10.1	2019 Restricted Stock Rights Grant Agreement Under the 2011 Long-Term Incentive Stock Plan
+*10.2	2019 Restricted Performance Stock Rights Grant Agreement Under the 2011 Long-Term Incentive Stock Plan
+*10.3	Group Personal Excess Liability Policy dated February 14, 2019 and effective January 1, 2019
+*10.4	Executive Basic Life Insurance and Accidental Death and Dismemberment Insurance Policy dated January 1, 2019
+*10.5	Executive Long-Term Disability Insurance Policy dated January 1, 2019
*15	Letter from Independent Registered Public Accounting Firm
*31.1	Certification of Kathy J. Warden pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
*31.2	Certification of Kenneth L. Bedingfield pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
**32.1	Certification of Kathy J. Warden pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
**32.2	Certification of Kenneth L. Bedingfield pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*101	Northrop Grumman Corporation Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, formatted in XBRL (Extensible Business Reporting Language): (i) the Condensed Consolidated Statements of Earnings and Comprehensive Income, (ii) Condensed Consolidated Statements of Financial Position, (iii) Condensed Consolidated Statements of Cash Flows, (iv) Condensed Consolidated Statements of Changes in Shareholders' Equity, and (v) Notes to Condensed

Consolidated Financial Statements

+ Management contract or compensatory plan or arrangement

* Filed with this report

** Furnished with this report

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NORTHROP GRUMMAN CORPORATION

SIGNATURES

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.

NORTHROP GRUMMAN CORPORATION
(Registrant)

By: /s/ Michael A. Hardesty

Michael A. Hardesty
Corporate Vice President, Controller and
Chief Accounting Officer
(Principal Accounting Officer)

Date: April 23, 2019