

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 10-Q**

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

For the Quarterly Period Ended June 30, 2019

or

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**

(State or other jurisdiction of  
incorporation or organization)

**80-0640649**

(I.R.S. Employer  
Identification No.)

**2980 Fairview Park Drive**

**Falls Church, Virginia**

(Address of principal executive offices)

**22042**

(Zip Code)

**(703) 280-2900**

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	NOC	New York Stock Exchange

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

Yes  No

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

Yes  No

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

Large Accelerated Filer  Accelerated Filer

Non-accelerated Filer  Smaller Reporting Company

Emerging Growth Company

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

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

Yes  No

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

As of July 19, 2019, 169,198,172 shares of common stock were outstanding.

## TABLE OF CONTENTS

	<u>Page</u>	
<b><u>PART I – FINANCIAL INFORMATION</u></b>		
Item 1.	<a href="#"><u>Financial Statements (Unaudited)</u></a>	
	<a href="#"><u>Condensed Consolidated Statements of Earnings and Comprehensive Income</u></a>	<a href="#"><u>1</u></a>
	<a href="#"><u>Condensed Consolidated Statements of Financial Position</u></a>	<a href="#"><u>2</u></a>
	<a href="#"><u>Condensed Consolidated Statements of Cash Flows</u></a>	<a href="#"><u>3</u></a>
	<a href="#"><u>Condensed Consolidated Statements of Changes in Shareholders' Equity</u></a>	<a href="#"><u>4</u></a>
	<a href="#"><u>Notes to Condensed Consolidated Financial Statements</u></a>	
	<a href="#"><u>1. Basis of Presentation</u></a>	<a href="#"><u>5</u></a>
	<a href="#"><u>2. Acquisition of Orbital ATK</u></a>	<a href="#"><u>9</u></a>
	<a href="#"><u>3. Earnings Per Share, Share Repurchases and Dividends on Common Stock</u></a>	<a href="#"><u>11</u></a>
	<a href="#"><u>4. Income Taxes</u></a>	<a href="#"><u>12</u></a>
	<a href="#"><u>5. Fair Value of Financial Instruments</u></a>	<a href="#"><u>13</u></a>
	<a href="#"><u>6. Investigations, Claims and Litigation</u></a>	<a href="#"><u>14</u></a>
	<a href="#"><u>7. Commitments and Contingencies</u></a>	<a href="#"><u>16</u></a>
	<a href="#"><u>8. Retirement Benefits</u></a>	<a href="#"><u>17</u></a>
	<a href="#"><u>9. Stock Compensation Plans and Other Compensation Arrangements</u></a>	<a href="#"><u>18</u></a>
	<a href="#"><u>10. Leases</u></a>	<a href="#"><u>18</u></a>
	<a href="#"><u>11. Segment Information</u></a>	<a href="#"><u>20</u></a>
	<a href="#"><u>Report of Independent Registered Public Accounting Firm</u></a>	<a href="#"><u>24</u></a>
Item 2.	<a href="#"><u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u></a>	
	<a href="#"><u>Overview</u></a>	<a href="#"><u>25</u></a>
	<a href="#"><u>Consolidated Operating Results</u></a>	<a href="#"><u>25</u></a>
	<a href="#"><u>Segment Operating Results</u></a>	<a href="#"><u>27</u></a>
	<a href="#"><u>Product and Service Analysis</u></a>	<a href="#"><u>32</u></a>
	<a href="#"><u>Backlog</u></a>	<a href="#"><u>33</u></a>
	<a href="#"><u>Liquidity and Capital Resources</u></a>	<a href="#"><u>33</u></a>
	<a href="#"><u>Critical Accounting Policies, Estimates and Judgments</u></a>	<a href="#"><u>35</u></a>
	<a href="#"><u>Accounting Standards Updates</u></a>	<a href="#"><u>35</u></a>
	<a href="#"><u>Forward-Looking Statements and Projections</u></a>	<a href="#"><u>35</u></a>
	<a href="#"><u>Contractual Obligations</u></a>	<a href="#"><u>36</u></a>
Item 3.	<a href="#"><u>Quantitative and Qualitative Disclosures About Market Risk</u></a>	<a href="#"><u>36</u></a>
Item 4.	<a href="#"><u>Controls and Procedures</u></a>	<a href="#"><u>36</u></a>
<b><u>PART II – OTHER INFORMATION</u></b>		
Item 1.	<a href="#"><u>Legal Proceedings</u></a>	<a href="#"><u>37</u></a>
Item 1A.	<a href="#"><u>Risk Factors</u></a>	<a href="#"><u>37</u></a>
Item 2.	<a href="#"><u>Unregistered Sales of Equity Securities and Use of Proceeds</u></a>	<a href="#"><u>37</u></a>
Item 6.	<a href="#"><u>Exhibits</u></a>	<a href="#"><u>38</u></a>
	<a href="#"><u>Signatures</u></a>	<a href="#"><u>39</u></a>

## NORTHROP GRUMMAN CORPORATION

## PART I. FINANCIAL INFORMATION

## Item 1. Financial Statements

CONDENSED CONSOLIDATED STATEMENTS OF EARNINGS AND COMPREHENSIVE INCOME  
(Unaudited)

<i>\$ in millions, except per share amounts</i>	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
<b>Sales</b>				
Product	\$ 5,880	\$ 4,790	\$ 11,608	\$ 9,079
Service	2,576	2,329	5,037	4,775
<b>Total sales</b>	<b>8,456</b>	<b>7,119</b>	<b>16,645</b>	<b>13,854</b>
<b>Operating costs and expenses</b>				
Product	4,661	3,698	9,178	6,967
Service	2,065	1,865	4,041	3,772
General and administrative expenses	784	739	1,544	1,450
<b>Operating income</b>	<b>946</b>	<b>817</b>	<b>1,882</b>	<b>1,665</b>
Other (expense) income				
Interest expense	(137)	(144)	(275)	(287)
FAS (non-service) pension benefit	200	258	400	512
Other, net	19	45	55	85
Earnings before income taxes	1,028	976	2,062	1,975
Federal and foreign income tax expense	167	187	338	346
<b>Net earnings</b>	<b>\$ 861</b>	<b>\$ 789</b>	<b>\$ 1,724</b>	<b>\$ 1,629</b>
<b>Basic earnings per share</b>	<b>\$ 5.07</b>	<b>\$ 4.52</b>	<b>\$ 10.15</b>	<b>\$ 9.34</b>
Weighted-average common shares outstanding, in millions	169.7	174.5	169.9	174.4
<b>Diluted earnings per share</b>	<b>\$ 5.06</b>	<b>\$ 4.50</b>	<b>\$ 10.11</b>	<b>\$ 9.29</b>
Weighted-average diluted shares outstanding, in millions	170.3	175.4	170.5	175.4
Net earnings (from above)	\$ 861	\$ 789	\$ 1,724	\$ 1,629
Other comprehensive loss				
Change in unamortized prior service credit, net of tax	(12)	(15)	(23)	(30)
Change in cumulative translation adjustment and other, net	(4)	(3)	—	(6)
Other comprehensive loss, net of tax	(16)	(18)	(23)	(36)
<b>Comprehensive income</b>	<b>\$ 845</b>	<b>\$ 771</b>	<b>\$ 1,701</b>	<b>\$ 1,593</b>

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

**NORTHROP GRUMMAN CORPORATION**
**CONDENSED CONSOLIDATED STATEMENTS OF FINANCIAL POSITION  
(Unaudited)**

<i>\$ in millions, except par value</i>	<b>June 30, 2019</b>	December 31, 2018
<b>Assets</b>		
Cash and cash equivalents	\$ 1,088	\$ 1,579
Accounts receivable, net	1,832	1,448
Unbilled receivables, net	5,657	5,026
Inventoried costs, net	810	654
Prepaid expenses and other current assets	772	973
<b>Total current assets</b>	<b>10,159</b>	9,680
Property, plant and equipment, net of accumulated depreciation of \$5,628 for 2019 and \$5,369 for 2018	6,522	6,372
Operating lease right-of-use assets	1,278	—
Goodwill	18,708	18,672
Intangible assets, net	1,206	1,372
Deferred tax assets	85	94
Other non-current assets	1,626	1,463
<b>Total assets</b>	<b>\$ 39,584</b>	<b>\$ 37,653</b>
<b>Liabilities</b>		
Trade accounts payable	\$ 1,962	\$ 2,182
Accrued employee compensation	1,528	1,676
Advance payments and billings in excess of costs incurred	1,942	1,917
Other current liabilities	2,723	2,499
<b>Total current liabilities</b>	<b>8,155</b>	8,274
Long-term debt, net of current portion of \$545 for 2019 and \$517 for 2018	13,838	13,883
Pension and other postretirement benefit plan liabilities	5,535	5,755
Operating lease liabilities	1,081	—
Deferred tax liabilities	140	108
Other non-current liabilities	1,621	1,446
<b>Total liabilities</b>	<b>30,370</b>	29,466
<b>Commitments and contingencies (Note 7)</b>		
<b>Shareholders' equity</b>		
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—169,305,793 and 2018—170,607,336	169	171
Paid-in capital	—	—
Retained earnings	9,120	8,068
Accumulated other comprehensive loss	(75)	(52)
<b>Total shareholders' equity</b>	<b>9,214</b>	8,187
<b>Total liabilities and shareholders' equity</b>	<b>\$ 39,584</b>	<b>\$ 37,653</b>

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

## NORTHROP GRUMMAN CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS  
(Unaudited)

<i>\$ in millions</i>	Six Months Ended June 30	
	2019	2018
<b>Operating activities</b>		
Net earnings	\$ 1,724	\$ 1,629
Adjustments to reconcile to net cash provided by operating activities:		
Depreciation and amortization	479	281
Non-cash lease expense	127	—
Stock-based compensation	55	53
Deferred income taxes	48	49
Changes in assets and liabilities:		
Accounts receivable, net	(384)	(145)
Unbilled receivables, net	(658)	(570)
Inventoried costs, net	(156)	(73)
Prepaid expenses and other assets	(48)	57
Accounts payable and other liabilities	(367)	(422)
Income taxes payable, net	194	186
Retiree benefits	(285)	(394)
Other, net	(35)	(13)
Net cash provided by operating activities	694	638
<b>Investing activities</b>		
Acquisition of Orbital ATK, net of cash acquired	—	(7,657)
Capital expenditures	(536)	(504)
Other, net	1	2
Net cash used in investing activities	(535)	(8,159)
<b>Financing activities</b>		
Payments of long-term debt	—	(1,550)
Net payments to credit facilities	(20)	(314)
Net borrowings on commercial paper	101	249
Common stock repurchases	(231)	(41)
Cash dividends paid	(435)	(407)
Payments of employee taxes withheld from share-based awards	(63)	(80)
Other, net	(2)	(22)
Net cash used in financing activities	(650)	(2,165)
Decrease in cash and cash equivalents	(491)	(9,686)
Cash and cash equivalents, beginning of year	1,579	11,225
Cash and cash equivalents, end of period	\$ 1,088	\$ 1,539

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

**NORTHROP GRUMMAN CORPORATION**
**CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY  
(Unaudited)**

<i>\$ in millions, except per share amounts</i>	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
<b>Common stock</b>				
Beginning of period	\$ 170	\$ 174	\$ 171	\$ 174
Common stock repurchased	(1)	—	(2)	—
End of period	169	174	169	174
<b>Paid-in capital</b>				
Beginning of period	—	—	—	44
Common stock repurchased	—	(34)	—	(34)
Stock compensation	—	34	—	(10)
End of period	—	—	—	—
<b>Retained earnings</b>				
Beginning of period	8,628	7,502	8,068	6,913
Impact from adoption of ASU 2018-02 and ASU 2016-01	—	—	—	(21)
Common stock repurchased	(172)	(15)	(234)	(15)
Net earnings	861	789	1,724	1,629
Dividends declared	(226)	(210)	(432)	(405)
Stock compensation	29	—	(6)	(35)
End of period	9,120	8,066	9,120	8,066
<b>Accumulated other comprehensive (loss) income</b>				
Beginning of period	(59)	4	(52)	1
Impact from adoption of ASU 2018-02 and ASU 2016-01	—	—	—	21
Other comprehensive loss, net of tax	(16)	(18)	(23)	(36)
End of period	(75)	(14)	(75)	(14)
Total shareholders' equity	\$ 9,214	\$ 8,226	\$ 9,214	\$ 8,226
Cash dividends declared per share	\$ 1.32	\$ 1.20	\$ 2.52	\$ 2.30

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

**NORTHROP GRUMMAN CORPORATION****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 the company’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. 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 provided on certain contracts, but do not typically provide for services beyond standard assurances and are therefore

**NORTHROP GRUMMAN CORPORATION**

not considered to be separate performance obligations. Assets recognized from the 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 sales 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 June 30, 2019. During the three months ended June 30, 2018, the company recognized \$69 million of favorable EAC adjustments on multiple restricted programs at Aerospace Systems.

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

<i>\$ in millions, except per share data</i>	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
Operating income	\$ 158	\$ 143	\$ 296	\$ 259
Net earnings <sup>(1)</sup>	125	113	234	205
Diluted earnings per share <sup>(1)</sup>	0.73	0.64	1.37	1.17

<sup>(1)</sup> Based on a 21 percent statutory tax rate.

Revenue recognized from performance obligations satisfied in previous reporting periods was \$154 million and \$320 million for the three and six months ended June 30, 2019, respectively, and \$156 million and \$289 million for the three and six months ended June 30, 2018, respectively.



**NORTHROP GRUMMAN CORPORATION***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.

Company backlog as of June 30, 2019 was \$63.0 billion. We expect to recognize approximately 40 percent and 65 percent of our June 30, 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 and six months ended June 30, 2019 that was included in the December 31, 2018 contract liability balance was \$333 million and \$1.0 billion, respectively. The amount of revenue recognized for the three and six months ended June 30, 2018 that was included in the December 31, 2017 contract liability balance was \$364 million and \$1.1 billion, 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:

<i>\$ in millions</i>	<b>June 30, 2019</b>	December 31, 2018
Unamortized prior service credit, net of tax expense of \$24 for 2019 and \$32 for 2018	\$ 75	\$ 98
Cumulative translation adjustment	(145)	(144)
Other, net	(5)	(6)
<b>Total accumulated other comprehensive loss</b>	<b>\$ (75)</b>	<b>\$ (52)</b>

Reclassifications from accumulated other comprehensive loss to net earnings related to the amortization of prior service credit were \$12 million and \$23 million, net of taxes, for the three and six months ended June 30, 2019, respectively and were \$15 million and \$30 million, net of taxes, for the three and six months ended June 30, 2018,

**NORTHROP GRUMMAN CORPORATION**

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 and six months ended June 30, 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 finance lease. Operating leases are included in Operating lease right-of-use assets, Other current liabilities, and Operating lease liabilities in our unaudited condensed consolidated statements of financial position.

The company recognizes operating lease right-of-use 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.

**Related Party Transactions**

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

**Restricted Cash**

On occasion, we are required to maintain cash deposits with banks in connection with certain contingent obligations. As of June 30, 2019, we had no restricted cash, as the contingencies that existed in connection with the company's restricted cash balance as of March 31, 2019 were satisfied. We had no restricted cash as of December 31, 2018.

**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 consolidated 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 June 30, 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.

**NORTHROP GRUMMAN CORPORATION****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.

*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 2019, the company finalized its determination of the fair values of the assets acquired and liabilities assumed as of the Merger date. Based on additional information obtained during the measurement period, the company refined its initial assessment of fair value and recognized the following significant adjustments to its 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, Other current assets increased \$44 million and Goodwill decreased \$36 million. These adjustments did not result in a material impact on the financial results of prior periods.

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

<i>\$ in millions, except per share amounts</i>	<b>Purchase price</b>	
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
<b>Total purchase price</b>	<b>\$</b>	<b>7,742</b>

**NORTHROP GRUMMAN CORPORATION**

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

<i>\$ in millions</i>	<b>As of June 6, 2018</b>
Cash and cash equivalents	\$ 85
Accounts receivable	596
Unbilled receivables	1,237
Inventoried costs	220
Other current assets	237
Property, plant and equipment	1,509
Goodwill	6,259
Intangible assets	1,525
Other non-current assets	151
<b>Total assets acquired</b>	<b>11,819</b>
Trade accounts payable	(397)
Accrued employee compensation	(158)
Advance payments and billings in excess of costs incurred	(222)
Below market contracts <sup>(1)</sup>	(151)
Other current liabilities	(412)
Long-term debt	(1,687)
Pension and OPB plan liabilities	(613)
Deferred tax liabilities	(248)
Other non-current liabilities	(189)
<b>Total liabilities assumed</b>	<b>(4,077)</b>
<b>Total purchase price</b>	<b>\$ 7,742</b>

<sup>(1)</sup> 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:

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

The purchase price allocation resulted in the recognition of \$6.3 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.

**NORTHROP GRUMMAN CORPORATION***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:

<i>\$ in millions, except per share amounts</i>	Three Months Ended June 30, 2018		Six Months Ended June 30, 2018	
Sales	\$	8,078	\$	16,078
Net earnings		882		1,796
Diluted earnings per share		5.03		10.24

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 \$33 million and \$80 million for the three and six months ended June 30, 2018, respectively.
2. The elimination of nonrecurring transaction costs incurred by the company and Orbital ATK in connection with the Merger of \$64 million and \$71 million for the three and six months ended June 30, 2018, respectively.
3. The recognition of additional depreciation expense, net of removal of historical depreciation expense, of \$5 million and \$11 million for the three and six months ended June 30, 2018, respectively, 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 \$48 million and \$114 million for the three and six months ended June 30, 2018, respectively, 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 \$20 million and \$51 million for the three and six months ended June 30, 2018, respectively.
6. The income tax effect on the pro forma adjustments, which was calculated using the federal statutory tax rate, of \$(7) million and \$0.4 million for the three and six months ended June 30, 2018, respectively.

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 0.6 million shares for the three and six months ended June 30, 2019. The dilutive effect of these securities totaled 0.9 million shares and 1.0 million shares for the three and six months ended June 30, 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.

**NORTHROP GRUMMAN CORPORATION**

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 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 June 30, 2019, repurchases under the 2015 Repurchase Program totaled \$3.2 billion; \$0.8 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 <sup>(1)</sup>	Date Completed	Shares Repurchased (in millions)	
					Six Months Ended June 30	
					2019	2018
September 16, 2015	\$ 4,000	13.0	\$ 243.90		1.7	0.2
December 4, 2018	\$ 3,000	—	—		—	—

<sup>(1)</sup> Includes commissions paid.

**Dividends on Common Stock**

In May 2019, the company increased the quarterly common stock dividend 10 percent to \$1.32 per share from the previous amount of \$1.20 per share.

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**

\$ in millions	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
Federal and foreign income tax expense	\$ 167	\$ 187	\$ 338	\$ 346
Effective income tax rate	16.2%	19.2%	16.4%	17.5%

*Current Quarter*

The second quarter 2019 effective tax rate decreased to 16.2 percent from 19.2 percent in the second quarter of 2018 primarily due to higher research credits. The company's effective tax rate for the second quarter of 2019 includes \$36 million of current year research credits and \$15 million of additional research credits related to a prior year, as compared to \$22 million of research credits in the second quarter of 2018.

**NORTHROP GRUMMAN CORPORATION**
*Year to Date*

The year to date 2019 effective tax rate decreased to 16.4 percent from 17.5 percent in same period of 2018 primarily due to higher research credits, partially offset by lower excess tax benefits for employee share-based compensation. The company's year to date 2019 effective tax rate includes \$67 million of current year research credits, \$15 million of additional research credits related to a prior year and \$13 million of excess tax benefits for employee share-based compensation. The company's year to date 2018 effective tax rate included \$42 million of research credits and \$26 million of excess tax benefits for employee share-based compensation.

Since enactment of the Tax Cuts and Jobs Act in late 2017, the IRS and U.S. Treasury Department have issued and are expected to further issue interpretive guidance that impacts taxpayers. We will continue to evaluate such guidance as it is issued, and, at this time, the company expects it is reasonably possible that within the next twelve months our unrecognized tax benefits, primarily related to timing items, 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 years 2016-2017 are currently under IRS examination.

**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:

<i>\$ in millions</i>	June 30, 2019			December 31, 2018		
	Level 1	Level 2	Total	Level 1	Level 2	Total
<b>Financial Assets (Liabilities)</b>						
Marketable securities	\$ 337	\$ —	\$ 337	\$ 319	\$ 1	\$ 320
Marketable securities valued using NAV			16			15
Total marketable securities	337	—	353	319	1	335
Derivatives	—	(8)	(8)	—	(10)	(10)

At June 30, 2019, the company had commodity forward contracts outstanding that hedge forecasted commodity purchases of 12 million pounds of copper and 5 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 June 30, 2019 and December 31, 2018 was \$99 million and \$114 million, respectively. The portion of notional value designated as a cash flow hedge at June 30, 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 June 30, 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 six months ended June 30, 2019.

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

**NORTHROP GRUMMAN CORPORATION****Long-term Debt**

The estimated fair value of long-term debt was \$15.4 billion and \$14.3 billion as of June 30, 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 June 30, 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**

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 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 February 16, 2018, both the company and the United States filed motions to dismiss many of the claims and counterclaims referenced above, 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 parties filed joint motions to suspend the deadlines for pretrial activities while the parties engage in mediation. On April 29, 2019 and June 5, 2019, the court issued Orders suspending the deadlines. Those suspensions ended on July 1, 2019, and on July 12, 2019, the court issued an Order scheduling trial to commence on February 3, 2020. 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 \$29 million as of June 30, 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 June 30, 2019) in damages. In October 2013, ECT asserted an additional damage claim of R\$22 million (the equivalent of approximately \$6 million as of June 30, 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 June 30, 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



**NORTHROP GRUMMAN CORPORATION**

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 \$11 million as of June 30, 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 whether there is a possible path for a negotiated resolution of the dispute.

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 change and costs may increase materially. As discussed in Note 7, the State of New York recently issued a Feasibility Study and Proposed Amended Record of Decision, proposing to impose additional remedial requirements. The company, along with other interested parties, has submitted comments on that proposal. The State of New York has said that, among other things, it is also evaluating potential 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, costs, allowability and/or alleged environmental impacts in Bethpage, including with federal and state entities, the Navy, local municipalities and water districts, and insurance carriers, as well as 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 June 7, 2019, the court approved the parties' proposal to resolve the litigation for \$108 million, subject to certain terms and conditions. The company continues to negotiate with and pursue coverage litigation against various of its insurance carriers.

The SEC has been 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 has also been 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 Staff of the SEC Division of Enforcement has advised the company that it has concluded its investigation and does not intend to recommend enforcement action.

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 June 30, 2019, or its annual results of operations and/or cash flows.

**NORTHROP GRUMMAN CORPORATION****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 effect on its unaudited condensed consolidated financial position as of June 30, 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 June 30, 2019 and December 31, 2018:

<i>\$ in millions</i>	Range of Reasonably Possible Future Costs <sup>(1)</sup>	Accrued Costs <sup>(2)</sup>	Deferred Costs <sup>(3)</sup>
<b>June 30, 2019</b>	<b>\$532 - \$1,018</b>	<b>\$ 547</b>	<b>\$ 426</b>
December 31, 2018	447 - 835	461	343

<sup>(1)</sup> 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.

<sup>(2)</sup> As of June 30, 2019, \$167 million is recorded in Other current liabilities and \$380 million is recorded in Other non-current liabilities.

<sup>(3)</sup> As of June 30, 2019, \$133 million is deferred in Prepaid expenses and other current assets and \$293 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 June 30, 2019, or its annual results of operations and/or cash flows. With respect to Bethpage, the State of New York recently issued a Feasibility Study and Proposed Amended Record of Decision, proposing to impose additional remedial requirements. The company, along with other interested parties, has submitted comments on that proposal. The comments address, among other things, the adequacy of the existing remedy, concerns with the state's proposal, and an alternative approach. As discussed in Note 6, the remediation standards or requirements to which we are subject are being reconsidered and may change and costs may increase materially.

**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 June 30, 2019, there were \$489 million of stand-by letters of credit and guarantees and \$208 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 June 30, 2019, there were \$299 million of outstanding short-term commercial paper borrowings at a weighted-average interest rate of 2.61 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 June 30, 2019, there was no balance outstanding

**NORTHROP GRUMMAN CORPORATION**

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 \$152 million as of June 30, 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 June 30, 2019, there was £70 million (the equivalent of approximately \$89 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 June 30, 2019, the company was in compliance with all covenants under its credit agreements.

**8. RETIREMENT BENEFITS**

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

<i>\$ in millions</i>	Three Months Ended June 30				Six Months Ended June 30			
	Pension Benefits		OPB		Pension Benefits		OPB	
	2019	2018	2019	2018	2019	2018	2019	2018
<b>Components of net periodic benefit cost (benefit)</b>								
Service cost	\$ 92	\$ 100	\$ 4	\$ 5	\$ 184	\$ 199	\$ 8	\$ 10
Interest cost	340	300	20	19	680	590	40	38
Expected return on plan assets	(526)	(544)	(23)	(24)	(1,051)	(1,073)	(46)	(49)
Amortization of prior service credit	(14)	(14)	—	(6)	(29)	(29)	(1)	(11)
<b>Net periodic benefit cost (benefit)</b>	<b>\$ (108)</b>	<b>\$ (158)</b>	<b>\$ 1</b>	<b>\$ (6)</b>	<b>\$ (216)</b>	<b>\$ (313)</b>	<b>\$ 1</b>	<b>\$ (12)</b>

**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:

<i>\$ in millions</i>	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
Defined benefit pension plans	\$ 23	\$ 23	\$ 46	\$ 45
OPB plans	12	11	24	22
Defined contribution plans	88	88	279	192

## NORTHROP GRUMMAN CORPORATION

## 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:

<i>in millions</i>	Six Months Ended June 30	
	2019	2018
RSRs granted	0.1	0.1
RPSRs granted	0.2	0.2
Grant date aggregate fair value	\$ 92	\$ 114

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.

**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:

<i>\$ in millions</i>	Six Months Ended June 30	
	2019	2018
Minimum aggregate payout amount	\$ 36	\$ 36
Maximum aggregate payout amount	203	205

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:

<i>\$ in millions</i>	Three Months Ended June 30,	Six Months Ended June 30,
	2019	2019
Operating lease cost	\$ 77	\$ 159
Variable lease cost	2	4
Short-term lease cost	12	29
Total lease cost	\$ 91	\$ 192

**NORTHROP GRUMMAN CORPORATION****Supplemental Balance Sheet Information**

Supplemental operating lease balance sheet information consists of the following:

<i>\$ in millions</i>	June 30, 2019	
Operating lease right-of-use assets	\$	1,278
Other current liabilities		245
Operating lease liabilities		1,081
Total operating lease liabilities	\$	1,326

**Other Supplemental Information**

Other supplemental operating lease information consists of the following:

<i>\$ in millions</i>	Six Months Ended June 30, 2019	
Cash paid for amounts included in the measurement of operating lease liabilities	\$	153
Right-of-use assets obtained in exchange for new lease liabilities		101
Weighted average remaining lease term		10.3 years
Weighted average discount rate		3.9%

**Maturities of Lease Liabilities**

Maturities of operating lease liabilities as of June 30, 2019 are as follows:

<i>\$ in millions</i>		
Year Ending December 31		
2019 <sup>(1)</sup>	\$	137
2020		270
2021		219
2022		183
2023		145
Thereafter		746
Total lease payments		1,700
Less: imputed interest		(374)
Present value of operating lease liabilities	\$	1,326

<sup>(1)</sup> Excludes the six months ended June 30, 2019.

As of June 30, 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.

**NORTHROP GRUMMAN CORPORATION**

Rental expense for operating leases classified under ASC 840 for the three and six months ended June 30, 2018 was \$81 million and \$173 million, respectively. These amounts are 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
<b>Total minimum lease payments</b>	<b>\$</b>	<b>2,080</b>

**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:

<i>\$ in millions</i>	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
<b>Sales</b>				
Aerospace Systems	\$ 3,390	\$ 3,337	\$ 6,886	\$ 6,617
Innovation Systems	1,498	400	2,936	400
Mission Systems	3,128	2,874	6,014	5,757
Technology Services	1,044	1,048	2,021	2,192
Intersegment eliminations	(604)	(540)	(1,212)	(1,112)
<b>Total sales</b>	<b>8,456</b>	<b>7,119</b>	<b>16,645</b>	<b>13,854</b>
<b>Operating income</b>				
Aerospace Systems	361	357	743	698
Innovation Systems	169	39	336	39
Mission Systems	408	352	791	723
Technology Services	113	95	215	217
Intersegment eliminations	(73)	(64)	(140)	(136)
<b>Total segment operating income</b>	<b>978</b>	<b>779</b>	<b>1,945</b>	<b>1,541</b>
Net FAS (service)/CAS pension adjustment	107	137	215	264
Unallocated corporate expense	(139)	(99)	(278)	(140)
<b>Total operating income</b>	<b>\$ 946</b>	<b>\$ 817</b>	<b>\$ 1,882</b>	<b>\$ 1,665</b>

**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

**NORTHROP GRUMMAN CORPORATION**

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.

**Disaggregation of Revenue**
*Sales by Customer Type*

<i>\$ in millions</i>	Three Months Ended June 30				Six Months Ended June 30			
	2019		2018		2019		2018	
	\$	% <sup>(3)</sup>	\$	% <sup>(3)</sup>	\$	% <sup>(3)</sup>	\$	% <sup>(3)</sup>
<b>Aerospace Systems</b>								
U.S. government <sup>(1)</sup>	\$ 2,918	86%	\$ 2,799	84%	\$ 5,940	86%	\$ 5,707	86%
International <sup>(2)</sup>	390	11%	449	13%	784	11%	720	11%
Other customers	30	1%	38	1%	64	1%	80	1%
Intersegment sales	52	2%	51	2%	98	2%	110	2%
<b>Aerospace Systems sales</b>	<b>3,390</b>	<b>100%</b>	<b>3,337</b>	<b>100%</b>	<b>6,886</b>	<b>100%</b>	<b>6,617</b>	<b>100%</b>
<b>Innovation Systems</b>								
U.S. government <sup>(1)</sup>	1,061	71%	265	66%	2,076	71%	265	66%
International <sup>(2)</sup>	227	15%	92	23%	474	16%	92	23%
Other customers	118	8%	30	8%	232	8%	30	8%
Intersegment sales	92	6%	13	3%	154	5%	13	3%
<b>Innovation Systems sales</b>	<b>1,498</b>	<b>100%</b>	<b>400</b>	<b>100%</b>	<b>2,936</b>	<b>100%</b>	<b>400</b>	<b>100%</b>
<b>Mission Systems</b>								
U.S. government <sup>(1)</sup>	2,348	75%	2,155	75%	4,515	75%	4,345	76%
International <sup>(2)</sup>	459	15%	391	14%	826	14%	770	13%
Other customers	39	1%	34	1%	73	1%	64	1%
Intersegment sales	282	9%	294	10%	600	10%	578	10%
<b>Mission Systems sales</b>	<b>3,128</b>	<b>100%</b>	<b>2,874</b>	<b>100%</b>	<b>6,014</b>	<b>100%</b>	<b>5,757</b>	<b>100%</b>
<b>Technology Services</b>								
U.S. government <sup>(1)</sup>	617	59%	597	57%	1,170	58%	1,199	54%
International <sup>(2)</sup>	225	22%	193	18%	434	21%	413	19%
Other customers	24	2%	76	7%	57	3%	169	8%
Intersegment sales	178	17%	182	18%	360	18%	411	19%
<b>Technology Services sales</b>	<b>1,044</b>	<b>100%</b>	<b>1,048</b>	<b>100%</b>	<b>2,021</b>	<b>100%</b>	<b>2,192</b>	<b>100%</b>
<b>Total</b>								
U.S. government <sup>(1)</sup>	6,944	82%	5,816	82%	13,701	82%	11,516	83%
International <sup>(2)</sup>	1,301	16%	1,125	16%	2,518	15%	1,995	15%
Other customers	211	2%	178	2%	426	3%	343	2%
<b>Total Sales</b>	<b>\$ 8,456</b>	<b>100%</b>	<b>\$ 7,119</b>	<b>100%</b>	<b>\$ 16,645</b>	<b>100%</b>	<b>\$ 13,854</b>	<b>100%</b>

<sup>(1)</sup> 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.

<sup>(2)</sup> 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.

<sup>(3)</sup> Percentages calculated based on total segment sales.

**NORTHROP GRUMMAN CORPORATION**
*Sales by Contract Type*

<i>\$ in millions</i>	Three Months Ended June 30				Six Months Ended June 30			
	2019		2018		2019		2018	
	\$	% <sup>(1)</sup>	\$	% <sup>(1)</sup>	\$	% <sup>(1)</sup>	\$	% <sup>(1)</sup>
<b>Aerospace Systems</b>								
Cost-type	\$ 1,979	59%	\$ 1,934	59%	\$ 3,981	59%	\$ 3,836	59%
Fixed-price	1,359	41%	1,352	41%	2,807	41%	2,671	41%
Intersegment sales	52		51		98		110	
<b>Aerospace Systems sales</b>	<b>3,390</b>		<b>3,337</b>		<b>6,886</b>		<b>6,617</b>	
<b>Innovation Systems</b>								
Cost-type	405	29%	99	26%	813	29%	99	26%
Fixed-price	1,001	71%	288	74%	1,969	71%	288	74%
Intersegment sales	92		13		154		13	
<b>Innovation Systems sales</b>	<b>1,498</b>		<b>400</b>		<b>2,936</b>		<b>400</b>	
<b>Mission Systems</b>								
Cost-type	1,316	46%	1,207	47%	2,590	48%	2,486	48%
Fixed-price	1,530	54%	1,373	53%	2,824	52%	2,693	52%
Intersegment sales	282		294		600		578	
<b>Mission Systems sales</b>	<b>3,128</b>		<b>2,874</b>		<b>6,014</b>		<b>5,757</b>	
<b>Technology Services</b>								
Cost-type	412	48%	385	44%	804	48%	822	46%
Fixed-price	454	52%	481	56%	857	52%	959	54%
Intersegment sales	178		182		360		411	
<b>Technology Services sales</b>	<b>1,044</b>		<b>1,048</b>		<b>2,021</b>		<b>2,192</b>	
<b>Total</b>								
Cost-type	4,112	49%	3,625	51%	8,188	49%	7,243	52%
Fixed-price	4,344	51%	3,494	49%	8,457	51%	6,611	48%
<b>Total Sales</b>	<b>\$ 8,456</b>		<b>\$ 7,119</b>		<b>\$ 16,645</b>		<b>\$ 13,854</b>	

<sup>(1)</sup> Percentages calculated based on external customer sales.



**NORTHROP GRUMMAN CORPORATION**
*Sales by Geographic Region*

<i>\$ in millions</i>	Three Months Ended June 30				Six Months Ended June 30			
	2019		2018		2019		2018	
	\$	% <sup>(2)</sup>	\$	% <sup>(2)</sup>	\$	% <sup>(2)</sup>	\$	% <sup>(2)</sup>
<b>Aerospace Systems</b>								
United States	\$ 2,948	88%	\$ 2,837	86%	\$ 6,004	88%	\$ 5,787	89%
Asia/Pacific	220	7%	249	8%	459	7%	378	6%
All other <sup>(1)</sup>	170	5%	200	6%	325	5%	342	5%
Intersegment sales	52		51		98		110	
Aerospace Systems sales	3,390		3,337		6,886		6,617	
<b>Innovation Systems</b>								
United States	1,179	84%	296	77%	2,308	83%	296	77%
Asia/Pacific	48	3%	24	6%	93	3%	24	6%
All other <sup>(1)</sup>	179	13%	67	17%	381	14%	67	17%
Intersegment sales	92		13		154		13	
Innovation Systems sales	1,498		400		2,936		400	
<b>Mission Systems</b>								
United States	2,387	84%	2,193	85%	4,588	85%	4,413	85%
Asia/Pacific	154	5%	160	6%	300	5%	313	6%
All other <sup>(1)</sup>	305	11%	227	9%	526	10%	453	9%
Intersegment sales	282		294		600		578	
Mission Systems sales	3,128		2,874		6,014		5,757	
<b>Technology Services</b>								
United States	641	74%	673	78%	1,227	74%	1,368	77%
Asia/Pacific	62	7%	36	4%	100	6%	68	4%
All other <sup>(1)</sup>	163	19%	157	18%	334	20%	345	19%
Intersegment sales	178		182		360		411	
Technology Services sales	1,044		1,048		2,021		2,192	
<b>Total</b>								
United States	7,155	84%	5,999	84%	14,127	85%	11,864	85%
Asia/Pacific	484	6%	469	7%	952	6%	783	6%
All other <sup>(1)</sup>	817	10%	651	9%	1,566	9%	1,207	9%
<b>Total Sales</b>	<b>\$ 8,456</b>		<b>\$ 7,119</b>		<b>\$ 16,645</b>		<b>\$ 13,854</b>	

<sup>(1)</sup> All other is principally comprised of Europe and the Middle East.

<sup>(2)</sup> 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 June 30, 2019, and the related condensed consolidated statements of earnings and comprehensive income and changes in shareholders’ equity for the three-month and six-month periods ended June 30, 2019 and 2018, and of cash flows for the six-month periods ended June 30, 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  
July 23, 2019

**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 were enacted for all remaining U.S. government agencies and the President proposed an FY 2020 budget requesting \$750 billion for national security. 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. Congress is evaluating the President’s budget request as it drafts authorization and appropriations legislation for FY 2020, and also seeks to address budget caps established by the Budget Control Act and the debt limit for FY 2020 and FY 2021. We believe our capabilities, particularly 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:

<i>\$ in millions, except per share amounts</i>	Three Months Ended June 30		%	Six Months Ended June 30		%
	2019	2018		Change	2019	
Sales	\$ 8,456	\$ 7,119	19 %	\$ 16,645	\$ 13,854	20 %
Operating costs and expenses	7,510	6,302	19 %	14,763	12,189	21 %
<i>Operating costs and expenses as a % of sales</i>	<i>88.8%</i>	<i>88.5%</i>		<i>88.7%</i>	<i>88.0%</i>	
Operating income	946	817	16 %	1,882	1,665	13 %
<i>Operating margin rate</i>	<i>11.2%</i>	<i>11.5%</i>		<i>11.3%</i>	<i>12.0%</i>	
Federal and foreign income tax expense	167	187	(11)%	338	346	(2)%
<i>Effective income tax rate</i>	<i>16.2%</i>	<i>19.2%</i>		<i>16.4%</i>	<i>17.5%</i>	
Net earnings	861	789	9 %	1,724	1,629	6 %
Diluted earnings per share	\$ 5.06	\$ 4.50	12 %	\$ 10.11	\$ 9.29	9 %

**Sales**
*Current Quarter*

Second quarter 2019 sales increased \$1.3 billion primarily due to the addition of a full quarter of Innovation Systems sales as well as higher sales at Mission Systems and Aerospace Systems.

**NORTHROP GRUMMAN CORPORATION***Year to Date*

Year to date 2019 sales increased \$2.8 billion primarily due to the addition of a full six months of Innovation Systems sales as well as higher sales at Aerospace Systems and Mission 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.

**Operating Income and Margin Rate***Current Quarter*

Second quarter 2019 operating income increased \$129 million, or 16 percent, primarily due to a \$199 million increase in segment operating income, partially offset by a \$40 million increase in unallocated corporate expense, largely due to intangible asset amortization and PP&E step-up depreciation, and a \$30 million decrease in net FAS (service)/CAS pension adjustment. Operating margin rate declined to 11.2 percent from 11.5 percent primarily due to higher intangible asset amortization and PP&E step-up depreciation, partially offset by improved segment performance.

Second quarter 2019 general and administrative (G&A) costs as a percentage of sales decreased to 9.3 percent from 10.4 percent primarily due to cost management, including cost synergies realized in connection with the 2018 acquisition of Orbital ATK, and the addition of Innovation Systems at a lower G&A rate.

*Year to Date*

Year to date 2019 operating income increased \$217 million, or 13 percent, primarily due to a \$404 million increase in segment operating income, partially offset by a \$138 million increase in unallocated corporate expense, largely due to intangible asset amortization and PP&E step-up depreciation, and a \$49 million decrease in net FAS (service)/CAS pension adjustment. Operating margin rate declined to 11.3 percent from 12.0 percent due to higher intangible asset amortization and PP&E step-up depreciation, partially offset by improved segment performance.

Year to date 2019 G&A costs as a percentage of sales decreased to 9.3 percent from 10.5 percent primarily due to cost management, including the cost synergies described above, 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***Current Quarter*

The second quarter 2019 effective tax rate decreased to 16.2 percent from 19.2 percent in the second quarter of 2018 primarily due to higher research credits. See Note 4 to the financial statements for additional information.

*Year to Date*

The year to date 2019 effective tax rate decreased to 16.4 percent from 17.5 percent in same period of 2018 primarily due to higher research credits, partially offset by lower excess tax benefits for employee share-based compensation. See Note 4 to the financial statements for additional information.

**Net Earnings***Current Quarter*

Second quarter 2019 net earnings increased \$72 million primarily due to higher operating income and a lower effective tax rate, partially offset by a \$58 million decrease in FAS (non-service) pension benefit and a \$26 million decrease in other, net, principally due to lower interest income.

*Year to Date*

Year to date 2019 net earnings increased \$95 million primarily due to higher operating income, partially offset by a \$112 million decrease in FAS (non-service) pension benefit.

**Diluted Earnings Per Share***Current Quarter*

Second quarter 2019 diluted earnings per share increased \$0.56, or 12 percent reflecting a 9 percent increase in net earnings and a 3 percent reduction in weighted-average diluted shares outstanding.

*Year to Date*

Year to date 2019 diluted earnings per share increased \$0.82, or 9 percent, reflecting a 6 percent increase in net earnings and a 3 percent reduction in weighted-average diluted shares outstanding.

**NORTHROP GRUMMAN CORPORATION****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:

<b>Aerospace Systems</b>	<b>Innovation Systems</b>	<b>Mission Systems</b>	<b>Technology Services</b>
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).

**NORTHROP GRUMMAN CORPORATION**
**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.

<i>\$ in millions</i>	Three Months Ended June 30		%	Six Months Ended June 30		%
	2019	2018		2019	2018	
Segment operating income	\$ 978	\$ 779	26 %	\$ 1,945	\$ 1,541	26 %
Segment operating margin rate	11.6%	10.9%		11.7%	11.1%	
CAS pension expense	199	237	(16)%	399	463	(14)%
Less: FAS (service) pension expense	(92)	(100)	(8)%	(184)	(199)	(8)%
Net FAS (service)/CAS pension adjustment	107	137	(22)%	215	264	(19)%
Intangible asset amortization and PP&E step-up depreciation	(98)	(30)	NM	(194)	(30)	NM
Other unallocated corporate expense	(41)	(69)	(41)%	(84)	(110)	(24)%
Unallocated corporate expense	(139)	(99)	40 %	(278)	(140)	99 %
Operating income	\$ 946	\$ 817	16 %	\$ 1,882	\$ 1,665	13 %

**Current Quarter**

Second quarter 2019 segment operating income increased \$199 million, or 26 percent, due to higher operating income at all four sectors, including a full quarter of operating income from Innovation Systems. Segment operating margin rate increased to 11.6 percent from 10.9 percent largely due to improved performance at Mission Systems and Technology Services. In addition, segment operating income and margin rate benefited from cost synergies realized in connection with the 2018 acquisition of Orbital ATK.

**Year to Date**

Year to date 2019 segment operating income increased \$404 million, or 26 percent, primarily due to the inclusion of a full six months of operating income from Innovation Systems as well as higher operating income at Mission Systems and Aerospace Systems. Segment operating margin rate increased due to improved performance at all four sectors. In addition, segment operating income and margin rate benefited from the cost synergies described above.

**Net FAS (service)/CAS Pension Adjustment**

The decrease in our second quarter and year to date 2019 net FAS (service)/CAS pension adjustment 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**
**Current Quarter**

The increase in second quarter 2019 unallocated corporate expense is primarily due to a \$68 million increase of intangible asset amortization and PP&E step-up depreciation. This increase was partially offset by \$23 million of non-recurring transaction costs related to the Orbital ATK acquisition in the second quarter of 2018.

**Year to Date**

The increase in year to date 2019 unallocated corporate expense is primarily due to a \$164 million increase of intangible asset amortization and PP&E step-up depreciation. This increase was partially offset by \$29 million of non-recurring transaction costs related to the Orbital ATK acquisition during the first six months of 2018.

**NORTHROP GRUMMAN CORPORATION**

*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:

<i>\$ in millions</i>	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
Favorable EAC adjustments	\$ 283	\$ 237	\$ 518	\$ 444
Unfavorable EAC adjustments	(125)	(94)	(222)	(185)
Net EAC adjustments	\$ 158	\$ 143	\$ 296	\$ 259

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

<i>\$ in millions</i>	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
Aerospace Systems	\$ 54	\$ 95	\$ 104	\$ 149
Innovation Systems <sup>(1)</sup>	31	—	81	—
Mission Systems	58	50	88	95
Technology Services	20	(2)	31	20
Eliminations	(5)	—	(8)	(5)
Net EAC adjustments	\$ 158	\$ 143	\$ 296	\$ 259

<sup>(1)</sup> 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**

<i>\$ in millions</i>	Three Months Ended June 30		%	Six Months Ended June 30		%
	2019	2018		Change	2019	
Sales	\$ 3,390	\$ 3,337	2%	\$ 6,886	\$ 6,617	4%
Operating income	361	357	1%	743	698	6%
Operating margin rate	10.6%	10.7%		10.8%	10.5%	

**Sales**
*Current Quarter*

Second quarter 2019 sales increased \$53 million, or 2 percent, due to higher volume on Manned Aircraft and Space programs. Manned Aircraft sales reflect a higher rate of F-35 production activity. Space sales principally reflect higher volume on a civil space program. Autonomous Systems sales were comparable to the prior year period.

*Year to Date*

Year to date 2019 sales increased \$269 million, or 4 percent, due to higher sales in all three business areas. Manned Aircraft sales reflect increased restricted volume and a higher rate of F-35 production activity. Space sales reflect higher volume on a secure communications satellite program. 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.

**Operating Income**
*Current Quarter*

Second quarter 2019 operating income increased \$4 million, or 1 percent, due to higher sales. Operating margin rate of 10.6 percent was comparable to the prior year period.

**NORTHROP GRUMMAN CORPORATION***Year to Date*

Year to date 2019 operating income increased \$45 million, or 6 percent, due to higher sales and a higher operating margin rate. Operating margin rate increased to 10.8 percent from 10.5 percent due to improved performance in all three business areas.

**INNOVATION SYSTEMS**

<i>\$ in millions</i>	Three Months Ended June 30		%	Six Months Ended June 30		%
	2019	2018		Change	2019	
Sales	\$ 1,498	\$ 400	NM	\$ 2,936	\$ 400	NM
Operating income	169	39	NM	336	39	NM
Operating margin rate	11.3%	9.8%		11.4%	9.8%	

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***Current Quarter*

Second quarter 2019 sales increased \$106 million, or 8 percent, compared with pro forma sales of \$1.4 billion in the second quarter of 2018, principally due to higher sales at Flight Systems and Defense Systems. Flight Systems sales increased due to higher volume on military aerospace structures and launch vehicles. Defense Systems sales reflect higher volume on tactical missiles and subsystems, including the Advanced Anti-Radiation Guided Missile (AARGM) program.

*Year to Date*

Year to date 2019 sales increased \$233 million, or 9 percent, compared with year to date 2018 pro forma sales of \$2.7 billion due to higher sales in all three business areas. Flight Systems sales reflect higher volume on launch vehicles, principally Ground-based Midcourse Defense, and military aerospace structures. Defense Systems sales increased due to higher volume on tactical missiles and subsystems, including the AARGM program, and precision munitions and armament products, partially offset by lower sales on ammunition products. Space Systems sales reflect higher volume on national security satellite systems.

**Operating Income***Current Quarter*

Second quarter 2019 operating income totaled \$169 million and operating margin rate was 11.3 percent.

*Year to Date*

Year to date 2019 operating income totaled \$336 million and operating margin rate was 11.4 percent. Year to date results benefited from the timing of favorable negotiations on certain commercial contracts.

**MISSION SYSTEMS**

<i>\$ in millions</i>	Three Months Ended June 30		%	Six Months Ended June 30		%
	2019	2018		Change	2019	
Sales	\$ 3,128	\$ 2,874	9%	\$ 6,014	\$ 5,757	4%
Operating income	408	352	16%	791	723	9%
Operating margin rate	13.0%	12.2%		13.2%	12.6%	

**Sales***Current Quarter*

Second quarter 2019 sales increased \$254 million, or 9 percent, due to higher sales in all three business areas. Sensors and Processing sales increased principally due to higher volume on infrared countermeasures, airborne radar and restricted programs. Advanced Capabilities sales increased due to higher volume on restricted programs. Cyber and ISR sales reflect higher volume on space payloads and mission programs.



**NORTHROP GRUMMAN CORPORATION***Year to Date*

Year to date 2019 sales increased \$257 million, or 4 percent, across all three business areas. Sensors and Processing sales increased principally due to higher volume on restricted and airborne radar programs, partially offset by lower volume on communications programs. Cyber and ISR sales increased principally due to higher volume on space payloads and mission programs as well as higher intercompany volume. Advanced Capabilities sales increased due to higher volume on restricted programs, partially offset by lower missile defense volume, primarily related to the JRDC program.

**Operating Income***Current Quarter*

Second quarter 2019 operating income increased \$56 million, or 16 percent, due to higher sales and a higher operating margin rate. Operating margin rate increased to 13.0 percent from 12.2 percent, primarily due to improved performance on Advanced Capabilities programs.

*Year to Date*

Year to date 2019 operating income increased \$68 million, or 9 percent, due to a higher operating margin rate and higher sales. Operating margin rate increased to 13.2 percent from 12.6 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**

<i>\$ in millions</i>	Three Months Ended June 30		%	Six Months Ended June 30		%
	2019	2018		2019	2018	
Sales	\$ 1,044	\$ 1,048	— %	\$ 2,021	\$ 2,192	(8)%
Operating income	113	95	19 %	215	217	(1)%
Operating margin rate	10.8%	9.1%		10.6%	9.9%	

**Sales***Current Quarter*

Second quarter 2019 sales were comparable to the second quarter of 2018, and reflect lower Global Services sales, principally due to the completion in 2018 of a state and local services contract, offset by higher Global Logistics and Modernization volume.

*Year to Date*

Year to date 2019 sales decreased \$171 million, or 8 percent, due to program completions across the sector. Global Services sales declined principally due to the completions in 2018 of a state and local services contract and of certain defense services contracts, largely the JRDC program. Global Logistics and Modernization sales declined primarily due to the completion in 2018 of a manned aircraft sustainment program, KC-10, partially offset by sales growth on strategic and electronic systems sustainment programs.

**Operating Income***Current Quarter*

Second quarter 2019 operating income increased \$18 million, or 19 percent, and operating margin rate increased to 10.8 percent from 9.1 percent primarily due to improved performance on Global Services programs and the absence in 2019 of a negative EAC adjustment recognized on a state and local services contract in the prior year period.

*Year to Date*

Year to date 2019 operating income decreased \$2 million, or 1 percent, due to lower sales, largely offset by a higher operating margin rate. Operating margin rate increased to 10.6 percent from 9.9 percent primarily due to improved performance on Global Services programs.

**NORTHROP GRUMMAN CORPORATION**
**PRODUCT AND SERVICE ANALYSIS**

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

\$ in millions	Three Months Ended June 30				Six Months Ended June 30			
	2019		2018		2019		2018	
Segment Information:	Sales	Operating Costs and Expenses	Sales	Operating Costs and Expenses	Sales	Operating Costs and Expenses	Sales	Operating Costs and Expenses
<b>Aerospace Systems</b>								
Product	\$ 2,853	\$ 2,572	\$ 2,813	\$ 2,514	\$ 5,827	\$ 5,224	\$ 5,564	\$ 4,979
Service	537	457	524	466	1,059	919	1,053	940
<b>Innovation Systems</b>								
Product	1,328	1,177	354	317	2,568	2,273	354	317
Service	170	152	46	44	368	327	46	44
<b>Mission Systems</b>								
Product	1,960	1,678	1,812	1,566	3,744	3,201	3,531	3,042
Service	1,168	1,042	1,062	956	2,270	2,022	2,226	1,992
<b>Technology Services</b>								
Product	140	126	118	109	263	242	224	206
Service	904	805	930	844	1,758	1,564	1,968	1,769
<b>Segment Totals</b>								
Total Product	\$ 6,281	\$ 5,553	\$ 5,097	\$ 4,506	\$ 12,402	\$ 10,940	\$ 9,673	\$ 8,544
Total Service	2,779	2,456	2,562	2,310	5,455	4,832	5,293	4,745
Intersegment eliminations	(604)	(531)	(540)	(476)	(1,212)	(1,072)	(1,112)	(976)
<b>Total segment<sup>(1)</sup></b>	<b>\$ 8,456</b>	<b>\$ 7,478</b>	<b>\$ 7,119</b>	<b>\$ 6,340</b>	<b>\$ 16,645</b>	<b>\$ 14,700</b>	<b>\$ 13,854</b>	<b>\$ 12,313</b>

<sup>(1)</sup> A reconciliation of segment operating income to total operating income is included in "Segment Operating Results."

**Product Sales and Costs**
*Current Quarter*

Second quarter 2019 product sales increased \$1.2 billion, or 23 percent. The increase was primarily due to a full quarter of product sales from Innovation Systems and higher product sales on Sensors and Processing programs at Mission Systems.

Second quarter 2019 product costs increased \$1.0 billion, or 23 percent, consistent with the higher product sales described above.

*Year to Date*

Year to date 2019 product sales increased \$2.7 billion, or 28 percent. The increase was primarily due to a full six months of product sales from Innovation Systems, higher restricted and F-35 volume at Aerospace Systems and higher product sales on Sensors and Processing programs at Mission Systems.

Year to date 2019 product costs increased \$2.4 billion, or 28 percent, consistent with the higher product sales described above.

**NORTHROP GRUMMAN CORPORATION****Service Sales and Costs***Current Quarter*

Second quarter 2019 service sales increased \$217 million, or 8 percent. The increase was primarily due to a full quarter of service sales from Innovation Systems and higher service sales at Mission Systems.

Second quarter 2019 service costs increased \$146 million, or 6 percent, consistent with the higher service sales described above and reflects improved performance on service contracts at each sector.

*Year to Date*

Year to date 2019 service sales increased \$162 million, or 3 percent. The increase was primarily driven by a full six months of service sales from Innovation Systems and higher service sales at Mission Systems, partially offset by lower service sales at Technology Services principally due to several program completions.

Year to date 2019 service costs increased \$87 million, or 2 percent. The increase was primarily driven by the higher service sales described above and reflects improved performance at Aerospace Systems and Technology Services.

**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 June 30, 2019 and December 31, 2018:

<i>\$ in millions</i>	June 30, 2019			December 31, 2018	% Change in 2019
	Funded	Unfunded	Total Backlog	Total Backlog	
Aerospace Systems	\$ 12,622	\$ 21,127	\$ 33,749	\$ 26,440	28 %
Innovation Systems	5,775	2,660	8,435	8,207	3 %
Mission Systems	10,638	6,963	17,601	15,408	14 %
Technology Services	2,793	445	3,238	3,445	(6) %
<b>Total backlog</b>	<b>\$ 31,828</b>	<b>\$ 31,195</b>	<b>\$ 63,023</b>	<b>\$ 53,500</b>	<b>18 %</b>

**New Awards**

Second quarter and year to date 2019 net awards totaled \$13.5 billion and \$25.8 billion, respectively, and backlog increased to \$63.0 billion as of June 30, 2019. Significant new awards in the second quarter include \$4.1 billion for the F-35 program, \$3.6 billion to deliver an additional 24 E-2D Advance Hawkeye aircraft and related equipment to the U.S. Navy, \$843 million for space restricted programs, \$316 million for the Global Hawk program and \$265 million for the Intermediate Range Conventional Prompt Strike hypersonic program.

**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.

**NORTHROP GRUMMAN CORPORATION**
**Operating Cash Flow**

The table below summarizes key components of cash flow provided by operating activities:

\$ in millions	Six Months Ended June 30		%
	2019	2018	Change
Net earnings	\$ 1,724	\$ 1,629	6 %
Non-cash items <sup>(1)</sup>	709	383	85 %
<b>Changes in assets and liabilities:</b>			
Trade working capital	(1,419)	(967)	47 %
Retiree benefits	(285)	(394)	(28) %
Other, net	(35)	(13)	169 %
<b>Net cash provided by operating activities</b>	<b>\$ 694</b>	<b>\$ 638</b>	<b>9 %</b>

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

Year to date 2019 cash provided by operating activities increased \$56 million principally due to higher net earnings, partially offset by an increase in trade working capital.

**Free Cash Flow**

Free cash flow, as reconciled in the table below, is a non-GAAP measure defined as net cash provided by 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.

The table below reconciles net cash provided by operating activities to free cash flow:

\$ in millions	Six Months Ended June 30		%
	2019	2018	Change
Net cash provided by operating activities	\$ 694	\$ 638	9 %
Less: capital expenditures	(536)	(504)	6 %
<b>Free cash flow</b>	<b>\$ 158</b>	<b>\$ 134</b>	<b>18 %</b>

Year to date 2019 free cash flow increased \$24 million principally due to the increase in net cash provided by operating activities.

**Investing Cash Flow**

Year to date 2019 net cash used in investing activities decreased to \$535 million from \$8.2 billion principally due to \$7.7 billion paid in 2018 for the acquisition of Orbital ATK, net of cash acquired.

**Financing Cash Flow**

Year to date 2019 net cash used in financing activities decreased to \$650 million from \$2.2 billion principally due to \$1.8 billion in debt and credit facility repayments in 2018, partially offset by increased share repurchases and lower net borrowings on commercial paper in 2019.

*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.

## **NORTHROP GRUMMAN CORPORATION**

### **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,” “outlook,” “trends,” “goals” 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
- 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

## **NORTHROP GRUMMAN CORPORATION**

- 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.

#### **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 June 30, 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**

During the three months ended June 30, 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.

## 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 second quarter of 2019:

<b>Period</b>	<b>Number of Shares Purchased</b>	<b>Average Price Paid per Share<sup>(1)</sup></b>	<b>Number of Shares Purchased as Part of Publicly Announced Plans or Programs</b>	<b>Approximate Dollar Value of Shares that May Yet Be Purchased under the Plans or Programs (\$ in millions)</b>
March 30, 2019 - April 26, 2019	112,600	\$ 277.21	112,600	\$ 3,989
April 27, 2019 - May 24, 2019	252,485	295.98	252,485	3,914
May 25, 2019 - June 28, 2019	211,700	312.05	211,700	3,848
<b>Total</b>	<b>576,785</b>	<b>\$ 298.21</b>	<b>576,785</b>	<b>\$ 3,848</b>

<sup>(1)</sup> Includes commissions paid.

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.

**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 [Non-Employee Director Compensation Term Sheet, effective May 15, 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 June 30, 2019, formatted in XBRL (Extensible Business Reporting Language): (i) the Cover Page, (ii) Condensed Consolidated Statements of Earnings and Comprehensive Income, (iii) Condensed Consolidated Statements of Financial Position, (iv) Condensed Consolidated Statements of Cash Flows, (v) Condensed Consolidated Statements of Changes in Shareholders' Equity, and (vi) Notes to Condensed Consolidated Financial Statements. The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.

+ Management contract or compensatory plan or arrangement

\* Filed with this report

\*\* Furnished with this report



**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: July 23, 2019

**Fees and Expenses**  
(effective as of May 15, 2019)

*Retainer:* Retainer fees are paid quarterly, at the end of each quarter. Fees are as follows:

Annual cash retainer:	\$130,000
Additional retainer for Lead Independent Director:	\$35,000
Additional retainer for Audit Committee:	\$10,000
Additional retainer for Audit Committee chair:	\$20,000
Additional retainer for Comp Committee chair:	\$20,000
Additional retainer for Gov Committee chair:	\$20,000
Additional retainer for Policy Committee chair:	\$20,000

*Equity Grant:* Directors are awarded an annual equity grant of \$160,000 in deferred stock units (“Automatic Stock Units”), awarded annually on the day of the Company’s Annual Meeting of Shareholders. The Automatic Stock Units will vest on the one year anniversary of the grant date. Directors may elect to have all or any portion of their Automatic Stock Units paid on (A) the earlier of (i) the beginning of a specified calendar year after the vesting date or (ii) their separation from service as a member of the Board or (B) the vesting date.

*Deferral of Cash Retainer:* Directors may elect to defer payment of all or a portion of their cash retainer fees and any other committee retainer fees into a deferred stock unit account (“Elective Stock Units”). Elective Stock Units are awarded on a calendar quarterly basis. Directors may elect to have all or a portion of their Elective Stock Units paid on the earlier of (i) the beginning of a specified calendar year or (ii) their separation from service as a member of the Board.

*Elective Deferral Program:* Directors may elect to defer to a later year all or a portion of their annual cash retainer and any other fees payable for their Board service into alternative investment options similar to the options available under Northrop Grumman’s Savings Excess Plan.

*Stock Ownership:* All directors are required to own Company stock in an amount equal to five times the annual cash retainer, with such ownership to be achieved within five years of the later of (i) May 18, 2011 or (ii) the director’s election to the Board. Deferred stock units and Company stock owned outright by the director will count towards this requirement.

*Expenses:*     Transportation

Ordinary and necessary business expenses will be reimbursed to traveling directors after presentation of original receipts to the company. Directors will be reimbursed for round trip first class air travel from the director's regular place of business or residence. Whenever possible, directors will be transported to board meetings by our own company aircraft. Surface travel will be reimbursed at the current mileage allowance for traveling executives. Currently, that rate is 58 cents per mile, if the director is driving locally. Taxi service will be reimbursed upon presentation of a receipt. Northrop Grumman arranges drivers from an executive security service to transport directors between the airport and the hotel currently in use and Northrop Grumman drivers transport directors from the hotel to the meeting location.

Hotels

The Corporate Secretary's office will make hotel arrangements for directors in connection with the board and committee meetings. Drivers are available to transport directors to the board and committee meetings. Directors may bill their room charges directly to the Northrop Grumman master account that has been established for director visits.

**LETTER FROM INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

July 23, 2019

Northrop Grumman Corporation  
2980 Fairview Park Drive  
Falls Church, Virginia 22042

We have reviewed, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the unaudited interim financial information of Northrop Grumman Corporation and subsidiaries for the periods ended June 30, 2019, and 2018, as indicated in our report dated July 23, 2019; because we did not perform an audit, we expressed no opinion on that information.

We are aware that our report referred to above, which is included in your Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, is incorporated by reference in Registration Statement Nos. 033-59815, 033-59853, 333-67266, 333-100179, 333-107734, 333-121104, 333-125120, 333-127317, and 333-175798 on Form S-8; and Registration Statement No. 333-217087 on Form S-3.

We also are aware that the aforementioned report, pursuant to Rule 436(c) under the Securities Act of 1933, is not considered a part of the Registration Statement prepared or certified by an accountant or a report prepared or certified by an accountant within the meaning of Sections 7 and 11 of that Act.

/s/ Deloitte & Touche LLP  
McLean, Virginia

**CERTIFICATION PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Kathy J. Warden, certify that:

1. I have reviewed this report on Form 10-Q of Northrop Grumman Corporation (“company”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the company's most recent fiscal quarter (the company's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: July 23, 2019

/s/ **Kathy J. Warden**

---

Kathy J. Warden  
Chief Executive Officer and President

**CERTIFICATION PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Kenneth L. Bedingfield, certify that:

1. I have reviewed this report on Form 10-Q of Northrop Grumman Corporation (“company”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the company's most recent fiscal quarter (the company's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: July 23, 2019

/s/ **Kenneth L. Bedingfield**

---

Kenneth L. Bedingfield  
Corporate Vice President and Chief Financial Officer

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

In connection with the Quarterly Report of Northrop Grumman Corporation (the “company”) on Form 10-Q for the period ended June 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Kathy J. Warden, Chief Executive Officer and President of the company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the company.

Date: July 23, 2019

/s/ **Kathy J. Warden**

---

Kathy J. Warden

Chief Executive Officer and President

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

In connection with the Quarterly Report of Northrop Grumman Corporation (the “company”) on Form 10-Q for the period ended June 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Kenneth L. Bedingfield, Corporate Vice President and Chief Financial Officer of the company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the company.

Date: July 23, 2019

**/s/ Kenneth L. Bedingfield**

---

Kenneth L. Bedingfield

Corporate Vice President and Chief Financial Officer