

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

FORM 10-K

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

**For the fiscal year ended December 31, 2019
OR**

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

Commission file number 001-34910

HUNTINGTON INGALLS INDUSTRIES, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

90-0607005

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

4101 Washington Avenue, Newport News, Virginia 23607

(Address of principal executive offices and zip code)

(757) 380-2000

(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

HII

New York Stock Exchange

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

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes No

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 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. (Check one):

Large Accelerated Filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

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

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

As of June 28, 2019, the aggregate market value (based upon the closing price of the stock on the New York Stock Exchange) of the registrant's common stock held by non-affiliates was approximately \$9,295 million.

As of February 7, 2020, 40,759,988 shares of the registrant's common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement to be filed with the Securities and Exchange Commission pursuant to Rule 14A for the registrant's 2020 Annual Meeting of Stockholders are incorporated by reference in Part III of this Form 10-K.

TABLE OF CONTENTS

		Page
	PART I	
Item 1.	BUSINESS	1
Item 1A.	RISK FACTORS	10
Item 1B.	UNRESOLVED STAFF COMMENTS	23
Item 2.	PROPERTIES	23
Item 3.	LEGAL PROCEEDINGS	24
Item 4.	MINE SAFETY DISCLOSURES	25
	PART II	
Item 5.	MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES	26
Item 6.	SELECTED FINANCIAL DATA	27
Item 7.	MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	28
Item 7A.	QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK	55
Item 8.	FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	56
	REPORTS OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM	56
	CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME	59
	CONSOLIDATED STATEMENTS OF FINANCIAL POSITION	60
	CONSOLIDATED STATEMENTS OF CASH FLOWS	62
	CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY	63
	NOTES TO CONSOLIDATED FINANCIAL STATEMENTS	64
Item 9.	CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE	105
Item 9A.	CONTROLS AND PROCEDURES	105
Item 9B.	OTHER INFORMATION	106
	PART III	
Item 10.	DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE	107
Item 11.	EXECUTIVE COMPENSATION	110
Item 12.	SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS	110
Item 13.	CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE	111
Item 14.	PRINCIPAL ACCOUNTANT FEES AND SERVICES	111
	PART IV	
Item 15.	EXHIBITS AND FINANCIAL STATEMENT SCHEDULES	112
	SIGNATURES	117

PART I

ITEM 1. BUSINESS

History and Organization

Huntington Ingalls Industries, Inc. ("HII", the "Company", "we", "us", or "our") is America's largest military shipbuilding company and a provider of professional services to partners in government and industry. For more than a century, our Ingalls Shipbuilding segment ("Ingalls") in Mississippi and Newport News Shipbuilding segment ("Newport News") in Virginia have built more ships in more ship classes than any other U.S. naval shipbuilder. Our Technical Solutions segment, established in the fourth quarter of 2016, provides a range of services to the governmental, energy, and oil and gas markets.

We conduct most of our business with the U.S. Government, primarily the Department of Defense ("DoD"). As prime contractor, principal subcontractor, team member, or partner, we participate in many high-priority U.S. defense programs. Ingalls includes our non-nuclear ship design, construction, repair, and maintenance businesses. Newport News includes all of our nuclear ship design, construction, overhaul, refueling, and repair and maintenance businesses. We also provide a wide range of professional services, including fleet support, mission driven innovative solutions ("MDIS"), nuclear and environmental, and oil and gas services, through our Technical Solutions segment. Headquartered in Newport News, Virginia, we employ approximately 42,000 people both domestically and internationally.

Ingalls

Through our Ingalls segment, we design and construct non-nuclear ships for the U.S. Navy and U.S. Coast Guard, including amphibious assault ships, expeditionary warfare ships, surface combatants, and national security cutters ("NSC"). We are the sole builder of amphibious assault ships and one of two builders of surface combatants for the U.S. Navy. We are the sole builder of large multi-mission NSCs for the U.S. Coast Guard. Our Ingalls segment is located in Pascagoula, Mississippi on 800 acres along the Pascagoula River. This shipyard offers a collection of manufacturing capabilities that includes a 660-ton gantry crane and a Land Based Test Facility.

Amphibious Assault Ships

We construct amphibious assault ships and expeditionary warfare ships for the U.S. Navy, which include the U.S. Navy large deck amphibious assault ships ("LHA") and amphibious transport dock ships ("LPD"), respectively. The LHA is a key component of the U.S. Navy-Marine Corps requirement for 11 Expeditionary Strike Groups/Amphibious Readiness Groups, and design, construction, and modernization of LHAs are core to our Ingalls operations. In 2007, we were awarded the construction contract for USS *America* (LHA 6), the first in a class of enhanced amphibious assault ships designed from the keel up to be an aviation optimized Marine assault platform. We are currently constructing *Tripoli* (LHA 7), scheduled for delivery in 2020, and *Bougainville* (LHA 8).

The LPD program is a long-running production program of expeditionary warfare ships in which we have generated efficiencies through ship-over-ship learning. We delivered USS *Portland* (LPD 27) in 2017 and USS *John P. Murtha* (LPD 26) in 2016, and we are currently constructing *Fort Lauderdale* (LPD 28) and *Richard M. McCool Jr.* (LPD 29), with *Fort Lauderdale* (LPD 28) scheduled for delivery in 2021. In 2019, we were awarded a contract for the detail design and construction of *Harrisburg* (LPD 30).

Surface Combatants

We are a design agent for, and one of only two companies that constructs, the *Arleigh Burke* class (DDG 51) guided missile destroyers, a class of surface combatant. We have delivered 31 *Arleigh Burke* class (DDG 51) destroyers to the U.S. Navy, including *Paul Ignatius* (DDG 117) in 2019 and *Ralph Johnson* (DDG 114) in 2017. In 2013, we were awarded a multi-year contract totaling \$3.3 billion for construction of five *Arleigh Burke* class (DDG 51) destroyers, of which one has been delivered. We are currently constructing the remaining four ships: *Delbert D. Black* (DDG 119), *Frank E. Petersen Jr.* (DDG 121), *Lenah H. Sutcliffe Higbee* (DDG 123), and *Jack H. Lucas* (DDG 125), with *Delbert D. Black* (DDG 119) scheduled for delivery in 2020. In September 2018, we were awarded a multi-year contract totaling \$5.1 billion for construction of six additional *Arleigh Burke* class (DDG 51) destroyers.

National Security Cutters

The U.S. Coast Guard's recapitalization program is designed to replace aging and operationally expensive ships and aircraft used to conduct missions in excess of 50 miles from the shoreline. The flagship of this program is the *Legend* class NSC, a multi-mission platform we designed and continue to build. We delivered USCGC *Kimball* (NSC 7) and USCGC *Midgett* (NSC 8) to the U.S. Coast Guard in 2018 and 2019, respectively. *Stone* (NSC 9) is currently under construction and scheduled for delivery in 2020. In 2018, we were awarded long-lead-time material and construction contracts for *Calhoun* (NSC 10) and NSC 11 (unnamed), which are currently under construction.

Newport News

The core business of our Newport News segment is designing and constructing nuclear-powered ships, such as aircraft carriers and submarines, and the refueling and overhaul and the inactivation of such ships. Our Newport News shipyard is located on approximately 550 acres near the mouth of the James River, which adjoins the Chesapeake Bay. The shipyard has two miles of waterfront property and heavy industrial facilities, which include seven graving docks, a floating dry dock, two outfitting berths, five outfitting piers, module outfitting facilities, and various other workshops. Our Newport News shipyard also has a 2,170-foot dry dock serviced by a 1,050-ton gantry crane capable of supporting two aircraft carriers at one time.

Design, Construction, Refueling and Complex Overhaul, and Inactivation of Aircraft Carriers

Engineering, design, and construction of U.S. Navy nuclear aircraft carriers ("CVN") are core to Newport News operations. Aircraft carriers are the largest ships in the U.S. Navy's fleet, with a displacement of over 90,000 tons. Newport News has designed and built more than 30 aircraft carriers for the U.S. Navy since 1933, including all ten *Nimitz* class (CVN 68) aircraft carriers currently in active service, as well as the first ship of the next generation *Gerald R. Ford* class (CVN 78) aircraft carriers.

We delivered the U.S. Navy's newest carrier, USS *Gerald R. Ford* (CVN 78), in 2017. Beginning in 2009, we received contract awards totaling \$7.6 billion for construction preparation, detail design, and construction of the second *Gerald R. Ford* class (CVN 78) aircraft carrier, *John F. Kennedy* (CVN 79). In addition, we have received awards valued at \$15.2 billion for detail design and construction of the *Gerald R. Ford* class (CVN 78) aircraft carriers *Enterprise* (CVN 80) and *Doris Miller* (CVN 81).

We continue to be the exclusive prime contractor for nuclear aircraft carrier refueling and complex overhaul ("RCOH"). Each RCOH takes nearly four years to complete, with the work accounting for approximately 35% of all maintenance and modernization during an aircraft carrier's 50 year service life. RCOH services include propulsion work (refueling of reactors; propulsion plant modernization; and propulsion plant repairs), restoration of service life (dry docking, tank, and void maintenance; hull, shafting, propellers, and rudders; launch and recovery system; piping repairs; and component refurbishment), and modernization (electrical systems; aviation support systems; warfare; interoperability; and environmental compliance). We provide ongoing maintenance services for the U.S. Navy aircraft carrier fleet through both RCOH and fleet support across the globe.

In 2017, we completed the RCOH for USS *Abraham Lincoln* (CVN 72) and redelivered the ship to the U.S. Navy. We are currently performing the RCOH of USS *George Washington* (CVN 73). We believe our position as the exclusive designer and builder of nuclear-powered aircraft carriers, our RCOH performance on the first six *Nimitz* class (CVN 68) carriers, our highly trained workforce, the capital-intensive nature of RCOH work, and high barriers to entry due to its nuclear component strongly position us for RCOH contract awards on the remaining *Nimitz* class (CVN 68) carriers, as well as future work on *Gerald R. Ford* class (CVN 78) aircraft carriers.

We received a contract in 2013 to inactivate the decommissioned *Enterprise* (CVN 65), the world's first nuclear-powered aircraft carrier, which was built by us and commissioned in 1961. The decommissioned *Enterprise* (CVN 65) inactivation was completed in the second quarter of 2018. Aircraft carriers have a lifespan of approximately 50 years, and we believe the ten *Nimitz* class (CVN 68) carriers we delivered that are currently in active service, as well as *Gerald R. Ford* class (CVN 78) aircraft carriers we will deliver in the future, present significant opportunities for inactivation contracts as they reach the end of their lifespans. We believe we are well positioned as the U.S. Navy's shipyard of choice for these contract awards.

Design and Construction of Nuclear-Powered Submarines

We are one of only two companies in the United States capable of designing and building nuclear-powered submarines for the U.S. Navy. Newport News has delivered 62 submarines to the U.S. Navy since 1960, comprised of 48 fast attack and 14 ballistic missile submarines. Of the 52 nuclear-powered fast attack submarines currently in active service, 26 were delivered by Newport News. Our nuclear submarine program, located at our Newport News shipyard, includes construction, engineering, design, research, and integrated planning.

Virginia Class (SSN 774) Submarines

We have a teaming agreement with Electric Boat Corporation ("Electric Boat"), a division of General Dynamics Corporation ("General Dynamics"), to build *Virginia* class (SSN 774) fast attack nuclear submarines cooperatively. Under the present arrangement, we build the stern, habitability and machinery spaces, torpedo room, sail, and bow, while Electric Boat builds the engine room, control room, and pressure hull structure. Work on the reactor plant and the final assembly, test, outfit, and delivery of the submarines alternate between Electric Boat and us.

The four submarines of the first block and six submarines of the second block of *Virginia* class (SSN 774) submarines have been delivered. In 2008, the team was awarded a construction contract for the third block of eight *Virginia* class (SSN 774) submarines. The multi-year contract increased construction from one submarine per year to two submarines per year. The first submarine under this contract was delivered in 2014 and the last submarine of the third block was delivered in 2019. In 2014, the team was awarded a construction contract for the fourth block of ten *Virginia* class (SSN 774) submarines. The first submarine of the Block IV contract is scheduled for delivery in 2020, and the last is scheduled for delivery in 2024. In 2019, the team was awarded a construction contract for the fifth block of nine *Virginia* class (SSN 774) submarines, continuing the two submarines per year production rate that began on the third block. The first submarine of the Block V contract is scheduled for delivery in 2025 and the last is scheduled for delivery in 2029.

Columbia Class (SSBN 826) Submarines

Newport News is participating in designing the *Columbia* class (SSBN 826) submarine as a replacement for the current aging *Ohio* class nuclear ballistic missile submarines ("SSBN"), which were first introduced into service in 1981. The *Ohio* class SSBN includes 14 nuclear ballistic missile submarines and four nuclear cruise missile submarines ("SSGN"). The *Columbia* class (SSBN 826) program currently anticipates 12 new ballistic missile submarines. We perform design work as a subcontractor to Electric Boat, and we have entered into a teaming agreement with Electric Boat to build modules for the entire *Columbia* class (SSBN 826) submarine program that leverages our *Virginia* class (SSN 774) experience. We have been awarded contracts from Electric Boat to begin integrated product and process development and provide long-lead-time material and advance construction for the *Columbia* class (SSBN 826) program. Construction of the first *Columbia* class (SSBN 826) submarine is expected to begin in 2021.

Naval Nuclear Support Services

Newport News provides additional services to and in support of the U.S. Navy, ranging from services supporting the Navy's carrier and submarine fleets to maintenance services at U.S. Navy training facilities. Fleet services include design, construction, maintenance, and disposal activities for in service U.S. Navy nuclear ships worldwide through mobile and in-house capabilities. We also provide maintenance services on nuclear reactor prototypes, such as those at the Kenneth A. Kesselring Site, a research and development facility in New York that supports the U.S. Navy.

Technical Solutions

Our Technical Solutions segment was established in 2016 to enhance strategic and operational alignment among our services businesses. The Technical Solutions segment includes businesses that are focused on life-cycle sustainment services to the U.S. Navy fleet and other maritime customers; high-end information technology ("IT") and mission-based solutions for DoD, intelligence, and federal civilian customers; nuclear management and operations and environmental management services for the Department of Energy ("DoE"), DoD, state and local governments, and private sector companies; and full-service engineering, procurement, construction management ("EPCM"), and engineering and field services solutions for the oil and gas industry.

Fleet Support Services

Our fleet support services provide comprehensive life-cycle sustainment services to the U.S. Navy fleet and other DoD and commercial maritime customers. Our technical and waterfront ship services include maintenance, modernization, and repair on all ship classes; naval architecture, marine engineering, and design; integrated logistics support; technical documentation development; warehousing, asset management, and material readiness; operational and maintenance training development and delivery; software design and development; IT infrastructure support and data delivery and management; and cyber security and information assurance. In addition to our broad range of life-cycle sustainment services, we provide undersea vehicle and specialized craft development and prototyping services.

Mission Driven Innovative Solutions ("MDIS")

Our MDIS services include high-end IT and mission-based solutions to DoD, intelligence, and federal civilian customers, such as the Administrative Office of the U.S. Courts and the U.S. Postal Service. The services and solutions we provide are accessible through a broad portfolio of contract vehicles and include agile software engineering, development, and integration; Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance ("C4ISR") engineering and software integration; mobile application development and network engineering; modeling, simulation, and training; force protection and emergency management training and exercises; unmanned systems development, integration, operations, and maintenance; and mission-oriented intelligence, surveillance, and reconnaissance analytics.

Nuclear and Environmental Services

Our nuclear and environmental services focus on nuclear management and operations. We provide site management, nuclear and industrial facilities operations and maintenance, decontamination and decommissioning, and radiological and hazardous waste management services to DoE, DoD, state and local governments, and private sector companies. As part of our nuclear and environmental services, we participate in joint ventures, including Newport News Nuclear BWXT Los Alamos, LLC ("N3B"), Mission Support and Test Services, LLC ("MSTS"), and Savannah River Nuclear Solutions, LLC ("SRNS"). We have a 51% ownership interest in N3B, which, in 2017, was awarded the Los Alamos Legacy Cleanup Contract at the DoE/National Nuclear Security Administration's Los Alamos National Laboratory located northwest of Santa Fe, New Mexico. We have a 23% ownership interest in MSTS, which, in 2017, was awarded a contract for site management and operations at the Nevada National Security Site located northwest of Las Vegas, Nevada. We have a 34% ownership interest in SRNS, which provides site management and operations at the DoE's Savannah River Site near Aiken, South Carolina.

Oil and Gas Services

Our oil and gas services provide engineering, procurement, and construction management services to the oil and gas industry for major pipeline, production, and treatment facilities. These services include full life-cycle services for domestic and international projects, from concept identification through detail design, execution and construction, and decommissioning. We also offer related field services, including survey, inspection, commissioning and start-up, operations and maintenance, and optimization and debottlenecking.

Corporate

HII was incorporated in Delaware on August 4, 2010, and became an independent, publicly owned company in 2011, when we were spun-off from Northrop Grumman. Our principal executive offices are located at 4101 Washington Avenue, Newport News, Virginia 23607. Our telephone number is (757) 380-2000, and our home page on the Internet is www.huntingtoningalls.com. References to our website in this report are provided as a convenience and do not constitute, and should not be viewed as, incorporation by reference of the information contained on, or available through, the website. Accordingly, such information should not be considered part of this report.

Customers

Our revenues are primarily derived from the U.S. Government. In 2019, 2018, and 2017, approximately 87%, 88%, and 87%, respectively, of our revenues were generated from the U.S. Navy, and approximately 4%, 5%, and 6%, respectively, were generated from the U.S. Coast Guard. In 2019, 2018, and 2017, we generated approximately 3%, 3%, and 3%, respectively, of our revenues from commercial customers and 6%, 4%, and 4%, respectively, from other government agencies.

Intellectual Property

We develop and incorporate into our vessels new technologies, manufacturing processes, and systems-integration processes. In addition to owning a large portfolio of intellectual property, we license intellectual property rights to and from others. The U.S. Government receives non-exclusive licenses to our intellectual property developed in the performance of U.S. Government contracts and unlimited license rights in technical data developed under our U.S. Government contracts when such data is developed entirely at government expense. The U.S. Government may use or authorize others to use the intellectual property we license to the government. While our intellectual property rights are important to our operations, we do not believe that any existing patent, license, or other intellectual property right is of such importance that its loss or termination would have a material impact on our business.

Seasonality

No material portion of our business is seasonal. The timing of our revenue recognition is based on several factors, including the timing of contract awards, the incurrence of contract costs, contract cost estimation, and unit deliveries. See Critical Accounting Policies, Estimates, and Judgments - Revenue Recognition in Item 7.

Backlog

As of December 31, 2019 and 2018, our total backlog was approximately \$46.5 billion and \$23.0 billion, respectively. We expect approximately 17% of backlog at December 31, 2019, to be converted into sales in 2020.

Total backlog includes both funded backlog (firm orders for which funding is contractually obligated by the customer) and unfunded backlog (firm orders for which funding is not currently contractually obligated by the customer). Unfunded backlog excludes unexercised contract options and unfunded Indefinite Delivery/Indefinite Quantity ("IDIQ") orders. For contracts having no stated contract values, backlog includes only the amounts committed by the customer. Backlog is converted into sales as work is performed or deliveries are made. For backlog by segment, see Backlog in Item 7.

Raw Materials

The most significant material we use is steel. Other materials we use in large quantities include paint, aluminum, pipe, electrical cable, and fittings. All of these materials are currently available in adequate supply. In connection with our U.S. Government contracts, we are required to procure certain materials and component parts from supply sources approved by the U.S. Government. For long-term contracts, we generally obtain price quotations for many of our material requirements from multiple suppliers to ensure competitive pricing. While we have not generally been dependent upon any one supply source, we currently have only one supplier for certain component parts as a result of consolidation in the defense industry. We believe that these single source suppliers, as well as our overall supplier base, are adequate to meet our foreseeable needs. We have mitigated some supply risk by negotiating long-term agreements with certain raw material suppliers. In addition, we have mitigated price risk related to raw material purchases through certain contractual arrangements with customers.

Governmental Regulation and Supervision

Our business is affected by a variety of laws and regulations relating to the award, administration, and performance of U.S. Government contracts. See Risk Factors in Item 1A.

We operate in a heavily regulated environment and are routinely audited and reviewed by the U.S. Government and its agencies, including the U.S. Navy's Supervisor of Shipbuilding, the Defense Contract Audit Agency ("DCAA"), and the Defense Contract Management Agency ("DCMA"). These agencies evaluate our contract performance, cost structures, and compliance with applicable laws, regulations, and standards, as well as the adequacy of our

business systems and processes relative to U.S. Government requirements. Our business systems subject to audit or review include our accounting systems, purchasing systems, government property management systems, estimating systems, earned value management systems, and material management accounting systems. If an audit uncovers improper or illegal activities, we may be subject to administrative, civil, or criminal proceedings, which could result in fines, penalties, repayments, or compensatory, treble, or other damages. Certain U.S. Government findings against a contractor can also lead to suspension or debarment from future U.S. Government contracts or the loss of export privileges. In addition, any costs we incur that are determined to be unallowable or improperly allocated to a specific contract will not be recovered or must be refunded if already reimbursed.

The U.S. Government has the ability to decrease or withhold contract payments if it determines significant deficiencies exist in one or more of our business systems. The U.S. Government has, in certain instances, withheld contract payments upon its assessment that deficiencies exist with one or more of our business systems. Although this has not materially impacted the timing of our cash receipts in the past, any such action by the U.S. Government in the future could have a material impact on the timing of our cash receipts.

The U.S. Government generally has the ability to terminate contracts, in whole or in part, with little or no prior notice, for convenience or for default based upon performance. In the event of termination of a contract for convenience, a contractor is normally able to recover costs already incurred on the contract and profit on those costs up to the amount authorized under the contract, but not the remaining profit that would have been earned had the contract been completed. Such a termination could also result in the cancellation of future work on the related program. A termination resulting from our default could expose us to various liabilities, including excess procurement costs, and could have a material effect on our ability to compete for future contracts.

Government contractors must comply with significant regulatory requirements, including those related to procurement and cyber security. Our contracts with the U.S. Government may result in Requests for Equitable Adjustments ("REAs"), which represent requests for the U.S. Government to make appropriate adjustments to contract terms, including pricing, delivery schedule, technical requirements, or other affected terms, due to changes in the original contract requirements and resulting delays and disruption in contract performance for which the U.S. Government is responsible. We submit and negotiate REAs in the ordinary course of business, and large REAs are not uncommon at the conclusion of both new construction and RCOH activities. REAs are not considered claims under the Contract Disputes Act of 1978, although they may be converted to such claims if we cannot reach agreement with the U.S. Government.

In cases where there are multiple suppliers, contracts for the construction and conversion of U.S. Navy ships and submarines are generally subject to competitive bidding. In evaluating proposed prices, the U.S. Navy sometimes requires bidders to submit information on pricing, estimated costs of completion, and anticipated profit margins to enable the Navy to assess cost realism. The U.S. Navy uses this information and other data to determine an estimated cost for each bidder. U.S. Government regulations determine the contractor costs that are allowable and therefore recoverable from the government, and certain costs are not allowable and therefore are not recoverable. The U.S. Government also regulates the methods by which allowable costs, including overhead, are allocated to government contracts.

Our business, our contracts with various agencies of the U.S. Government, and our subcontracts with other prime contractors are subject to a variety of laws and regulations, including the Federal Acquisition Regulation ("FAR"), the Defense Federal Acquisition Regulation Supplement ("DFARS"), the Truth in Negotiations Act, the Procurement Integrity Act, the False Claims Act, U.S. Cost Accounting Standards ("CAS"), the International Traffic in Arms Regulations promulgated under the Arms Export Control Act, the Close the Contractor Fraud Loophole Act, and the Foreign Corrupt Practices Act. We are also subject to evolving cyber security and data privacy and protection laws and regulations. A noncompliance determination by a government agency may result in reductions in contract values, contract modifications or terminations, penalties, fines, repayments, compensatory, treble, or other damages, or suspension or debarment.

Competition

In our primary business of designing, building, overhauling, and repairing military ships, we primarily compete with General Dynamics and, to a lesser extent, smaller shipyards, one or more of which could team with a large defense contractor. Intense competition related to programs, resources, and funding, and long operating cycles are key characteristics of both our business and the shipbuilding defense industry in general. It is common industry practice to share work on major programs among a number of companies. A company competing to be a prime contractor may, upon ultimate award of the contract to another party, become a subcontractor for the prime contracting party. It is not uncommon to compete for a contract award with a peer company and, simultaneously, serve as a supplier to or a customer of such competitor on other contracts. The nature of major defense programs, conducted under binding long-term contracts, allows companies that perform well to benefit from a level of program continuity not common in many industries.

We believe we are well-positioned in our markets. Because we are the only company currently capable of building, refueling, and inactivating the U.S. Navy's nuclear-powered aircraft carriers, we believe we are in a strong competitive position to be awarded each contract to perform such activities. Even so, the government periodically revisits whether refueling of nuclear-powered aircraft carriers should be performed in private or public facilities. If a U.S. Government owned shipyard were to become capable and engaged in the refueling of nuclear-powered aircraft carriers, our market position could be significantly and adversely affected.

While we have competed with another large defense contractor to build large deck amphibious ships, we are currently the only builder of large deck amphibious assault ships and expeditionary warfare ships for the U.S. Navy, including LHAs and LPDs. We are also the sole builder of NSCs for the U.S. Coast Guard. We are one of only two companies currently designing and building nuclear-powered submarines for the U.S. Navy, and we are party to long-term teaming agreements with the other company for the production of both *Virginia* class (SSN 774) fast attack nuclear submarines and *Columbia* class (SSBN 826) ballistic missile submarines. We are one of only two companies that builds the U.S. Navy's current fleet of *Arleigh Burke* class (DDG 51) destroyers and are strongly positioned to be awarded future contracts for these types of ships as well.

Our success in the shipbuilding defense industry depends upon our ability to develop, market, and produce our products and services at costs consistent with the U.S. Navy's budget, as well as our ability to provide the workforce, technologies, facilities, equipment, and financial capacity needed to deliver those products and services with maximum efficiency.

We compete with a variety of companies in the provision of services to the government, energy, and oil and gas markets.

Environmental, Health, and Safety

Our manufacturing operations are subject to federal, state, and local laws and regulations relating to the protection of the environment. We accrue estimated costs to perform environmental remediation when we determine it is probable we will incur expenses in the future, in amounts we can reasonably estimate, to address environmental conditions at currently or formerly owned or leased operating facilities, or at sites where we are named a Potentially Responsible Party ("PRP") by the U.S. Environmental Protection Agency ("EPA") or similarly designated by another environmental agency. The inherent difficulties in estimating future environmental remediation costs, resulting from uncertainties regarding the extent of required remediation, determination of legally responsible parties, and the status of laws and regulations and their interpretations, can cause our estimated remediation costs to change.

We assess the potential impact on our financial statements of future environmental remediation costs by estimating, on a site-by-site basis, the range of reasonably possible remediation costs that we could incur, taking into account currently available information at each site, the current state of technology, and our prior experience remediating contaminated sites. We review our estimates periodically and adjust them to reflect changes in facts, technology, and legal circumstances. We record accruals for environmental remediation costs on an undiscounted basis in the accounting period in which it becomes probable we have incurred a liability and the costs can be reasonably estimated. We record related insurance recoveries only when we determine that collection is probable, and we do not include any litigation costs related to environmental matters in our environmental remediation accrual.

We either expense or capitalize environmental expenditures as appropriate. Capitalized expenditures relate to long-lived improvements in current operating facilities. We accrue environmental remediation costs at sites involving

multiple parties based upon our expected share of liability, taking into account the financial viability of other jointly liable parties. We may incur remediation costs exceeding our accrued amount if other PRPs do not pay their allocable share of remediation costs, which could have a material effect on our business, financial position, results of operations, or cash flows.

As of December 31, 2019, our probable estimable future costs for environmental remediation were immaterial. In addition, we cannot reasonably estimate remediation costs at certain of our potential environmental remediation sites. Although information gained as remediation progresses may materially affect our accrued liability, we do not anticipate that future remediation expenditures will have a material effect on our financial position, results of operations, or cash flows.

We believe we are in material compliance with environmental laws and regulations, and historical environmental compliance costs have not been material to our business. We could be affected by new environmental laws or regulations, including any laws and regulations enacted in response to concerns over climate change, other aspects of the environment, or natural resources. We have made investments we believe are necessary to comply with environmental laws, but we expect to incur future capital and operating costs to comply with current and future environmental laws and regulations. We do not currently believe such costs will have a material effect on our financial position, results of operations, or cash flows.

With regard to occupational health and safety, the shipbuilding and ship repair industry includes exposure to hazardous materials and processes. According to the Bureau of Labor Statistics, the shipbuilding and ship repair industry (NAICS 336611) ranks among the highest in several injury metrics. We have experienced three fatalities in the past eight years. We strive to keep our Occupational Safety and Health Administration ("OSHA") compliance programs strong.

The U.S. Navy, Nuclear Regulatory Commission, and DoE each regulate and control various matters relating to our nuclear operations and nuclear materials. Subject to certain requirements and limitations, our contracts with the U.S. Navy and DoE generally provide for indemnity by the U.S. Government for losses resulting from our nuclear operations. For our commercial nuclear operations, we rely primarily on insurance carried by nuclear facility operators for risk mitigation, and we maintain limited insurance coverage for losses in excess of the coverage of facility operators.

Employees

We have approximately 42,000 employees. We are the largest industrial employer in Virginia and the largest private employer in Mississippi. We employ individuals specializing in 19 crafts and trades, with approximately 6,800 engineers and designers and approximately 2,500 employees with advanced degrees. Our workforce contains many third-, fourth-, and fifth-generation employees, and approximately 1,380 employees with more than 40 years of continuous service. Employees in our shipbuilding divisions with more than 40 years of continuous service achieve the honor of "Master Shipbuilder." As of December 31, 2019, we had 1,057 Master Shipbuilders at Newport News and 303 at Ingalls. We employ more than 7,400 veterans across the enterprise.

More than 1,900 apprentices are trained by our two shipbuilding segments each year in more than 27 crafts and advanced programs. From nuclear pipe welders to senior executives, we employ approximately 4,300 apprentice school alumni, 2,850 at Newport News, 1,400 at Ingalls, and 50 at Technical Solutions.

Approximately 50% of our employees are covered by a total of nine collective bargaining agreements and two site stabilization agreements. Newport News has four collective bargaining agreements covering represented employees, which expire in November 2020, November 2021, December 2022, and April 2024. The collective bargaining agreement that expires in November 2021 covers approximately 50% of Newport News employees. Newport News craft workers employed at the Kesselring Site near Saratoga Springs, New York are represented under an indefinite DoE site agreement. Ingalls has five collective bargaining agreements covering represented employees, all of which expire in March 2022. Approximately 50 Technical Solutions employees at various locations are represented by unions and perform work under collective bargaining agreements. We believe our relationship with our employees is satisfactory.

Available Information

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, as well as any amendments to those reports, are available free of charge through our website after we file them with the Securities and Exchange Commission ("SEC"). You can learn more about us by reviewing our SEC filings on the investor relations page on our website at www.huntingtoningalls.com.

The SEC also maintains a website at www.sec.gov that contains reports, proxy statements, and other information about SEC registrants, including us.

Forward-Looking Statements

Statements in this Annual Report on Form 10-K and in our other filings with the SEC, as well as other statements we may make from time to time, other than statements of historical fact, constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements involve risks and uncertainties that could cause our actual results to differ materially from those expressed in these statements. Factors that may cause such differences include:

- Changes in government and customer priorities and requirements (including government budgetary constraints, shifts in defense spending, and changes in customer short-range and long-range plans);
- Our ability to estimate our future contract costs and perform our contracts effectively;
- Changes in procurement processes and government regulations and our ability to comply with such requirements;
- Our ability to deliver our products and services at an affordable life cycle cost and compete within our markets;
- Natural and environmental disasters and political instability;
- Our ability to execute our strategic plan, including with respect to share repurchases, dividends, capital expenditures, and strategic acquisitions;
- Adverse economic conditions in the United States and globally;
- Changes in key estimates and assumptions regarding our pension and retiree health care costs;
- Security threats, including cyber security threats, and related disruptions; and
- Other risk factors discussed herein and in our other filings with the SEC.

There may be other risks and uncertainties that we are unable to predict at this time or that we currently do not expect to have a material adverse effect on our business, and we undertake no obligation to update or revise any forward-looking statements. You should not place undue reliance on any forward looking statements that we may make.

Item 1A. Risk Factors

An investment in our common stock or debt securities involves risks and uncertainties. We seek to identify, manage, and mitigate risks to our business, but risk and uncertainty cannot be eliminated or necessarily predicted. You should consider the following factors carefully, in addition to the other information contained in this Annual Report on Form 10-K, before deciding to purchase our securities.

We depend heavily on the U.S. Government for substantially all of our business, and risks that arise from conducting business with the U.S. Government could have a material adverse effect on our financial position, results of operations, or cash flows.

Our business consists primarily of the design, construction, repair, and maintenance of nuclear-powered ships and non-nuclear ships for the U.S. Navy and coastal defense surface ships for the U.S. Coast Guard, as well as the refueling and overhaul and inactivation of nuclear-powered ships for the U.S. Navy. We also provide fleet sustainment services to the U.S. Navy, IT and mission-based solutions for the DoD and intelligence and federal civilian customers, and nuclear management and operations and environmental management services for the DoE and DoD. Substantially all of our revenues in 2019 were derived from products and services sold to the U.S. Government, and we expect this to continue in the foreseeable future. In addition, substantially all of our backlog as of December 31, 2019, was U.S. Government related. Our U.S. Government contracts are subject to various risks, including customer political and budgetary constraints and processes, changes in customer short term and long term strategic plans, the timing of contract awards, significant changes in contract scheduling, intense contract and funding competition, difficulty forecasting costs and schedules for bids on developmental and sophisticated technical work, and contractor suspension or debarment in the event of certain violations of legal or regulatory requirements. Any of these factors could affect our business with the U.S. Government, which would have a material adverse effect on our financial position, results of operations, or cash flows.

Significant delays or reductions in appropriations for our programs, changes in customer priorities, and potential contract terminations could have a material adverse effect on our financial position, results of operations, or cash flows.

We are directly dependent upon Congressional funding of U.S. Navy, U.S. Coast Guard, and other government agency programs. The funding of U.S. Government programs is subject to Congressional budget authorization and appropriation processes. For certain programs, Congress appropriates funds on a fiscal year basis even though a program may be performed over several fiscal years. As a result, a program may be funded initially on a partial basis and receive additional funding only as Congress makes additional appropriations. If we incur costs in excess of existing funding on a contract, we may not recover those costs unless and until additional funds are appropriated. We cannot predict the extent to which total funding or funding for individual programs will be included, increased, or reduced as part of the annual budget process or through continuing resolutions or individual supplemental appropriations.

The impact of Congressional actions to reduce the federal debt and resulting pressures on federal spending could adversely affect the total funding of individual contracts or funding for individual programs and delay purchasing or payment decisions by our customers. Long-term uncertainty exists with respect to overall levels of defense spending across the future years defense plan. It is likely that U.S. Government discretionary spending levels, including defense spending, will continue to be subject to significant pressure. For additional information relating to the U.S. defense budget, see the Business Environment section of Management's Discussion and Analysis of Financial Condition and Results of Operations in Item 7.

Demand for our products and services can also be affected by shifts in customer priorities resulting from changes in military strategy and planning. In response to the need for cheaper alternatives and the proliferation of "smart weapons," future strategy reassessments by the DoD may result in decreased demand for our shipbuilding programs, including our aircraft carrier programs. For the year ended December 31, 2019, our aircraft carrier programs accounted for approximately 32% of our consolidated revenue. We cannot predict the impact of changes to customer priorities on existing, follow-on, replacement, or future programs. A shift of priorities to programs in which we do not participate and related reductions in funding for or the termination of programs in which we do participate could have a material adverse effect on our financial position, results of operations, or cash flows.

The U.S. Government generally has the ability to terminate contracts, in whole or in part, with little or no prior notice, for convenience or for default based upon performance. In the event of termination of a contract for the

U.S. Government's convenience, a contractor is normally able to recover costs already incurred on the contract and profit on those costs up to the amount authorized under the contract, but not the profit that would have been earned had the contract been completed. Such a termination could also result in the cancellation of future work on the related program. A termination resulting from our default can expose us to various liabilities, including excess re-procurement costs, and could negatively affect our ability to compete for future contracts. Any contract termination could have a material adverse effect on our financial condition, results of operations, or cash flows.

Cost growth on flexibly priced contracts that does not result in higher contract value due from customers reduces our profit and exposes us to the potential loss of future business.

Our operating income is adversely affected when we incur certain contract costs or certain increases in contract costs that cannot be billed to customers. Cost growth can occur if expenses to complete a contract increase due to technical challenges, manufacturing difficulties, delays, workforce-related issues, or inaccurate estimates used for the initial calculation of contract costs. Reasons may include labor unavailability or reduced productivity, the nature and complexity of the work performed, the timeliness and availability of materials, major subcontractor performance or product quality issues, performance delays, availability and timing of funding from the customer, and natural disasters. The process of estimating contract costs requires significant judgment and expertise. A significant increase in contract costs from our original cost estimates on one or more contracts could have a material adverse effect on our financial position, results of operations, or cash flows.

Our ability to recover costs and realize profits on contracts with our U.S. Government customers depends upon the type of contract under which we are performing. Our U.S. Government business is currently performed under firm fixed-price, fixed-price incentive, cost-type, and time and material contracts. Under firm fixed price contracts, we agree to perform the specified work for a pre-determined price. To the extent our actual costs vary from the estimates upon which the price was negotiated, we will generate more or less profit or could incur a loss. Some firm fixed-price contracts have a performance-based component under which we may earn incentive payments or incur financial penalties based upon our performance. Fixed-price incentive contracts provide for reimbursement of the contractor's allowable costs incurred in performance of the contract, subject to a cost-share limit that impacts the profit on the contract. Cost-type contracts provide for the payment of allowable costs incurred during performance of the contract plus a fee up to a ceiling based on the amount that has been funded. Under time and material contracts, we are paid for direct labor hours incurred at specified hourly rates plus material costs. See the Contract section under Management's Discussion and Analysis of Financial Condition and Results of Operations in Item 7 for descriptions of the types of contracts that comprise our business.

Approximately 4% of our revenues in 2019 were generated under firm fixed-price contracts, approximately 50% were generated under fixed price incentive contracts, approximately 42% were generated under cost-type contracts, and approximately 4% were generated under time and material contracts. Our failure to perform to customer expectations and contract requirements may result in reduced fees or losses and affect our financial performance. Under each type of contract, if we are unable to control costs, our operating results could be adversely affected, particularly if we are unable to justify an increase in contract value to our customers. Cost overruns or the failure to perform on existing programs also may adversely affect our ability to retain existing programs and win future contract awards. To the extent our mix of contract types changes in the future, our ability to recover our costs and realize profits on our contracts could be negatively affected.

Our earnings and profitability depend upon our ability to perform our contracts.

When agreeing to contract terms, we make assumptions and projections about future conditions and events, many of which extend over long periods. Our assumptions and projections are based upon our assessments of the productivity and availability of labor, the complexity of the work to be performed, the cost and availability of materials, the impact of delayed performance, the timing of product deliveries, and other matters. We may experience significant variances from our assumptions and projections, contract performance schedule delays, and variances in the timing of our product deliveries. If our actual experience differs significantly from our assumptions or projections or we incur unanticipated contract costs, the profitability of the related contracts may be adversely affected.

Our earnings and profitability depend, in part, upon subcontractor performance and raw material and component availability and pricing.

We rely on third parties to provide raw materials, major components and sub-systems, hardware elements, and sub-assemblies for our products and to perform certain services we provide to our customers, and to do so in compliance with applicable laws and regulations. Disruptions and performance problems caused by our suppliers and subcontractors, or misalignments between our contractual obligations to our customers and our agreements with our subcontractors and suppliers, could have an adverse effect on our ability to meet our commitments to customers. Our ability to satisfy our obligations on a timely basis could be adversely affected if one or more of our suppliers or subcontractors are unable to provide agreed-upon products or materials or perform agreed-upon services in a timely, compliant and cost-effective manner or they otherwise fail to satisfy contractual requirements. The inability of our suppliers or subcontractors to meet expectations could also result in the need for us to transition to alternate parties, which could result in significant incremental cost and delay, or the need for us to provide other supplemental support to our existing suppliers and subcontractors.

Our costs to manufacture our products can increase over the terms of our contracts, including as a result of increases in material costs. Although we may be protected from increases in material costs through contract cost escalation provisions, the difference in basis between our actual material costs and industry indices may expose us to cost recovery risk. In addition, significant delays in deliveries of key raw materials, which may occur as a result of availability or pricing, could have a material adverse effect on our financial position, results of operations, or cash flows.

In some cases, only one supplier may exist for certain components and parts required to manufacture our products. The inability of a sole source supplier to provide a necessary component or part on a timely, compliant, and cost-effective basis could increase our contract cost and affect our ability to perform our contract.

Our procurement practices are intended to provide quality materials and services to support our programs and to reduce the likelihood of our procurement of unauthorized, non-compliant, or deficient materials and services. We rely on our subcontractors and suppliers to comply with applicable laws, regulations, and the expectations set forth in the HII Supplier Code of Conduct in connection with the materials and services we procure. In some circumstances, we rely on representations and certifications from our subcontractors and suppliers regarding their compliance. We also conduct technical assessments, inspections, and audits, as necessary, with subcontractors and suppliers. Notwithstanding the actions we take to mitigate the risk of receiving materials and services that fail to meet specifications or requirements, subcontractors and suppliers sometimes provide us with unauthorized, non-compliant, or deficient materials and services.

Our inability to procure, or a significant delay in acquiring, necessary raw materials, components, or parts, the failure of our subcontractors or suppliers to comply with applicable laws and regulations, inaccurate certifications from our subcontractors and suppliers regarding their compliance, or noncompliant materials, components, or parts from our subcontractors and suppliers could have a material adverse effect on our financial position, results of operations, or cash flows.

Changes to Department of Defense business practices could have a material effect on DoD's procurement process and adversely impact our current programs and potential new awards.

Our industry has experienced, and we expect will continue to experience, significant changes to business practices resulting from greater focus on affordability, efficiencies, business systems, recovery of costs, and a reprioritization of defense funds to key areas for future defense spending. These initiatives and changes to procurement practices may change the way U.S. Government contracts are solicited, negotiated, and managed, which may affect whether and how we pursue opportunities to provide our products and services to the U.S. Government, including the terms and conditions under which we do so, which may have an adverse impact on our business, financial condition, results of operations, and cash flows. Changes in procurement practices favoring incentive-based fee arrangements, different award fee criteria, non-traditional contract provisions, and government contract negotiation offers that mandate what our costs should be may affect our profitability and predictability of our profit rates. The U.S. Government is also pursuing alternatives to shift additional responsibility and performance risks to the contractor.

In addition to DOD's business practice initiatives, the DCMA and DCAA have implemented cost recovery/cost savings initiatives to prioritize cost recovery/savings. As a result of certain of these initiatives, we have experienced and may continue to experience a higher number of audits and/or lengthened periods of time required to close open audits. Moreover, the thresholds for certain allowable costs, including compensation costs, have been significantly reduced, and the allowability of other types of costs are being challenged, debated, and, in certain cases, modified. Significant changes to the thresholds for allowable costs or the allowability of certain costs could adversely affect our financial position, results of operations, or cash flows.

Our future success depends, in part, on our ability to deliver our products and services at an affordable life cycle cost, requiring us to develop and maintain technologies, facilities, equipment, and a qualified workforce to meet the needs of current and future customers.

Shipbuilding is a long cycle business, and our success depends on quality, cost, and schedule performance on our contracts. In turn, our performance depends upon our ability to develop and maintain the workforce, technologies, facilities, equipment, and financial capacity to deliver our products and services at an affordable life cycle cost. If we fail to maintain our competitive position in these areas, we could lose future contracts to our competitors, which could have a material adverse effect on our financial position, results of operations, or cash flows.

Our operating results are heavily dependent upon our ability to attract and retain at competitive costs a sufficient number of engineers and other employees with the necessary skills and security clearances. At the same time, future revenues and costs impact our ability to maintain a qualified workforce. Development and maintenance of the necessary nuclear related skills and the challenges of hiring and training a qualified workforce can be a limitation on our business. If qualified personnel become scarce, we could experience higher labor, recruiting, or training costs to attract and retain qualified employees, or, if we fail to attract and retain qualified personnel, we could experience difficulties performing our contracts and competing for new contract awards.

Competition within our markets or an increase in bid protests may reduce our revenues and market share.

U.S. defense spending levels are uncertain and difficult to predict. A longer term reduction in shipbuilding activity by the U.S. Navy, evidenced by the reduction in fleet size from 566 ships in 1989 to 293 ships as of December 31, 2019, has resulted in workforce reductions but little infrastructure consolidation. The general result has been fewer contracts awarded to the same fixed number of shipyards. Five major private United States shipyards, two of which we own, plus many other smaller private shipyards compete for contracts to construct, overhaul, repair, and convert naval vessels. Additionally, our products, such as aircraft carriers, submarines, amphibious assault ships, surface combatants, and other ships, compete for funding with each other, as well as with other defense products and services. We expect competition for future shipbuilding programs to be intense.

We compete with another large defense contractor for contracts to build surface combatants, submarines, and large deck amphibious ships. We may compete in the future with the same and other defense contractors to build new and different classes of ships, as well as ships for which we are currently the sole source, including expeditionary warfare and amphibious assault ships. Moreover, reductions in U.S. defense spending that reduce the demand for the types of ships we build and services we provide increase our risk exposure to market competition. If we are unable to continue to compete successfully against our current or future competitors, we may experience lower revenues and market share, which could negatively impact our financial condition, results of operations, or cash flows.

Although we are the only company currently capable of refueling nuclear-powered aircraft carriers, two existing U.S. Government-owned shipyards may be able to refuel nuclear-powered aircraft carriers if substantial investments in facilities, personnel, and training were made. U.S. Government-owned shipyards currently engage in the refueling, overhaul, and inactivation of *Los Angeles* class (SSN 688) submarines and are capable of repairing and overhauling non-nuclear ships. If a U.S. Government-owned shipyard became capable and engaged in the refueling of nuclear-powered aircraft carriers, our financial position, results of operations, or cash flows could be adversely affected.

We also compete in the shipbuilding engineering, planning, and design market with companies that provide engineering support services. Such competition increases the risk we may not be the successful bidder on future U.S. Navy engineering proposals, including aircraft carrier research and development, submarine design, and surface combatant and amphibious assault ship program contracts.

Our competitive environment is also affected by bid protests from unsuccessful bidders on new program awards. As the competitive environment intensifies, the number of bid protests may increase. Bid protests can result in an award decision being overturned, requiring a re-bid of the contract. Even when a bid protest does not result in a re-bid, resolution of the matter typically extends the time until contract performance can begin, which can reduce our earnings in the period in which the contract would otherwise be performed.

As a U.S. Government contractor, we are heavily regulated and could be adversely affected by changes in regulations or negative findings from a U.S. Government audit or investigation.

As a U.S. Government contractor, we must comply with significant regulatory requirements, including those relating to procurement, cyber security, and nuclear operations. Government contracting requirements increase our contract performance and compliance costs and risks and change on a routine basis. In addition, our nuclear operations are subject to an enhanced regulatory environment, which results in further performance and compliance requirements and higher costs. New laws, regulations, or procurement requirements, or changes to existing ones (including, for example, regulations related to recovery of compensation costs, cyber security, counterfeit parts, specialty metals, and conflict minerals), can increase our performance and compliance costs and risks and reduce our profitability.

We are audited and reviewed on a regular basis by the U.S. Government and its various agencies, including the U.S. Navy's Supervisor of Shipbuilding, the DCAA, and the DCMA. These agencies evaluate our contract performance, cost structures, and compliance with applicable laws, regulations, and standards, as well as the adequacy of our business systems and processes relative to U.S. Government requirements. If an audit uncovers improper or illegal activities, we may be subject to administrative, civil, or criminal proceedings, which could result in fines, penalties, repayments, or compensatory, treble, or other damages. Certain U.S. Government findings against a contractor can also lead to suspension or debarment from future U.S. Government contracts or the loss of export privileges. Allegations of impropriety can also cause significant reputational damage.

The U.S. Government also has the ability to decrease or withhold contract payments if it determines significant deficiencies exist in one or more of our business systems. The U.S. Government has, in certain instances, withheld contract payments upon its assessment that deficiencies exist with one or more of our business systems, which can have a material impact on the timing of our cash receipts.

The U.S. Government has, from time to time, recommended that certain of our contract prices be reduced, or that certain costs allocated to our contracts be disallowed, which sometimes involve substantial dollar amounts. In response to U.S. Government audits, investigations, and inquiries, we have also in the past made adjustments to our contract prices and costs allocated to our government contracts. Such audits, investigations, and inquiries may result in future reductions of our contract prices. Costs we incur that are determined to be unallowable or improperly allocated to a specific contract will not be recovered or must be refunded if previously reimbursed.

We must comply with a variety of federal laws and regulations, including the FAR, DFARS, the Truth in Negotiations Act, the False Claims Act, the Procurement Integrity Act, the International Traffic in Arms Regulations promulgated under the Arms Export Control Act, the Close the Contractor Fraud Loophole Act, the Foreign Corrupt Practices Act, and CAS. If a determination is made that we engaged in illegal activities or we are not presently responsible, as defined under the FAR, we may be subject to reductions in contract values, contract modifications or terminations, penalties, fines, repayments, compensatory, treble, or other damages, or suspension or debarment, any of which could have a material adverse effect on our financial position, results of operations, or cash flows. In addition, cyber security and data privacy and protection laws and regulations are evolving and present increasing compliance challenges, which increase our costs and may affect our competitiveness, cause reputational harm, and expose us to substantial fines or other penalties.

Many of our contracts contain performance obligations that require innovative design capabilities or state-of-the-art manufacturing expertise, include complex technologies, or are dependent upon factors not wholly within our control, and failure to meet performance expectations could adversely affect our profitability and future prospects.

We design, develop, and manufacture products and provide services utilized by our customers in a variety of environments. Problems and delays with product development, technology implementation, or delivery of subcontractor components or services as a result of issues with design, technology, licensing and intellectual property rights, labor, learning curve assumptions, or materials and parts could prevent us from satisfying contractual requirements.

First-in-class ships, also known as lead ships, usually include new technologies supplied by the U.S. Navy, other contractors, or us. Problems developing or implementing these new technologies or design changes in the construction process can lead to delays in the design schedule for construction. The risks associated with new technologies or mid-construction design changes can both increase the cost of a ship and delay delivery. Untimely receipt of customer information can also cause inefficiencies in the construction process, increase costs, and put the delivery schedule at risk, which can adversely affect our profitability and future prospects.

Our products cannot always be tested and proven and are otherwise subject to unforeseen problems, including premature failure of products that cannot be accessed for repair or replacement, substandard quality or workmanship, and unplanned degradation of product performance. These failures could result in loss of life or property and could negatively affect our results of operations by causing unanticipated expenses not covered by insurance or indemnification from the customer, diversion of management attention to respond to unforeseen problems, loss of follow-on work, and, in the case of certain contracts, reimbursement to the customer of contract costs and fee payments previously received.

We periodically experience quality issues with respect to products and services that we sell to our U.S. Government customers. These issues can and have required significant resources to determine the source of the deficiencies and implement corrective actions. We may discover quality issues in the future related to our products and services that require analysis and corrective action. Such issues and our responses and corrective actions could have a material adverse effect on our financial position, results of operations, or cash flows.

Changes in estimates used in accounting for our contracts could affect our profitability and our overall financial position.

Contract accounting requires judgments relative to assessing risks, estimating contract revenues and costs, and making assumptions regarding schedule and technical issues. The size and nature of many of our contracts make the estimation of total revenues and costs at completion complicated and subject to many variables. For new shipbuilding programs, we estimate, negotiate, and contract for construction of ships that are not completely designed, which subjects our risk assessments, revenue and cost estimates, and assumptions regarding schedule and technical issues to the variability of the final ship design and evolving scope of work. Our judgment, estimation, and assumption processes are significant to our contract accounting, and materially different amounts can be generated if different assumptions are used or if actual events differ from our assumptions. Future changes in assumptions, circumstances, or estimates may have a material adverse effect on our future financial position, results of operations, or cash flows. See Critical Accounting Policies, Estimates, and Judgments in Item 7.

Our business is subject to disruption caused by natural disasters, environmental disasters, and other events that could have a material adverse effect on our financial position, results of operations, or cash flows.

We have significant operations located in regions of the United States that have been and may in the future be exposed to damaging storms, such as hurricanes and floods, and environmental disasters, such as oil spills. Natural disasters can disrupt our workforce, electrical and other power distribution networks, computer and internet operations and accessibility, and critical industrial infrastructure needed for normal business operations, which can adversely affect our contract performance and, as a result, our financial results. Environmental disasters, particularly oil spills in waterways and bodies of water we use for transporting and testing our ships, can cause schedule delays under our contracts with the U.S. Navy and the U.S. Coast Guard.

Damage and disruption resulting from natural and environmental disasters may be significant. Should insurance or other risk transfer mechanisms be unavailable or insufficient to recover material costs associated with natural or environmental disasters or other events, we could experience a material adverse effect on our financial position, results of operations, or cash flows. See *Our insurance coverage may be inadequate to cover all of our significant risks or our insurers may deny coverage of material losses we incur, which could adversely affect our profitability and financial position.*

Our suppliers and subcontractors are also subject to natural and environmental disasters that could affect their ability to deliver products or services or otherwise perform their contracts. Performance failures by our subcontractors due to natural or environmental disasters may adversely affect our ability to perform our contracts, which could reduce our profitability in the event damages or other costs are not recoverable from the subcontractor, the customer, or insurers. Such events could also result in a termination of the prime contract and have an adverse effect on our ability to compete for future contracts.

In addition to the events described above, operation of our facilities may be disrupted by civil unrest, acts of sabotage or terrorism, and other local security issues. Such events may require us to incur greater costs for security or to shut down operations for a period of time.

Our insurance coverage may be inadequate to cover all of our significant risks or our insurers may deny coverage of material losses we incur, which could adversely affect our profitability and financial position.

We seek to buy insurance to cover our significant risks and potential liabilities, including, among others, property loss from natural disasters, product liability, and business interruption resulting from an insured property loss. In some circumstances, we may be indemnified for losses by the U.S. Government, subject to the availability of appropriated funds. Not every risk or liability can be protected by insurance, and, for insurable risks, the limits of coverage we can reasonably purchase may not be sufficient to cover the full amount of actual losses or liabilities incurred, including, for example, in the case of a catastrophic hurricane. In addition, the nature of our business makes it difficult to quantify the disruptive impact and any resulting loss of such events. Limitations on the availability of insurance coverage may result in us incurring substantial costs for uninsured losses, which could have a material adverse effect on our financial position, results of operations, or cash flows. Even in cases for which we have insurance coverage, disputes with insurance carriers over coverage may affect the timing of cash flows, and, in the event of litigation with an insurance carrier, an outcome unfavorable to us may have a material adverse effect on our financial position, results of operations, or cash flows.

Our business could suffer if we are unsuccessful in negotiating new collective bargaining agreements.

Approximately 50% of our employees are covered by a total of nine collective bargaining agreements and two site stabilization agreements. Newport News has four collective bargaining agreements covering represented employees, which expire in November 2020, November 2021, December 2022, and April 2024. The collective bargaining agreement that expires in November 2021 covers approximately 50% of Newport News employees. Newport News craft workers employed at the Kesselring Site near Saratoga Springs, New York are represented under an indefinite DoE site agreement. Ingalls has five collective bargaining agreements covering represented employees, all of which expire in March 2022. Approximately 50 Technical Solutions employees at various locations are represented by unions and perform work under collective bargaining agreements.

Collective bargaining agreements generally expire after three to five years and are subject to renegotiation at that time. While we believe we maintain good relationships with our represented workers, it is possible we may experience difficulties renegotiating expiring collective bargaining agreements. We have experienced in the past work stoppages, strikes, and other labor disruptions associated with the collective bargaining of new labor agreements. If we experience such events in the future, we could incur additional expenses or work delays that could adversely affect programs served by employees who are covered by collective bargaining agreements.

Changes in key estimates and assumptions, such as discount rates and assumed long-term returns on assets, actual investment returns on our pension plan assets, and legislative and regulatory actions could significantly affect our financial position, results of operations, and cash flows.

Our pension and retiree health care costs are dependent upon significant judgment regarding various estimates and assumptions, particularly with respect to the discount rate and expected long-term rates of return on plan assets, which to a large extent are reflective of the financial markets and economic conditions. Changes to these estimates and assumptions and differences between expected and actual returns on plan assets could significantly impact our retirement related expense, the funded status of the plans, and contributions to our defined benefit pension and other postretirement benefit plans, which could have material adverse effects on our financial position, results of operations, or cash flows.

Additionally, pension cost recoveries under CAS for our U.S. Government contracts occur in different periods from those in which pension expense is recognized under accounting principles generally accepted in the United States ("GAAP") or the periods in which we make contributions to our plans, and changes to estimates and assumptions and differences between expected and actual returns could adversely affect the timing of those pension cost recoveries.

Unforeseen environmental costs could have a material adverse effect on our financial position, results of operations, or cash flows.

Our operations are subject to and affected by a variety of existing federal, state, and local environmental protection laws and regulations. In addition, we could be affected by future laws or regulations, including those imposed in response to concerns over climate change, other aspects of the environment, or natural resources. We expect to incur future capital and operating costs to comply with current and future environmental laws and regulations, and such costs could be substantial, depending on the future proliferation of environmental rules and regulations and the extent to which we discover currently unknown environmental conditions.

Shipbuilding operations require the use of hazardous materials. Our shipyards also generate significant quantities of wastewater, which we treat before discharging pursuant to various permits. To manage these materials, our shipyards have an extensive network of aboveground and underground storage tanks, some of which have leaked and required remediation in the past. In addition, our handling of hazardous materials has sometimes resulted in spills in our shipyards and occasionally in adjacent rivers and waterways in which we operate. Our shipyards maintain extensive waste handling programs that we periodically modify, consistent with changes in applicable laws and regulations. See Environmental, Health and Safety in Item 1.

Various federal, state, and local environmental laws and regulations impose restrictions on the discharge of pollutants into the environment and establish standards for the transportation, storage, and disposal of toxic and hazardous wastes. Substantial fines, penalties, and criminal sanctions may be imposed for noncompliance, and certain environmental laws impose joint and several "strict liability" for remediation of spills and releases of oil and hazardous substances. Such laws and regulations impose liability upon a party for environmental cleanup and remediation costs and damage without regard to negligence or fault on the part of such party and could expose us to liability for the conduct of or conditions caused by third parties.

In addition to fines, penalties, and criminal sanctions, environmental laws and regulations may require the installation of costly pollution control equipment or operational changes to limit pollution emissions or discharges and/or to decrease the likelihood of accidental hazardous material releases. We anticipate future costs to comply with federal and state environmental laws and regulations related to the cleanup of pollutants released into the environment. Moreover, if we violate the Clean Air Act or the Clean Water Act, the facility or facilities involved in the violation could be placed by the EPA on the "Excluded Parties List" maintained by the General Services Administration, which would continue until the EPA concluded the cause of the violation was cured. Facilities on the "Excluded Parties List" are prohibited from working on any U.S. Government contract.

The adoption of new environmental laws and regulations, stricter enforcement of existing laws and regulations, imposition of new cleanup requirements, discovery of previously unknown or more extensive contamination, litigation involving environmental matters, our inability to recover related costs under our government contracts, or the financial insolvency of other responsible parties could cause us to incur costs that could have a material adverse effect on our financial position, results of operations, or cash flows.

Market volatility and adverse capital market conditions may affect our ability to access cost-effective sources of funding and may expose us to risks associated with the financial viability of suppliers and subcontractors.

The financial markets can experience high levels of volatility and disruption, reducing the availability of credit for certain issuers. We access these markets from time to time to support certain business activities, including funding acquisitions and capital expansion projects and refinancing existing indebtedness. We may also access these markets to acquire credit support for our workers' compensation self-insurance program and letters of credit. A number of factors could cause us to incur higher borrowing costs and experience greater difficulty accessing public and private markets for debt, including disruptions or declines in the global capital markets and/or a decline in our financial performance, outlook, or credit ratings. The occurrence of any or all of these events may adversely affect our ability to fund our operations, meet contractual commitments, make future investments or desirable acquisitions, or respond to competitive challenges.

Tightening capital markets could also adversely affect the ability of our suppliers and subcontractors to obtain financing. Delays in the ability of our suppliers or subcontractors to obtain financing, or the unavailability of financing, could negatively affect their ability to perform their contracts with us and, as a result, our ability to perform our contracts. The inability of our suppliers and subcontractors to obtain financing could also result in the need for us to transition to alternate suppliers and subcontractors, which could result in us incurring significant incremental costs and delays.

Our reputation and our ability to conduct business may be impacted by the improper conduct of employees, agents, or business partners.

Our compliance program includes detailed compliance plans and related compliance controls, policies, procedures, and training designed to prevent and detect misconduct by employees, agents, business partners, and others working on our behalf, including suppliers and subcontractors, that would violate the laws of the jurisdictions in which we operate, including laws governing payments to government officials, the protection of export controlled or classified information, cost accounting and billing, competition, and data privacy. We have been impacted in the past by the misconduct of employees and business partners, and we may not prevent all such misconduct in the future by our employees, agents, business partners, and others working on our behalf, including suppliers and subcontractors. Moreover, the risk of improper conduct may be expected to increase as we expand our operations into foreign jurisdictions. Any improper actions by our employees, agents, business partners, and others working on our behalf, including suppliers and subcontractors, could subject us to administrative, civil, or criminal investigations and monetary and non-monetary penalties, including suspension or debarment, which could have a material adverse effect on our financial position, results of operations, or cash flows. Any such improper actions could also cause us significant reputational damage.

We could be negatively impacted by security threats, including cyber security threats, and related disruptions.

As a defense contractor, we rely on our information technology infrastructure to process, transmit, and store electronic information, including classified and other sensitive information of the U.S. Government. While we maintain stringent information security policies and protocols and implement security controls and complementary cyber security technologies in compliance with industry requirements, we face substantial cyber security threats to our information technology infrastructure, including threats to our and the U.S. Government's proprietary and classified information. Advanced nation state threat actors, sophisticated cyber crime syndicates, hacktivists, and insiders can pose significant threats to our information technology infrastructure and assets. While we implement countermeasures to address the risks posed by these threats, external and internal threat actors continuously seek to evade our cyber security countermeasures to gain unauthorized and unlawful access to our information technology infrastructure, assets, and data.

Our information technology infrastructure is critical to the efficient operation of our business and essential to our ability to perform day-to-day operations. Breaches of our information technology infrastructure or physical facilities could cause us to incur significant recovery and restoration expenses; degrade performance on existing contracts; and expose us to reputational damage, potential liability, or the loss of current or future contracts, including work on sensitive or classified systems for the U.S. Government, any of which could have a material adverse effect on our operations, financial position, results of operations, or cash flows.

Our suppliers, subcontractors, and other business partners also face cyber security and other security threats. Although we undertake cooperative efforts with our customers, suppliers, subcontractors, and other business partners to assist them with understanding the threats they face and potential cyber security countermeasures to defend against potential cyber attacks, other security threats, and business disruptions, we rely substantially on the safeguards managed by these entities, which may affect the security of our information. These entities have varying levels of cyber security expertise and safeguards, and their relationships with U.S. Government contractors may increase the likelihood that they are targeted by the same cyber security threats we face.

Our nuclear operations subject us to environmental, regulatory, financial, and other risks.

The design, construction, refueling and overhaul, repair, and inactivation of nuclear-powered aircraft carriers and nuclear-powered submarines, our nuclear facilities used to support such activities, our nuclear operations at DoE sites, and our activities in the commercial nuclear market subject us to various risks, including:

- Potential liabilities relating to harmful effects on the environment and human health resulting from nuclear operations and the storage, handling, and disposal of radioactive materials, including nuclear assemblies and their components;
- Unplanned expenditures relating to maintenance, operations, security, and repairs, including repairs required by the U.S. Navy, the Nuclear Regulatory Commission, or the DoE;
- Reputational damage;
- Potential liabilities arising out of a nuclear incident whether or not it is within our control; and
- Regulatory noncompliance and loss of authorizations or indemnifications necessary for our operations.

Failure to properly handle nuclear materials could pose a health risk to humans and wildlife and could cause personal injury and property damage, including environmental contamination. If a nuclear accident were to occur, its severity could be significantly affected by the volume of the materials and the speed of remedial actions taken by us and emergency response personnel, as well as other factors beyond our control, such as weather and wind conditions. Actions we might take in response to an accident could result in significant costs.

Our nuclear operations are subject to various safety related requirements imposed by the U.S. Navy, the DoE, and the Nuclear Regulatory Commission. In the event of noncompliance, these agencies may increase regulatory oversight, impose fines, or shut down our operations, depending on their assessment of the severity of the noncompliance. In addition, new or revised security and safety requirements imposed by the U.S. Navy, DoE, and Nuclear Regulatory Commission could necessitate substantial capital and other expenditures.

Subject to certain requirements and limitations, our contracts with the U.S. Navy and DoE generally provide for indemnity by the U.S. Government for costs arising out of or resulting from our nuclear operations. We may not, however, be indemnified for all liabilities we may incur in connection with our nuclear operations. To mitigate risks related to our commercial nuclear operations, we rely primarily on insurance carried by nuclear facility operators and our own limited insurance for losses in excess of the coverage of facility operators. Such insurance, however, may not be sufficient to cover our costs in the event of an accident or business interruption relating to our commercial nuclear operations, which could have a material adverse effect on our financial position, results of operations, or cash flows.

Changes in future business conditions could cause business investments, recorded goodwill, and/or purchased intangible assets to become impaired, resulting in substantial losses and write-downs that would reduce our operating income.

As part of our business strategy, we acquire non-controlling and controlling interests in businesses. We make acquisitions and investments following careful analysis and due diligence designed to achieve a desired return or strategic objective. Business acquisitions involve estimates, assumptions, and judgments to determine acquisition prices, which are allocated among acquired assets, including goodwill, based upon fair market values. Notwithstanding our analyses, due diligence processes, and business integration efforts, actual operating results of acquired businesses may vary significantly from expectations. In such events, we may be required to write down our carrying value of the related goodwill and/or purchased intangible assets. In addition, declines in the trading price of our common stock or the market as a whole can result in goodwill and/or purchased intangible asset impairment charges associated with our existing businesses.

As of December 31, 2019, goodwill and purchased intangible assets generated from prior business acquisitions accounted for approximately 20% and 7%, respectively, of our total assets. We evaluate goodwill values for impairment annually, or when evidence of potential impairment exists. We also evaluate the values of purchased intangible assets when evidence of potential impairment exists. The impairment tests are based on several factors requiring judgments. As a general matter, a significant decrease in expected cash flows or changes in market conditions may indicate potential impairment of recorded goodwill or purchased intangible assets.

Adverse equity market conditions that result in a decline in market multiples and the trading price of our common stock, or other events, such as reductions in future contract awards or significant adverse changes in our operating margins or the operating results of acquired businesses that vary significantly from projected results on which purchase prices are based, could result in an impairment of goodwill or other intangible assets. Any such developments that result in us recording additional goodwill or intangible asset impairment charges could have a material adverse effect on our financial position or results of operations.

Unanticipated changes in our tax provisions or exposure to additional income tax liabilities could affect our profitability and cash flow.

We are subject to income taxes in various jurisdictions. Significant judgment is required in determining our provision for income taxes. In the ordinary course of business, the ultimate taxability of many of our transactions and calculations is uncertain. In addition, timing differences in the recognition of contract income for financial statement purposes and for income tax purposes can cause uncertainty with respect to the timing of income tax payments, which can have a significant impact on cash flow in a particular period.

Changes in applicable income tax laws and regulations, or their interpretation, could result in higher or lower income tax rates or changes in the taxability of certain transactions or the deductibility of certain expenses, thereby affecting our income tax expense and profitability. In addition, the final results of any tax audits or related litigation could be materially different from our related historical income tax provisions and accruals. Changes in our tax rate as a result of changes in our overall profitability, changes in tax legislation, changes in the valuation of deferred tax assets and liabilities, changes in differences between financial statement income and taxable income, the examination of previously filed tax returns by taxing authorities, and continuing assessments of our tax exposures can also impact our tax liabilities and affect our income tax expense, profitability, and cash flow.

We conduct a portion of our operations through joint ventures and strategic alliances. We may have limited control over such arrangements and experience returns that are not proportional to the risks and resources we contribute.

We conduct a portion of our operations through joint ventures with business partners. In any joint venture arrangement, differences of opinions among the joint venture participants may result in delayed decisions or failures to reach agreement on major issues. We and our joint venture partners may, in certain instances, fail to reach agreement on significant decisions on a timely basis, or at all. We also cannot control the actions of our joint venture partners, including any non-performance, default, or bankruptcy of our joint venture partners, and we typically share liability or have joint and/or several liability with our joint venture partners for joint venture matters. Any of these factors could potentially have a material adverse effect on our joint venture operations and the profitability of our joint ventures.

In joint ventures in which we hold a minority interest, we have limited control over many decisions relating to joint venture operations and internal controls relating to operations. These joint ventures may not be subject to the same requirements regarding internal controls and internal control reporting that apply to us. As a result, internal control issues may arise that could have a material adverse effect on the joint venture. In addition, to facilitate relationships with our joint venture partners, we may agree to assume risks and contribute resources that are proportionately greater than the returns we expect to receive in the related joint venture. Such agreements may reduce our income and returns on these investments compared to what we would have received if our assumed risks and contributed resources were proportionate to our returns.

Strategic acquisitions and investments we pursue involve risks and uncertainties.

As part of our business strategy, we identify and evaluate potential acquisitions and investments. When evaluating such transactions, we make significant judgments regarding the values of business opportunities, technologies, and other assets, the risks and costs of potential liabilities, and the future prospects of business opportunities. Acquisitions and investments also involve other risks and uncertainties, including the difficulty of integrating acquired businesses, challenges achieving strategic objectives and other benefits anticipated from acquisitions or investments, the diversion of management attention and resources from our existing operations and other initiatives, the potential impairment of acquired assets, and the potential loss of key employees of acquired businesses. Our financial results, business, and future prospects could be adversely affected by unanticipated performance issues at acquired businesses, transaction-related charges, unexpected liabilities, amortization of expenses related to purchased intangible assets, and impairment charges on goodwill and purchased intangible assets.

We are subject to claims and litigation that could ultimately be resolved against us, requiring future material cash payments and/or future material charges against our operating income, materially impairing our financial position or cash flows.

The size, nature, and complexity of our business make it highly susceptible to claims and litigation. We are subject to various administrative, civil, and criminal litigation, environmental claims, income tax proceedings, compliance proceedings, customer claims, and investigations, which could divert financial and management resources and result in fines, penalties, compensatory, treble or other damages, or nonmonetary sanctions. Government regulations also provide that certain allegations against a contractor may lead to suspension or debarment from government contracts or suspension of export privileges. Suspension or debarment could have a material adverse effect on us because of our reliance on government contracts and authorizations. Litigation, claims, or investigations, if ultimately resolved against us, could have a material adverse effect on our financial position, results of operations, or cash flows. Any litigation, claim, or investigation, even if fully indemnified or insured, could negatively impact our reputation among our customers and the public and make it more difficult for us to compete effectively or acquire adequate insurance in the future.

We may be unable to adequately protect our intellectual property rights, which could affect our ability to compete.

We own patents, trademarks, copyrights, and other forms of intellectual property related to our business, and we license intellectual property rights to and from third parties. The U.S. Government generally receives non-exclusive licenses to certain intellectual property we develop in the performance of U.S. Government contracts, and the U.S. Government may use or authorize others to use such intellectual property. The U.S. Government is taking increasingly aggressive positions both as to the intellectual property to which they believe government use rights apply and to the acquisition of broad license rights. If the U.S. Government is successful in these efforts, our ability to compete and to obtain access to and use certain supplier intellectual property could be negatively affected.

We also rely upon proprietary technology, information, processes, and know-how that are not protected by patents. We seek to protect this information through trade secret or confidentiality agreements with our employees, consultants, subcontractors, and other parties, as well as through other measures. These agreements and other measures may not, however, provide meaningful protection for our trade secrets.

Our intellectual property is also subject to challenge, invalidation, misappropriation, or circumvention by third parties. In the event of infringement of our intellectual property rights, breach of a confidentiality agreement, or unauthorized disclosure of proprietary information, we may not have adequate legal remedies to protect our intellectual property. Litigation to determine the scope of our rights, even if successful, could be costly and a diversion of management's attention from other aspects of our business. In addition, trade secrets may otherwise become known or be independently developed by competitors. If we are unable adequately to protect our intellectual property rights, our business could be adversely affected.

We have the right to use certain intellectual property licensed to us by third parties. In instances where third parties have licensed to us the right to use their intellectual property, we may be unable in the future to secure the necessary licenses to use such intellectual property on commercially reasonable terms.

There can be no assurance we will continue to increase our dividends or to repurchase shares of our common stock at current levels.

The payment of cash dividends and repurchases of our common stock are subject to limitations under applicable law and the discretion of our board of directors, considered in the context of then current conditions, including our earnings, other operating results, and capital requirements. Declines in asset values or increases in liabilities, including liabilities associated with benefit plans and assets and liabilities associated with taxes, can reduce stockholders' equity. A deficit in stockholders' equity could limit our ability under Delaware law to pay dividends and repurchase shares in the future. In addition, the timing and amount of share repurchases under board approved share repurchase programs are within the discretion of management and depend upon many factors, including our share price, results of operations, and capital requirements, as well as applicable law.

Our debt exposes us to certain risks.

As of December 31, 2019, we had \$1.3 billion of debt under our senior notes and \$1.2 billion of additional borrowing capacity under our Credit Agreement (the "Credit Facility"). Our Credit Facility also allows us to solicit lenders to provide incremental financing capacity in an aggregate amount not to exceed \$1 billion, and the indentures governing our senior notes do not limit our incurrence of debt. The amount of our existing debt, combined with our ability to incur significant amounts of debt in the future, could have important consequences, including:

- Increasing our vulnerability to adverse economic or industry conditions;
- Requiring us to dedicate a portion of our cash flow from operations to payments on our debt, thereby reducing the availability of our cash flow to fund working capital, capital expenditures, strategic initiatives, and general corporate purposes;
- Increasing our vulnerability to, and limiting our flexibility in planning for, or reacting to, changes in our business or the industries in which we operate;
- Exposing us to the risk of higher interest rates on borrowings under our Credit Facility and commercial paper program, which are subject to variable rates of interest;
- Placing us at a competitive disadvantage compared to our competitors that have less debt; and
- Limiting our ability to borrow additional funds.

The interest rate on variable rate indebtedness under our Credit Facility is based upon the London Interbank Offered Rate ("LIBOR"). LIBOR is the subject of recent national, international, and other regulatory guidance and proposals for reform. In July 2017, the Chief Executive of the U.K. Financial Conduct Authority (the "FCA"), which regulates LIBOR, announced that the FCA will no longer persuade or compel banks to submit rates for the calculation of the LIBOR benchmark after 2021. This announcement indicates that the continuation of LIBOR on the current basis cannot and will not be guaranteed after 2021, and it appears likely that LIBOR will be discontinued or modified by 2021. The consequences of the discontinuance of the LIBOR benchmark cannot be entirely predicted, but could include an increase in the cost of our variable rate indebtedness.

Anti-takeover provisions in our organizational documents and Delaware law, as well as regulatory requirements, could delay or prevent a change in control.

Certain provisions of our Restated Certificate of Incorporation and Restated Bylaws may delay or prevent a merger or acquisition that stockholders may consider favorable. For example, our Restated Certificate of Incorporation and Restated Bylaws currently require advance notice for stockholder proposals and director nominations, and authorize our board of directors to issue one or more series of preferred stock. These provisions may discourage acquisition proposals or delay or prevent a change in control, which could reduce our stock price. Delaware law also imposes restrictions on mergers and other business combinations between any holder of 15% or more of our outstanding common stock and us.

Our nuclear shipbuilding operations are considered vitally important to the U.S. Navy. As a result, our Navy contracts include provisions regarding notice and approval rights for the Navy in the event of a change of control of our nuclear shipbuilding operations and regarding the Navy's obligations to indemnify us for losses relating to our nuclear operations for the Navy. Such provisions require us to provide the U.S. Navy with notice of any potential change of control of our nuclear shipbuilding operations and obtain the Navy's consent for transferring certain related licenses to facilitate the Navy's ability to ensure that a potential buyer would continue to conduct our operations in a satisfactory manner.

Provisions of our Restated Certificate of Incorporation and our Restated Bylaws and our existing contracts with the U.S. Navy may have the effect of discouraging, delaying, or preventing a change of control of our company that may be beneficial to our stockholders.

ITEM 1B. UNRESOLVED STAFF COMMENTS

There were no unresolved staff comments.

ITEM 2. PROPERTIES

Our principal properties are located in Huntsville, Alabama; San Diego, California; Broomfield, Colorado; Pascagoula, Mississippi; Houston, Texas; Fairfax, Hampton, Newport News, Suffolk, and Virginia Beach, Virginia; and Washington, D.C.

Ingalls - The primary properties comprising our Ingalls operating segment are located in Pascagoula, Mississippi.

Our Pascagoula shipyard is a primary builder of major surface warships for the U.S. Navy and has modernized dozens of other naval ships. It is the only U.S. shipyard in recent years to develop and build six different classes of ships for the U.S. Navy and U.S. Coast Guard. Our facilities in Pascagoula are located on approximately 800 acres on the banks of the Pascagoula River where it flows into the Mississippi Sound. We lease the west bank of our Pascagoula shipyard from the State of Mississippi pursuant to a 99-year lease, consisting of a 40-year base term plus six optional terms. We anticipate continued use of this facility for the remaining 47 years of the lease and beyond.

Newport News - The primary properties comprising our Newport News operating segment are located in Newport News, Virginia.

Our Newport News facilities are located on approximately 550 acres we own near the mouth of the James River, which adjoins the Chesapeake Bay, the premier deep-water harbor on the east coast of the United States. Our Newport News shipyard is one of the largest in the United States. It is the sole designer, builder, and refueler of nuclear-powered aircraft carriers and one of only two shipyards capable of designing and building nuclear-powered submarines for the U.S. Navy. The shipyard also provides services for naval and commercial vessels.

Our Newport News shipyard includes seven graving docks, a floating dry dock, two outfitting berths, five outfitting piers, and various other shops. It also has a variety of other facilities, including an 18-acre all-weather steel fabrication shop, accessible by both rail and transporter, module outfitting facilities that enable us to assemble a ship's basic structural modules indoors and on land, machine shops totaling 300,000 square feet, and an apprentice school, which provides a four-year accredited apprenticeship program to train shipbuilders.

Technical Solutions - The properties comprising our Technical Solutions operating segment are located throughout the United States. Our properties located in Virginia Beach, Virginia; Mayport and Panama City, Florida; San Diego, California; Bremerton, Washington; and Honolulu, Hawaii, primarily provide fleet support services. Properties located in Huntsville, Alabama; Fairfax, Virginia; Orlando, Florida; San Antonio, Texas; and Aberdeen and Annapolis Junction, Maryland, primarily provide MDIS services. Properties located in Newport News, Virginia primarily provide nuclear and environmental services. A property located in Houston, Texas provides oil and gas services.

We believe our physical facilities and equipment are generally well maintained, in good operating condition, and satisfactory for our current needs. While our physical facilities and equipment are adequate for our current needs, we have initiated capital expenditure programs at our Ingalls and Newport News segments that will make us more competitive and enable us to meet future obligations under our shipbuilding programs.

ITEM 3. LEGAL PROCEEDINGS

U.S. Government Investigations and Claims - Departments and agencies of the U.S. Government have the authority to investigate various transactions and operations of our company, and the results of such investigations may lead to administrative, civil, or criminal proceedings, the ultimate outcome of which could be fines, penalties, repayments, or compensatory, treble, or other damages. U.S. Government regulations provide that certain findings against a contractor may also lead to suspension or debarment from future U.S. Government contracts or the loss of export privileges. Any suspension or debarment may have a material effect on us because of our reliance on government contracts.

Litigation - In March 2019, a new dry dock being transported for delivery to Ingalls by a heavy lift ship struck an Ingalls work barge, which in turn was pushed into *Delbert D. Black* (DDG 119) causing damage to *Delbert D. Black* (DDG 119), the work barge, and the new dry dock. At the time of the incident, responsibility for the new dry dock remained with the builder and the transport company. Repair work on *Delbert D. Black* (DDG 119) is in process at U.S. Navy direction. We are working with the U.S. Navy to ascertain whether third parties will pay for the repairs to *Delbert D. Black* (DDG 119) or whether the repairs will be paid under the builder's risk insurance included in the *Delbert D. Black* (DDG 119) contract. Claims were tendered to our insurers, and we have received all outstanding claim proceeds. In April 2019, we filed suit in the U.S. District Court for the Southern District of Mississippi seeking, among other relief, damages from negligent third parties. Based upon information currently available, we believe we will collect sufficient funds from one or more third parties to compensate for the resulting direct and consequential damages, but failure to collect sufficient funds or the length of time required to collect such funds could result in a material effect on our financial position, results of operations, or cash flows.

In 2016, we were made aware that the Company is a defendant in a *qui tam* False Claims Act lawsuit pending in the U.S. District Court for the Middle District of Florida related to our purchases of allegedly non-conforming parts from a supplier for use in connection with U.S. Government contracts. In August 2019, the Department of Justice ("DoJ") declined to intervene in the lawsuit, and the lawsuit was unsealed. Depending upon the outcome of the lawsuit, we could be subject to civil penalties, damages, and/or suspension or debarment from future U.S. Government contracts, which could have a material adverse effect on our consolidated financial position, results of operations, or cash flows. We have only recently been served with the lawsuit and therefore have not had an opportunity to respond to the substance of the complaint or engage in any discovery related to the issues set forth in the complaint. As a result, we currently are unable to estimate an amount or range of reasonably possible loss or to express an opinion regarding the ultimate outcome.

In September 2019, we became aware that the Company is a defendant in a *qui tam* False Claims Act lawsuit pending in the U.S. District Court for the Middle District of Florida related to allegations about our application of a material to the exterior surface of *Virginia* class (SSN 774) submarines. The DoJ declined to intervene in the lawsuit, and, after the lawsuit was unsealed, the lawsuit was voluntarily dismissed.

We and our predecessors-in-interest are defendants in a longstanding series of cases that have been and continue to be filed in various jurisdictions around the country, in which former and current employees and various third parties allege exposure to asbestos-containing materials while on, or associated with, our premises or while working on vessels constructed or repaired by us. The cases allege various injuries, including those associated with pleural plaque disease, asbestosis, cancer, mesothelioma and other alleged asbestos-related conditions. In some cases, several of our former executive officers are also named as defendants. In some instances, partial or full insurance coverage is available to us for our liability and that of our former executive officers. Although we believe the ultimate resolution of current cases will not have a material effect on our consolidated financial position, results of operations, or cash flows, we cannot predict what new or revised claims or litigation might be asserted or what information might come to light and can therefore give no assurances regarding the ultimate outcome of asbestos related litigation.

We and our predecessor-in-interest have been in litigation with the Bolivarian Republic of Venezuela (the "Republic") since 2002 over a contract for the repair, refurbishment, and modernization at Ingalls of two foreign-built frigates. The case proceeded towards arbitration, then appeared to settle favorably, but the settlement was overturned in court and the matter returned to litigation. In March 2014, we filed an arbitral statement of claim asserting breaches of the contract. In July 2014, the Republic filed a statement of defense in the arbitration denying all our allegations and a counterclaim alleging late redelivery of the frigates, unfinished work, and breach of warranty. In February 2018, the arbitral tribunal awarded us approximately \$151 million on our claims and awarded

the Republic approximately \$22 million on its counterclaims. We are seeking to enforce and execute upon the award in multiple jurisdictions. No assurances can be provided regarding the ultimate resolution of this matter.

We are party to various other claims, legal proceedings, and investigations that arise in the ordinary course of business, including U.S. Government investigations that could result in administrative, civil, or criminal proceedings involving us. We are a contractor with the U.S. Government, and such proceedings can therefore include False Claims Act allegations against us. Although we believe that the resolution of these other claims, legal proceedings, and investigations will not have a material effect on our consolidated financial position, results of operations, or cash flows, we cannot predict what new or revised claims or litigation might be asserted or what information might come to light and can therefore give no assurances regarding the ultimate outcome of these matters.

ITEM 4. MINE SAFETY DISCLOSURES

None.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Our common stock is listed on the New York Stock Exchange under the symbol "HII".

Stockholders

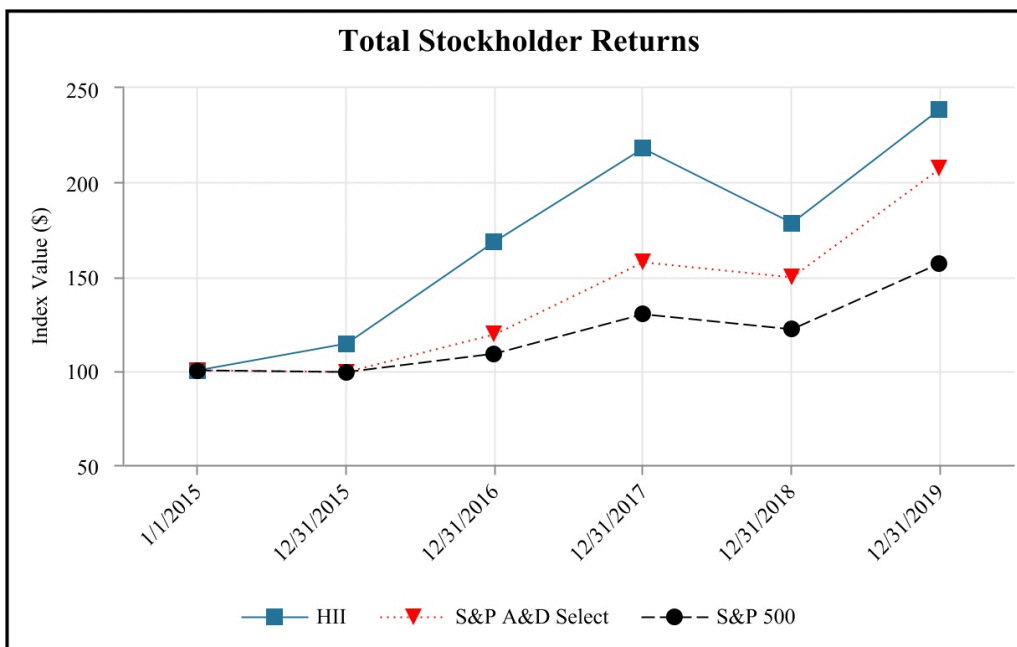
The approximate number of our common stockholders was 15,288 as of February 7, 2020.

Annual Meeting of Stockholders

Our Annual Meeting of Stockholders will be held on April 28, 2020, in Newport News, Virginia.

Stock Performance Graph

The following graph compares the total return on a cumulative basis of \$100 invested in our common stock on January 1, 2015, to the Standard & Poor's ("S&P") 500 Index and the S&P Aerospace and Defense Select Index.



- (c) The cumulative total return assumes reinvestment of dividends.
- (c) The S&P Aerospace & Defense Select Index is comprised of Arconic, Inc., The Boeing Company, General Dynamics Corporation, Huntington Ingalls Industries, Inc., L3 Harris Technologies, Inc., Lockheed Martin Corporation, Northrop Grumman Corporation, Raytheon Company, Textron, Inc., TransDigm Group Incorporated, and United Technologies Corporation, among other companies.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

In November 2017, our board of directors authorized an increase in our stock repurchase program from \$ 1.2 billion to \$2.2 billion. On November 5, 2019, our board of directors authorized an increase in our stock repurchase program from \$2.2 billion to \$3.2 billion and an extension of the term of the program to October 31, 2024. Repurchases are made from time to time at management's discretion in accordance with applicable federal securities laws. All repurchases of shares of our common stock have been recorded as treasury stock. The following table summarizes information by month relating to purchases made by us or on our behalf during the quarter ended December 31, 2019.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program (in millions)
October 1, 2019 through October 31, 2019	129,195	\$ 208.90	129,195	\$ 257.0
November 1, 2019 through November 30, 2019	56,439	244.86	56,439	1,243.2
December 1, 2019 through December 31, 2019	68,631	251.97	68,631	1,225.9
Total	254,265	\$ 228.51	254,265	\$ 1,225.9

Securities Authorized for Issuance Under Equity Compensation Plans

For information regarding securities authorized for issuance under our equity compensation plans, see Note 20: Stock Compensation Plans in Item 8 and Equity Compensation Plan Information in Item 12.

ITEM 6. SELECTED FINANCIAL DATA

The following table sets forth our selected financial data. The table should be read in conjunction with Item 7 and Item 8 of this Annual Report on Form 10-K.

(\$ in millions, except per share amounts)	Year Ended December 31				
	2019	2018	2017	2016	2015
Sales and service revenues ⁽¹⁾	\$ 8,899	\$ 8,176	\$ 7,441	\$ 7,068	\$ 7,020
Goodwill impairment	29	—	—	—	75
Operating income	736	951	881	876	774
Net earnings	549	836	479	573	404
Total assets	7,031	6,383	6,374	6,352	6,024
Long-term debt ⁽²⁾	1,286	1,283	1,279	1,278	1,273
Total long-term obligations	3,553	3,038	3,225	3,356	3,260
Net cash provided by operating activities	896	914	814	822	861
Free cash flow ⁽³⁾	460	512	453	537	673
Dividends declared per share	\$ 3.61	\$ 3.02	\$ 2.52	\$ 2.10	\$ 1.70
Basic earnings per share	\$ 13.26	\$ 19.09	\$ 10.48	\$ 12.24	\$ 8.43
Diluted earnings per share	\$ 13.26	\$ 19.09	\$ 10.46	\$ 12.14	\$ 8.36

⁽¹⁾ Sales and service revenues prior to 2018 were recognized in accordance with Accounting Standards Codification Topic 605-35 *Construction-Type and Production-Type Contracts*.

⁽²⁾ Long-term debt does not include the current portion of long-term debt, which is included in current liabilities.

⁽³⁾ Free cash flow is a non-GAAP financial measure and represents cash from operating activities less capital expenditures net of related grant proceeds. See Liquidity and Capital Resources in Item 7 for more information on this measure.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

OVERVIEW

Our Business

Huntington Ingalls Industries, Inc. is America's largest military shipbuilding company and a provider of professional services to partners in government and industry. For more than a century, our Ingalls segment in Mississippi and Newport News segment in Virginia have built more ships in more ship classes than any other U.S. naval shipbuilder. We also provide a range of services to the governmental, energy, and oil and gas markets through our Technical Solutions segment. Headquartered in Newport News, Virginia, HII employs approximately 42,000 people both domestically and internationally.

We conduct most of our business with the U.S. Government, primarily the DoD. As prime contractor, principal subcontractor, team member, or partner, we participate in many high-priority U.S. defense programs. Ingalls includes our non-nuclear ship design, construction, repair, and maintenance businesses. Newport News includes all of our nuclear ship design, construction, overhaul, refueling, and repair and maintenance businesses. Our Technical Solutions segment provides a wide range of professional services, including fleet support, MDIS, nuclear and environmental, and oil and gas services.

The following discussion should be read along with the audited consolidated financial statements included in Item 8 of this Annual Report on Form 10-K.

Business Environment

Long-term uncertainty exists with respect to overall levels of defense spending across the future years' defense plan, and it is likely that U.S. Government discretionary spending levels will continue to be subject to significant pressure.

The National Defense Authorization Act, as well as appropriations measures that funded the DoD, DoE, and all other federal agencies, was enacted in December 2019 for fiscal year 2020. While these measures largely supported our individual programs, we cannot predict the potential impact should fiscal year 2020 appropriations be reprioritized or reprogrammed for other purposes by the executive branch. Long-term funding for certain programs in which we participate may be reduced, delayed, or canceled. In addition, spending cuts and/or reprioritization of defense investment could adversely affect the viability of our suppliers, subcontractors, and employee base. Our contracts or subcontracts under programs in which we participate may be terminated or adjusted by the U.S. Government or the prime contractor as a result of lack of government funding or reductions or delays in government funding. Significant reductions in the number of ships procured or maintained by the U.S. Navy or significant delays in funding our ship programs would have a material effect on our financial position, results of operations, or cash flows.

The budget environment remains a significant long-term risk. Considerable uncertainty exists regarding how future budget and program decisions will develop and what challenges budget changes will present for the defense industry. We believe continued budget pressures will have serious implications for defense discretionary spending, the defense industrial base, including us, and the customers, employees, suppliers, subcontractors, investors, and communities that rely on companies in the defense industrial base. Although it is difficult to determine specific impacts, we expect that over the longer term, the budget environment may result in fewer contract awards and lower revenues, profits, and cash flows from our U.S. Government contracts. It is likely budget and program decisions made in this environment will have long-term impacts on us and the entire defense industry.

Defense Industry Overview

The United States faces a complex, uncertain, and rapidly changing national security environment. The 2018 National Defense Strategy acknowledges an increasingly complex global security environment, characterized by overt challenges to the free and open international order and the re-emergence of long-term, strategic competition between nations. America also faces an ever more lethal and disruptive battlefield, combined across domains, and conducted at increasing speed and reach. The security environment is also affected by rapid technological advancements and the changing character of war. The drive to develop new capabilities and enhance lethality is

relentless, expanding to address emerging threats from peer-competitors as well as actors with lower barriers of entry, and moving at accelerating speed. New capabilities and lethality enhancements include unmanned and autonomous systems and platforms; hypersonics; directed energy; resilient networks; command, control, communications, computers, cyber, intelligence, surveillance and reconnaissance, and targeting ("C5ISR&T") requirements; and fleet design.

We expect that execution of the DoD strategy will require an affordable balance between investments in enhancing the readiness of the current force with investments in new capabilities, force constructs, technologies, and capacity to meet future challenges. The DoD also faces the additional challenges of recapitalizing aging infrastructure, including the Naval Shipyards, and transforming manpower, personnel, training, and education to recruit and retain an empowered force. Other budget priorities could have a significant impact on future spending plans for defense and non-defense discretionary programs. Decreases in the proposed funding levels for our programs could negatively impact our financial position, results of operations, or cash flows, including revenues, goodwill, and long-lived assets.

In December 2016, the U.S. Navy released the findings of a year-long Force Structure Assessment, developed to determine the right balance of existing forces, the ships currently under construction, and the future procurement plans needed to address the ever-evolving and increasingly complex threats that the Navy is required to counter. Notably, the Force Structure Assessment did not present a desired force size the U.S. Navy would pursue if resources were not constrained; it reflected a force level that balances warfighting risk to equipment and personnel against available resources and recommends a force size that can reasonably achieve success. Accordingly, the Force Structure Assessment reflects an objective force of 355 ships, comprised of 12 aircraft carriers, 104 large surface combatants, 52 small surface combatants, 38 amphibious warfare ships, 66 attack submarines, 12 ballistic missile submarines, 32 combat logistics ships, 10 expeditionary/high speed transports, 6 expeditionary support bases, and 23 command and support ships. Additionally, the 2018 National Defense Authorization Act included the SHIPS Act, which made it the policy of our nation to achieve a fleet size of 355 ships.

A new Force Structure Assessment, referred to as the Integrated Naval Force Structure Assessment ("INFSA"), is now underway and anticipated to be released in the Spring of 2020, to influence the fiscal year 2022 budget request. The U.S. Navy's intent is for the INFSA to reflect a shift in future warfighting by emphasizing sea control and sea denial that enables power projection against adversaries with long-range weapons and full-spectrum joint domain capabilities. The INFSA is also anticipated to implement the evolving concept of Distributed Maritime Operations ("DMO"), which will feature multiple sensors and shooters that are widely dispersed across a broad range of manned and unmanned platforms and linked through resilient networks. Additionally, the INFSA will reflect the United States Marine Corps's ("USMC") desire to return to its maritime roots by evolving from a force requirement of 38 large amphibious warships in support of "2.0" Marine Expeditionary Brigades to a force trained and equipped as a naval expeditionary force-in-readiness and prepared to operate inside actively contested maritime spaces in support of fleet operations. In addition to employment of assets such as LHAs, LPDs, and dock landing ships ("LSD"), the USMC's force will likely feature an expanded assortment of smaller platforms, landing craft, and connectors that are manned, minimally-manned, and unmanned and exploit autonomy and artificial intelligence.

The U.S. Navy's 2020 five-year shipbuilding plan included 55 new ships, which is the same quantity that was included in the 2019 five-year shipbuilding plan, but reflected an anticipated reduction in the quantity of amphibious warfare ships to offset a corresponding increase in the quantity of attack submarines and small surface combatants. However, the U.S. Navy's 30-year shipbuilding plan for 2020 reflects a total of 304 ships, compared to the 2019 plan of 301 ships, with respective increases of one each for attack submarines, small surface combatants, and amphibious warfare ships.

While the force objective of 355 ships reflected in the 2016 Force Structure Assessment still pertains and has been memorialized as national policy by the 2018 SHIPS Act, both the Congressional Research Service and Congressional Budget Office have estimated that additional ships would need to be added to the U.S. Navy's 30-year plan to achieve the 355 ship objective unless the Navy extends the service lives of existing ships and reactivates recently retired ships.

In December 2018, the U.S. Navy also released its "Design for Maintaining Maritime Superiority, Version 2.0" ("Design 2.0"), which expands upon a posture initially put forth in January 2016 under Version 1.0 of Design 2.0. The new plan calls for four specific lines of effort: strengthening naval power at and from the sea; achieving high-velocity outcomes; strengthening the U.S. Navy team of the future; and expanding and strengthening the

Navy's Network of Partners. Each line of effort calls for specific recommendations that are intended to make the U.S. Navy more agile, more competitive, and tougher. As a means of strengthening naval power, the plan expresses award date goals for several major programs, including the future frigate and large surface combatant. Other initiatives include integrating more artificial intelligence and machine learning into warfare systems, developing and fielding a family of directed energy weapons, as well as employment of 3D printing for replacement parts.

In December 2019, the Chief of Naval Operations released "Fragmentary Order 01/2019: A Design for Maintaining Maritime Superiority". The order was written to simplify, prioritize, and build upon the foundation of "Design 2.0," and focus the U.S. Navy's efforts on "Warfighting, Warfighters, and the Future Navy". The end-state for the "Warfighting" tenet is a U.S. Navy that is ready to win across the full range of military operations in competition, crisis, and contingency by persistently operating forward with agility and flexibility in an all-domain battlespace. The end-state for the "Warfighters" tenet is a world-class naval force through recruitment, education, training, and retention of talented Americans – a force that empowers U.S. Navy families. The end-state for the "Future Navy" tenet envisions a fleet designed to ensure the wholeness of combat capability and lethal forces maximizing the benefits of DMO, Expeditionary Advanced Base Operations, and Littoral Operations in a contested environment. Manned and unmanned technology will be used to expand reach, lethality, and warfighter awareness.

The shipbuilding defense industry, as characterized by its competitors, customers, suppliers, potential entrants, and substitutes, is unique in many ways. It is heavily capital and skilled labor intensive. The U.S. Navy, a large single customer with many needs and requirements, dominates the industry's customer base and is served by an increasingly fragile supplier base that has trended toward exclusive providers. Smaller shipyards, however, have entered the market to build the U.S. Navy's littoral combat ship and have expressed interest in the future frigate program.

The DoD continues to adjust its procurement practices and streamline acquisition organizations and processes in an ongoing effort to reduce costs, gain efficiencies, and enhance program management and control. Additionally, the U.S. Navy must compete with other national priorities, including other defense activities, non-defense discretionary spending, and entitlement programs, for a share of federal budget funding. While the impact to our business resulting from these developments remains uncertain, they could have a material impact on current programs, as well as new business opportunities with the DoD. See Risk Factors in Item 1A.

Program Descriptions

For convenience, a brief description of certain programs discussed in this Annual Report on Form 10-K is included in the Glossary of Programs.

CONTRACTS

We generate most of our revenues from long-term U.S. Government contracts for design, production, and support activities. Government contracts typically include the following cost elements: direct material, labor and subcontracting costs, and certain indirect costs, including allowable general and administrative expenses. Unless otherwise specified in a contract, costs billed to contracts with the U.S. Government are treated as allowable and allocable costs under the FAR and CAS regulations. Examples of costs incurred by us that are not allowable under the FAR and CAS regulations include certain legal costs, lobbying costs, charitable donations, interest expense, and advertising costs.

We monitor our policies and procedures with respect to our contracts on a regular basis to ensure consistent application under similar terms and conditions, as well as compliance with all applicable government regulations. In addition, the DCAA routinely audits the costs we incur that are allocated to contracts with the U.S. Government.

Our contracts typically fall into one of four categories: firm fixed-price, fixed-price incentive, cost-type, and time and materials. See Note 8: Revenue in Item 8.

- *Firm Fixed-Price Contracts* - A firm fixed-price contract is a contract in which the specified scope of work is agreed to for a price that is predetermined by bid or negotiation and not generally subject to adjustment regardless of costs incurred by the contractor.

- *Fixed-Price Incentive Contracts* - Fixed-price incentive contracts provide for reimbursement of the contractor's allowable costs, but are subject to a cost-share limit that affects profitability. Fixed-price incentive contracts effectively become firm fixed-price contracts once the cost-share limit is reached.
- *Cost-Type Contracts* - Cost-type contracts provide for reimbursement of the contractor's allowable costs plus a fee that represents profit. Cost-type contracts generally require that the contractor use its reasonable efforts to accomplish the scope of the work within some specified time and some stated dollar limitation.
- *Time and Materials* - Time and materials contracts specify a fixed hourly billing rate for each direct labor hour expended and reimbursement for allowable material costs and expenses.

Contract Fees - Negotiated contract fee structures include: fixed fee amounts, cost sharing arrangements to reward or penalize contractors for under or over cost target performance, respectively, positive award fees, and negative penalty arrangements. Profit margins may vary materially depending on the negotiated contract fee arrangements, percentage-of-completion of the contract, the achievement of performance objectives, and the stage of performance at which the right to receive fees, particularly under incentive and award fee contracts, is finally determined.

Award Fees - Certain contracts contain award fees based on performance criteria such as cost, schedule, quality, and technical performance. Award fees are determined and earned based on an evaluation by the customer of our performance against such negotiated criteria. We consider award fees to be variable consideration and generally include these fees in the transaction price using a most likely amount approach. Award fees are limited to the extent of funding allotted by the customer and available for performance and those amounts for which a significant reversal of revenue is not probable.

CRITICAL ACCOUNTING POLICIES, ESTIMATES, AND JUDGMENTS

Our consolidated financial statements are prepared in accordance with U.S. GAAP, which requires management to make estimates, judgments, and assumptions that affect the amounts reported in the consolidated financial statements and the accompanying notes. Management considers an accounting policy to be critical if it is important to our financial condition and results of operations and requires significant judgment and estimates by management in its application. The development and selection of these critical accounting policies have been determined by our management. We have reviewed our critical accounting policies and estimates with the audit committee of our board of directors. Due to the significant judgment involved in selecting certain of the assumptions used in these policies, it is possible that different parties could choose different assumptions and reach different conclusions. We consider our policies relating to the following matters to be critical accounting policies:

- Revenue recognition;
- Purchase accounting, goodwill, and intangible assets;
- Litigation, commitments, and contingencies;
- Retirement related benefit plans; and
- Workers' compensation.

Revenue Recognition

Most of our revenues are derived from long-term contracts for the production of goods and services provided to the U.S. Government, which are generally accounted for by recognizing revenues over time using a cost-to-cost measure of progress. The use of the cost-to-cost method to measure performance progress over time is supported by clauses in the related contracts that allow the customer to unilaterally terminate the contract for convenience, pay us for costs incurred plus a reasonable profit, and take control of any work in process.

When the customer is not a U.S. Government entity, we may recognize revenue over time or at a point in time when control transfers upon delivery, depending upon the facts and circumstances of the related arrangement. When we determine that revenue should be recognized over time, we utilize a measure of progress that best depicts the transfer of control of the relevant goods and services to the customer. Generally, the terms and conditions of the contracts result in a transfer of control over the related goods and services as we satisfy our performance obligations. Accordingly, we recognize revenue over time using the cost-to-cost method to measure performance progress. We may, however, utilize a measure of progress other than cost-to-cost, such as a labor-

based measure of progress, if the terms and conditions of the arrangement require such accounting.

When using the cost-to-cost method to measure performance progress, certain contracts may include costs that are not representative of performance progress, such as large upfront purchases of uninstalled materials, unexpected waste, or inefficiencies. In these cases, we adjust our measure of progress to exclude such costs, with the goal of better reflecting the transfer of control over the related goods or services to the customer and recognizing revenue only to the extent of the costs incurred that reflect our performance under the contract.

In addition, for time and material arrangements, we often utilize the practical expedient allowing the recognition of revenue in the amount we invoice, which corresponds with the value provided to the customer and to which we are entitled to payment for performance to date.

A performance obligation is a promise to transfer a distinct good or service to the customer and is the unit of account for which revenue is recognized. To determine the proper revenue recognition method, consideration is given to whether two or more contracts should be combined and accounted for as one contract and whether a single contract consists of more than one performance obligation. For contracts with multiple performance obligations, the contract transaction price is allocated to each performance obligation using an estimate of the standalone selling price based upon expected cost plus a margin at contract inception, which is generally the price disclosed in the contract. Contracts are often modified to account for changes in contract specifications and requirements. In the majority of circumstances, modifications do not result in additional performance obligations that are distinct from the existing performance obligations in the contract, and the effects of the modifications are recognized as an adjustment to revenue on a cumulative catch-up basis. Alternatively, in instances in which the performance obligations in the modifications are deemed distinct, contract modifications are accounted for prospectively.

The amount of revenue recognized as we satisfy performance obligations associated with contracts with customers is based upon the determination of transaction price. Transaction price reflects the amount of consideration to which we expect to be entitled for performance under the terms and conditions of the relevant contract and may reflect fixed and variable components, including shareline incentive fees whereby the value of the contract is variable based upon the amount of costs incurred, as well as other incentive fees based upon achievement of contractual schedule commitments or other specified criteria in the contract. Shareline incentive fees are determined based upon the formula under the relevant contract using our estimated cost to complete for each period. We generally utilize a most likely amount approach to estimate variable consideration. In all such instances, the estimated revenues represent those amounts for which we believe a significant reversal of revenue is not probable.

Contract Estimates - In estimating contract costs, we utilize a profit-booking rate based upon performance expectations that takes into consideration a number of assumptions and estimates regarding risks related to technical requirements, feasibility, schedule, and contract costs. Management performs periodic reviews of the contracts to evaluate the underlying risks, which may increase the profit-booking rate as we are able to mitigate and retire such risks. Conversely, if we are not able to retire these risks, cost estimates may increase, resulting in a lower profit-booking rate.

The cost estimation process requires significant judgment based upon the professional knowledge and experience of our engineers, program managers, and financial professionals. Factors considered in estimating the work to be completed and ultimate contract recovery include the availability, productivity, and cost of labor, the nature and complexity of the work to be performed, the effect of change orders, the availability of materials, the effect of any performance delays, the availability and timing of funding from the customer, and the recoverability of any claims included in the estimates to complete.

Changes in estimates of sales, costs, and profits on a performance obligation are recognized using the cumulative catch-up method of accounting, which recognizes in the current period the cumulative effect of the changes in current and prior periods.

For the years ended December 31, 2019, 2018, and 2017, favorable and unfavorable cumulative catch-up adjustments were as follows:

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Gross favorable adjustments	\$ 247	\$ 225	\$ 309
Gross unfavorable adjustments	(151)	(115)	(105)
Net adjustments	\$ 96	\$ 110	\$ 204

For the year ended December 31, 2019, favorable cumulative catch-up adjustments were related to contract changes on submarine support services, risk retirement on the *Legend* class NSC program, surface combatants, and the RCOH of USS *George Washington* (CVN 73), as well as other individually insignificant adjustments. During the same period, unfavorable cumulative catch-up adjustments included recognition of a forward loss on a fleet support services contract and schedule delays on *Tripoli* (LHA 7), as well as other individually insignificant adjustments.

For the year ended December 31, 2018, favorable cumulative catch-up adjustments were related to risk retirement on the *Virginia* class (SSN 774) submarine program, the *Legend* class NSC program, USS *Portland* (LPD 27), and *Fort Lauderdale* (LPD 28), as well as other individually insignificant adjustments. During the same period, unfavorable cumulative catch-up adjustments were related to the *Virginia* class (SSN 774) submarine program, including lower performance on *Delaware* (SSN 791) and *Montana* (SSN 794), and other individually insignificant adjustments.

For the year ended December 31, 2017, favorable cumulative catch-up adjustments were primarily related to risk retirement on the *Legend* class NSC program, *Tripoli* (LHA 7), USS *Portland* (LPD 27), and the delivered USS *John Finn* (DDG 113), the resolution of outstanding contract changes on the inactivation of the decommissioned *Enterprise* (CVN 65) and the RCOH of the redelivered USS *Abraham Lincoln* (CVN 72), and other individually insignificant adjustments. During the same period, none of the unfavorable cumulative catch-up adjustments were individually significant.

When estimates of total costs to be incurred exceed estimates of total revenue to be earned on a performance obligation related to a complex, construction-type contract, we recognize a provision for the entire loss on the performance obligation in the period the loss is determined.

Purchase Accounting, Goodwill, and Intangible Assets

Goodwill - Goodwill represents the purchase price paid in excess of the fair value of identifiable net tangible and intangible assets acquired in a business combination. The amount of our goodwill as of December 31, 2019 and 2018, was \$1,373 million and \$1,263 million, respectively.

Tests for Impairment - We perform impairment tests for goodwill as of November 30 of each year, or when evidence of potential impairment exists. When testing goodwill, we compare the fair value of the reporting unit to its carrying value. If the fair value of the reporting unit is determined to be less than the carrying value, we record a charge to operations.

We estimate the fair value of each reporting unit using a combination of discounted cash flow analysis and market based valuation methodologies. Determining fair value requires the exercise of significant judgment, including judgments about projected revenues, operating expenses, working capital investment, capital expenditures, and cash flows over a multi-year period. The discount rate applied to our forecasts of future cash flows is based on our estimated weighted average cost of capital. In assessing the reasonableness of our determined fair values, we evaluate our results against our market capitalization. Changes in these estimates and assumptions could materially affect the determination of fair value and/or goodwill impairment for each reporting unit.

November 30, 2019 Impairment Test - In connection with our annual goodwill impairment test, we tested goodwill for each of our four reporting units. As a result of our annual goodwill impairment test, we determined that the estimated fair value of each reporting unit exceeded by more than 10% its corresponding carrying value as of November 30, 2019, except for the oil and gas reporting unit in our Technical Solutions segment.

Our determination of fair value as of November 30, 2019, of our oil and gas reporting unit, considered the slower than expected growth in operating margin, a revised long-term outlook for the reporting unit, and less favorable market conditions. The analysis concluded the fair value of this reporting unit was less than its carrying value as of November 30, 2019, and we recorded a goodwill impairment charge of \$29 million at our oil and gas reporting unit in our Technical Solutions segment in the fourth quarter of 2019.

November 30, 2018 Impairment Test - In connection with our annual goodwill impairment test, we tested goodwill for each of our four reporting units. As a result of our annual goodwill impairment test, we determined that the estimated fair value of each reporting unit exceeded by more than 10% its corresponding carrying value as of November 30, 2018.

November 30, 2017 Impairment Test - In connection with our annual goodwill impairment test, we tested goodwill for each of our four reporting units. As a result of our annual goodwill impairment test, we determined that the estimated fair value of each reporting unit exceeded by more than 10% its corresponding carrying value as of November 30, 2017.

Other Intangible Assets - We perform tests for impairment of amortizable intangible assets whenever events or circumstances suggest that amortizable intangible assets may be impaired.

Litigation, Commitments, and Contingencies

Overview - We are subject to a range of legal proceedings before various courts and administrative agencies and are periodically subject to government examinations, inquiries, and investigations that arise in the ordinary course of business. Estimating liabilities and costs associated with these matters requires judgment and assessment based upon professional knowledge and the experience of management and our internal and external legal counsel. In accordance with our practices relating to accounting for contingencies, we record charges to earnings when we determine, after taking into consideration the facts and circumstances of each matter, including any settlement offers, that it is probable a liability has been incurred and the amount of the loss can be reasonably estimated. The ultimate resolution of any such exposure may vary from earlier estimates as further facts and circumstances become known.

Environmental Accruals - We are subject to the environmental laws and regulations of the jurisdictions in which we conduct operations. We record a liability for the costs of expected environmental remediation obligations when we determine that it is probable we will incur such costs and the amount of the liability can be reasonably estimated. When a range of costs is possible and no amount within that range is a better estimate than another, we record the minimum amount of the range.

Factors that could result in changes to the assessment of probability, range of estimated costs, and environmental liability accruals include: modification of planned remedial actions, increase or decrease in the estimated time required to remediate, discovery of more extensive contamination than anticipated, results of efforts to involve other legally responsible parties, financial insolvency of other responsible parties, changes in laws and regulations or contractual obligations affecting remediation requirements, and improvements in remediation technology. Although we cannot predict whether new information gained as remediation projects progress will materially affect the accrued liability, we do not believe that future remediation expenditures will have a material effect on our financial position, results of operations, or cash flows.

Asset Retirement Obligations - We record all known asset retirement obligations for which the liability's fair value can be reasonably estimated, including certain asbestos removal, asset decommissioning, and contractual lease restoration obligations. Recorded amounts as of each of December 31, 2019 and 2018, were immaterial. See Note 2: Summary of Significant Accounting Policies in Item 8.

We also have known conditional asset retirement obligations related to assets currently in use, such as certain asbestos remediation and asset decommissioning activities to be performed in the future, that were not reasonably estimable as of December 31, 2019, due to insufficient information about the timing and method of settlement of the obligation. Accordingly, the fair value of these obligations has not been recorded in the consolidated financial statements. Environmental remediation and/or asset decommissioning of facilities currently in use may be required when we cease to utilize these facilities. In addition, there may be conditional environmental asset retirement obligations that we have not yet discovered (for example, asbestos of which we have not become aware through

normal business operations may exist in certain buildings), and these obligations have therefore not been included in our consolidated financial statements.

Litigation Accruals - Litigation accruals are recorded as charges to earnings when management has determined, after taking into consideration the facts and circumstances of each matter, including any settlement offers, that it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. The ultimate resolution of any exposure may vary from earlier estimates as further facts and circumstances become known. Based upon the information available, we believe that the resolution of any of these various legal proceedings will not have a material effect on our consolidated financial position, results of operations, or cash flows.

Uncertain Tax Positions - Uncertain tax positions meeting the more-likely-than-not recognition threshold, based on the merits of the position, are recognized in the financial statements. We recognize the amount of a tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. If a tax position does not meet the minimum statutory threshold to avoid payment of penalties, we recognize an expense for the amount of the penalty in the period the tax position is claimed or expected to be claimed in our tax return. Penalties and accrued interest related to uncertain tax positions are recognized as a component of income tax expense. See Note 14: Income Taxes in Item 8. Changes in accruals associated with uncertain tax positions are recorded in earnings in the period they are determined.

Retirement Related Benefit Plans

We recognize, on a plan-by-plan basis, the funded status of our retirement related benefit plans as an asset or liability on our balance sheet, with corresponding adjustments to after-tax accumulated other comprehensive loss and deferred tax assets or liabilities. The funded status represents the difference between the benefit obligation and the fair value of plan assets. See Note 19: Employee Pension and Other Postretirement Benefits in Item 8.

We calculate our retirement related benefit plan costs under both CAS and U.S. GAAP Financial Accounting Standards ("FAS"). The calculations under CAS and FAS require significant judgment. CAS prescribes the determination, allocation, and recovery of retirement related benefit plan costs on U.S. Government contracts through the pricing of products and services. FAS prescribes the methodology used to determine retirement related benefit plan expense or income, as well as the liability, for financial reporting purposes. The CAS requirements for these costs and their calculation methodologies differ from FAS. As a result, while both CAS and FAS use assumptions in their calculation methodologies, each method results in different calculated amounts of retirement related benefit plan costs.

Retirement related benefit plan costs are allocated to our U.S. Government contracts as allowable costs based upon CAS. We recover our CAS costs through the pricing of products and services on U.S. Government contracts, so that the CAS cost is recognized in segment product sales and service revenues and in the costs of those product sales and service revenues. In order to present our consolidated financial statements in accordance with FAS, we record the difference between our FAS expense and CAS cost ("FAS/CAS Adjustment") as operating income within segment operating income and non-operating retirement benefit (expense).

The minimum funding requirements for our qualified pension plans are determined under the Employee Retirement Income Security Act of 1974 ("ERISA"), which is primarily based on the year's expected service cost and amortization of other previously unfunded liabilities. Effective January 1, 2011, we were subject to the funding requirements under the Pension Protection Act of 2006 ("PPA"), which amended ERISA. Under the PPA, we are required to fully fund our pension plans over a rolling seven-year period as determined annually based upon the funded status at the beginning of each year. PPA also introduced a variety of benefit restrictions that apply if a plan falls below certain funded percentages, as defined by the Internal Revenue Code. In funding our plans, we consider various factors, including the minimum funding requirements, maintaining the funded status needed to avoid potential benefit restrictions and other adverse consequences, maintaining minimum CAS funding requirements, and the current and anticipated funding levels of each plan.

We use a current market rate to determine the CAS interest rate. Effective January 1, 2021, we will adopt the Safe Harbor methodology used in determining CAS pension costs. Under the new methodology, the interest rates used to calculate pension liabilities under CAS are consistent with those used in the determination of minimum funding requirements under ERISA.

Pension funding requirements under ERISA are subject to potential pension relief for plan sponsors in the form of higher interest rate assumptions introduced by the Moving Ahead for Progress in the 21st Century Act and subsequently extended by the Highway and Transportation Funding Act in 2014 and The Bipartisan Budget Act of 2015. Using these minimum funding interest rates for the purposes of determining pension costs under CAS reduces volatility in CAS costs year-over-year and provides more predictable costs for our customers, while better aligning reimbursements of pension costs under our contracts with our required pension plan contributions under ERISA.

This change in CAS methodology is not expected to have a material effect on our minimum pension funding requirements and no effect on benefits received by participants of the pension plans. While CAS costs under the new methodology are generally expected to be comparable over the life of a plan on a net present value basis, the change is expected to decrease CAS costs following adoption in 2021 due to the higher interest rates applicable with funding relief, thus resulting in a lower FAS/CAS Adjustment. Following adoption in 2021 and based on current interest rate conditions, we also expect that pension contributions will decrease in substantially the same amount as CAS costs, with limited impact to cash flows and consolidated segment operating income.

Due to the differences in requirements and calculation methodologies between FAS and CAS, our FAS pension expense is not necessarily indicative of the funding requirements under PPA or the amounts we recover from the U.S. Government under CAS.

Assumptions - We account for our retirement related benefit plans on the accrual basis under FAS. The measurements of obligations, costs, assets, and liabilities require significant judgment. We annually review our assumptions, which are set at each year end and are generally not changed during the following year unless there is a major plan event, such as an amendment, curtailment, or settlement that would trigger a remeasurement. The key assumptions in these measurements are the interest rate used to discount future benefit payments and the expected long-term rate of return on plan assets.

Discount Rate - The assumed discount rate under FAS is used to determine the retirement related benefit plan obligations and expense, and represents the hypothetical rate at which the plans' benefit obligations could be effectively settled at the measurement date. Consequently, the discount rate can be volatile from year to year. The discount rate assumption is determined for each plan by constructing a hypothetical portfolio of high quality bonds with cash flows that match the estimated outflows for future benefit payments to determine a single equivalent discount rate. Benefit payments are not only contingent on the terms of a plan, but also on the underlying participant demographics, including current age and assumed mortality. We use only bonds that are denominated in U.S. Dollars, are rated Aa or better by nationally recognized statistical rating agencies, have a minimum outstanding issue of \$100 million as of the measurement date, and are not callable, convertible, or index-linked.

Taking into consideration the factors noted above, our weighted average discount rate for pensions was 3.39% and 4.34% as of December 31, 2019 and 2018, respectively. Our weighted average discount rate for other postretirement benefits was 3.35% and 4.33% as of December 31, 2019 and 2018, respectively.

Expected Long-Term Rate of Return - The expected long-term rate of return on assets is used to calculate net periodic expense, and is based on such factors as historical returns, targeted asset allocations, investment policy, duration, expected future long-term performance of individual asset classes, interest rates, inflation, portfolio volatility, investment management and administrative fees, and risk management strategies. Historical plan asset performance alone has inherent limitations in predicting future returns. While studies are helpful in understanding past and current trends and performance, the assumption is based more on long-term prospective views to avoid short-term market influences. Unless plan assets and benefit obligations are subject to remeasurement during the year, the expected return on pension assets is based on the fair value of plan assets at the beginning of the year. We used a 7.25% expected long-term rate of return assumption to record 2019 pension expense, and we anticipate retaining that assumption throughout 2020.

Mortality - Mortality assumptions are used to determine the retirement related benefit obligations and expense, and represent the likelihood and duration of benefit payments to plan participants based on historical experience and projected longevity. We periodically update our mortality assumptions as circumstances warrant.

Differences arising from actual experience or changes in assumptions might materially affect retirement related benefit plan obligations and the funded status. Actuarial gains and losses arising from differences between assumptions and actual experience or changes in assumptions are deferred in accumulated other comprehensive

loss. This unrecognized amount is amortized as a component of net expense to the extent it exceeds 10% of the greater of the plan's benefit obligation or plan assets. The amortization period for actuarial gains and losses is the estimated average remaining service life of the plan participants. In 2019, the actual return on assets was approximately 22%, which was more than the expected return assumption of 7.25%. For the year ended December 31, 2019, the weighted average discount rates for our pension and other postretirement benefit plans decreased by 95 and 98 basis points, respectively. These differences in asset returns and discount rates resulted in an actuarial gain of \$825 million and an actuarial loss of \$1,039 million, respectively, for the year ended December 31, 2019.

An increase or decrease of 25 basis points in the discount rate and the expected long-term rate of return assumptions would have had the following approximate impacts on pensions:

(\$ in millions)	Increase (Decrease) in 2020 Expense	Increase (Decrease) in December 31, 2019 Obligations
25 basis point decrease in discount rate	\$ 26	\$ 298
25 basis point increase in discount rate	(24)	(281)
25 basis point decrease in expected return on assets	17	
25 basis point increase in expected return on assets	(17)	

Assuming a 7.25% expected return on assets assumption, a \$50 million pension contribution is generally expected to favorably impact the current year expected return on assets by approximately \$2 million, depending on the timing of the contribution.

Sensitivities to assumptions are not necessarily linear and are specific to the time periods noted.

CAS Cost - In addition to providing the methodology for calculating retirement related benefit plan costs, CAS also prescribes the method for assigning those costs to specific periods. While the ultimate liability for such costs under FAS and CAS is similar, the pattern of cost recognition is different. The key drivers of CAS pension cost include the funded status and the method used to calculate CAS reimbursement for each of our plans. A plan's CAS pension cost can only be allocated until the plan is fully funded as defined under the CAS requirements.

Through 2013, CAS required the pension interest rate to be consistent with the expected long-term rate of return on assets assumption, which changed infrequently given its long-term nature. As a result, short-term changes in bond yields or other interest rates generally did not impact CAS costs. Under the U.S. Cost Accounting Standards Board's final CAS Harmonization Rule ("Harmonization"), the liability used to determine CAS cost is developed by comparing the liability under the previous CAS methodology and assumptions to a liability based on a discount rate derived from yields on high quality corporate bonds. Since Harmonization became fully phased in during 2017, the greater of the two liabilities is used for CAS cost calculations. Generally, liabilities based on a discount rate of high quality corporate bonds will be higher than liabilities calculated prior to Harmonization. Prior to the full phasing in of Harmonization, the use of a blend of the pre and post Harmonization liabilities was required.

Other FAS and CAS Pension Considerations - A key driver of the difference between FAS expense and CAS cost (and consequently the FAS/CAS Adjustment) is the pattern of earnings and expense recognition for actuarial gains and losses that arise when our asset and liability experiences differ from our assumptions under each set of requirements. Under FAS, our net actuarial gains and losses exceeding the 10% corridor are amortized over the estimated average remaining service life of the plan participants. Under CAS Harmonization, the amortization period is 10 years for actuarial gains and losses. Both FAS and CAS use a "market-related value" of plan assets approach to calculate the amount of deferred asset gains or losses to be amortized. Under CAS actual asset gains and losses are systematically smoothed over five years, subject to certain limitations. For FAS, we do not use this smoothing method, and instead use fair value in determining our FAS expense. Accordingly, FAS expense generally reflects recent asset gains and losses sooner than CAS.

Additionally, CAS cost is only recognized for plans that are not fully funded as defined under CAS. If a plan becomes or ceases to be fully funded due to our asset or liability experience, our CAS cost will change accordingly.

The FAS/CAS Adjustments in 2019, 2018, and 2017 were net benefits of \$136 million, \$364 million, and \$189 million, respectively. The unfavorable change from 2018 to 2019 was primarily driven by more immediate

recognition of the 2018 asset losses under FAS and the impacts of higher discount and interest rates. The favorable change from 2017 to 2018 was primarily driven by more immediate recognition of the 2017 asset gains under FAS and the impacts of lower discount and interest rates and other experience gains and losses and assumptions changes (e.g. mortality). Our projected 2020 FAS/CAS Adjustment is discussed in Consolidated Operating Results - Operating Income.

Retirement Plan Assets - Retirement plan assets are stated at fair value. Investments in equity securities (common and preferred) are valued at the last reported sales price when an active market exists. Investments in fixed-income securities are generally valued based on market transactions for comparable securities and various relationships between securities that are generally recognized by institutional traders. Investments in hedge funds, real estate investment funds, private partnerships, collective trust funds, and commingled funds are generally valued at their Net Asset Values ("NAV") or equivalent, which are based on the current fair value of the fund's underlying assets.

Management reviews independently appraised values, audited financial statements, and additional pricing information to evaluate the NAV or its equivalent. For the limited group of investments for which market quotations are not readily available or for which the above valuation procedures are deemed not to reflect fair value, additional information is obtained from the investment manager and evaluated internally to determine whether any adjustments are required to reflect fair value. See Note 19: Employee Pension and Other Postretirement Benefits, in Item 8.

Accumulated Other Comprehensive Loss - Changes in assumptions and changes to plan assets and benefit obligations due to differences between actuarial assumptions and actual results are reported as actuarial gains and losses and recorded in accumulated other comprehensive loss along with unrecognized prior service costs arising from plan amendments. As disclosed in Note 19: Employee Pension and Other Postretirement Benefits in Item 8, net pre-tax unrecognized actuarial losses as of December 31, 2019 and 2018 were \$1,855 million and \$1,692 million, respectively. The increase in these actuarial losses in 2019 was primarily driven by a \$1,039 million actuarial loss due to the decrease in the discount rates used to determine benefit obligations, \$102 million of amortization of previously unrecognized actuarial losses, and actual asset returns, which were \$825 million above expected returns.

Net pre-tax unrecognized prior service costs (credits) as of December 31, 2019 and 2018 were \$50 million and \$46 million, respectively. These net deferred costs (credits) primarily originated from plan amendments, including those resulting from collective bargaining agreements. The change in unrecognized prior service costs (credits) in 2019 resulted from the amortization of previously accumulated prior service costs (credits).

Workers' Compensation

Our operations are subject to federal and state workers' compensation laws. We maintain self-insured workers' compensation plans and participate in federally administered second injury workers' compensation funds. We estimate the liability for such claims and funding requirements on a discounted basis utilizing actuarial methods based on various assumptions, which include our historical loss experience and projected loss development factors. We periodically, and at least annually, update our assumptions based on an actuarial analysis. Related self-insurance accruals include the liability for reported claims and an estimated accrual for claims incurred but not reported. Our workers' compensation liability was discounted at 1.92% and 2.89% as of December 31, 2019 and 2018, respectively, based on future payment streams and a risk-free rate. We estimate a 100 basis points increase or decrease in the discount rate would change our workers' compensation liability by \$(44) million or \$53 million, respectively. The workers' compensation benefit obligation on an undiscounted basis was \$802 million and \$845 million as of December 31, 2019 and 2018, respectively.

Accounting Standards Updates

See Note 3: Accounting Standards Updates in Item 8 for further information.

CONSOLIDATED OPERATING RESULTS

The following table presents selected financial highlights:

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Sales and service revenues	\$ 8,899	\$ 8,176	\$ 7,441	\$ 723	9 %	\$ 735	10 %
Cost of product sales and service revenues	7,368	6,385	5,813	983	15 %	572	10 %
Income from operating investments, net	22	17	12	5	29 %	5	42 %
Other income and gains	—	14	—	(14)	(100) %	14	— %
General and administrative expenses	788	871	759	(83)	(10) %	112	15 %
Goodwill impairment	29	—	—	29	— %	—	— %
Operating income	736	951	881	(215)	(23) %	70	8 %
Interest expense	(70)	(58)	(94)	(12)	(21) %	36	38 %
Non-operating retirement benefit (expense)	12	74	(16)	(62)	(84) %	90	563 %
Other, net	5	4	1	1	25 %	3	300 %
Federal and foreign income taxes	134	135	293	(1)	(1) %	(158)	(54) %
Net earnings	\$ 549	\$ 836	\$ 479	\$ (287)	(34) %	\$ 357	75 %

Operating Performance Assessment and Reporting

We manage and assess the performance of our business based on our performance on individual contracts and programs using the financial measures referred to below, with consideration given to the Critical Accounting Policies, Estimates, and Judgments referred to in this section. Our portfolio of long-term contracts is largely flexibly-priced. Therefore, sales tend to fluctuate in concert with costs across our large portfolio of active contracts, with operating income being a critical measure of operating performance. Under FAR rules that govern our business with the U.S. Government, most types of costs are allowable, and we do not focus on individual cost groupings, such as cost of sales or general and administrative expenses, as much as we do on total contract costs, which are a key factor in determining contract operating income. As a result, in evaluating our operating performance, we look primarily at changes in sales and service revenues, as well as operating income, including the effects of significant changes in operating income as a result of changes in contract estimates and the use of the cumulative catch-up method of accounting in accordance with GAAP. This approach is consistent with the long-term life cycle of our contracts, as management assesses the bidding of each contract by focusing on net sales and operating profit and monitors performance in a similar manner through contract completion. Consequently, our discussion of business segment performance focuses on net sales and operating profit, consistent with our approach for managing our business.

Cost of sales for both product sales and service revenues consists of materials, labor, and subcontracting costs, as well as an allocation of indirect costs for overhead. We manage the type and amount of costs at the contract level, which is the basis for estimating our total costs at completion of our contracts. Unusual fluctuations in operating performance driven by changes in a specific cost element across multiple contracts are described in our analysis.

Sales and Service Revenues

Sales and service revenues were comprised as follows:

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Product sales	\$ 6,265	\$ 6,023	\$ 5,573	\$ 242	4 %	\$ 450	8 %
Service revenues	2,634	2,153	1,868	481	22 %	285	15 %
Sales and service revenues	\$ 8,899	\$ 8,176	\$ 7,441	\$ 723	9 %	\$ 735	10 %

2019 - Product sales in 2019 increased \$242 million, or 4%, from 2018. Product sales at our Ingalls segment decreased \$71 million in 2019, primarily as a result of lower volumes in the *Legend* class NSC program, amphibious assault ships, and surface combatants. Newport News product sales increased \$346 million in 2019, primarily as a

result of higher volumes in aircraft carriers and submarines. Technical Solutions product sales decreased \$33 million in 2019, primarily as a result of lower volumes in nuclear and environmental products.

Service revenues in 2019 increased \$481 million, or 22%, from 2018. Service revenues at our Ingalls segment increased \$18 million in 2019, as a result of higher volumes in amphibious assault ship services, partially offset by lower volume in surface combatant services. Service revenues at our Newport News segment increased \$118 million in 2019, primarily as a result of higher volumes in aircraft carrier and naval nuclear support services, partially offset by lower volume in submarine services. Service revenues at our Technical Solutions segment increased \$345 million in 2019, primarily as a result of the addition of Fulcrum and G2, as well as higher volumes in fleet support, oil and gas, and other MDIS services.

2018 - Product sales in 2018 increased \$450 million, or 8%, from 2017. Product sales at our Ingalls segment increased \$182 million in 2018, primarily as a result of higher volumes in amphibious assault ships, partially offset by lower volumes in the *Legend* class NSC program. Newport News product sales increased \$284 million in 2018, primarily as a result of higher volumes in aircraft carriers, partially offset by lower volumes in submarines. Technical Solutions product sales decreased \$16 million in 2018, primarily as a result of lower volumes in nuclear and environmental products.

Service revenues in 2018 increased \$285 million, or 15%, from 2017. Service revenues at our Ingalls segment increased \$3 million in 2018, as a result of higher volumes in amphibious assault ship services, partially offset by lower volumes in surface combatant services. Service revenues at our Newport News segment increased \$269 million in 2018, primarily as a result of higher volumes in naval nuclear support services and submarines services. Service revenues at our Technical Solutions segment increased \$13 million in 2018, primarily as a result of higher volumes in oil and gas and MDIS services, partially offset by lower volumes in fleet support and nuclear and environmental services.

Cost of Sales and Service Revenues

Cost of product sales, cost of service revenues, income from operating investments, net, and general and administrative expenses were as follows:

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Cost of product sales	\$ 5,158	\$ 4,627	\$ 4,277	\$ 531	11 %	\$ 350	8 %
% of product sales	82.3 %	76.8 %	76.7 %				
Cost of service revenues	2,210	1,758	1,536	452	26 %	222	14 %
% of service revenues	83.9 %	81.7 %	82.2 %				
Income from operating investments, net	22	17	12	5	29 %	5	42 %
Other income and gains	—	14	—	(14)	(100) %	14	— %
General and administrative expenses	788	871	759	(83)	(10) %	112	15 %
% of total sales and service revenues	8.9 %	10.7 %	10.2 %				
Goodwill impairment	29	—	—	29	— %	—	— %
Cost of sales and service revenues	\$ 8,163	\$ 7,225	\$ 6,560	\$ 938	13 %	\$ 665	10 %

Cost of Product Sales

2019 - Cost of product sales in 2019 increased \$531 million, or 11%, compared to 2018. Cost of product sales at our Ingalls segment increased \$54 million in 2019, primarily as a result of lower risk retirement in amphibious assault ships, partially offset by the lower volumes described above, as well as one time employee bonus payments in 2018 related to the Tax Act. Cost of product sales at our Newport News segment increased \$383 million in 2019, primarily as a result of the higher volumes described above, partially offset by one time employee bonus payments in 2018 related to the Tax Act. Cost of product sales at our Technical Solutions segment decreased \$37 million in 2019, primarily due to the lower volumes described above. Cost of product sales related to the Operating FAS/CAS Adjustment increased \$131 million from 2018 to 2019.

Cost of product sales as a percentage of product sales increased from 76.8% in 2018 to 82.3% in 2019, primarily due to an unfavorable change in the Operating FAS/CAS Adjustment, a workers' compensation benefit in 2018, lower risk retirement on the *San Antonio* class (LPD 17) program and *Tripoli* (LHA 7), and year-to-year variances in contract mix, partially offset by higher risk retirement on the RCOH of USS *George Washington* (CVN 73) and one time employee bonus payments in 2018 related to the Tax Act.

2018 - Cost of product sales in 2018 increased \$350 million, or 8%, compared to 2017. Cost of product sales at our Ingalls segment increased \$171 million in 2018, primarily as a result of the volume changes described above, lower risk retirement on *Tripoli* (LHA 7) and the *Legend* class NSC program, and one time employee bonus payments in 2018 related to the Tax Act. Cost of product sales at our Newport News segment increased \$264 million in 2018, primarily as a result of the volume changes described above, lower risk retirement in the *Virginia* class (SSN 774) submarine program, and one time employee bonus payments in 2018 related to the Tax Act. Cost of product sales at our Technical Solutions segment decreased \$23 million in 2018, primarily due to the lower volumes described above and an allowance for accounts receivable in 2017 on a nuclear and environmental commercial contract. Cost of product sales related to the Operating FAS/CAS Adjustment decreased \$62 million from 2017 to 2018.

Cost of product sales as a percentage of product sales increased from 76.7% in 2017 to 76.8% in 2018, primarily due to lower risk retirement on *Tripoli* (LHA 7), the *Virginia* class (SSN 774) submarine program, and the *Legend* class NSC program, as well as one time employee bonus payments in 2018 related to the Tax Act, offset by a favorable change in the Operating FAS/CAS Adjustment, an allowance for accounts receivable on a nuclear and environmental commercial contract in 2017, and year-to-year variances in contract mix.

Cost of Service Revenues

2019 - Cost of service revenues in 2019 increased \$452 million, or 26%, compared to 2018. Cost of service revenues at our Ingalls segment increased \$2 million in 2019, primarily as a result of the volume changes described above, partially offset by the recognition in 2018 of a loss on a long-term design contract and improved performance on surface combatant services. Cost of service revenues at our Newport News segment increased \$67 million in 2019, primarily as a result of the volume changes described above. Cost of service revenues at our Technical Solutions segment increased \$348 million in 2019, primarily as a result of the volume changes described above and a loss on a fleet support services contract, partially offset by one time employee bonus payments in 2018 related to the Tax Act. Cost of service revenues related to the Operating FAS/CAS Adjustment increased \$35 million from 2018 to 2019.

Cost of service revenues as a percentage of service revenues increased from 81.7% in 2018 to 83.9% in 2019, primarily driven by an unfavorable change in the Operating FAS/CAS Adjustment, a loss on a fleet support services contract, and year-to-year variances in contract mix, partially offset by contract changes on submarine support services, one time employee bonus payments in 2018 related to the Tax Act, and the recognition in 2018 of a loss on a long-term design contract.

2018 - Cost of service revenues in 2018 increased \$222 million, or 14%, compared to 2017. Cost of service revenues at our Ingalls segment decreased \$3 million in 2018, primarily as a result of the volume changes described above. Cost of service revenues at our Newport News segment increased \$244 million in 2018, primarily as a result of the higher sales volumes described above. Cost of service revenues at our Technical Solutions segment increased \$4 million in 2018, primarily due to one time employee bonus payments in 2018 related to the Tax Act. Cost of service revenues related to the Operating FAS/CAS Adjustment decreased \$23 million from 2017 to 2018.

Cost of service revenues as a percentage of service revenues decreased from 82.2% in 2017 to 81.7% in 2018, primarily driven by the resolution in 2017 of outstanding contract changes on the inactivation of the decommissioned *Enterprise* (CVN 65) and one time employee bonus payments in 2018 related to the Tax Act, partially offset by a favorable change in the Operating FAS/CAS Adjustment and year-to-year variances in contract mix.

Income from Operating Investments, Net

The activities of our operating investments are closely aligned with the operations of the segments holding the investments. We therefore record income related to earnings from equity method investments in our operating income.

2019 - Income from operating investments, net increased \$5 million, or 29%, to \$22 million in 2019 from \$17 million in 2018. The increase resulted from higher equity income from our SRNS and N3B investments.

2018 - Income from operating investments, net increased \$5 million, or 42%, to \$17 million in 2018 from \$12 million in 2017. The increase resulted from higher equity income from our SRNS and N3B investments.

Other Income and Gains

2019 - Other income and gains decreased \$14 million in 2019 compared to 2018, primarily due to recoveries related to a settlement agreement at our Ingalls segment in 2018.

2018 - Other income and gains increased \$14 million in 2018 compared to 2017, primarily as a result of recoveries related to a settlement agreement at our Ingalls segment.

General and Administrative Expenses

In accordance with industry practice and the regulations that govern the cost accounting requirements for government contracts, most general and administrative expenses are considered allowable and allocable costs on government contracts. These costs are allocated to contracts in progress on a systematic basis, and contract performance factors include this cost component as an element of cost.

2019 - General and administrative expenses in 2019 decreased \$83 million, or 10%, compared to 2018. This decrease was primarily driven by lower overhead costs and current state income tax expense, partially offset by the addition of Fulcrum and G2 and unfavorable changes in non-current state income tax expense.

2018 - General and administrative expenses in 2018 increased \$112 million, or 15%, compared to 2017. This increase was primarily driven by higher overhead costs related to increased headcount, as well as higher current state income tax expense, partially offset by lower non-current state income tax expense.

Goodwill Impairment

As discussed above in Critical Accounting Policies, Estimates and Judgments, we perform impairment tests for goodwill as of November 30 each year, or when evidence of potential impairment exists. We record a charge to operations when we determine that an impairment has occurred.

2019 - We recorded a goodwill impairment charge in 2019 of \$29 million at our Technical Solutions segment. See Note 13: Goodwill and Other Intangible Assets in Item 8.

Operating Income

We consider operating income to be an important measure for evaluating our operating performance, and, as is typical in the industry, we define operating income as revenues less the related cost of producing the revenues and general and administrative expenses.

We internally manage our operations by reference to "segment operating income," which is defined as operating income before the Operating FAS/CAS Adjustment and non-current state income taxes, neither of which affects segment performance. Segment operating income is not a recognized measure under GAAP. When analyzing our operating performance, investors should use segment operating income in addition to, and not as an alternative for, operating income or any other performance measure presented in accordance with GAAP. It is a measure we use to evaluate our core operating performance. We believe segment operating income reflects an additional way of viewing aspects of our operations that, when viewed with our GAAP results, provides a more complete understanding of factors and trends affecting our business. We believe the measure is used by investors and is a useful indicator to measure our performance. Because not all companies use identical calculations, our presentation of segment operating income may not be comparable to similarly titled measures of other companies.

The following table reconciles operating income to segment operating income:

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Operating income	\$ 736	\$ 951	\$ 881	\$ (215)	(23) %	\$ 70	8 %
Operating FAS/CAS Adjustment	(124)	(290)	(205)	166	57 %	(85)	(41) %
Non-current state income taxes	19	2	12	17	850 %	(10)	(83) %
Segment operating income	\$ 631	\$ 663	\$ 688	\$ (32)	(5) %	\$ (25)	(4) %

Segment Operating Income

2019 - Segment operating income in 2019 was \$631 million, compared to \$663 million in 2018. The decrease was primarily due to favorable changes in workers' compensation expense in 2018, a goodwill impairment at our Technical Solutions segment, lower risk retirement on the *San Antonio* class (LPD 17) program and *Tripoli* (LHA 7), a loss on a fleet support services contract, and recoveries related to a 2018 settlement agreement at our Ingalls segment, partially offset by contract changes on submarine support services, higher volume at our Newport News segment, higher risk retirement on the RCOH of USS *George Washington* (CVN 73), and one time employee bonus payments in 2018 related to the Tax Act.

2018 - Segment operating income in 2018 was \$663 million, compared to \$688 million in 2017. The decrease was primarily due to lower performance in the *Virginia* class (SSN 774) submarine program, lower risk retirement on *Tripoli* (LHA 7) and the *Legend* class NSC program, the resolution in 2017 of outstanding contract changes on the inactivation of the decommissioned *Enterprise* (CVN 65) and the RCOH of USS *Abraham Lincoln* (CVN 72), as well as one time employee bonus payments in 2018 related to the Tax Act, partially offset by favorable changes in workers' compensation expense, recoveries related to a settlement agreement at our Ingalls segment, and an allowance for accounts receivable in 2017 on a nuclear and environmental commercial contract.

Activity within each segment is discussed under Segment Operating Results below.

FAS/CAS Adjustment and Operating FAS/CAS Adjustment

The FAS/CAS Adjustment reflects the difference between expenses for pension and other postretirement benefits determined in accordance with GAAP and the expenses for these items included in segment operating income in accordance with CAS. The Operating FAS/CAS Adjustment excludes the following components of net periodic benefit costs: interest cost, expected return on plan assets, amortization of prior service cost (credit) and actuarial loss (gain), and settlement and curtailment effects.

The components of the Operating FAS/CAS Adjustment were as follows:

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
FAS expense	\$ (139)	\$ (91)	\$ (172)	\$ (48)	(53) %	\$ 81	47 %
CAS cost	275	455	361	(180)	(40) %	94	26 %
FAS/CAS Adjustment	136	364	189	(228)	(63) %	175	93 %
Non-operating retirement expense	(12)	(74)	16	62	84 %	(90)	(563) %
Operating FAS/CAS Adjustment	\$ 124	\$ 290	\$ 205	\$ (166)	(57) %	\$ 85	41 %

2019 - The Operating FAS/CAS Adjustment in 2019 was a net benefit of \$124 million, compared to a net benefit of \$290 million in 2018. The unfavorable change was primarily driven by the more immediate recognition of higher interest rates under CAS.

2018 - The Operating FAS/CAS Adjustment in 2018 was a net benefit of \$290 million, compared to a net benefit of \$205 million in 2017. The favorable change was primarily driven by impacts of lower discount and interest rates.

We expect the FAS/CAS Adjustment in 2020 to be a net benefit of approximately \$367 million (\$69 million FAS and \$436 million CAS), primarily driven by the more immediate recognition of the 2019 asset returns under FAS and the more immediate recognition of lower interest rates under CAS.

We expect the Operating FAS/CAS Adjustment in 2020 to be a net benefit of approximately \$247 million (\$189 million FAS and \$436 million CAS), primarily driven by the more immediate recognition of lower interest rates under CAS. The expected FAS/CAS Adjustment is subject to change during 2020, when we remeasure our actuarial estimate of the unfunded benefit obligation for CAS with updated census data and other items later in the year.

Non-current State Income Taxes

Non-current state income taxes include deferred state income taxes, which reflect the change in deferred state tax assets and liabilities, and the tax expense or benefit associated with changes in state uncertain tax positions in the relevant period. These amounts are recorded within operating income. Current period state income tax expense is charged to contract costs and included in cost of sales and service revenues in segment operating income.

2019 - Non-current state income tax expense in 2019 was \$19 million, compared to \$2 million in 2018. The increase in non-current state income tax expense was driven by an increase in deferred state income tax expense and state uncertain tax positions. The increase in deferred state income tax expense was primarily attributable to changes in the timing of contract taxable income and pension related adjustments.

2018 - Non-current state income tax expense in 2018 was \$2 million, compared to \$12 million in 2017. The decrease in non-current state income tax expense was driven by a decrease in deferred state income tax expense primarily attributable to changes in pension related adjustments.

Interest Expense

2019 - Interest expense in 2019 was \$70 million, compared to \$58 million in 2018. The increase was primarily a result of an increase in short term borrowings under our revolving credit facility and our commercial paper program in 2019.

2018 - Interest expense in 2018 was \$58 million, compared to \$94 million in 2017. The decrease was primarily a result of a loss from the early extinguishment of debt in 2017 from refinancing our 5.000% senior notes due in 2021 with 3.483% senior notes due in 2027. See Note 15: Debt in Item 8.

Non-Operating Retirement Benefit (Expense)

The non-operating retirement benefit (expense) includes the following components of net periodic benefit costs: interest cost, expected return on plan assets, amortization of prior service cost (credit) and actuarial loss (gain), and settlement and curtailment effects.

2019 - An unfavorable change in the non-operating retirement benefit (expense) of \$62 million from 2018 to 2019 was primarily driven by lower 2018 returns on plan assets.

2018 - The favorable change in the non-operating retirement benefit (expense) of \$90 million from 2017 to 2018 was primarily driven by favorable 2017 returns on plan assets.

Federal and Foreign Income Taxes

2019 - Our effective tax rate on earnings from continuing operations was 19.6% in 2019, compared to 13.9% in 2018. The increase in our effective tax rate for 2019 was primarily attributable to claims for higher research and development tax credits for prior tax years recorded in 2018.

2018 - Our effective tax rate on earnings from continuing operations was 13.9% in 2018, compared to 38.0% in 2017. The decrease in our effective tax rate for 2018 was primarily attributable to the reduction in the federal corporate income tax rate and claims for higher research and development tax credits for prior tax years. In addition, the 2017 effective tax rate was impacted by the revaluation of the net deferred tax assets resulting from the decrease in the federal income tax rate included in the Tax Act.

SEGMENT OPERATING RESULTS

Basis of Presentation

We are aligned into three reportable segments: Ingalls, Newport News, and Technical Solutions.

The following table presents segment operating results:

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Sales and Service Revenues							
Ingalls	\$ 2,555	\$ 2,607	\$ 2,420	\$ (52)	(2) %	\$ 187	8 %
Newport News	5,186	4,722	4,164	464	10 %	558	13 %
Technical Solutions	1,309	988	952	321	32 %	36	4 %
Intersegment eliminations	(151)	(141)	(95)	(10)	(7) %	(46)	(48) %
Sales and service revenues	<u>\$ 8,899</u>	<u>\$ 8,176</u>	<u>\$ 7,441</u>	<u>\$ 723</u>	9 %	<u>\$ 735</u>	10 %
Operating Income							
Ingalls	\$ 235	\$ 313	\$ 313	\$ (78)	(25) %	\$ —	— %
Newport News	390	318	354	72	23 %	(36)	(10) %
Technical Solutions	6	32	21	(26)	(81) %	11	52 %
Segment operating income	<u>631</u>	<u>663</u>	<u>688</u>	<u>(32)</u>	(5) %	<u>(25)</u>	(4) %
Non-segment factors affecting operating income							
Operating FAS/CAS Adjustment	124	290	205	(166)	(57) %	85	41 %
Non-current state income taxes	(19)	(2)	(12)	(17)	(850) %	10	83 %
Operating income	<u>\$ 736</u>	<u>\$ 951</u>	<u>\$ 881</u>	<u>\$ (215)</u>	(23) %	<u>\$ 70</u>	8 %

KEY SEGMENT FINANCIAL MEASURES

Sales and Service Revenues

Period-to-period revenues reflect performance under new and ongoing contracts. Changes in sales and service revenues are typically expressed in terms of volume. Unless otherwise described, volume generally refers to increases (or decreases) in reported revenues due to varying production activity levels, delivery rates, or service levels on individual contracts. Volume changes will typically carry a corresponding income change based on the margin rate for a particular contract.

Segment Operating Income

Segment operating income reflects the aggregate performance results of contracts within a segment. Excluded from this measure are certain costs not directly associated with contract performance, such as the Operating FAS/CAS Adjustment and non-current state income taxes. Changes in segment operating income are typically expressed in terms of volume, as discussed above, or performance. Performance refers to changes in contract margin rates. These changes typically relate to profit recognition associated with revisions to EAC that reflect improved or deteriorated operating performance on that contract. Operating income changes are accounted for on a cumulative to date basis at the time an EAC change is recorded. Segment operating income may also be affected by, among other things, contract performance, the effects of workforce stoppages, the effects of natural disasters such as hurricanes, resolution of disputed items with the customer, recovery of insurance proceeds, and other discrete events. At the completion of a long-term contract, any originally estimated costs not incurred or reserves not fully utilized, such as warranty reserves, could also impact contract earnings. Where such items have occurred and the effects are material, a separate description is provided.

Ingalls

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Sales and service revenues	\$ 2,555	\$ 2,607	\$ 2,420	\$ (52)	(2) %	\$ 187	8 %
Segment operating income	235	313	313	(78)	(25) %	—	— %
As a percentage of segment sales	9.2 %	12.0 %	12.9 %				

Sales and Service Revenues

2019 - Ingalls revenues, including intersegment sales, decreased \$52 million, or 2%, in 2019 compared to 2018, primarily driven by lower revenues in the *Legend* class NSC program, surface combatants, and amphibious assault ships. Revenues on the *Legend* class NSC program decreased due to lower volumes on *Kimball* (NSC 7), *Midgett* (NSC 8), and *Stone* (NSC 9), partially offset by higher volumes on NSC 11 (unnamed) and *Calhoun* (NSC 10). Surface combatant revenues decreased as a result of lower volumes on *Delbert D. Black* (DDG 119), *Paul Ignatius* (DDG 117), *Frank E. Petersen Jr.* (DDG 121), and *Lenah H. Sutcliffe Higbee* (DDG 123), partially offset by higher volumes on *Ted Stevens* (DDG 128), USS *Fitzgerald* (DDG 62) repair and restoration, *Jeremiah Denton* (DDG 129), *Jack H. Lucas* (DDG 125), and *George M. Neal* (DDG 131). Amphibious assault ship revenues decreased as a result of lower volumes on *Tripoli* (LHA 7), *Fort Lauderdale* (LPD 28), and the delivered USS *Portland* (LPD 27), as well as lower risk retirement on the *San Antonio* class (LPD 17) program, partially offset by higher volumes on *Bougainville* (LHA 8), *Harrisburg* (LPD 30), *Richard M. McCool Jr.* (LPD 29), and LPD Planning Yard and Life Cycle Engineering and Services.

2018 - Ingalls revenues, including intersegment sales, increased \$187 million, or 8%, in 2018 compared to 2017, primarily driven by higher revenues in amphibious assault ships, partially offset by lower revenues in surface combatants and the *Legend* class NSC program. Amphibious assault ship revenues increased as a result of higher volumes on *Richard M. McCool Jr.* (LPD 29), *Bougainville* (LHA 8), and *Fort Lauderdale* (LPD 28), partially offset by lower volumes on the delivered USS *Portland* (LPD 27) and *Tripoli* (LHA 7). Surface combatant revenues decreased due to lower volumes on the delivered USS *Ralph Johnson* (DDG 114), *Lenah H. Sutcliffe Higbee* (DDG 123), *Paul Ignatius* (DDG 117), and the delivered USS *John Finn* (DDG 113), partially offset by higher volumes on USS *Fitzgerald* (DDG 62) repair and restoration, *Jack H. Lucas* (DDG 125), and *Ted Stevens* (DDG 128). Revenues on the *Legend* class NSC program decreased due to lower volumes on USCGC *Kimball* (NSC 7) and *Midgett* (NSC 8), as well as lower risk retirement across the NSC program, partially offset by higher volumes on *Stone* (NSC 9) and *Calhoun* (NSC 10).

Segment Operating Income

2019 - Ingalls operating income in 2019 was \$235 million, compared to income of \$313 million in 2018. The decrease was primarily due to lower risk retirement on the *San Antonio* class (LPD 17) program and *Tripoli* (LHA 7) and recoveries related to a 2018 settlement agreement.

2018 - Ingalls operating income remained stable from 2017 to 2018 at \$313 million, as recoveries related to a settlement agreement, higher risk retirement on *Arleigh Burke* class (DDG 51) destroyers, and the higher volumes described above were offset by lower risk retirement on *Tripoli* (LHA 7) and the *Legend* class NSC program.

Newport News

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Sales and service revenues	\$ 5,186	\$ 4,722	\$ 4,164	\$ 464	10 %	\$ 558	13 %
Segment operating income	390	318	354	72	23 %	(36)	(10) %
As a percentage of segment sales	7.5 %	6.7 %	8.5 %				

Sales and Service Revenues

2019 - Newport News revenues, including intersegment sales, increased \$464 million, or 10%, in 2019 compared to 2018, primarily driven by higher revenues in aircraft carriers, submarines, and naval nuclear support services. Aircraft carrier revenues increased primarily as a result of higher volumes on *Enterprise* (CVN 80), the advance planning contract for the RCOH of USS *John C. Stennis* (CVN 74), and *Doris Miller* (CVN 81), partially offset by lower volumes on the RCOH of USS *George Washington* (CVN 73) and *John F. Kennedy* (CVN 79). Submarine revenues related to the *Virginia* class (SSN 774) submarine program increased as a result of higher volumes on Block V and Block IV boats, offset by lower volumes on Block III boats. Naval nuclear support services revenues increased primarily as a result of contract changes on submarine support services and higher volume in facility maintenance services.

2018 - Newport News revenues, including intersegment sales, increased \$558 million, or 13%, in 2018 compared to 2017, primarily driven by higher revenues in aircraft carriers and naval nuclear support services, partially offset by lower revenues in submarines. Aircraft carrier revenues increased primarily as a result of higher volumes on the execution contract for the RCOH of USS *George Washington* (CVN 73) and the advance planning contract for *Enterprise* (CVN 80), partially offset by lower volumes on the inactivation of the decommissioned aircraft carrier *Enterprise* (CVN 65) and the execution contract for the RCOH of the redelivered USS *Abraham Lincoln* (CVN 72). Naval nuclear support services revenues increased primarily as a result of higher volumes in submarine support and facility maintenance services. Submarine revenues related to the *Virginia* class (SSN 774) submarine program decreased due to lower volumes and performance on Block III boats, partially offset by higher volumes on Block IV and Block V boats.

Segment Operating Income

2019 - Newport News operating income in 2019 was \$390 million, compared to income of \$318 million in 2018. The increase was primarily due to contract changes on submarine support services, the higher volumes described above, and higher risk retirement on the RCOH of USS *George Washington* (CVN 73), partially offset by favorable changes in workers' compensation expense in 2018.

2018 - Newport News operating income in 2018 was \$318 million, compared to income of \$354 million in 2017. The decrease was primarily due to lower performance in the *Virginia* class (SSN 774) submarine program, including *Delaware* (SSN 791) and *Montana* (SSN 794), the resolution in 2017 of outstanding contract changes on the inactivation of the decommissioned *Enterprise* (CVN 65) and the RCOH of USS *Abraham Lincoln* (CVN 72), as well as one time employee bonus payments in 2018 related to the Tax Act, partially offset by favorable changes in workers' compensation expense and the increased volume described above.

Technical Solutions

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Sales and service revenues	\$ 1,309	\$ 988	\$ 952	\$ 321	32 %	\$ 36	4 %
Segment operating income	6	32	21	(26)	(81) %	11	52 %
As a percentage of segment sales	0.5 %	3.2 %	2.2 %				

Sales and Service Revenues

2019 - Technical Solutions revenues, including intersegment sales, for the year ended December 31, 2019, increased \$321 million, or 32%, compared to 2018, primarily due to higher MDIS revenues attributable to the additions of Fulcrum and G2, as well as higher fleet support and oil and gas revenues.

2018 - Technical Solutions revenues, including intersegment sales, for the year ended December 31, 2018, increased \$36 million, or 4%, compared to 2017, primarily due to higher revenues in oil and gas services and MDIS services, partially offset by lower nuclear and environmental and fleet support revenues.

Segment Operating Income

2019 - Operating income in the Technical Solutions segment for the year ended December 31, 2019, was \$6 million, compared to operating income of \$32 million in 2018. The decrease was primarily due to a goodwill impairment at our oil and gas reporting unit and a loss on a fleet support services contract, partially offset by higher equity income from our nuclear and environmental joint ventures and one time employee bonus payments in 2018 related to the Tax Act.

2018 - Operating income in the Technical Solutions segment for the year ended December 31, 2018, was \$32 million, compared to operating income of \$21 million in 2017. The increase was primarily due to an allowance for accounts receivable in 2017 on a nuclear and environmental commercial contract and higher income from operating investments at our nuclear and environmental joint ventures, partially offset by one time employee bonus payments in 2018 related to the Tax Act and lower performance in fleet support services.

BACKLOG

Total backlog as of December 31, 2019, was approximately \$46.5 billion. Total backlog includes both funded backlog (firm orders for which funding is contractually obligated by the customer) and unfunded backlog (firm orders for which funding is not currently contractually obligated by the customer). Backlog excludes unexercised contract options and unfunded IDIQ orders. For contracts having no stated contract values, backlog includes only the amounts committed by the customer.

The following table presents funded and unfunded backlog by segment as of December 31, 2019 and 2018:

(\$ in millions)	December 31, 2019			December 31, 2018		
	Funded	Unfunded	Total Backlog	Funded	Unfunded	Total Backlog
Ingalls	\$ 9,062	\$ 1,693	\$ 10,755	\$ 9,943	\$ 1,422	\$ 11,365
Newport News	8,414	26,352	34,766	6,767	4,144	10,911
Technical Solutions	435	538	973	339	380	719
Total backlog	\$ 17,911	\$ 28,583	\$ 46,494	\$ 17,049	\$ 5,946	\$ 22,995

We expect approximately 17% of the \$46.5 billion total backlog as of December 31, 2019, to be converted into sales in 2020. U.S. Government orders comprised substantially all of the backlog as of December 31, 2019 and 2018.

Awards

2019 - The value of new contract awards during the year ended December 31, 2019, was approximately \$32.3 billion. Significant new awards during the period included contracts for the detail design and construction of the *Gerald R. Ford* class (CVN 78) aircraft carriers *Enterprise* (CVN 80) and *Doris Miller* (CVN 81), Block V of the *Virginia* class (SSN 774) submarine program, and the *San Antonio* class (LPD 17) amphibious transport dock *Harrisburg* (LPD 30).

2018 - The value of new contract awards during the year ended December 31, 2018, was approximately \$9.8 billion. Significant new awards during the period included contracts for the construction of three *Arleigh Burke* class (DDG 51) destroyers, for the detail design and construction of *Richard M. McCool Jr.* (LPD 29), for procurement of long-lead-time material for *Enterprise* (CVN 80), and for the construction of *Calhoun* (NSC 10) and NSC 11 (unnamed).

LIQUIDITY AND CAPITAL RESOURCES

We endeavor to ensure the most efficient conversion of operating results into cash for deployment in operating our businesses, implementing our business strategy, and maximizing stockholder value. We use various financial measures to assist in capital deployment decision making, including net cash provided by operating activities and free cash flow. We believe these measures are useful to investors in assessing our financial performance.

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

(\$ in millions)	Year Ended December 31			2019 over 2018		2018 over 2017	
	2019	2018	2017	Dollars	Percent	Dollars	Percent
Net earnings	\$ 549	\$ 836	\$ 479	\$ (287)	(34) %	\$ 357	75 %
Depreciation and amortization	230	207	211	23	11 %	(4)	(2) %
Provision for doubtful accounts	(6)	(4)	10	(2)	(50) %	(14)	(140) %
Stock-based compensation	30	36	34	(6)	(17) %	2	6 %
Deferred income taxes	97	10	184	87	870 %	(174)	(95) %
Retiree benefit funding in excess of expense	80	(454)	(163)	534	118 %	(291)	(179) %
Goodwill impairment	29	—	—	29	— %	—	— %
Loss on early extinguishment of debt	—	—	22	—	— %	(22)	(100) %
Trade working capital decrease (increase)	(113)	283	37	(396)	(140) %	246	665 %
Net cash provided by operating activities	\$ 896	\$ 914	\$ 814	\$ (18)	(2) %	\$ 100	12 %

Cash Flows

We discuss below our major operating, investing, and financing activities for each of the three years in the period ended December 31, 2019, as classified in our consolidated statements of cash flows.

Operating Activities

2019 - Cash provided by operating activities was \$896 million in 2019, compared to \$914 million in 2018. The change of \$18 million in operating cash flow was primarily due to a change in trade working capital, partially offset by decreased funding of retiree benefit plans. The change in trade working capital was primarily driven by the timing of payments of accounts payable.

We expect cash generated from operations in 2020, in combination with our current cash and cash equivalents, as well as existing credit facilities, to be sufficient to service debt and retiree benefit plans, meet contractual obligations, and finance capital expenditures for at least the next 12 months.

2018 - Cash provided by operating activities was \$914 million in 2018, compared to \$814 million in 2017. The increase of \$100 million in operating cash flow was primarily due to a change in trade working capital and lower income tax payments, partially offset by increased funding of retiree benefit plans. The change in trade working capital was primarily driven by the timing of payments of accounts payable.

Investing Activities

2019 - Cash used in investing activities was \$627 million in 2019, an increase of \$151 million from 2018. The change in investing cash flow was driven by the acquisition of Fulcrum and higher capital expenditures, partially offset by the acquisition of G2, Inc. in 2018 and investments in nuclear and environmental joint ventures in 2018.

For 2020, we expect our capital expenditures for maintenance and sustainment to be approximately 1.0% of annual revenues and our discretionary capital expenditures to be approximately 3.0% to 4.0% of annual revenues.

2018 - Cash used in investing activities was \$476 million in 2018, an increase of \$127 million from 2017. The change in investing cash flow was driven by the acquisition of G2, Inc., higher capital expenditures, and investments in nuclear and environmental joint ventures in 2018, partially offset by the proceeds from the sale of Avondale.

Financing Activities

2019 - Cash used in financing activities in 2019 was \$434 million, compared to \$899 million used in 2018. The change was primarily due to decreases of \$480 million of common stock repurchases and \$2 million in employee tax withholdings on share-based payment arrangements, partially offset by an increase of \$17 million of cash dividend payments.

2018 - Cash used in financing activities in 2018 was \$899 million, compared to \$484 million used in 2017. The change was primarily due to increases of \$456 million of common stock repurchases and \$17 million of cash dividend payments, partially offset by decreases of \$31 million in employee tax withholdings on share-based payment arrangements and \$27 million of debt related expenditures.

Free Cash Flow

Free cash flow represents cash provided by (used in) operating activities less capital expenditures net of related grant proceeds. Free cash flow is not a measure recognized under GAAP. Free cash flow has limitations as an analytical tool and should not be considered in isolation from, or as a substitute for, analysis of our results as reported under GAAP. We believe free cash flow is an important liquidity measure for our investors because it provides them insight into our current and period-to-period performance and our ability to generate cash from continuing operations. We also use free cash flow as a key operating metric in assessing the performance of our business and as a key performance measure in evaluating management performance and determining incentive compensation. Free cash flow may not be comparable to similarly titled measures of other companies.

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

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Net cash provided by (used in) operating activities	\$ 896	\$ 914	\$ 814
Less capital expenditures:			
Capital expenditure additions	(530)	(463)	(382)
Grant proceeds for capital expenditures	94	61	21
Free cash flow	\$ 460	\$ 512	\$ 453

2019 - Free cash flow decreased \$52 million from 2018, primarily due to a change in trade working capital and higher capital expenditures, partially offset by decreased funding of retiree benefit plans.

2018 - Free cash flow increased \$59 million from 2017, primarily due to a change in trade working capital and lower income tax payments, partially offset by increased funding of retiree benefit plans and higher capital expenditures.

Retirement Related Benefit Plan Contributions

ERISA, including amendments under pension relief, defines the minimum amount that must be contributed to our qualified defined benefit pension plans. In determining whether to make discretionary contributions to these plans above the minimum required amounts, we consider various factors, including maintaining the funded status needed to avoid potential benefit restrictions and other adverse consequences, maintaining minimum CAS funding requirements, and the current and anticipated future funding levels of each plan. The contributions to our qualified defined benefit pension plans are affected by a number of factors, including published IRS interest rates, the actual return on plan assets, actuarial assumptions, and demographic experience. These factors and our resulting contributions also impact the plans' funded statuses. We made the following minimum and discretionary contributions to our pension and other postretirement plans in the years ended December 31, 2019, 2018, and 2017:

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Pension plans			
Discretionary			
Qualified	\$ 21	\$ 508	\$ 294
Non-qualified	7	8	7
Other benefit plans	31	30	34
Total contributions	\$ 59	\$ 546	\$ 335

We made discretionary contributions to our qualified defined benefit pension plans totaling \$21 million, \$508 million, and \$294 million in the years ended December 31, 2019, 2018, and 2017, respectively.

As of December 31, 2019 and 2018, our qualified pension plans were funded 89% and 90%, respectively, on a FAS basis. As of December 31, 2019 and 2018, these plans were sufficiently funded on an ERISA basis so as not to be subject to benefit payment restrictions. The funded percentages under ERISA and FAS vary due to inherent differences in the assumptions and methodologies used to calculate the respective obligations. We expect our 2020 cash contributions to our qualified defined benefit pension plans to be \$205 million, all of which we anticipate will be discretionary and which are exclusive of CAS cost recoveries in our contracts. Due to the differences in calculation methodologies, our FAS expense is not necessarily representative of our funding requirements or CAS cost recoveries.

Other postretirement benefit contributions were \$31 million, \$30 million, and \$34 million in 2019, 2018, and 2017, respectively. We expect our 2020 contributions to our other postretirement benefit plans to be approximately \$33 million, which are exclusive of CAS cost recoveries in our contracts. Contributions for postretirement benefits are not required to be funded in advance and are paid on an as-incurred basis.

Other Sources and Uses of Capital

Stockholder Distributions - In November 2019, our board of directors authorized an increase in our quarterly cash dividend to \$ 1.03 per share. The board previously increased the quarterly cash dividend to \$0.86 per share in November 2018 and \$ 0.72 per share in November 2017. We paid cash dividends totaling \$149 million (\$3.61 per share), \$ 132 million (\$3.02 per share), and \$ 115 million (\$2.52 per share) in the years ended December 31, 2019, 2018, and 2017, respectively.

In November 2019, our board of directors authorized an increase to our stock repurchase program from \$ 2.2 billion to \$3.2 billion and an extension of the term of the program to October 31, 2024. Repurchases are made from time to time at management's discretion in accordance with applicable federal securities laws. For the year ended December 31, 2019, we repurchased 1,005,762 shares at an aggregate cost of \$214 million. For the years ended December 31, 2018 and 2017, we repurchased 3,620,916 and 1,417,808 shares, respectively, at aggregate costs of \$788 million and \$288 million, respectively, of which \$48 million and \$2 million, respectively, were not yet settled for cash as of December 31, 2018 and 2017, respectively. The cost of repurchased shares is recorded as treasury stock in the consolidated statements of financial position.

Additional Capital - In June 2018, we completed an exchange of \$600 million aggregate principal amount of registered 3.483% senior notes due December 2027 for all of the then outstanding unregistered senior notes due December 2027. We also have outstanding \$600 million aggregate principal amount of unregistered 5.000% senior notes due November 2025. Interest on our senior notes is payable semi-annually.

In November 2017, we terminated our Second Amended and Restated Credit Agreement with third-party lenders and entered into a new Credit Agreement (the "Credit Facility") with third-party lenders. The Credit Facility includes a revolving credit facility of \$1,250 million, which may be drawn upon during a period of five years from November 22, 2017. The revolving credit facility includes a letter of credit subfacility of \$ 500 million. The revolving credit facility has a variable interest rate on outstanding borrowings based on the London Interbank Offered Rate ("LIBOR") plus a spread based upon our credit rating, which may vary between 1.125% and 1.500%. The revolving credit facility also has a commitment fee rate on the unutilized balance based on our credit rating. The commitment fee rate as of December 31, 2019 was 0.25% and may vary between 0.20% and 0.30%.

As of December 31, 2019, we had \$ 16 million in issued but undrawn letters of credit and \$ 1,234 million unutilized under the Credit Facility.

In October 2019, we established an unsecured commercial paper note program, under which we may issue up to \$1 billion of unsecured commercial paper notes.

We were in compliance with all debt-related covenants as of and during the year ended December 31, 2019. For a description of our outstanding debt amounts and related restrictive covenants, see Note 15: Debt in Item 8.

CONTRACTUAL OBLIGATIONS

As of December 31, 2019, our total outstanding long-term debt was \$1,286 million, consisting of senior notes and other third-party debt. For a description of our outstanding debt amounts and related restrictive covenants, see Note 15: Debt in Item 8.

On March 29, 2011, HII entered into a Separation and Distribution Agreement (the "Separation Agreement") with its former parent company, Northrop Grumman Corporation ("Northrop Grumman"), and Northrop Grumman's subsidiaries (Northrop Grumman Shipbuilding, Inc. and Northrop Grumman Systems Corporation), pursuant to which HII was legally and structurally separated from Northrop Grumman. For the year ended December 31, 2018, HII received \$8 million from Northrop Grumman under the Separation Agreement. HII had \$ 84 million outstanding under Industrial Revenue Bonds issued by the Mississippi Business Finance Corporation as of each of December 31, 2019, and December 31, 2018. Prior to the spin-off, repayment of principal and interest was guaranteed by Northrop Grumman Systems Corporation. The guaranty remains in effect, and HII has agreed to indemnify Northrop Grumman Systems Corporation for any losses related to the guaranty.

The following table presents our contractual obligations as of December 31, 2019, and the estimated timing of related future cash payments:

(\$ in millions)	Total	2020	2021 - 2022	2023 - 2024	2025 and beyond
Long-term debt	\$ 1,305	\$ —	\$ —	\$ 84	\$ 1,221
Interest payments on long-term debt	398	62	124	115	97
Operating leases	273	45	68	46	114
Purchase obligations ⁽¹⁾	4,263	2,026	1,576	396	265
Other long-term liabilities ⁽²⁾	937	93	142	112	590
Total contractual obligations	\$ 7,176	\$ 2,226	\$ 1,910	\$ 753	\$ 2,287

⁽¹⁾ A "purchase obligation" is defined as an agreement to purchase goods or services that is enforceable and legally binding on us and that specifies all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum, or variable price provisions; and the approximate timing of the transaction. These amounts are primarily comprised of open purchase order commitments to vendors and subcontractors pertaining to funded contracts.

⁽²⁾ Other long-term liabilities primarily consist of total accrued workers' compensation reserves, deferred compensation, and other miscellaneous liabilities, of which \$225 million is the current portion of workers' compensation liabilities. It excludes obligations for uncertain tax positions of \$38 million, including penalties and interest, for which the timing of the payments, if any, cannot be reasonably estimated.

The preceding table excludes retirement related contributions. Amounts for retirement related contributions depend on plan provisions, actuarial assumptions, actual plan asset performance, and other factors described above under Retirement Related Benefit Plans under Critical Accounting Policies, Estimates and Judgments and under Liquidity and Capital Resources.

Further details regarding long-term debt and operating leases can be found in Note 15: Debt and Note 18: Commitments and Contingencies in Item 8.

Off-Balance Sheet Arrangements

In the ordinary course of business, we use letters of credit issued by commercial banks to support certain leases, insurance policies, and contractual performance obligations, as well as surety bonds issued by insurance companies principally to support our self-insured workers' compensation plans. As of December 31, 2019, \$16 million in letters of credit were issued but undrawn and \$ 273 million of surety bonds were outstanding. As of December 31, 2019, we had no other significant off-balance sheet arrangements.

GLOSSARY OF PROGRAMS

Included below are brief descriptions of some of the programs discussed in this Annual Report on Form 10-K.

Program Name	Program Description
<i>America</i> class (LHA 6) amphibious assault ships	Design and build large deck amphibious assault ships that provide forward presence and power projection as an integral part of joint, interagency and multinational maritime expeditionary forces. The <i>America</i> class (LHA 6) ships, together with the <i>Wasp</i> class (LHD 1) ships, are the successors to the decommissioned <i>Tarawa</i> class (LHA 1) ships. The <i>America</i> class (LHA 6) ships optimize aviation operations and support capabilities. We delivered USS <i>America</i> (LHA 6) in April 2014, <i>Tripoli</i> (LHA 7) is scheduled for delivery in 2020, and we are currently constructing <i>Bougainville</i> (LHA 8).
<i>Arleigh Burke</i> class (DDG 51) destroyers	Build guided missile destroyers designed for conducting anti-air, anti-submarine, anti-surface, and strike operations. The Aegis-equipped <i>Arleigh Burke</i> class (DDG 51) destroyers are the U.S. Navy's primary surface combatant, and have been constructed in variants, allowing technological advances during construction. In 2016 we delivered USS <i>John Finn</i> (DDG 113), and in 2017 we delivered <i>Ralph Johnson</i> (DDG 114), and in 2019 we delivered <i>Paul Ignatius</i> (DDG 117). We have contracts to construct the following <i>Arleigh Burke</i> class (DDG51) destroyers: <i>Delbert D. Black</i> (DDG 119), <i>Frank E. Petersen Jr.</i> (DDG 121), <i>Lenah H. Sutcliffe Higbee</i> (DDG 123), <i>Jack H. Lucas</i> (DDG 125), <i>Ted Stevens</i> (DDG 128), <i>Jeremiah Denton</i> (DDG 129), <i>George M. Neal</i> (DDG 131), <i>Sam Nunn</i> (DDG 133), DDG 135 (unnamed), and DDG 137 (unnamed).
Carrier RCOH	Perform refueling and complex overhaul ("RCOH") of nuclear-powered aircraft carriers, which is required at the mid-point of their 50-year life cycle. USS <i>Abraham Lincoln</i> (CVN 72) was redelivered to the U.S. Navy in the second quarter of 2017 and USS <i>George Washington</i> (CVN 73) arrived at Newport News for the start of its RCOH in August 2017.
<i>Columbia</i> class (SSBN 826) submarines	Newport News is participating in designing the <i>Columbia</i> class submarine as a replacement for the current aging <i>Ohio</i> class nuclear ballistic missile submarines, which were first introduced into service in 1981. The <i>Ohio</i> class SSBN includes 14 nuclear ballistic missile submarines and four nuclear cruise missile submarines. The <i>Columbia</i> class program plan of record is to construct 12 new ballistic missile submarines. The U.S. Navy has initiated the design process for the new class of submarines, and, in early 2017, the DOD signed the acquisition decision memorandum approving the <i>Columbia</i> class program's Milestone B, which formally authorizes the program's entry into the engineering and manufacturing development phase. We perform design work as a subcontractor to Electric Boat, and we have entered into a teaming agreement with Electric Boat to build modules for the entire <i>Columbia</i> class (SSBN 826) submarine program that leverages our <i>Virginia</i> class (SSN 774) experience. We have been awarded contracts from Electric Boat to begin integrated product and process development and provide long-lead-time material and advance construction for the <i>Columbia</i> class (SSBN 826) program. Construction of the first <i>Columbia</i> class (SSBN 826) submarine is expected to begin in 2021.

Fleet support services	Provide comprehensive life-cycle sustainment services to the U.S. Navy fleet and other DoD and commercial maritime customers. We provide services including maintenance, modernization, and repair on all ship classes; naval architecture, marine engineering, and design; integrated logistics support; technical documentation development; warehousing, asset management, and material readiness; operational and maintenance training development and delivery; software design and development; IT infrastructure support and data delivery and management; and cyber security and information assurance. We provide undersea vehicle and specialized craft development and prototyping services.
USS <i>Gerald R. Ford</i> class (CVN 78) aircraft carriers	Design and construction for the <i>Ford</i> class program, which is the aircraft carrier replacement program for the decommissioned <i>Enterprise</i> (CVN 65) and <i>Nimitz</i> class (CVN 68) aircraft carriers. USS <i>Gerald R. Ford</i> (CVN 78), the first ship of the <i>Ford</i> class, was delivered to the U.S. Navy in the second quarter of 2017. In June 2015, we were awarded a contract for the detail design and construction of <i>John F. Kennedy</i> (CVN 79), following several years of engineering, advance construction, and purchase of long-lead time components and material. In addition, we have received awards for detail design and construction of <i>Enterprise</i> (CVN 80) and <i>Doris Miller</i> (CVN 81). This category also includes the class' non-recurring engineering. The class is expected to bring improved warfighting capability, quality of life improvements for sailors, and reduced life cycle costs.
<i>Legend</i> class National Security Cutter	Design and build the U.S. Coast Guard's National Security Cutters ("NSCs"), the largest and most technically advanced class of cutter in the U.S. Coast Guard. The NSC is equipped to carry out maritime homeland security, maritime safety, protection of natural resources, maritime mobility, and national defense missions. The plan is for a total of 11 ships, of which the first eight ships have been delivered. <i>Stone</i> (NSC 9), <i>Calhoun</i> (NSC 10), and NSC 11 (unnamed) are currently under construction.
MDIS services	Provide services to DoD, intelligence, and federal civilian customers. Services are performed in six major portfolio areas: modeling, simulation and training, information technology and software application, artificial intelligence and data analytics, mission engineering and operations support, logistics and life cycle management, and cyber space operations.
Naval nuclear support services	Provide services to and in support of the U.S. Navy, ranging from services supporting the Navy's carrier and submarine fleets to maintenance services at U.S. Navy training facilities. Naval nuclear support services include design, construction, maintenance, and disposal activities for in service U.S. Navy nuclear ships worldwide through mobile and in-house capabilities. Services include maintenance services on nuclear reactor prototypes.
Nuclear and environmental services	Provide services in nuclear management and operations, and nuclear and non-nuclear fabrication and repair. We provide site management, nuclear and industrial facilities operations and maintenance, decontamination and decommissioning, and radiological and hazardous waste management services. We provide services, including fabrication, equipment repair, and technical engineering services. We participate in several joint ventures, including N3B, MSTS, and SRNS. N3B was awarded the Los Alamos Legacy Cleanup Contract at the DoE/National Nuclear Security Administration's Los Alamos National Laboratory. MSTS was awarded a contract for site management and operations at the Nevada National Security Site. SRNS provides site management and operations at the DoE's Savannah River Site near Aiken, South Carolina.

Oil and gas services	Deliver engineering, procurement, and construction management services to the oil and gas industry for major pipeline, production, and treatment facilities. These services include full life-cycle services for domestic and international projects, from concept identification through detail design, execution and construction, and decommissioning. Related field services include survey, inspection, commissioning and start-up, operations and maintenance, and optimization and debottlenecking.
<i>San Antonio</i> class (LPD 17) amphibious transport dock ships	Design and build amphibious transport dock ships, which are warships that embark, transport, and land elements of a landing force for a variety of expeditionary warfare missions, and also serve as the secondary aviation platform for Amphibious Readiness Groups. The <i>San Antonio</i> class (LPD 17) is the newest addition to the U.S. Navy's 21st century amphibious assault force, and these ships are a key element of the U.S. Navy's seabase transformation. In 2013, we delivered USS <i>Somerset</i> (LPD 25), in 2016, we delivered USS <i>John P. Murtha</i> (LPD 26), and, in 2017, we delivered USS <i>Portland</i> (LPD 27). We are currently constructing <i>Fort Lauderdale</i> (LPD 28), <i>Richard M. McCool Jr.</i> (LPD 29), and <i>Harrisburg</i> (LPD 30).
The decommissioned <i>Enterprise</i> (CVN 65)	Defuel and inactivate the world's first nuclear-powered aircraft carrier, which began in 2013. The inactivation was completed in the second quarter of 2018.
<i>Virginia</i> class (SSN 774) fast attack submarines	Construct attack submarines as the principal subcontractor to Electric Boat. The <i>Virginia</i> class (SSN 774) is a post-Cold War design tailored to excel in a wide range of warfighting missions, including anti-submarine and surface ship warfare; special operation forces; strike; intelligence, surveillance, and reconnaissance; carrier and expeditionary strike group support; and mine warfare.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to certain market risks, primarily related to interest rates and foreign currency exchange rates.

Interest Rates - Our financial instruments potentially subject to interest rate risk include floating rate borrowings under our Credit Facility. Our \$ 1,250 million Credit Facility was undrawn as of December 31, 2019.

Foreign Currency - We currently have, and in the future may enter into, foreign currency forward contracts to manage foreign currency exchange rate risk related to payments to suppliers denominated in foreign currencies. As of December 31, 2019, the fair values of our outstanding foreign currency forward contracts were not significant.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of
Huntington Ingalls Industries, Inc.
Newport News, Virginia

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Huntington Ingalls Industries, Inc. and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of operations and comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2019, the related notes and the financial statement schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with the accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 13, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. 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 audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue – Long Term Contracts — Refer to Note 2 to the financial statements

Critical Audit Matter Description

The Company recognizes revenue on long-term contracts with U.S. Government customers over time as the work progresses, either as products are produced or as services are rendered, because transfer of control to the customer is continuous. Ordinarily the Company's contracts represent a single distinct performance obligation due to the highly interdependent and interrelated nature of the underlying goods, services, or both. The use of the cost-to-cost method to measure performance progress over time is supported by clauses in the related contracts that allow the customer to unilaterally terminate the contract for convenience, pay the Company for costs incurred plus a reasonable profit, and take control of any work in process. The accounting for these contracts involves judgment,

particularly as it relates to the process of estimating total material costs, labor costs, and profit for the performance obligation. Cost of sales is recognized as incurred, and revenues are determined by adding a proportionate amount of the estimated profit to the amount reported as cost of sales. For the year ended December 31, 2019, revenue was \$8.9 billion, most of which was derived from long-term contracts.

Given the judgments necessary to estimate total material costs, labor costs, and profit in order to recognize revenue for certain long-term contracts, auditing such estimates required extensive audit effort due to the complexity of long-term contracts and a high degree of auditor judgment, especially given the limited historical data for certain contracts, when performing audit procedures and evaluating the results of those procedures.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to management's estimates of total material costs, labor costs, and profit in order to recognize revenue for certain long-term contracts included the following, among others:

- We tested the effectiveness of controls over long-term contract revenue, including management's controls over the estimates of total material costs, labor costs, and profit for performance obligations.
- We developed independent estimates of revenue based on historical profit margins and current year recorded costs. We compared those estimates to revenue recognized by the Company.
- We obtained the population of active contracts during 2019 and assessed the financial and performance risk of the contracts based on our knowledge gained through prior year audits of the Company, industry experience, and ongoing conversations with members of program management regarding the contract performance to identify contracts that we believe were riskier. For those contracts selected, we performed further audit procedures that were tailored to address the specific characteristics of audit interest identified. Procedures performed, among others, included:
 - Read the relevant portions of contracts to understand contract terms, including incentives, fee arrangement, scope of work, and other unusual contract terms.
 - Compared the transaction prices to the consideration expected to be received based on current rights and obligations under the contracts and any modifications that were agreed upon with the customers.
 - Tested management's identification of distinct performance obligations by evaluating whether the underlying goods, services, or both were highly interdependent and interrelated.
 - Tested the accuracy and completeness of the costs incurred to date for the performance obligation.
 - Evaluated the estimates of total materials costs, labor costs, and profit for the performance obligation by:
 - Evaluating management's ability to achieve the estimates of total material costs, labor costs and profit by 1) performing inquiries with the business managers and corroborating the information gained from these inquiries with other parties who have detailed knowledge of the contract's progress, issues being encountered, and overall production status, 2) considering management's historical performance against estimates, 3) detail testing the appropriateness of the timing of changes in estimates, and 4) considering any contradictory information.
 - Comparing materials cost estimates to purchase orders, supplier contracts, or other source documents.
 - Comparing management's estimates for the selected contracts to costs and profits of similar performance obligations, when applicable.

/s/ DELOITTE & TOUCHE LLP

Richmond, Virginia
February 13, 2020

We have served as the Company's auditor since 2011

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of
Huntington Ingalls Industries, Inc.
Newport News, Virginia

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Huntington Ingalls Industries, Inc. and subsidiaries (the "Company") as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2019, of the Company and our report dated February 13, 2020, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

Richmond, Virginia
February 13, 2020

HUNTINGTON INGALLS INDUSTRIES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME

(in millions, except per share amounts)	Year Ended December 31		
	2019	2018	2017
Sales and service revenues			
Product sales	\$ 6,265	\$ 6,023	\$ 5,573
Service revenues	2,634	2,153	1,868
Sales and service revenues	8,899	8,176	7,441
Cost of sales and service revenues			
Cost of product sales	5,158	4,627	4,277
Cost of service revenues	2,210	1,758	1,536
Income from operating investments, net	22	17	12
Other income and gains	—	14	—
General and administrative expenses	788	871	759
Goodwill impairment	29	—	—
Operating income	736	951	881
Other income (expense)			
Interest expense	(70)	(58)	(94)
Non-operating retirement benefit (expense)	12	74	(16)
Other, net	5	4	1
Earnings before income taxes	683	971	772
Federal and foreign income taxes	134	135	293
Net earnings	\$ 549	\$ 836	\$ 479
Basic earnings per share	\$ 13.26	\$ 19.09	\$ 10.48
Weighted-average common shares outstanding	41.4	43.8	45.7
Diluted earnings per share	\$ 13.26	\$ 19.09	\$ 10.46
Weighted-average diluted shares outstanding	41.4	43.8	45.8
Net earnings from above	\$ 549	\$ 836	\$ 479
Other comprehensive income (loss)			
Change in unamortized benefit plan costs	(167)	(232)	59
Other	3	(2)	14
Tax benefit (expense) for items of other comprehensive income	43	59	(22)
Other comprehensive income (loss), net of tax	(121)	(175)	51
Comprehensive income	\$ 428	\$ 661	\$ 530

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

**HUNTINGTON INGALLS INDUSTRIES, INC.
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION**

(\$ in millions)	December 31	
	2019	2018
Assets		
Current Assets		
Cash and cash equivalents	\$ 75	\$ 240
Accounts receivable, net of allowance for doubtful accounts of \$3 million as of 2019 and \$9 million as of 2018	318	252
Contract assets	989	1,003
Inventoried costs, net	136	128
Income taxes receivable	148	94
Assets held for sale	95	1
Prepaid expenses and other current assets	24	27
Total current assets	1,785	1,745
Property, Plant, and Equipment		
Land and land improvements	282	321
Buildings and leasehold improvements	2,384	2,043
Machinery and other equipment	1,909	1,771
Capitalized software costs	218	211
	4,793	4,346
Accumulated depreciation and amortization	(1,961)	(1,829)
Property, plant, and equipment, net	2,832	2,517
Other Assets		
Operating lease assets	201	—
Goodwill	1,373	1,263
Other intangible assets, net of accumulated amortization of \$599 million as of 2019 and \$564 million as of 2018	492	492
Long-term deferred tax assets	108	163
Miscellaneous other assets	240	203
Total other assets	2,414	2,121
Total assets	\$ 7,031	\$ 6,383

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

**HUNTINGTON INGALLS INDUSTRIES, INC.
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION - CONTINUED**

(\$ in millions)	December 31	
	2019	2018
Liabilities and Stockholders' Equity		
Current Liabilities		
Trade accounts payable	\$ 497	\$ 562
Accrued employees' compensation	265	248
Current portion of postretirement plan liabilities	130	131
Current portion of workers' compensation liabilities	225	225
Contract liabilities	373	331
Liabilities held for sale	77	—
Other current liabilities	323	332
Total current liabilities	1,890	1,829
Long-term debt	1,286	1,283
Pension plan liabilities	975	764
Other postretirement plan liabilities	380	348
Workers' compensation liabilities	457	454
Long-term operating lease liabilities	164	—
Other long-term liabilities	291	189
Total liabilities	5,443	4,867
Commitments and Contingencies (Note 18)		
Stockholders' Equity		
Common stock, \$0.01 par value; 150 million shares authorized; 53.2 million issued and 40.8 million outstanding as of December 31, 2019, and 53.1 million issued and 41.9 million outstanding as of December 31, 2018	1	1
Additional paid-in capital	1,961	1,954
Retained earnings	3,009	2,609
Treasury stock	(1,974)	(1,760)
Accumulated other comprehensive loss	(1,409)	(1,288)
Total stockholders' equity	1,588	1,516
Total liabilities and stockholders' equity	\$ 7,031	\$ 6,383

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

**HUNTINGTON INGALLS INDUSTRIES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS**

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Operating Activities			
Net earnings	\$ 549	\$ 836	\$ 479
Adjustments to reconcile to net cash provided by (used in) operating activities			
Depreciation	180	167	165
Amortization of purchased intangibles	47	36	40
Amortization of debt issuance costs	3	4	6
Provision for doubtful accounts	(6)	(4)	10
Stock-based compensation	30	36	34
Deferred income taxes	97	10	184
Goodwill impairment	29	—	—
Loss on early extinguishment of debt	—	—	22
Change in			
Accounts receivable	(51)	195	(126)
Contract assets	32	(242)	91
Inventoried costs	(11)	40	18
Prepaid expenses and other assets	(93)	(40)	(52)
Accounts payable and accruals	4	335	102
Retiree benefits	80	(454)	(163)
Other non-cash transactions, net	6	(5)	4
Net cash provided by operating activities	896	914	814
Investing Activities			
Capital expenditures			
Capital expenditure additions	(530)	(463)	(382)
Grant proceeds for capital expenditures	94	61	21
Acquisitions of businesses, net of cash received	(195)	(77)	3
Investment in affiliates	—	(10)	—
Proceeds from disposition of assets	—	13	9
Other investing activities, net	4	—	—
Net cash used in investing activities	(627)	(476)	(349)
Financing Activities			
Proceeds from issuance of long-term debt	—	—	600
Repayment of long-term debt	—	—	(600)
Proceeds from line of credit borrowings	5,119	95	—
Repayment of line of credit borrowings	(5,119)	(95)	—
Debt issuance costs	—	—	(12)
Premiums and fees related to early extinguishment of debt	—	—	(15)
Dividends paid	(149)	(132)	(115)
Repurchases of common stock	(262)	(742)	(286)
Employee taxes on certain share-based payment arrangements	(23)	(25)	(56)
Net cash used in financing activities	(434)	(899)	(484)
Change in cash and cash equivalents	(165)	(461)	(19)
Cash and cash equivalents, beginning of period	240	701	720
Cash and cash equivalents, end of period	\$ 75	\$ 240	\$ 701
Supplemental Cash Flow Disclosure			
Cash paid for income taxes	\$ 137	\$ 142	\$ 223
Cash paid for interest	\$ 75	\$ 62	\$ 72
Non-Cash Investing and Financing Activities			
Capital expenditures accrued in accounts payable	\$ 22	\$ 55	\$ 33
Accrued repurchases of common stock	\$ —	\$ 48	\$ 2

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

**HUNTINGTON INGALLS INDUSTRIES, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY**

(\$ in millions)	Common Stock	Additional Paid-in Capital	Retained Earnings (Deficit)	Treasury Stock	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
Balance as of December 31, 2016	\$ 1	\$ 1,964	\$ 1,323	\$ (684)	\$ (951)	\$ 1,653
Net earnings	—	—	479	—	—	479
Dividends declared (\$2.52 per share)	—	—	(115)	—	—	(115)
Stock compensation	—	(22)	—	—	—	(22)
Other comprehensive loss, net of tax	—	—	—	—	51	51
Treasury stock activity	—	—	—	(288)	—	(288)
Balance as of December 31, 2017	1	1,942	1,687	(972)	(900)	1,758
Net earnings	—	—	836	—	—	836
Dividends declared (\$3.02 per share)	—	—	(132)	—	—	(132)
Stock compensation	—	12	—	—	—	12
Other comprehensive income, net of tax	—	—	—	—	(175)	(175)
Treasury stock activity	—	—	—	(788)	—	(788)
Effect of accounting standards update 2014-09	—	—	5	—	—	5
Effect of accounting standards update 2016-01	—	—	11	—	(11)	—
Effect of accounting standards update 2018-02	—	—	202	—	(202)	—
Balance as of December 31, 2018	1	1,954	2,609	(1,760)	(1,288)	1,516
Net earnings	—	—	549	—	—	549
Dividends declared (\$3.61 per share)	—	—	(149)	—	—	(149)
Stock compensation	—	7	—	—	—	7
Other comprehensive income, net of tax	—	—	—	—	(121)	(121)
Treasury stock activity	—	—	—	(214)	—	(214)
Balance as of December 31, 2019	\$ 1	\$ 1,961	\$ 3,009	\$ (1,974)	\$ (1,409)	\$ 1,588

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

HUNTINGTON INGALLS INDUSTRIES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. DESCRIPTION OF BUSINESS

Huntington Ingalls Industries, Inc. ("HII" or the "Company") is one of America's largest military shipbuilding companies and a provider of professional services to partners in government and industry. HII is organized into three reportable segments: Ingalls Shipbuilding ("Ingalls"), Newport News Shipbuilding ("Newport News"), and Technical Solutions. For more than a century, the Company's Ingalls segment in Mississippi and Newport News segment in Virginia have built more ships in more ship classes than any other U.S. naval shipbuilder. The Technical Solutions segment provides a range of services to the governmental, energy, and oil and gas markets.

HII conducts most of its business with the U.S. Government, primarily the Department of Defense ("DoD"). As prime contractor, principal subcontractor, team member, or partner, the Company participates in many high-priority U.S. defense programs. Through its Ingalls segment, HII is a builder of amphibious assault and expeditionary warfare ships for the U.S. Navy, the sole builder of National Security Cutters for the U.S. Coast Guard, and one of only two companies that builds the Navy's current fleet of *Arleigh Burke* class (DDG 51) destroyers. Through its Newport News segment, HII is the nation's sole designer, builder and refueler of nuclear-powered aircraft carriers, and one of only two companies currently designing and building nuclear-powered submarines for the U.S. Navy. The Technical Solutions segment provides a wide range of professional services, including fleet support, mission driven innovative solutions ("MDIS"), nuclear and environmental, and oil and gas services.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation - The consolidated financial statements of HII and its subsidiaries have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP") and the instructions to Form 10-K promulgated by the Securities and Exchange Commission ("SEC"). All intercompany transactions and balances are eliminated in consolidation. For classification of current assets and liabilities related to its long-term production contracts, the Company uses the duration of these contracts as its operating cycle, which is generally longer than one year. Additionally, certain prior year amounts have been reclassified to conform to the current year presentation. See Note 3: Accounting Standards Updates.

Accounting Estimates - The preparation of the Company's consolidated 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 revenues and expenses during the reporting period. Estimates have been prepared on the basis of the most current and best available information, and actual results could differ materially from those estimates.

Revenue Recognition - Effective January 1, 2018, the Company adopted the requirements of Accounting Standards Update ("ASU") 2014-09, *Revenue from Contracts with Customers (Topic 606)*, and related amendments. Prior to January 1, 2018, the Company recognized revenue in accordance with Accounting Standards Codification Topic 605-35 *Construction-Type and Production-Type Contracts* utilizing the cost-to-cost measure of the percentage-of-completion method of accounting, primarily based upon total costs incurred, with incentive fees included in sales when the amounts could be reasonably determined and estimated. Amounts representing change orders, claims, requests for equitable adjustment, or limitations of funding were included in sales only when they could be reliably estimated and realization was probable. For services contracts not associated with the design, development, manufacture, or modification of complex equipment, revenues were recognized upon delivery or as services are rendered once persuasive evidence of an arrangement exists, the price is fixed or determinable, and collectability is reasonably assured. Costs related to these contracts were expensed as incurred.

Most of the Company's revenues are derived from long-term contracts for the production of goods and services provided to its U.S. Government customers. The Company generally recognizes revenues on contracts with U.S. Government customers over time using a cost-to-cost measure of progress. The use of the cost-to-cost method to measure performance progress over time is supported by clauses in the related contracts that allow the customer to unilaterally terminate the contract for convenience, pay the Company for costs incurred plus a reasonable profit, and take control of any work in process. The Company utilizes the cost-to-cost method to measure performance progress, because it best reflects the continuous transfer of control over the related goods and services to the customer as the Company satisfies its performance obligations.

When the customer is not a U.S. Government entity, the Company may recognize revenue over time or at a point in time when control transfers upon delivery, depending upon the facts and circumstances of the related arrangement. When the Company determines that revenue should be recognized over time, the Company utilizes a measure of progress that best depicts the transfer of control of the relevant goods and services to the customer. Generally, the terms and conditions of the contracts result in a transfer of control over the related goods and services as the Company satisfies its performance obligations. Accordingly, the Company recognizes revenue over time using the cost-to-cost method to measure performance progress. The Company may, however, utilize a measure of progress other than cost-to-cost, such as a labor-based measure of progress, if the terms and conditions of the arrangement require such accounting.

When using the cost-to-cost method to measure performance progress, certain contracts may include costs that are not representative of performance progress, such as large upfront purchases of uninstalled materials, unexpected waste, or inefficiencies. In these cases, the Company adjusts its measure of progress to exclude such costs, with the goal of better reflecting the transfer of control over the related goods or services to the customer and recognizing revenue only to the extent of the costs incurred that reflect the Company's performance under the contract.

In addition, for time and material arrangements, the Company often utilizes the practical expedient allowing the recognition of revenue in the amount the Company invoices, which corresponds with the value provided to the customer and to which the Company is entitled to payment for performance to date.

A performance obligation is a promise to transfer a distinct good or service to the customer and is the unit of account for which revenue is recognized. To determine the proper revenue recognition method, consideration is given to whether two or more contracts should be combined and accounted for as one contract and whether a single contract consists of more than one performance obligation. For contracts with multiple performance obligations, the contract transaction price is allocated to each performance obligation using an estimate of the standalone selling price based upon expected cost plus a margin at contract inception, which is generally the price disclosed in the contract. Contracts are often modified to account for changes in contract specifications and requirements. In the majority of circumstances, modifications do not result in additional performance obligations that are distinct from the existing performance obligations in the contract, and the effects of the modifications are recognized as an adjustment to revenue on a cumulative catch-up basis. Alternatively, in instances in which the performance obligations in the modifications are deemed distinct, contract modifications are accounted for prospectively.

The amount of revenue recognized as the Company satisfies performance obligations associated with contracts with customers is based upon the determination of transaction price. Transaction price reflects the amount of consideration to which the Company expects to be entitled for performance under the terms and conditions of the relevant contract and may reflect fixed and variable components, including shareline incentive fees whereby the value of the contract is variable based upon the amount of costs incurred, as well as other incentive fees based upon achievement of contractual schedule commitments or other specified criteria in the contract. Shareline incentive fees are determined based upon the formula under the relevant contract using the Company's estimated cost to complete for each period. The Company generally utilizes a most likely amount approach to estimate variable consideration. In all such instances, the estimated revenues represent those amounts for which the Company believes a significant reversal of revenue is not probable.

Contract Estimates - In estimating contract costs, the Company utilizes a profit-booking rate based upon performance expectations that takes into consideration a number of assumptions and estimates regarding risks related to technical requirements, feasibility, schedule, and contract costs. Management performs periodic reviews of the contracts to evaluate the underlying risks, which may increase the profit-booking rate as the Company is able to mitigate and retire such risks. Conversely, if the Company is not able to retire these risks, cost estimates may increase, resulting in a lower profit-booking rate.

The cost estimation process requires significant judgment based upon the professional knowledge and experience of the Company's engineers, program managers, and financial professionals. Factors considered in estimating the work to be completed and ultimate contract recovery include the availability, productivity, and cost of labor, the nature and complexity of the work to be performed, the effect of change orders, the availability of materials, the effect of any performance delays, the availability and timing of funding from the customer, and the recoverability of any claims included in the estimates to complete.

Changes in estimates of sales, costs, and profits on a performance obligation are recognized using the cumulative catch-up method of accounting, which recognizes in the current period the cumulative effect of the changes in current and prior periods. A significant change in an estimate on one or more contracts in a period could have a material effect on the Company's consolidated financial position or results of operations for that period.

When estimates of total costs to be incurred exceed estimates of total revenue to be earned on a performance obligation related to a complex, construction-type contract, a provision for the entire loss on the performance obligation is recognized in the period the loss is determined.

Accounts Receivable - Accounts receivable include amounts related to any unconditional Company right to receive consideration and are presented as receivables in the condensed consolidated statement of financial position, separate from other contract balances. Accounts receivable are comprised of amounts billed and currently due from customers. The Company reports accounts receivable net of an allowance for doubtful accounts. Because the Company's accounts receivable are primarily with the U.S. Government or with companies acting as a contractor to the U.S. Government, the Company does not have material exposure to accounts receivable credit risk.

Contract Assets - Contract assets primarily relate to the Company's rights to consideration for work completed but not billed as of the reporting date when the right to payment is not just subject to the passage of time, including retention amounts. Contract assets 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 term nature of many of the Company's contracts. Contract assets are transferred to accounts receivable when the right to consideration becomes unconditional.

Contract Liabilities - Contract liabilities are comprised of advance payments, billings in excess of revenues, and deferred revenue amounts. Such advances are generally not considered a significant financing component, because they are utilized to pay for contract costs within a one year period. Contract liability amounts are recognized as revenue once the requisite performance progress has occurred.

Inventoried Costs - Inventoried costs primarily relate to company owned raw materials, which are stated at the lower of cost or net realizable value, generally using the average cost method, and costs capitalized pursuant to applicable provisions of the Federal Acquisition Regulation ("FAR") and U.S. Cost Accounting Standards ("CAS"). Under the Company's U.S. Government contracts, the customer asserts title to, or a security interest in, inventories related to such contracts as a result of contract advances, performance-based payments, and progress payments. In accordance with industry practice, inventoried costs are classified as current assets and include amounts related to contracts having production cycles longer than one year.

Warranty Costs - Certain of the Company's contracts contain assurance-type warranty provisions, which generally promise that the service or vessel will comply with agreed upon specifications. In such instances, the Company accrues the estimated loss by a charge to income in the relevant period. In limited circumstances, the Company's complex construction type contracts may provide the customer with an option to purchase a warranty or provide an extended assurance service coupled with the primary assurance warranty. In such cases, the Company accounts for the warranty as a separate performance obligation to the extent it is material within the context of the contract. Warranty liabilities are reported within other current liabilities and are not material.

Government Grants - The Company recognizes incentive grants, inclusive of transfers of depreciable assets, from federal, state, and local governments at fair value upon compliance with the conditions of their receipt and reasonable assurance that the grants will be received or the depreciable assets will be transferred. Grants in recognition of specific expenses are recognized in the same period as an offset to those related expenses. Grants related to depreciable assets are recognized over the periods and in the proportions in which depreciation expense on those assets is recognized.

For the years ended December 31, 2019, 2018, and 2017 the Company recognized cash grant benefits of \$ 94 million, \$61 million, and \$21 million, respectively, in other long-term liabilities in the consolidated statements of financial position.

General and Administrative Expenses - In accordance with industry practice and regulations that govern the cost accounting requirements for government contracts, most general corporate expenses incurred at both the segment and corporate locations are allowable and allocable costs on government contracts. These costs are allocated to contracts in progress on a systematic basis, and contract performance factors include this as an element of cost.

General and administrative expenses also include certain other costs that do not affect segment operating income, primarily non-current state income taxes. Non-current state income taxes include deferred state income taxes, which reflect the change in deferred state tax assets and liabilities, and the tax expense or benefit associated with changes in state uncertain tax positions in the relevant period.

Research and Development - Company-sponsored research and development activities primarily include independent research and development ("IR&D") related to experimentation, design, development, and test activities for government programs. IR&D expenses are included in general and administrative expenses and are generally allocable to government contracts. Company-sponsored IR&D expenses totaled \$23 million, \$25 million, and \$17 million for the years ended December 31, 2019, 2018, and 2017, respectively. Expenses for research and development sponsored by the customer are charged directly to the related contracts.

Environmental Costs - Environmental liabilities are accrued when the Company determines remediation costs are probable and such costs are reasonably estimable. When only a range of costs is established and no amount within the range is more probable than another, the minimum amount in the range is accrued. Environmental liabilities are recorded on an undiscounted basis and are not material. Environmental expenditures are expensed or capitalized as appropriate. Capitalized expenditures, if any, relate to long-lived improvements in currently operating facilities. The Company does not record insurance recoveries before collection is probable. As of December 31, 2019 and 2018, the Company did not have any accrued receivables related to insurance reimbursements or recoveries for environmental matters.

Fair Value of Financial Instruments - The accounting standard for fair value measurements provides a framework for measuring fair value and requires expanded disclosures regarding fair value measurements. Fair value is defined as the price that would be received for an asset or the exit price that would be paid to transfer a liability in the principal or most advantageous market in an orderly transaction between market participants on the measurement date. The accounting standard provides a fair value hierarchy, which requires an entity to maximize the use of observable inputs, where available. The three levels of inputs consist of:

Level 1: Quoted prices in active markets for identical assets and liabilities.

Level 2: Observable inputs, other than Level 1 prices, such as: quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or that the Company corroborates with observable market data for substantially the full term of the related assets or liabilities.

Level 3: Unobservable inputs supported by little or no market activity that are significant to the fair value of the assets and liabilities.

Except for the Company's long-term debt, the carrying amounts of the Company's financial instruments recorded at historical cost approximate fair value due to the short-term nature of the instruments and low credit risk associated with the respective counterparties.

The Company maintains multiple grantor trusts to fund certain non-qualified pension plans. These trusts were valued at \$ 147 million and \$109 million as of December 31, 2019 and 2018, respectively, and are presented within miscellaneous other assets within the consolidated statements of financial position. These trusts consist primarily of investments in marketable securities, which are held at fair value within Level 1 of the fair value hierarchy.

Foreign Currency Translation - The Company's international subsidiaries that do not have the U.S. dollar as their functional currency translate assets and liabilities at current rates of exchange in effect at the balance sheet date. Revenues and expenses from these international subsidiaries are translated using the monthly average exchange rates in effect for the periods in which the items occur. The cumulative foreign currency translation gains and losses are included as a component of accumulated other comprehensive loss in stockholders' equity. Gains and losses from foreign currency transactions are included in other income (expense) in the consolidated statements of operations and comprehensive income. Such amounts are not material.

Asset Retirement Obligations - Environmental remediation and/or asset decommissioning may be required when the Company ceases to utilize certain facilities. The Company records, within other current liabilities or other long-term liabilities as appropriate, all known asset retirement obligations for which the liability's fair value can be reasonably estimated, including certain asbestos removal, asset decommissioning, and lease restoration obligations. Asset retirement obligations for which the liability's fair value can be reasonably estimated were immaterial as of December 31, 2019 and 2018.

The Company also has known conditional asset retirement obligations related to assets currently in use, including certain asbestos remediation and asset decommissioning activities to be performed in the future, that were not reasonably estimable as of December 31, 2019, due to insufficient information about the timing and method of settlement of the obligation. Accordingly, the fair value of these obligations has not been recorded in the consolidated financial statements. A liability for these obligations is recorded in the period in which sufficient information regarding timing and method of settlement becomes available to make a reasonable estimate of the liability's fair value. In addition, there may be conditional environmental asset retirement obligations that the Company has not yet discovered.

Income Taxes - Income tax expense and other related information are based on the prevailing statutory rates for U.S. federal income taxes and the composite state income tax rate for the Company for each period presented. Non-current state income taxes include deferred state income taxes, which reflect the change in deferred state tax assets and liabilities, and the tax expense or benefit associated with changes in state uncertain tax positions in the relevant period. These amounts are recorded within operating income, while the current period state income tax expense, which is generally allowable and allocable to contracts, is charged to contract costs and included in cost of sales and service revenues in segment operating income.

Deferred income taxes are recorded when revenues and expenses are recognized in different periods for financial statement purposes and for tax return purposes. Deferred tax asset or liability account balances are calculated at the balance sheet date using current tax laws and rates expected to be in effect when the deferred tax items reverse in future periods. As a result of the reduction in the corporate income tax rate from 35% to 21% effective January 1, 2018, under the Tax Cuts and Jobs Act (the "Tax Act"), the Company revalued its net deferred tax assets. See Note 14: Income Taxes.

The Company recognizes deferred tax assets to the extent it believes these assets are more likely than not to be realized. In making such a determination, the Company considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, and results of recent operations. Based on the Company's evaluation of these deferred tax assets, valuation allowances of \$15 million and \$12 million were recognized as of each of December 31, 2019 and 2018.

Uncertain tax positions meeting the more-likely-than-not recognition threshold, based on the merits of the position, are recognized in the financial statements. The Company recognizes the amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. If a tax position does not meet the minimum statutory threshold to avoid payment of penalties, the Company recognizes an expense for the amount of the penalty in the period the tax position is claimed or expected to be claimed in its tax return. Penalties and accrued interest related to uncertain tax positions are recognized as a component of income tax expense. Changes in accruals associated with uncertain tax positions are recorded in earnings in the period in which they are determined.

Cash and Cash Equivalents - The carrying amounts of cash and cash equivalents approximate fair value due to the short-term nature of these assets, which have original maturity dates of 90 days or less.

Concentration Risk - The Company's assets that are exposed to concentrations of credit risk consist primarily of cash and cash equivalents. The Company places its cash and cash equivalents with reputable financial institutions and limits the amount of credit exposure with any one of them. The Company regularly evaluates the creditworthiness of these financial institutions and minimizes this credit risk by entering into transactions with high-quality counterparties, limiting the exposure to each counterparty, and monitoring the financial condition of its counterparties.

In connection with its U.S. Government contracts, the Company is required to procure certain raw materials, components, and parts from supply sources approved by the U.S. Government. Only one supplier may exist for certain components and parts required to manufacture the Company's products.

Property, Plant, and Equipment - Depreciable properties owned by the Company are recorded at cost and depreciated over the estimated useful lives of individual assets. Major improvements are capitalized while expenditures for maintenance, repairs, and minor improvements are expensed. Costs incurred for computer software developed or purchased for internal use are capitalized and amortized over the expected useful life of the software, not to exceed nine years. Leasehold improvements are amortized over the shorter of their useful lives or the term of the lease.

The remaining assets are depreciated using the straight-line method, with the following lives:

	<u>Years</u>
Land improvements	2 - 40
Buildings and improvements	2 - 60
Capitalized software costs	3 - 9
Machinery and other equipment	2 - 45

The Company evaluates the recoverability of its property, plant, and equipment when there are changes in economic circumstances or business objectives that indicate the carrying value may not be recoverable. The Company's evaluations include estimated future cash flows, profitability, and other factors affecting fair value. As these assumptions and estimates may change over time, it may or may not be necessary to record impairment charges.

Leases - The Company determines if an arrangement is a lease at contract inception. A lease exists when a contract conveys to a party the right to control the use of identified property, plant, or equipment for a period of time in exchange for consideration. The Company recognizes a lease liability at the lease commencement date, as the present value of future lease payments, using an estimated rate of interest that the Company would pay to borrow equivalent funds over an equivalent term on a collateralized basis. A lease asset is recognized based on the lease liability value and adjusted for any prepaid lease payments, initial direct costs, or lease incentive amounts. The lease term at the commencement date includes any renewal options or termination options when it is reasonably certain that the Company will exercise or not exercise those options, respectively.

Right of use assets associated with operating leases are recognized in operating lease assets in the consolidated statements of financial position. Lease liabilities associated with operating leases are recognized in long-term operating lease liabilities, with short-term lease liability amounts included in other current liabilities in the consolidated statements of financial position.

Rent expense for operating leases is recognized on a straight-line basis over the lease term and included in cost of sales and service revenues on the consolidated statements of operations and comprehensive income. Variable lease payments are recognized as incurred and include lease operating expenses, which are based on contractual lease terms.

The Company elected for all asset classes to exclude from its consolidated statements of financial position leases having terms of 12 months or less (short-term leases) and elected not to separate lease and non-lease components in the determination of lease payment obligations for its long-term lease contracts.

Assets and Liabilities Held for Sale - Assets and liabilities held for sale represent land, buildings, and other assets and liabilities that have met the criteria of "held for sale" accounting at the lower of carrying value or fair value less costs to sell. Fair value is based on the estimated proceeds from the sale of the assets utilizing recent purchase offers, market comparables, and reliable third party data. Assets and liabilities held for sale are being marketed for sale and it is the Company's intention to complete the sale of these assets within the upcoming year.

Goodwill and Other Intangible Assets - The Company performs impairment tests for goodwill as of November 30 of each year and between annual impairment tests if evidence of potential impairment exists, by comparing the carrying value of net assets to the fair value of the reporting unit. If the fair value is determined to be less than the carrying value, the Company records an impairment charge to the reporting unit. Purchased intangible assets are amortized on a straight-line basis or a method based on the pattern of benefits over their estimated useful lives, and the carrying value of these assets is reviewed for impairment when events indicate that a potential impairment may have occurred.

Equity Method Investments - Investments in which the Company has the ability to exercise significant influence over the investee but does not own a majority interest or otherwise control are accounted for under the equity method of accounting and included in other assets in its consolidated statements of financial position. The Company's equity investments align strategically and are integrated with the Company's operations. Accordingly, the Company's share of the net earnings or losses of the investee is included in operating income. The Company evaluates its equity investments for other than temporary impairment whenever events or changes in business circumstances indicate that the carrying amounts of such investments may not be fully recoverable. If a decline in the value of an equity method investment is determined to be other than temporary, a loss is recorded in earnings in the current period.

Self-Insured Group Medical Insurance - The Company maintains a self-insured group medical insurance plan. The plan is designed to provide a specified level of coverage for employees and their dependents. Estimated liabilities for incurred but not paid claims utilize actuarial methods based on various assumptions, which include, but are not limited to, HII's historical loss experience and projected loss development factors. These liabilities are recorded in other current liabilities and account for less than 5% of the total current liabilities balance.

Self-Insured Workers' Compensation Plan - The operations of the Company are subject to federal and state workers' compensation laws. The Company maintains self-insured workers' compensation plans and participates in federally administered second injury workers' compensation funds. The Company estimates the liability for claims and funding requirements on a discounted basis utilizing actuarial methods based on various assumptions, which include, but are not limited to, the Company's historical loss experience and projected loss development factors as compiled in an annual actuarial study. Self-insurance accruals include amounts related to the liability for reported claims and an estimated accrual for claims incurred but not reported. The Company's workers' compensation liability was discounted at 1.92% and 2.89% as of December 31, 2019 and 2018, respectively. These discount rates were determined using a risk-free rate based on future payment streams. Workers' compensation benefit obligations on an undiscounted basis were \$802 million and \$845 million as of December 31, 2019 and 2018, respectively.

Litigation, Commitments, and Contingencies - Amounts associated with litigation, commitments, and contingencies are recorded as charges to earnings when management, after taking into consideration the facts and circumstances of each matter, including any settlement offers and projected loss or claim development factors, has determined it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated.

Restructuring - Restructuring related accruals are reviewed and adjusted when circumstances require such a change. Accruals for restructuring activities include estimates primarily related to facility consolidations and closures, asset retirement obligations, long-lived asset write-downs, employment reductions, and contract termination costs. There are no restructuring accruals or activity as of and for the years ended December 31, 2019, 2018, and 2017.

Loan Receivable - The Company holds a loan receivable in connection with a seller financed transaction involving its previously owned Avondale Shipyard facility. The receivable is carried at amortized cost in the amount of \$39 million, net of a \$9 million loan discount, which approximates fair value and is recorded in miscellaneous other assets on the consolidated statements of financial position. Interest income is recognized on an accrual basis using the effective yield method. The discount is accreted into income using the effective yield method over the estimated life of the loan receivable.

Retirement Related Benefit Costs - The Company accounts for its retirement related benefit plans on the accrual basis. The measurements of obligations, costs, assets, and liabilities require significant judgment. The costs of benefits provided by defined benefit pension plans are recorded in the period participating employees provide service. The costs of benefits provided by other postretirement benefit plans are recorded in the period participating employees attain full eligibility. The discount rate assumption is defined under GAAP as the rate at which a plan's obligation could be effectively settled. The discount rate is established for each of the retirement related benefit plans at its respective measurement date.

The expected return on plan assets component of retirement related costs is used to calculate net periodic expense. Unless plan assets and benefit obligations are subject to remeasurement during the year, the expected return on assets is based on the fair value of plan assets at the beginning of the year. The costs of plan amendments that provide benefits already earned by plan participants (prior service costs and credits) are deferred in accumulated other comprehensive loss and amortized over the expected future service period of active participants as of the date of amendment. Actuarial gains and losses arising from differences between assumptions and actual experience or

changes in assumptions are deferred in accumulated other comprehensive loss. This unrecognized amount is amortized to the extent it exceeds 10% of the greater of the plan's benefit obligation or plan assets. The amortization period for actuarial gains and losses is the estimated remaining service life of the plan participants.

The Company recognizes the funded status of each retirement related benefit plan as an asset or liability in its consolidated statements of financial position. The funded status represents the difference between the plan's benefit obligation and the fair value of the plan's assets. Unrecognized deferred amounts, such as demographic or asset gains or losses and the impacts of plan amendments, are included in accumulated other comprehensive loss and amortized as described above.

Stock Compensation - Stock-based compensation value is determined based on the closing market price of the Company's common stock on grant date, and the expense is recognized over the vesting period. At each reporting date, the number of shares is adjusted to equal the number ultimately expected to vest based on the Company's expectations regarding the relevant performance and service criteria.

Related Party Transactions - On March 29, 2011, HII entered into a Separation and Distribution Agreement (the "Separation Agreement") with its former parent company, Northrop Grumman Corporation ("Northrop Grumman"), and Northrop Grumman's subsidiaries (Northrop Grumman Shipbuilding, Inc. and Northrop Grumman Systems Corporation), pursuant to which HII was legally and structurally separated from Northrop Grumman. For the year ended December 31, 2018, the Company received \$8 million from Northrop Grumman under the Separation Agreement. The Company had \$84 million outstanding under Industrial Revenue Bonds issued by the Mississippi Business Finance Corporation as of each of December 31, 2019, and December 31, 2018. Prior to the spin-off, repayment of principal and interest was guaranteed by Northrop Grumman Systems Corporation. The guaranty remains in effect, and the Company has agreed to indemnify Northrop Grumman Systems Corporation for any losses related to the guaranty.

3. ACCOUNTING STANDARDS UPDATES

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)," which established a right-of-use model that requires a lessee to record the right-of-use asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Expense is recognized in the income statement similar to the recognition of expense under previous accounting guidance. Additional qualitative and quantitative disclosures are required. ASU 2016-02 was effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Prior to the FASB issuing ASU 2018-11 "Leases (Topic 842): Targeted Improvements," entities were required to use a modified retrospective approach upon adoption to recognize and measure leases at the beginning of the earliest comparative period presented in the financial statements. In January 2018, the FASB issued ASU 2018-01 "Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842," which permitted entities to forgo the evaluation of existing land easement arrangements to determine if they contain a lease as part of the adoption of ASU 2016-02 issued in February 2016. Accordingly, the Company's accounting treatment of any existing land easement arrangements has not changed. The Company adopted this standard update concurrently with ASU 2016-02. In July 2018, the FASB issued ASU 2018-11, which provides entities the option to initially apply ASU 2016-02 at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. Consequently, the comparative periods presented in the financial statements would continue to comply with current GAAP. The Company adopted ASU 2016-02 on January 1, 2019, using the optional transition method. In addition, the Company elected practical expedients permitted under the transition guidance within the new standard, which, among other things, allows it to carry forward historical lease classifications. The Company also elected the hindsight practical expedient to determine the reasonably certain lease term for existing leases. The Company's election of the hindsight practical expedient resulted in lengthening lease terms for certain existing leases. The Company made an accounting policy election not to recognize leases with an initial term of 12 months or less in the consolidated statements of financial position and to recognize the lease payments in the consolidated statements of operations and comprehensive income on a straight-line basis over the lease terms. The impact upon adoption was an increase to operating lease assets of \$215 million, an increase to short-term operating lease liabilities of \$36 million, an increase to long term operating lease liabilities of \$ 179 million, and no material impact to retained earnings.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments (ASU 2016-13), which changes the current incurred loss model to a forward-

looking expected credit loss model for most financial assets, such as trade and other receivables, loans and other instruments. The ASU is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, with early adoption permitted. Entities are required to apply the provisions of the standard through a cumulative-effect adjustment to retained earnings as of the effective date. The Company evaluated the impact of the standard on its consolidated financial statements and does not expect the standard to have a material impact on its consolidated financial statements and disclosures, accounting processes, and internal controls.

In August 2017, the FASB issued ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities (ASU 2017-12), which amended and simplified the requirements of hedge accounting. The ASU enables companies to more accurately present the economic effects of risk management activities in the financial statements. The guidance requires the presentation of all items that affect earnings in the same income statement line as the hedged item and was effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with early adoption permitted. The Company adopted the provisions of ASU 2017-12 on January 1, 2019. The adoption did not result in a material impact to the Company's financial results.

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework— Changes to the Disclosure Requirements for Fair Value Measurement," which changes the fair value measurement disclosure requirements of ASC 820. The update includes changes to disclosures regarding valuation techniques and inputs, uncertainty, judgments, and assumptions in fair value measurements, and how changes in fair value measurements affect performance and cash flows. The update is effective for annual reporting periods beginning after December 15, 2019, including interim periods therein. Early adoption is permitted for any eliminated or modified disclosures. The Company is currently evaluating the impact of ASU 2018-13 on its consolidated financial statements and disclosures, accounting processes, and internal controls.

In August 2018, the FASB issued ASU 2018-14, "Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans," which reduces disclosure requirements of Subtopic 715-20 and requires additional disclosure related to weighted-average interest crediting rates and significant gains and losses related to changes in the benefit obligation for the reporting period. The update is effective on a retrospective basis for fiscal years ending after December 15, 2020, with early adoption allowed. The Company is currently evaluating the impact of ASU 2018-14 on its consolidated financial statements and disclosures, accounting processes, and internal controls.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes (ASU 2019-12), which amends and simplifies the requirements for income taxes. The ASU is effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years, with early adoption permitted. The Company is currently evaluating the impact of ASU 2019-12 on its consolidated financial statements and disclosures, accounting processes, and internal controls.

Other accounting pronouncements issued but not effective until after December 31, 2019, are not expected to have a material impact on the Company's consolidated financial position, results of operations, or cash flows.

4. AVONDALE AND GULFPORT

In August and October 2014, the Company completed closure of its Gulfport Composite Center of Excellence in Gulfport, Mississippi and ceased shipbuilding construction operations at its Avondale, Louisiana facility, respectively.

In connection with winding down shipbuilding at its Avondale facility, the Company incurred and paid related restructuring and shutdown costs. Pursuant to applicable provisions of the FAR and CAS for the treatment of restructuring and shutdown related costs, the Company began amortizing the deferred costs over five years in 2014. In November 2017, the U.S. Government and the Company reached a settlement to treat \$ 251 million of these costs as allowable costs, a majority of which were billed to the U.S. Government and collected by the end of 2018. The settlement was consistent with management's cost recovery expectations and did not have a material effect on the Company's statements of financial position or results of operations. In October 2018, the Company completed a sale of the Avondale facility. In addition to cash proceeds, the Company financed a portion of the transaction over nine years, resulting in a net gain of \$ 7 million, recognized as a reduction to cost of sales in the fourth quarter of 2018.

In connection with the closure of its Gulfport facility, the Company incurred restructuring related costs of \$ 54 million, including \$52 million of accelerated depreciation of fixed assets. The Company reached a resolution with the U.S. Government in December 2018 regarding the treatment and allocation of the restructuring related costs, which was substantially in accordance with management's cost recovery expectations and did not have a material effect on the Company's consolidated financial position, results of operations, or cash flows.

5. ACQUISITIONS

On February 25, 2019, the Company acquired Fulcrum IT Services, LLC ("Fulcrum"), an information technology and government consulting company, for approximately \$195 million in cash, net of \$ 1 million of acquired cash. The acquisition was consistent with the Company's strategy to optimize and expand its services portfolio. In connection with this acquisition, the Company recorded \$133 million of goodwill, which includes the value of Fulcrum's workforce, all of which was allocated to its Technical Solutions segment, as well as \$49 million of intangible assets related to existing contract backlog. For the year ended December 31, 2019, the Company recorded a decrease in goodwill of \$1 million, primarily driven by the finalization of a net working capital adjustment. See Note 13: Goodwill and Other Intangible Assets. The assets, liabilities, and results of operations of Fulcrum are not material to the Company's consolidated financial position, results of operations, or cash flows.

On December 3, 2018, the Company acquired G2, Inc. ("G2"), a provider of cybersecurity solutions to the U.S. Government, for approximately \$ 77 million in cash, net of \$2 million of acquired cash. The acquisition was consistent with the Company's strategy to optimize and expand its services portfolio. In connection with this acquisition, the Company recorded \$46 million of goodwill, which includes the value of G2's workforce, all of which was allocated to its Technical Solutions segment, as well as \$20 million of intangible assets related to existing contract backlog. See Note 13: Goodwill and Other Intangible Assets. For the year ended December 31, 2019, the Company recorded an increase in goodwill of \$7 million, primarily driven by the finalization of a net working capital adjustment and the fair value calculations for certain assets and liabilities. The assets, liabilities, and results of operations of G2 are not material to the Company's consolidated financial position, results of operations, or cash flows.

The Company funded each of these acquisitions using cash on hand and borrowings on its revolving credit facility. The acquisition costs incurred in connection with these acquisitions were not material. The operating results of these businesses have been included in the Company's consolidated results as of the respective closing dates of the acquisitions. In allocating the purchase prices of these businesses, the Company considered the estimated fair value of net tangible and intangible assets acquired, with any excess purchase price recorded as goodwill. The total amount of goodwill resulting from these acquisitions is expected to be amortizable for tax purposes. These acquisitions are not material either individually or in the aggregate, and pro forma revenues and results of operations have therefore not been provided.

6. STOCKHOLDERS' EQUITY

Common Stock - Changes in the Company's number of outstanding shares for the year ended December 31, 2019, resulted from shares purchased in the open market under the Company's stock repurchase program and share activity under its stock compensation plans. See Note 20: Stock Compensation Plans.

Treasury Stock - In November 2019, the Company's board of directors authorized an increase in the Company's stock repurchase program from \$2.2 billion to \$3.2 billion and an extension of the term of the program to October 31, 2024. Repurchases are made from time to time at management's discretion in accordance with applicable federal securities laws. For the year ended December 31, 2019, the Company repurchased 1,005,762 shares at an aggregate cost of \$214 million. For the years ended December 31, 2018 and 2017, the Company repurchased 3,620,916 and 1,417,808 shares, respectively, at aggregate costs of \$788 million and \$288 million, respectively, of which \$48 million and \$2 million were not yet settled for cash as of December 31, 2018 and 2017, respectively. The cost of purchased shares is recorded as treasury stock in the consolidated statements of financial position.

Dividends - In November 2019, the Company's board of directors authorized an increase in the Company's quarterly cash dividend from \$ 0.86 per share to \$1.03 per share. In November 2018, the Company's board of directors authorized an increase in the Company's quarterly cash dividend from \$0.72 per share to \$0.86 per share. In November 2017, the Company's board of directors authorized an increase in the Company's quarterly cash dividend from \$0.60 per share to \$0.72 per share. The Company paid cash dividends totaling \$ 149 million (\$3.61 per share),

\$132 million (\$3.02 per share), and \$115 million (\$2.52 per share) in the years ended December 31, 2019, 2018, and 2017, respectively.

Accumulated Other Comprehensive Loss - Other comprehensive income (loss) refers to gains and losses recorded as an element of stockholders' equity but excluded from net earnings. The accumulated other comprehensive loss as of December 31, 2019 and 2018, was comprised of unamortized benefit plan costs of \$1,407 million and \$1,283 million, respectively, and other comprehensive loss items of \$2 million and \$5 million, respectively.

The changes in accumulated other comprehensive loss by component for the years ended December 31, 2019, 2018, and 2017, were as follows:

(\$ in millions)	Benefit Plans	Other	Total
Balance as of December 31, 2016	\$ (948)	\$ (3)	\$ (951)
Other comprehensive income (loss) before reclassifications	(34)	14	(20)
Amounts reclassified from accumulated other comprehensive loss			
Amortization of net actuarial loss ¹	93	—	93
Tax expense for items of other comprehensive income	(17)	(5)	(22)
Net current period other comprehensive income	42	9	51
Balance as of December 31, 2017	(906)	6	(900)
Other comprehensive loss before reclassifications	(312)	(2)	(314)
Amounts reclassified from accumulated other comprehensive loss			
Amortization of prior service cost ¹	2	—	2
Amortization of net actuarial loss ¹	78	—	78
Tax expense for items of other comprehensive income	59	—	59
Net current period other comprehensive loss	(173)	(2)	(175)
Effect of Accounting Standards Update 2016-01 ²	—	(11)	(11)
Effect of Accounting Standards Update 2018-02 ³	(204)	2	(202)
Balance as of December 31, 2018	(1,283)	(5)	(1,288)
Other comprehensive income (loss) before reclassifications	(265)	3	(262)
Amounts reclassified from accumulated other comprehensive loss			
Amortization of prior service (credit) ¹	(4)	—	(4)
Amortization of net actuarial loss ¹	102	—	102
Tax expense for items of other comprehensive income	43	—	43
Net current period other comprehensive income (loss)	(124)	3	(121)
Balance as of December 31, 2019	\$ (1,407)	\$ (2)	\$ (1,409)

¹ These accumulated comprehensive loss components are included in the computation of net periodic benefit cost. See Note 19: Employee Pension and Other Postretirement Benefits. The tax expense associated with amounts reclassified from accumulated other comprehensive loss for the years ended December 31, 2019, 2018, and 2017, was \$25 million, \$21 million, and \$36 million, respectively.

² The Company adopted ASU 2016-01 as of January 1, 2018. Accordingly, accumulated other comprehensive income of \$11 million related to available-for-sale securities, net of \$4 million tax expense, was reclassified to retained earnings.

³ The Company adopted ASU 2018-02 as of January 1, 2018. Accordingly, stranded tax effects of \$202 million related to the Tax Act were reclassified to retained earnings.

7. EARNINGS PER SHARE

Basic and diluted earnings per common share were calculated as follows:

(in millions, except per share amounts)	Year Ended December 31		
	2019	2018	2017
Net earnings	\$ 549	\$ 836	\$ 479
Weighted-average common shares outstanding	41.4	43.8	45.7
Net effect of dilutive stock options and awards	—	—	0.1
Dilutive weighted-average common shares outstanding	41.4	43.8	45.8
Earnings per share - basic	\$ 13.26	\$ 19.09	\$ 10.48
Earnings per share - diluted	\$ 13.26	\$ 19.09	\$ 10.46

The Company's calculation of diluted earnings per common share includes the dilutive effects of the assumed exercise of stock options and vesting of restricted stock based on the treasury stock method. Under the treasury stock method, the Company has excluded from the diluted share amounts presented above the effects of 0.3 million Restricted Performance Stock Rights ("RPSRs") for each of the years ended December 31, 2019, 2018, and 2017.

8. REVENUE

The following is a description of principal activities from which the Company generates its revenues. For more detailed information regarding reportable segments, see Note 9: Segment Information. For more detailed information regarding the Company's significant accounting policy for revenue, see Note 2: Summary of Significant Accounting Policies.

U.S. Government Contracts

The Ingalls and Newport News segments generate revenue primarily from performance under multi-year contracts with the U.S. Government, generally the U.S. Navy and U.S. Coast Guard, or prime contractors to contracts with the U.S. Government, relating to the advance planning, design, construction, repair, maintenance, refueling, overhaul, or inactivation of nuclear-powered ships and non-nuclear ships. The period over which the Company performs may extend past five years. The Technical Solutions segment also generates the majority of its revenue from contracts with the U.S. Government, including U.S. Government agencies. The Company generally invoices and receives related payments based upon performance progress no less frequently than monthly.

Shipbuilding - For most of the Company's shipbuilding contracts, the customer contracts with the Company to provide a comprehensive service of designing, procuring long-lead-time materials, manufacturing, and integrating complex equipment and technologies into a single ship or project, often resulting in a single performance obligation. Contract modifications to account for changes in specifications and requirements are recognized when approved by the customer. In the majority of circumstances, modifications do not result in additional performance obligations that are distinct from the existing performance obligations in the contract and the effects of the modifications are recognized as an adjustment to revenue on a cumulative catch-up basis. Alternatively, in instances where the performance obligations in the modifications are deemed distinct, contract modifications are accounted for prospectively.

The Company considers incentive and award fees to be variable consideration and includes in the transaction price at inception the consideration to which the Company expects to be entitled under the terms and conditions of the contract, generally estimated using a most likely amount approach. Transaction price is limited to the extent of funding allotted by the customer and available for performance, and estimated revenues represent those amounts for which the Company believes a significant reversal of revenue is not probable.

The Company recognizes revenues related to shipbuilding contracts as it satisfies the related performance obligations over time using a cost-to-cost input method to measure performance progress, which best reflects the transfer of control to the customer.

Services - The Technical Solutions segment generates revenue primarily under U.S. Government contracts from the provision of fleet support and MDIS services. Contracts generally are structured using either an Indefinite Delivery/Indefinite Quantity ("IDIQ") vehicle, under which orders are issued, or a standalone contract. Contracts may be fixed-price or cost-type, include variable consideration such as incentives and awards, and structured as task orders under an IDIQ contract vehicle or requirements contract vehicle. In either case, the Company generally performs over the course of a short-duration period and may continue to perform upon exercise of related period of performance options that are also short in duration, generally one year. The Company's performance obligations vary in nature and may be stand-ready, in which case the Company responds to the customer's needs on the basis of its demand, a recurring service, typically recurring maintenance services, or a single performance obligation that does not comprise a series of distinct services.

In determining transaction price, the Company considers incentives and other contingencies to be variable consideration and includes in the initial transaction price the consideration to which the Company expects to be entitled under the terms and conditions of the contract, generally estimated using a most likely amount approach. Transaction price is limited to the extent of funding allotted by the customer and available for performance, and estimated revenues represent those amounts for which the Company believes a significant reversal of revenue is not probable. Where a series of distinct services has been identified, the Company generally allocates variable consideration to distinct time increments of service.

The Company generally recognizes revenue as it satisfies the related performance obligations over time using a cost-to-cost input method to measure performance progress, because, even where the Company has identified a series of services, its cost incurrence pattern generally is not ratable given the complex nature of the services the Company provides. Invoices are issued and related payments are received, on the basis of performance progress, no less frequently than monthly. In addition, many of the Company's U.S. Government services contracts are time and material arrangements. As a result, the Company often utilizes the practical expedient allowing the recognition of revenue in the amount the Company invoices, which corresponds with the value provided to the customer and to which the Company is entitled to payment for performance to date.

Non-U.S. Government Contracts

Revenues generated under commercial and state and local government agency contracts are primarily derived from the provision of nuclear and environmental and oil and gas services. Non-U.S. Government contracts typically are one or two years in duration.

In determining transaction price, the Company considers incentives and other contingencies to be variable consideration and includes in the initial transaction price the consideration to which the Company expects to be entitled under the terms and conditions of the contract, generally estimated using a most likely amount approach. In the context of variable consideration, the Company limits the transaction price to amounts for which the Company believes a significant reversal of revenue is not probable. Such amounts may relate to transaction price in excess of funding, a lack of history with the customer, a lack of history with the goods or services being provided, or other items.

Revenue generally is recognized over time given the terms and conditions of the related contracts. The Company generally utilizes a cost-to-cost input method to measure performance progress, which best depicts the transfer of control to the customer. The Company's non-U.S. Government contract portfolio is comprised of a large number of time and material arrangements. As a result, the Company often utilizes the practical expedient allowing the recognition of revenue in the amount the Company invoices, which corresponds with the value provided to the customer and to which the Company is entitled to payment for performance to date.

Disaggregation of Revenue

The following tables present revenues on a disaggregated basis, in a manner that reconciles with the Company's reportable segment disclosures, for the following categories: product versus service type, customer type, contract type, and major program. See Note 9: Segment Information. The Company believes that this level of disaggregation provides investors with information to evaluate the Company's financial performance and provides the Company with information to make capital allocation decisions in the most appropriate manner.

(\$ in millions)	Year Ended December 31, 2019				
	Ingalls	Newport News	Technical Solutions	Intersegment Eliminations	Total
Revenue Type					
Product sales	\$ 2,319	\$ 3,905	\$ 41	\$ —	\$ 6,265
Service revenues	233	1,274	1,127	—	2,634
Intersegment	3	7	141	(151)	—
Sales and service revenues	<u>\$ 2,555</u>	<u>\$ 5,186</u>	<u>\$ 1,309</u>	<u>\$ (151)</u>	<u>\$ 8,899</u>
Customer Type					
Federal	\$ 2,552	\$ 5,178	\$ 879	\$ —	\$ 8,609
Commercial	—	1	287	—	288
State and local government agencies	—	—	2	—	2
Intersegment	3	7	141	(151)	—
Sales and service revenues	<u>\$ 2,555</u>	<u>\$ 5,186</u>	<u>\$ 1,309</u>	<u>\$ (151)</u>	<u>\$ 8,899</u>
Contract Type					
Firm fixed-price	\$ 91	\$ 7	\$ 244	\$ —	\$ 342
Fixed-price incentive	2,060	2,359	1	—	4,420
Cost-type	401	2,813	494	—	3,708
Time and materials	—	—	429	—	429
Intersegment	3	7	141	(151)	—
Sales and service revenues	<u>\$ 2,555</u>	<u>\$ 5,186</u>	<u>\$ 1,309</u>	<u>\$ (151)</u>	<u>\$ 8,899</u>

Year Ended December 31, 2018

(\$ in millions)	Ingalls	Newport News	Technical Solutions	Intersegment Eliminations	Total
Revenue Type					
Product sales	\$ 2,390	\$ 3,559	\$ 74	\$ —	\$ 6,023
Service revenues	215	1,156	782	—	2,153
Intercompany	2	7	132	(141)	—
	<u>\$ 2,607</u>	<u>\$ 4,722</u>	<u>\$ 988</u>	<u>\$ (141)</u>	<u>\$ 8,176</u>
Customer Type					
Federal	\$ 2,605	\$ 4,714	\$ 589	\$ —	\$ 7,908
Commercial	—	1	265	—	266
State and local government agencies	—	—	2	—	2
Intercompany	2	7	132	(141)	—
	<u>\$ 2,607</u>	<u>\$ 4,722</u>	<u>\$ 988</u>	<u>\$ (141)</u>	<u>\$ 8,176</u>
Contract Type					
Firm fixed-price	\$ 81	\$ 8	\$ 147	\$ —	\$ 236
Fixed-price incentive	2,167	1,876	1	—	4,044
Cost-type	357	2,831	370	—	3,558
Time and materials	—	—	338	—	338
Intercompany	2	7	132	(141)	—
	<u>\$ 2,607</u>	<u>\$ 4,722</u>	<u>\$ 988</u>	<u>\$ (141)</u>	<u>\$ 8,176</u>

(\$ in millions)	Year Ended December 31	
	2019	2018
Major Programs		
Amphibious assault ships	\$ 1,336	\$ 1,348
Surface combatants and coast guard cutters	1,209	1,253
Other	10	6
Total Ingalls	<u>2,555</u>	2,607
Aircraft carriers	2,878	2,605
Submarines	1,595	1,476
Other	713	641
Total Newport News	<u>5,186</u>	4,722
Government and energy services	1,068	799
Oil and gas services	241	189
Total Technical Solutions	<u>1,309</u>	988
Intersegment eliminations	(151)	(141)
Sales and service revenues	<u>\$ 8,899</u>	<u>\$ 8,176</u>

As of December 31, 2019, the Company had \$ 46.5 billion of remaining performance obligations. The Company expects to recognize approximately 17% of its remaining performance obligations as revenue through 2020, an additional 25% through 2022, and the balance thereafter.

Cumulative Catch-up Adjustments

For the years ended December 31, 2019, 2018, and 2017, net cumulative catch-up adjustments increased operating income by \$ 96 million, \$110 million, and \$204 million, respectively, and increased diluted earnings per

share by \$1.84, \$1.99, and \$2.90, respectively. No individual adjustment was material to the Company's consolidated statements of operations and comprehensive income for the years ended December 31, 2019, 2018, and 2017.

Contract Balances

Contract balances include accounts receivable, contract assets, and contract liabilities from contracts with customers. Accounts receivable represent an unconditional right to consideration and include amounts billed and currently due from customers. Contract assets primarily relate to the Company's rights to consideration for work completed but not billed as of the reporting date when the right to payment is not just subject to the passage of time. Fixed-price contracts are generally billed to the customer using either 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 liabilities relate to advance payments, billings in excess of revenues, and deferred revenue amounts.

The Company reports contract balances in a net contract asset or contract liability position on a contract-by-contract basis at the end of each reporting period. The Company's net contract assets decreased \$56 million from December 31, 2018, to December 31, 2019, primarily due to billings at our Ingalls segment. For the year ended December 31, 2019, the Company recognized revenue of \$279 million related to its contract liabilities as of December 31, 2018. For the year ended December 31, 2018, the Company recognized revenue of \$85 million related to its contract liabilities as of December 31, 2017.

9. SEGMENT INFORMATION

The Company is organized into three reportable segments: Ingalls, Newport News, and Technical Solutions, consistent with how management makes operating decisions and assesses performance.

U.S. Government Sales - Revenues from the U.S. Government include revenues from contracts for which HII is the prime contractor, as well as contracts for which the Company is a subcontractor and the ultimate customer is the U.S. Government. The Company derived over 95% of its revenues from the U.S. Government for each of the years ended December 31, 2019, 2018, and 2017.

Assets - Substantially all of the Company's assets are located or maintained in the United States.

Results of Operations by Segment

The following table presents the Company's operating results by segment:

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Sales and Service Revenues			
Ingalls	\$ 2,555	\$ 2,607	\$ 2,420
Newport News	5,186	4,722	4,164
Technical Solutions	1,309	988	952
Intersegment eliminations	(151)	(141)	(95)
Total sales and service revenues	\$ 8,899	\$ 8,176	\$ 7,441
Operating Income			
Ingalls	\$ 235	\$ 313	\$ 313
Newport News	390	318	354
Technical Solutions	6	32	21
Total segment operating income	631	663	688
Non-segment factors affecting operating income			
Operating FAS/CAS Adjustment	124	290	205
Non-current state income taxes	(19)	(2)	(12)
Total operating income	\$ 736	\$ 951	\$ 881

Sales transactions between segments are generally recorded at cost.

Other Financial Information

The following tables present the Company's assets, capital expenditures, and depreciation and amortization by segment:

(\$ in millions)	December 31		
	2019	2018	2017
Assets			
Ingalls	\$ 1,618	\$ 1,448	1,385
Newport News	3,849	3,572	3,350
Technical Solutions	1,059	734	642
Corporate	505	629	997
Total assets	\$ 7,031	\$ 6,383	\$ 6,374

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Capital Expenditures⁽¹⁾			
Ingalls	\$ 182	\$ 134	\$ 131
Newport News	240	258	224
Technical Solutions	13	9	6
Corporate	1	1	—
Total capital expenditures	\$ 436	\$ 402	\$ 361

⁽¹⁾ Net of grant proceeds for capital expenditures

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Depreciation and Amortization⁽¹⁾			
Ingalls	\$ 70	\$ 69	\$ 73
Newport News	123	113	107
Technical Solutions	33	21	25
Corporate	1	—	—
Total depreciation and amortization	\$ 227	\$ 203	\$ 205

⁽¹⁾ Excluding amortization of debt issuance costs

10. ACCOUNTS RECEIVABLE AND CONTRACT ASSETS

Accounts Receivable

Accounts receivable include amounts related to any unconditional Company right to receive consideration. Substantially all amounts included in accounts receivable as of December 31, 2019, are expected to be collected in 2020. Because the Company's accounts receivable are primarily with the U.S. Government or with companies acting as a contractor to the U.S. Government, the Company does not have material exposure to accounts receivable credit risk.

Accounts receivable were comprised of the following:

(\$ in millions)	December 31	
	2019	2018
Due from U.S. Government	\$ 315	\$ 216
Due from other customers	6	45
Total accounts receivable	321	261
Allowances for doubtful accounts	(3)	(9)
Total accounts receivable, net	\$ 318	\$ 252

Contract Assets

Contract assets primarily relate to the Company's rights to consideration for work completed but not billed as of the reporting date when the right to payment is not subject solely to the passage of time. Contract assets include retention amounts, substantially all of which were under U.S. Government contracts.

Contract assets were comprised of the following:

(\$ in millions)	December 31	
	2019	2018
Due from U.S. Government	\$ 906	\$ 899
Due from other customers	83	104
Total contract assets	\$ 989	\$ 1,003

11. INVENTORIED COSTS, NET

Inventoried costs were comprised of the following:

(\$ in millions)	December 31	
	2019	2018
Production costs of contracts in process ⁽¹⁾	\$ 30	\$ 34
Raw material inventory	106	94
Total inventoried costs, net	\$ 136	\$ 128

⁽¹⁾ Includes amounts capitalized pursuant to applicable provisions of the FAR and CAS.

12. ASSETS AND LIABILITIES HELD FOR SALE

During the fourth quarter of 2019, the Company determined that an asset group within its Technical Solutions segment met the criteria to be classified as held for sale. It is the Company's intention to complete the sale of these assets within 12 months following the initial classification as assets held for sale. As a result, the Company recorded an impairment charge of \$6 million within other, net in the consolidated statements of operations and comprehensive income. The following table summarizes the assets and liabilities classified as held for sale:

(\$ in millions)	December 31 2019
Current assets	\$ 74
Property, plant, and equipment	2
Other intangible assets, net	2
Other non-current assets	23
Impairment charges	(6)
Total assets held for sale	\$ 95
Current liabilities	62
Long-term liabilities	15
Total liabilities held for sale	\$ 77

13. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill

HII performs impairment tests for goodwill as of November 30 of each year and between annual impairment tests if an event occurs or circumstances change that would more likely than not reduce the fair values of the Company's reporting units below their carrying values. Reporting units are aligned with the Company's businesses. The Company's testing approach utilizes a combination of discounted cash flow analysis and comparative market multiples to determine the fair values of its businesses for comparison to their corresponding book values.

In connection with the Company's annual goodwill impairment test as of November 30, 2019, management tested goodwill for each of its four reporting units. As a result of its annual goodwill impairment tests, the Company determined that the estimated fair value of each reporting unit exceeded by more than 10% its corresponding carrying value as of November 30, 2019, except for the oil and gas reporting unit in the Technical Solutions segment.

As a result of slower than expected growth in operating margin, a revised future outlook for the business, and less favorable market conditions, the Company concluded the fair value of its oil and gas reporting unit was less than its carrying value as of November 30, 2019. The Company recorded the resulting goodwill impairment charge of \$29 million at the oil and gas reporting unit in its Technical Solutions segment in the fourth quarter of 2019.

In connection with the Company's annual goodwill impairment tests as of November 30, 2018 and 2017, management tested goodwill for each of its four reporting units. As a result of its annual goodwill impairment tests, the Company determined that the estimated fair value of each reporting unit exceeded by more than 10% its corresponding carrying value as of November 30, 2018 and 2017.

Accumulated goodwill impairment losses as of each of December 31, 2019 and 2018, were \$ 2,906 million and \$2,877 million, respectively. The accumulated goodwill impairment losses for Ingalls as of each of December 31, 2019 and 2018, were \$1,568 million. The accumulated goodwill impairment losses for Newport News as of each of December 31, 2019 and 2018, were \$1,187 million. The accumulated goodwill impairment losses for the Technical Solutions segment as of each of December 31, 2019 and 2018, were \$151 million and \$ 122 million, respectively.

For the years ended December 31, 2019 and 2018, the Company recorded \$ 133 million and \$46 million of goodwill related to its acquisitions of Fulcrum and G2, respectively. For the year ended December 31, 2019, the Company recorded a goodwill adjustment of \$6 million in the Technical Solutions segment, primarily driven by the finalization of fair value calculations for certain assets and liabilities, as well as the net working capital adjustments, related to the acquisitions of Fulcrum and G2.

For the years ended December 31, 2019 and 2018, the carrying amounts of goodwill changed as follows:

(\$ in millions)	Ingalls	Newport News	Technical Solutions	Total
Balance as of December 31, 2017	\$ 175	\$ 721	\$ 321	\$ 1,217
Acquisitions	—	—	46	46
Balance as of December 31, 2018	175	721	367	1,263
Acquisitions	—	—	133	133
Adjustments	—	—	6	6
Goodwill impairment	—	—	(29)	(29)
Balance as of December 31, 2019	\$ 175	\$ 721	\$ 477	\$ 1,373

Other Intangible Assets

The Company performs tests for impairment of long-lived assets whenever events or circumstances suggest that long-lived assets may be impaired. In connection with the Fulcrum purchase in 2019, the Company recorded \$49 million of intangible assets pertaining to existing contract backlog and customer relationships, to be amortized using the pattern of benefits method over a weighted-average life of seven years. In connection with the G2 purchase in 2018, the Company recorded \$20 million of intangible assets pertaining to existing contract backlog and customer relationships, to be amortized using the pattern of benefits method over a weighted-average life of seven years.

The Company's purchased intangible assets are being amortized on a straight-line basis or a method based on the pattern of benefits over their estimated useful lives. Net intangible assets consist primarily of amounts pertaining to nuclear-powered aircraft carrier and submarine program intangible assets, with an aggregate weighted-average useful life of 40 years based on the long life cycle of the related programs. Aggregate amortization expense for the years ended December 31, 2019, 2018, and 2017, was \$47 million, \$36 million, and \$40 million, respectively.

The Company expects amortization for purchased intangible assets of \$ 44 million in 2020, \$40 million in 2021, \$37 million in 2022, \$26 million in 2023, and \$16 million in 2024.

14. INCOME TAXES

The Company's earnings are primarily domestic, and its effective tax rate on earnings from operations for the year ended December 31, 2019, was 19.6%, compared with 13.9% and 38.0% for 2018 and 2017, respectively.

For the year ended December 31, 2019, the Company's effective tax rate differed from the federal statutory tax rate primarily as a result of an increase in estimated research and development tax credits for 2019 and prior years. For the year ended December 31, 2018, the Company's effective tax rate differed from the federal statutory tax rate primarily as a result of claims for higher research and development tax credits for prior tax years. For the year ended December 31, 2017, the Company's effective tax rate differed from the federal statutory tax rate primarily as a result of the increase in deferred federal tax expense attributable to the recalculation of the Company's net deferred tax asset to reflect the impact of the federal income tax rate decrease included in the Tax Act, partially offset by the income tax benefits resulting from stock award settlement activity and the domestic manufacturing deduction.

Non-current state income taxes include deferred state income taxes, which reflect the change in deferred state tax assets and liabilities, and the tax expense or benefit associated with changes in state uncertain tax positions in the relevant period. These amounts are recorded within operating income. Current period state income tax expense is charged to contract costs and included in cost of sales and service revenues in segment operating income.

Adoption of ASU 2018-02 - The Company early adopted ASU 2018-02, "Income Statement-Reporting Comprehensive Income (Topic 220), Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," which provides for the reclassification from accumulated other comprehensive loss to retained earnings of stranded tax effects resulting from the Tax Act. In accordance with the provisions of the ASU, \$202 million of stranded tax effects related to the Tax Act were reclassified from accumulated other comprehensive loss to retained earnings in the first quarter of 2018. This reclassification includes the impact of the change in the federal corporate income tax rate and the related federal benefit of state taxes.

Federal and foreign income tax expense for the years ended December 31, 2019, 2018, and 2017, consisted of the following:

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Income Taxes on Operations			
Federal and foreign income taxes currently payable	\$ 50	\$ 127	\$ 121
Change in deferred federal and foreign income taxes	84	8	172
Total federal and foreign income taxes	\$ 134	\$ 135	\$ 293

Earnings and income tax from foreign operations are not material for any periods presented.

Income tax expense differed from the amount based on the statutory federal income tax rate applied to earnings (loss) before income taxes due to the following:

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Income tax expense (benefit) on operations at statutory rate	\$ 143	\$ 204	\$ 270
Provisional deferred tax asset revaluation - Tax Act	—	(10)	56
Stock compensation - net excess tax benefits	(3)	(5)	(25)
Manufacturing deduction	—	—	(12)
Uncertain tax positions	5	25	—
Research and development tax credit	(16)	(80)	—
Other, Net	5	1	4
Total federal and foreign income taxes	\$ 134	\$ 135	\$ 293

Unrecognized Tax Benefits - Unrecognized tax benefits represent the gross value of the Company's uncertain tax positions that have not been reflected in the consolidated statements of operations. If the income tax benefits from federal tax positions are ultimately realized, such realization would affect the Company's income tax expense, while the realization of state tax benefits would be recorded in general and administrative expenses.

The changes in unrecognized tax benefits (exclusive of interest and penalties) for the years ended December 31, 2019, 2018, and 2017 are summarized in the following table:

(\$ in millions)	December 31		
	2019	2018	2017
Unrecognized tax benefits at beginning of the year	\$ 25	\$ —	\$ 2
Additions based on tax positions related to the current year	6	3	—
Additions based on tax positions related to prior years	5	22	—
Statute of limitation expirations	—	—	(2)
Net change in unrecognized tax benefits	11	25	(2)
Unrecognized tax benefits at end of the year	\$ 36	\$ 25	\$ —

As of December 31, 2019 and 2018, the estimated amounts of the Company's uncertain tax positions, excluding interest and penalties, were liabilities of \$36 million and \$25 million, respectively. Assuming sustainment of these

positions, as of December 31, 2019 and 2018, the reversal of \$ 30 million and \$25 million, respectively, of the amounts accrued would favorably affect the Company's effective federal income tax rate in future periods.

The Company recognizes interest and penalties related to unrecognized tax benefits as income tax expense. As a result of the unrecognized tax benefits noted above, income tax expense increased \$1 million in 2019 for interest and penalties, resulting in a liability of \$ 2 million for interest and penalties as of December 31, 2019. In 2018, there was a net increase in income tax expense of \$1 million for interest and penalties, resulting in a liability of \$1 million for interest and penalties as of December 31, 2018. In 2017, there was a net decrease in income tax expense of \$ 1 million for interest and penalties, resulting in no material liability for interest and penalties as of December 31, 2017. The 2017 changes in interest and penalties related to statute of limitation expirations.

The following table summarizes the tax years that are either currently under examination or remain open under the applicable statute of limitations and subject to examination by the major tax jurisdictions in which the Company operates:

Jurisdiction	Years	
United States - Federal ⁽¹⁾	2011	- 2018
Connecticut	2016	- 2018
Mississippi	2015	- 2018
Virginia	2015	- 2018

⁽¹⁾ The 2014 tax year has been closed in this jurisdiction.

Although the Company believes it has adequately provided for all uncertain tax positions, amounts asserted by taxing authorities could be greater than the Company's accrued position. Accordingly, additional provisions for federal and state income tax related matters could be recorded in the future as revised estimates are made or the underlying matters are effectively settled or otherwise resolved. Conversely, the Company could settle positions with the tax authorities for amounts lower than have been accrued. No material change to the Company's uncertain tax positions is reasonably expected in the next 12 months.

During 2013 the Company entered into the pre-Compliance Assurance Process with the IRS for years 2011 and 2012. The Company is part of the IRS Compliance Assurance Process program for the 2014 through 2020 tax years. Open tax years related to state jurisdictions remain subject to examination.

Deferred Income Taxes - Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and for income tax purposes. As described above, deferred tax assets and liabilities are calculated as of the balance sheet date using current tax laws and rates expected to be in effect when the deferred tax items reverse in future periods. Net deferred tax assets are classified as long-term deferred tax assets in the consolidated statements of financial position.

The tax effects of significant temporary differences and carry-forwards that gave rise to year-end deferred tax balances, as presented in the consolidated statements of financial position, were as follows:

(\$ in millions)	December 31	
	2019	2018
Deferred Tax Assets		
Retirement benefits	\$ 348	\$ 331
Workers' compensation	154	151
Operating lease liabilities	55	—
Reserves not currently deductible for tax purposes	47	52
Stock compensation	8	10
Net operating losses and tax credit carry-forwards	17	19
Other	11	5
Gross deferred tax assets	640	568
Less valuation allowance	15	12
Net deferred tax assets	625	556
Deferred Tax Liabilities		
Depreciation and amortization	303	247
Contract accounting differences	62	43
Purchased intangibles	97	103
Operating lease assets	55	—
Gross deferred tax liabilities	517	393
Total net deferred tax assets	\$ 108	\$ 163

As of December 31, 2019, the Company had state income tax credit carry-forwards of approximately \$ 20 million, which expire from 2020 through 2023. A deferred tax asset of approximately \$15 million (net of federal benefit) has been established related to these state income tax credit carry-forwards, with a valuation allowance of \$10 million against such deferred tax asset as of December 31, 2019. State and foreign net operating loss carry-forwards are separately and cumulatively immaterial to the Company's deferred tax balances and expire between 2026 and 2038.

15. DEBT

Long-term debt consisted of the following:

(\$ in millions)	December 31	
	2019	2018
Senior notes due November 15, 2025, 5.000%	\$ 600	\$ 600
Senior notes due December 1, 2027, 3.483%	600	600
Mississippi economic development revenue bonds due May 1, 2024, 7.81%	84	84
Gulf opportunity zone industrial development revenue bonds due December 1, 2028, 4.55%	21	21
Less unamortized debt issuance costs	(19)	(22)
Total long-term debt	\$ 1,286	\$ 1,283

Credit Facility - In November 2017, the Company terminated its Second Amended and Restated Credit Agreement and entered into a new Credit Agreement (the "Credit Facility") with third-party lenders. The Credit Facility includes a revolving credit facility of \$1,250 million, which may be drawn upon during a period of five years from November 22, 2017. The revolving credit facility includes a letter of credit subfacility of \$ 500 million. The revolving credit facility has a variable interest rate on outstanding borrowings based on the London Interbank Offered Rate ("LIBOR") plus a spread based upon the Company's credit ratings, which may vary between 1.125% and 1.500%. The revolving credit facility also has a commitment fee rate on the unutilized balance based on the Company's credit ratings. The commitment fee rate as of December 31, 2019 was 0.25% and may vary between 0.20% and 0.30%.

The Credit Facility contains customary affirmative and negative covenants, as well as a financial covenant based on a maximum total leverage ratio. Each of the Company's existing and future material wholly owned domestic subsidiaries, except those that are specifically designated as unrestricted subsidiaries, are and will be guarantors under the Credit Facility.

As of December 31, 2019, the Company had \$ 16 million in issued but undrawn letters of credit and \$ 1,234 million unutilized under the Credit Facility. The Company had unamortized debt issuance costs associated with its credit facilities of \$7 million and \$8 million as of December 31, 2019 and 2018, respectively.

In October 2019, the Company established an unsecured commercial paper note program, under which the Company may issue up to \$ 1 billion of unsecured commercial paper notes.

Senior Notes - In June 2018, the Company completed an exchange of \$600 million aggregate principal amount of registered 3.483% senior notes due December 2027 for all of the then outstanding unregistered senior notes due December 2027. The Company also has outstanding \$600 million aggregate principal amount of unregistered 5.000% senior notes due November 2025. Interest on the Company's senior notes is payable semi-annually.

The terms of the senior notes limit the Company's ability and the ability of certain of its subsidiaries to create liens, enter into sale and leaseback transactions, sell assets, and effect consolidations or mergers. The Company had unamortized debt issuance costs associated with the senior notes of \$12 million and \$ 14 million as of December 31, 2019 and 2018, respectively.

Early Extinguishment of Debt - Details of the loss on early extinguishment of debt related to the Company's prior credit facility and refinancing of senior notes, which was included in interest expense, were as follows:

(\$ in millions)	Year Ended	
	December 31, 2017	
Redemption and tender premiums and fees	\$	15
Write-off of unamortized debt issuance costs		7
Total loss on early extinguishment of debt	\$	22

Mississippi Economic Development Revenue Bonds - As of each of December 31, 2019 and 2018, the Company had \$ 84 million outstanding under Industrial Revenue Bonds issued by the Mississippi Business Finance Corporation. These bonds accrue interest at a fixed rate of 7.81% per annum (payable semi-annually) and mature in 2024.

Gulf Opportunity Zone Industrial Development Revenue Bonds - As of each of December 31, 2019 and 2018, the Company had \$ 21 million outstanding under Gulf Opportunity Zone Industrial Development Revenue Bonds issued by the Mississippi Business Finance Corporation. These bonds accrue interest at a fixed rate of 4.55% per annum (payable semi-annually) and mature in 2028.

The Company's debt arrangements contain customary affirmative and negative covenants. The Company was in compliance with all debt covenants during the year ended December 31, 2019.

The estimated fair values of the Company's total long-term debt as of December 31, 2019, and December 31, 2018, were \$ 1,379 million and \$ 1,292 million, respectively. The fair values of the Company's long-term debt were calculated based on recent trades of the Company's debt instruments in inactive markets, which fall within Level 2 under the fair value hierarchy.

As of December 31, 2019, the aggregate amounts of principal payments due on long-term debt within the next five years consisted of \$ 84 million due in 2024.

16. INVESTIGATIONS, CLAIMS, AND LITIGATION

The Company is involved in legal proceedings before various courts and administrative agencies, and is periodically subject to government examinations, inquiries and investigations. Pursuant to FASB Accounting Standards Codification 450 *Contingencies*, the Company has accrued for losses associated with investigations, claims, and litigation when, and to the extent that, loss amounts related to the investigations, claims, and litigation are probable

and can be reasonably estimated. The actual losses that might be incurred to resolve such investigations, claims, and litigation may be higher or lower than the amounts accrued. For matters where a material loss is probable or reasonably possible and the amount of loss cannot be reasonably estimated, but the Company is able to reasonably estimate a range of possible losses, the Company will disclose such estimated range in these notes. This estimated range is based on information currently available to the Company and involves elements of judgment and significant uncertainties. Any estimated range of possible loss does not represent the Company's maximum possible loss exposure. For matters as to which the Company is not able to reasonably estimate a possible loss or range of loss, the Company will indicate the reasons why it is unable to estimate the possible loss or range of loss. For matters not specifically described in these notes, the Company does not believe, based on information currently available to it, that it is reasonably possible that the liabilities, if any, arising from such investigations, claims, and litigation will have a material effect on its consolidated financial position, results of operations, or cash flows. The Company has, in certain cases, provided disclosure regarding certain matters for which the Company believes at this time that the likelihood of material loss is remote.

False Claims Act Complaint - In 2016, the Company was made aware that it is a defendant in a *qui tam* False Claims Act lawsuit pending in the U.S. District Court for the Middle District of Florida related to the Company's purchases of allegedly non-conforming parts from a supplier for use in connection with U.S. Government contracts. In August 2019, the Department of Justice ("DoJ") declined to intervene in the lawsuit, and the lawsuit was unsealed. Depending on the outcome of the lawsuit, the Company could be subject to civil penalties, damages, and/or suspension or debarment from future U.S. Government contracts, which could have a material adverse effect on its consolidated financial position, results of operations, or cash flows. The Company has only recently been served with the lawsuit and therefore has not had an opportunity to respond to the substance of the complaint or engage in any discovery related to the issues set forth in the complaint. As a result, the Company currently is unable to estimate an amount or range of reasonably possible loss or to express an opinion regarding the ultimate outcome.

In September 2019, the Company became aware that it is a defendant in a *qui tam* False Claims Act lawsuit pending in the U.S. District Court for the Middle District of Florida related to allegations about the Company's application of a material to the exterior surface of *Virginia* class (SSN 774) submarines. The DoJ declined to intervene in the lawsuit, and, after the lawsuit was unsealed, the lawsuit was voluntarily dismissed.

U.S. Government Investigations and Claims - Departments and agencies of the U.S. Government have the authority to investigate various transactions and operations of the Company, and the results of such investigations may lead to administrative, civil or criminal proceedings, the ultimate outcome of which could be fines, penalties, repayments or compensatory, treble, or other damages. U.S. Government regulations provide that certain findings against a contractor may also lead to suspension or debarment from future U.S. Government contracts or the loss of export privileges. Any suspension or debarment would have a material effect on the Company because of its reliance on government contracts.

Asbestos Related Claims - HII and its predecessors-in-interest are defendants in a longstanding series of cases that have been and continue to be filed in various jurisdictions around the country, wherein former and current employees and various third parties allege exposure to asbestos containing materials while on or associated with HII premises or while working on vessels constructed or repaired by HII. The cases allege various injuries, including those associated with pleural plaque disease, asbestosis, cancer, mesothelioma, and other alleged asbestos related conditions. In some cases, several of HII's former executive officers are also named as defendants. In some instances, partial or full insurance coverage is available to the Company for its liability and that of its former executive officers. The cost to resolve cases during the years ended December 31, 2019, 2018, and 2017 was immaterial individually and in the aggregate. The Company's estimate of asbestos-related liabilities is subject to uncertainty because liabilities are influenced by numerous variables that are inherently difficult to predict. Key variables include the number and type of new claims, the litigation process from jurisdiction to jurisdiction and from case to case, reforms made by state and federal courts, and the passage of state or federal tort reform legislation. Although the Company believes the ultimate resolution of current cases will not have a material effect on its consolidated financial position, results of operations, or cash flows, it cannot predict what new or revised claims or litigation might be asserted or what information might come to light and can, therefore, give no assurances regarding the ultimate outcome of asbestos related litigation.

Other Litigation - In March 2019, a new dry dock being transported for delivery to Ingalls by a heavy lift ship struck an Ingalls work barge, which in turn was pushed into *Delbert D. Black* (DDG 119) causing damage to *Delbert D. Black* (DDG 119), the work barge, and the new dry dock. At the time of the incident, responsibility for the new dry dock remained with the builder and the transport company. Repair work on *Delbert D. Black* (DDG 119) is in process

at U.S. Navy direction. The Company is working with the U.S. Navy to ascertain whether third parties will pay for the repairs to *Delbert D. Black* (DDG 119) or whether the repairs will be paid under the builder's risk insurance included in the *Delbert D. Black* (DDG 119) contract. Claims were tendered to the Company's insurers, and HII has received all outstanding claim proceeds. In April 2019, the Company filed suit in the U.S. District Court for the Southern District of Mississippi seeking, among other relief, damages from negligent third parties. Based on information currently available, management believes it will collect sufficient funds from one or more third parties to compensate for the resulting direct and consequential damages, but failure to collect sufficient funds or the length of time required to collect such funds could result in a material effect on the Company's financial position, results of operations, or cash flows.

The Company and its predecessor-in-interest have been in litigation with the Bolivarian Republic of Venezuela (the "Republic") since 2002 over a contract for the repair, refurbishment, and modernization at Ingalls of two foreign-built frigates. The case proceeded towards arbitration, then appeared to settle favorably, but the settlement was overturned in court and the matter returned to litigation. In March 2014, the Company filed an arbitral statement of claim asserting breaches of the contract. In July 2014, the Republic filed a statement of defense in the arbitration denying all the Company's allegations and a counterclaim alleging late redelivery of the frigates, unfinished work, and breach of warranty. In February 2018, the arbitral tribunal awarded the Company approximately \$151 million on its claims and awarded the Republic approximately \$ 22 million on its counterclaims. The Company is seeking to enforce and execute upon the award in multiple jurisdictions. No assurances can be provided regarding the ultimate resolution of this matter.

The Company is party to various other claims, legal proceedings, and investigations that arise in the ordinary course of business, including U.S. Government investigations that could result in administrative, civil, or criminal proceedings involving the Company. The Company is a contractor with the U.S. Government, and such proceedings can therefore include False Claims Act allegations against the Company. Although the Company believes that the resolution of these other claims, legal proceedings, and investigations will not have a material effect on its consolidated financial position, results of operations, or cash flows, the Company cannot predict what new or revised claims or litigation might be asserted or what information might come to light and can, therefore, give no assurances regarding the ultimate outcome of these matters.

17. LEASES

The Company leases certain land, warehouses, office space, and production, office, and technology equipment, among other items. Most equipment is leased on a monthly basis. Many land, warehouse, and office space leases include renewal terms that can extend the lease term. The exercise of lease renewal options is at our sole discretion. The depreciable life of assets and leasehold improvements are generally limited by the expected lease term. Our lease agreements do not generally contain material residual value guarantees, material restrictive covenants, or purchase options. Our lease portfolio consists primarily of operating leases. Amounts prior to January 1, 2019, are reported under Topic 840, and amounts after January 1, 2019, are reported under Topic 842 in accordance with ASU 2016-02.

Lease costs and related information were as follows:

(\$ in millions)	Year Ended December	
	31	
	2019	
Operating lease costs	\$	47
Short-term operating lease costs	\$	44
Variable operating lease costs	\$	5
Operating cash flows from operating leases	\$	(46)
Right-of-use assets obtained in exchange for new operating lease liabilities	\$	38
Weighted-average remaining lease term (years) - operating leases		10 years
Weighted-average discount rate - operating leases		4.2 %

The undiscounted future non-cancellable lease payments under the Company's operating leases as of December 31, 2019, were as follows:

(\$ in millions)	December 31, 2019
2020	\$ 45
2021	38
2022	30
2023	24
2024	22
Thereafter	114
Total lease payments	273
Less: imputed interest	58
Present value of lease liabilities	\$ 215

The future minimum lease payments under the Company's long-term non-cancellable operating leases under ASC 840 as of December 31, 2018, were as follows:

(\$ in millions)	December 31, 2018
2019	\$ 41
2020	36
2021	30
2022	20
2023	13
Thereafter	56
Total lease payments	\$ 196

Lease liabilities included in the Company's consolidated balance sheet as of December 31, 2019, were as follows:

(\$ in millions)	December 31, 2019
Short-term operating lease liabilities	\$ 35
Lease liabilities included in liabilities held for sale	16
Long-term operating lease liabilities	164
Total operating lease liabilities	\$ 215

18. COMMITMENTS AND CONTINGENCIES

Contract Performance Contingencies - Contract profit margins may include estimates of revenues for matters on which the customer and the Company have not reached agreement, such as settlements in the process of negotiation, contract changes, claims, and requests for equitable adjustment for unanticipated contract costs. These estimates are based upon management's best assessment of the underlying causal events and circumstances, and are included in contract profit margins to the extent of expected recovery based upon contractual entitlements and the probability of successful negotiation with the customer. As of December 31, 2019, amounts recognized in connection with claims and requests for equitable adjustment were not material individually or in aggregate.

Guarantees of Performance Obligations - From time to time in the ordinary course of business, HII may enter into joint ventures, teaming, and other business arrangements to support the Company's products and services. The Company attempts to limit its exposure under these arrangements to its investment or the extent of obligations under the applicable contract. In some cases, however, HII may be required to guarantee performance of the arrangement's obligations and, in such cases, generally obtains cross-indemnification from the other members of the arrangement.

In the ordinary course of business, the Company may guarantee obligations of its subsidiaries under certain contracts. Generally, the Company is liable under such an arrangement only if its subsidiary is unable to perform its obligations. Historically, the Company has not incurred any substantial liabilities resulting from these guarantees. As of December 31, 2019, the Company was not aware of any existing event of default that would require it to satisfy any of these guarantees.

Environmental Matters - The estimated cost to complete environmental remediation has been accrued when it is probable that the Company will incur such costs in the future to address environmental conditions at currently or formerly owned or leased operating facilities, or at sites where it has been named a Potentially Responsible Party ("PRP") by the Environmental Protection Agency or similarly designated by another environmental agency, and the related costs can be estimated by management. These accruals do not include any litigation costs related to environmental matters, nor do they include amounts recorded as asset retirement obligations. To assess the potential impact on the Company's consolidated financial statements, management estimates the range of reasonably possible remediation costs that could be incurred by the Company, taking into account currently available facts on each site, as well as the current state of technology and prior experience remediating contaminated sites. These estimates are reviewed periodically and adjusted to reflect changes in facts and technical and legal circumstances. Management estimated that as of December 31, 2019, the probable estimable future cost for environmental remediation was immaterial. Factors that could result in changes to the Company's estimates include: modification of planned remedial actions, increases or decreases in the estimated time required to remediate, changes to the determination of legally responsible parties, discovery of more extensive contamination than anticipated, changes in laws and regulations affecting remediation requirements, and improvements in remediation technology. Should other PRPs not pay their allocable share of remediation costs, the Company may incur costs exceeding those already estimated and accrued. In addition, there are certain potential remediation sites where the costs of remediation cannot be reasonably estimated. Although management cannot predict whether new information gained as remediation progresses will materially affect the estimated liability accrued, management does not believe that future remediation expenditures will have a material effect on the Company's consolidated financial position, results of operations, or cash flows.

Financial Arrangements - In the ordinary course of business, HII uses letters of credit issued by commercial banks to support certain leases, insurance policies, and contractual performance obligations, as well as surety bonds issued by insurance companies principally to support the Company's self-insured workers' compensation plans. As of December 31, 2019, the Company had \$16 million in letters of credit issued but undrawn, as indicated in Note 15: Debt, and \$273 million of surety bonds outstanding.

U.S. Government Claims - From time to time, the U.S. Government communicates to the Company potential claims, disallowed costs, and penalties concerning prior costs incurred by the Company with which the U.S. Government disagrees. When such preliminary findings are presented, the Company and U.S. Government representatives engage in discussions, from which HII evaluates the merits of the claims and assesses the amounts being questioned. Although the Company believes that the resolution of any of these matters will not have a material effect on its consolidated financial position, results of operations, or cash flows, it cannot predict the ultimate outcome of these matters.

Collective Bargaining Agreements - Of the Company's approximately 42,000 employees, approximately 50% are covered by a total of nine collective bargaining agreements and two site stabilization agreements. Newport News has four collective bargaining agreements covering represented employees, which expire in November 2020, November 2021, December 2022, and April 2024. The collective bargaining agreement that expires in November 2021 covers approximately 50% of Newport News employees. Newport News craft workers employed at the Kesselring Site near Saratoga Springs, New York are represented under an indefinite Department of Energy ("DoE") site agreement. Ingalls has five collective bargaining agreements covering represented employees, all of which expire in March 2022. Approximately 50 Technical Solutions employees at various locations are represented by unions and perform work under collective bargaining agreements. The Company believes its relationship with its employees is satisfactory.

Collective bargaining agreements generally expire after three years to five years and are subject to renegotiation at that time. The Company does not expect the results of these negotiations, either individually or in the aggregate, to have a material effect on the Company's consolidated results of operations.

Purchase Obligations - Periodically the Company enters into agreements to purchase goods or services that are enforceable and legally binding on the Company and specify all significant terms, including: fixed or minimum

quantities to be purchased; fixed, minimum, or variable price provisions; and the approximate timing of the transaction. These obligations are primarily comprised of open purchase order commitments to vendors and subcontractors pertaining to funded contracts.

19. EMPLOYEE PENSION AND OTHER POSTRETIREMENT BENEFITS

The Company provides eligible employees defined benefit pension plans and postretirement benefit plans. Non-collectively bargained defined benefit pension benefits accruing under the traditional years of service and compensation formula were amended in 2009 to freeze future service accruals and have been replaced with a cash balance benefit for all current non-collectively bargained employees. Except for the major collectively bargained plan at Ingalls, the Company's qualified defined benefit pension plans are frozen to new entrants. The Company's policy is to fund its qualified defined benefit pension plans at least to the minimum amounts required under U.S. Government regulations.

Plan obligations are measured based on the present value of projected future benefit payments to participants for services rendered to date. The measurement of projected future benefits is dependent on the terms of each individual plan, demographics, and valuation assumptions. No assumption is made regarding any potential changes to the benefit provisions beyond those to which the Company is currently committed, for example under existing collective bargaining agreements.

The Company also sponsors 401(k) defined contribution pension plans in which most employees, including certain hourly employees, are eligible to participate. Company contributions for most defined contribution pension plans are based on the matching of employee contributions up to 4% of eligible compensation. Certain hourly employees are covered under a target benefit plan. In addition to the 401(k) defined contribution pension benefit formula, non-collectively bargained employees hired after June 30, 2008, are eligible to participate in a defined contribution benefit program in lieu of a defined benefit pension plan. The Company's contributions to the qualified defined contribution pension plans for the years ended December 31, 2019, 2018, and 2017, were \$120 million, \$102 million, and \$78 million, respectively.

The Company also sponsors defined benefit and defined contribution pension plans to provide benefits in excess of the tax-qualified limits. The liabilities related to these plans as of December 31, 2019, were \$209 million and \$35 million, respectively, and as of December 31, 2018, were \$183 million and \$30 million, respectively. Assets, primarily in the form of Level 1 marketable securities held in grantor trusts, are intended to fund certain of these obligations. The trusts' fair values supporting these liabilities as of December 31, 2019 and 2018, were \$147 million and \$109 million, respectively, of which \$111 million and \$78 million, respectively, were related to the non-qualified defined benefit pension plans.

The Company provides contributory postretirement health care and life insurance benefits to a dominantly closed group of eligible employees, retirees, and their qualifying dependents. Covered employees achieve eligibility to participate in these contributory plans upon retirement from active service if they meet specified age, years of service, and grandfathered requirements. Benefits are not guaranteed, and the Company reserves the right to amend or terminate coverage at any time. The Company's contributions for retiree health care benefits are subject to caps, which limit Company contributions when spending thresholds are reached.

The measurement date for all of the Company's retirement related plans is December 31. The costs of the Company's defined benefit pension plans and other postretirement benefit plans for the years ended December 31, 2019, 2018, and 2017, were as follows:

(\$ in millions)	Pension Benefits			Other Benefits		
	Year Ended December 31			Year Ended December 31		
	2019	2018	2017	2019	2018	2017
Components of Net Periodic Benefit Cost						
Service cost	\$ 144	\$ 157	\$ 146	\$ 7	\$ 8	\$ 10
Interest cost	277	254	266	20	21	24
Expected return on plan assets	(407)	(429)	(367)	—	—	—
Amortization of prior service cost (credit)	18	24	20	(22)	(22)	(20)
Amortization of net actuarial loss (gain)	113	81	97	(11)	(3)	(4)
Net periodic benefit cost	\$ 145	\$ 87	\$ 162	\$ (6)	\$ 4	\$ 10

The funded status of these plans as of December 31, 2019 and 2018, was as follows:

(\$ in millions)	Pension Benefits		Other Benefits	
	December 31		December 31	
	2019	2018	2019	2018
Change in Benefit Obligation				
Benefit obligation at beginning of year	\$ 6,519	\$ 6,778	\$ 479	\$ 553
Service cost	144	157	7	8
Interest cost	277	254	20	21
Plan participants' contributions	5	6	10	8
Actuarial loss (gain)	1,055	(441)	35	(73)
Benefits paid	(258)	(235)	(41)	(38)
Benefit obligation at end of year	7,742	6,519	510	479
Change in Plan Assets				
Fair value of plan assets at beginning of year	5,726	5,837	—	—
Actual return on plan assets	1,232	(398)	—	—
Employer contributions	28	516	31	30
Plan participants' contributions	5	6	10	8
Benefits paid	(258)	(235)	(41)	(38)
Fair value of plan assets at end of year	6,733	5,726	—	—
Funded status	\$ (1,009)	\$ (793)	\$ (510)	\$ (479)

Amounts Recognized in the Consolidated Statements of Financial Position:

Current liability ⁽¹⁾	(34)	(29)	(130)	(131)
Non-current liability ⁽²⁾	(975)	(764)	(380)	(348)
Accumulated other comprehensive loss (income) (pre-tax) related to:				
Prior service costs (credits)	81	99	(31)	(53)
Net actuarial loss (gain)	1,897	1,780	(42)	(88)

⁽¹⁾ Included in other current liabilities and current portion of postretirement plan liabilities, respectively.

⁽²⁾ Included in pension plan liabilities and other postretirement plan liabilities, respectively.

The Projected Benefit Obligation ("PBO"), Accumulated Benefit Obligation ("ABO"), and asset values for the Company's qualified pension plans were \$7,533 million, \$7,123 million, and \$6,733 million, respectively, as of December 31, 2019, and \$ 6,336 million, \$6,017 million, and \$5,726 million, respectively, as of December 31, 2018. The PBO represents the present value of pension benefits earned through the end of the year, with allowance for future salary increases. The ABO is similar to the PBO, but does not provide for future salary increases.

The PBO and fair value of plan assets for all qualified and non-qualified pension plans with PBOs in excess of plan assets were \$ 7,742 million and \$6,733 million, respectively, as of December 31, 2019, and \$ 6,519 million and \$5,726 million, respectively, as of December 31, 2018.

The ABO and fair value of plan assets for all qualified and non-qualified pension plans with ABOs in excess of plan assets were \$ 7,315 million and \$6,733 million, respectively, as of December 31, 2019, and \$ 6,183 million and \$5,726 million, respectively, as of December 31, 2018. The ABO for all pension plans was \$7,315 million and \$6,183 million as of December 31, 2019 and 2018, respectively.

The changes in amounts recorded in accumulated other comprehensive income (loss) were as follows:

(\$ in millions)	Pension Benefits			Other Benefits		
	Year Ended December 31			Year Ended December 31		
	2019	2018	2017	2019	2018	2017
Prior service cost (credit)	\$ —	\$ —	\$ (74)	\$ —	\$ —	\$ 10
Amortization of prior service cost (credit)	18	24	20	(22)	(22)	(20)
Net actuarial loss (gain)	(230)	(386)	16	(35)	73	15
Amortization of net actuarial loss (gain)	113	81	97	(11)	(3)	(4)
Other	—	1	(1)	—	—	—
Total changes in accumulated other comprehensive income (loss)	\$ (99)	\$ (280)	\$ 58	\$ (68)	\$ 48	\$ 1

The amounts included in accumulated other comprehensive income (loss) as of December 31, 2019, expected to be recognized as components of net periodic expense in 2020 were as follows:

(\$ in millions)	Pension Benefits	Other Benefits
Prior service cost (credit)	\$ 12	\$ (21)
Net loss	109	(7)
Total	\$ 121	\$ (28)

The weighted average assumptions used to determine the net periodic benefit costs for each year ended December 31 were as follows:

	Pension Benefits		
	2019	2018	2017
Discount rate	4.34 %	3.82 %	4.47 %
Expected long-term rate on plan assets	7.25 %	7.25 %	7.25 %
Rate of compensation increase	3.67 %	3.71 %	3.68 %

	Other Benefits		
	2019	2018	2017
Discount rate	4.33 %	3.85 %	4.38 %
Initial health care cost trend rate assumed for next year	5.50 %	6.00 %	6.50 %
Gradually declining to a rate of	4.50 %	4.50 %	5.00 %
Year in which the rate reaches the ultimate rate	2024	2025	2025

The weighted average assumptions used to determine the benefit obligations as of December 31 of each year were as follows:

	Pension Benefits		Other Benefits	
	December 31		December 31	
	2019	2018	2019	2018
Discount rate	3.39 %	4.34 %	3.35 %	4.33 %
Rate of compensation increase	3.61 %	3.67 %		
Initial health care cost trend rate assumed for next year			5.50 %	5.50 %
Gradually declining to a rate of			4.50 %	4.50 %
Year in which the rate reaches the ultimate rate			2025	2024

Health Care Cost Trend Rate - The health care cost trend rate represents the annual rates of change in the cost of health care benefits based on estimates of health care inflation, changes in health care utilization or delivery patterns, technological advances, government mandated benefits, and other considerations. Using a combination of market expectations and economic projections on December 31, 2019, the Company selected an expected initial

health care cost trend rate of 5.50% and an ultimate health care cost trend rate of 4.50% to be reached in 2025. On December 31, 2018, the Company assumed an expected initial health care cost trend rate of 5.50% and an ultimate health care cost trend rate of 4.50% to be reached in 2024.

A one percent change in the assumed health care cost trend rates would have the following effects on 2019 results:

(\$ in millions)	1 Percentage Point	
	Increase	Decrease
Effect on postretirement benefit expense	\$ 2	\$ (2)
Effect on postretirement benefit obligations	23	(20)

The Employee Retirement Income Security Act of 1974 ("ERISA"), including amendments under pension relief, defines the minimum amount that must be contributed to the Company's qualified defined benefit pension plans. In determining whether to make discretionary contributions to these plans above the minimum required amounts, the Company considers various factors, including attainment of the funded percentage needed to avoid benefit restrictions and other adverse consequences, minimum CAS funding requirements, and the current and anticipated future funding levels of each plan. The Company's contributions to its qualified defined benefit pension plans are affected by a number of factors, including published IRS interest rates, the actual return on plan assets, actuarial assumptions, and demographic experience. These factors and the Company's resulting contributions also impact the funded status of each plan. The Company made the following contributions to its pension plans and other postretirement plans for the years ended December 31, 2019, 2018, and 2017:

(\$ in millions)	Year Ended December 31		
	2019	2018	2017
Pension plans			
Discretionary			
Qualified	\$ 21	\$ 508	\$ 294
Non-qualified	7	8	7
Other benefit plans	31	30	34
Total contributions	\$ 59	\$ 546	\$ 335

For the year ending December 31, 2020, the Company expects its cash contributions to its qualified defined benefit pension plans to be \$ 205 million, all of which will be discretionary. For the year ending December 31, 2020, the Company expects its cash contributions to its postretirement benefit plans to be approximately \$33 million.

The following table presents estimated future benefit payments, using the same assumptions used in determining the Company's benefit obligations as of December 31, 2019. Benefit payments depend on future employment and compensation levels, years of service, and mortality. Changes in any of these factors could significantly affect these estimated amounts.

(\$ in millions)	Pension Benefits	Other Benefits	
		Benefit Payments	Subsidy Receipts
2020	\$ 272	\$ 33	\$ —
2021	291	35	—
2022	313	36	—
2023	333	37	—
2024	354	38	—
Years 2025 to 2029	\$ 2,045	\$ 173	\$ 2

Pension Plan Assets

Pension assets include public equities, government and corporate bonds, cash and cash equivalents, private real estate funds, private partnerships, hedge funds, and other assets. Plan assets are held in a master trust and overseen by the Company's Investment Committee. All assets are externally managed through a combination of active and passive strategies. Managers may only invest in the asset classes for which they have been appointed.

The Investment Committee is responsible for setting the policy that provides the framework for management of the plan assets. The Investment Committee has set the minimum and maximum permitted values for each asset class in the Company's pension plan master trust for the year ended December 31, 2019, as follows:

	Range	
U.S. equities	15	- 37%
International equities	10	- 28%
Fixed income securities	25	- 50%
Alternative investments	10	- 25%

The general objectives of the Company's pension asset strategy are to earn a rate of return over time to satisfy the benefit obligations of the plans, meet minimum ERISA funding requirements, and maintain sufficient liquidity to pay benefits and address other cash requirements within the master trust. Specific investment objectives include reducing the volatility of pension assets relative to benefit obligations, achieving a competitive, total investment return, achieving diversification between and within asset classes, and managing other risks. Investment objectives for each asset class are determined based on specific risks and investment opportunities identified. Decisions regarding investment policies and asset allocation are made with the understanding of the historical and prospective return and risk characteristics of various asset classes, the effect of asset allocations on funded status, future Company contributions, and projected expenditures, including benefits. The Company updates its asset allocations periodically. The Company uses various analytics to determine the optimal asset mix and considers plan obligation characteristics, duration, liquidity characteristics, funding requirements, expected rates of return, regular rebalancing, and the distribution of returns. Actual allocations to each asset class could vary from target allocations due to periodic investment strategy changes, short-term market value fluctuations, the length of time it takes to fully implement investment allocation positions, such as real estate and other alternative investments, and the timing of benefit payments and Company contributions.

Taking into account the asset allocation ranges, the Company determines the specific allocation of the master trust's investments within various asset classes. The master trust utilizes select investment strategies, which are executed through separate account or fund structures with external investment managers who demonstrate experience and expertise in the appropriate asset classes and styles. The selection of investment managers is done with careful evaluation of all aspects of performance and risk, demonstrated fiduciary responsibility, investment management experience, and a review of the investment managers' policies and processes. Investment performance is monitored frequently against appropriate benchmarks and tracked to compliance guidelines with the assistance of third party consultants and performance evaluation tools and metrics.

Plan assets are stated at fair value. The Company employs a variety of pricing sources to estimate the fair value of its pension plan assets, including independent pricing vendors, dealer or counterparty-supplied valuations, third-party appraisals, and appraisals prepared by the Company's investment managers or other experts.

Investments in equity securities, common and preferred, are valued at the last reported sales price when an active market exists. Securities for which official or last trade pricing on an active exchange is available are classified as Level 1. If closing prices are not available, securities are valued at the last trade price, if deemed reasonable, or a broker's quote in a non-active market, and are typically categorized as Level 2.

Investments in fixed-income securities are generally valued by independent pricing services or dealers who make markets in such securities. Pricing methods are based upon market transactions for comparable securities and various relationships between securities that are generally recognized by institutional traders, and fixed-income securities typically are categorized as Level 2.

Investments in collective trust funds and commingled funds that use Net Asset Values (“NAV”) are valued based on the redemption price of units owned by the master trust, which is based on the current fair values of the funds’ underlying assets, as reported by the investment manager.

Investments in hedge funds generally do not have readily available market quotations and are estimated at fair value, which primarily utilizes NAV or the equivalent, as a practical expedient, as reported by the investment manager. Hedge funds usually have restrictions on redemptions that might affect the ability to sell the investment at NAV in the short term.

Real estate funds are typically valued through updated independent third-party appraisals, which are adjusted for changes in cash flows, market conditions, property performance, and leasing status. Since real estate funds do not have readily available market quotations, they are generally valued at NAV or its equivalent, as a practical expedient, as reported by the asset manager. Redemptions from real estate funds are also subject to various restrictions.

Private partnership interests include debt and equity investments. These investments are valued based on NAVs or their equivalents, adjusted for capital calls and distributions, reported by the respective general partners. The terms of the partnerships range from seven to ten or more years, and investors do not have the option to redeem their interests in these partnerships. As of December 31, 2019, unfunded commitments to private partnerships were \$412 million.

Management reviews independently appraised values, audited financial statements, and additional pricing information to evaluate the net asset values. For the very limited group of investments for which market quotations are not readily available or for which the above valuation procedures are deemed not to reflect fair value, additional information is obtained from the investment manager and evaluated internally to determine whether any adjustments are required to reflect fair value.

The Company might be unable to quickly liquidate some assets at amounts close or equal to fair value in order to meet the plans’ liquidity requirements or respond to specific events, such as the creditworthiness of any particular issuer or counterparty. Illiquid assets are generally long-term investments that complement the long-term nature of the Company’s pension obligations and are generally not used to fund benefit payments in the short term. Management monitors liquidity risk on an ongoing basis and has procedures designed to maintain adequate liquidity for plan requirements.

The master trust has considerable investments in fixed income securities for which changes in the relevant interest rate of a particular instrument might result in the inability to secure similar returns upon the maturity or sale. Changes in prevailing interest rates might result in an increase or decrease in fair value of the instrument. Investment managers are permitted to use interest rate swaps and other financial derivatives to manage interest rate and credit risks.

Counterparty risk is the risk that a counterparty to a financial instrument held by the master trust will default on its commitment. Counterparty risk is generally related to over-the-counter derivative instruments used to manage risk exposure to interest rates on long-term debt securities. Certain agreements with counterparties employ set-off agreements, collateral support arrangements, and other risk mitigation practices designed to reduce the net credit risk exposure in the event of a counterparty default. The Company has credit policies and processes, which manage concentrations of risk by seeking to undertake transactions with large well-capitalized counterparties and by monitoring the creditworthiness of these counterparties.

Certain investments that are measured at fair value using NAV per share (or its equivalent) as a practical expedient are not required to be categorized in the fair value hierarchy table. The total fair value of these investments is included in the table below to permit reconciliation of the fair value hierarchy to amounts presented in the funded status table above.

(\$ in millions)	December 31, 2019			
	Total	Level 1	Level 2	Level 3
Plan assets subject to leveling				
U.S. and international equities	\$ 1,735	\$ 1,735	\$ —	\$ —
Government and agency debt securities	859	—	859	—
Corporate and other debt securities	1,367	—	1,367	—
Group annuity contract	3	—	3	—
Cash and cash equivalents, net	85	25	60	—
Net plan assets subject to leveling	\$ 4,049	\$ 1,760	\$ 2,289	\$ —
Plan assets not subject to leveling				
U.S. and international equities (a)	1,701			
Corporate and other debt securities	115			
Real estate investments	315			
Private partnerships	88			
Hedge funds	307			
Cash and cash equivalents, net (b)	158			
Total plan assets not subject to leveling	2,684			
Net plan assets	\$ 6,733			

(a) U.S. and international equity securities include investments in small, medium, and large capitalization stocks of public companies held in commingled trust funds.

(b) Cash and cash equivalents are liquid short-term investment funds and include net receivables and payables of the trust. These funds are available for immediate use to fund daily operations, execute investment policies, and serve as a temporary investment vehicle.

(\$ in millions)	December 31, 2018			
	Total	Level 1	Level 2	Level 3
Plan assets subject to leveling				
U.S. and international equities	\$ 1,174	\$ 1,174	\$ —	\$ —
Government and agency debt securities	433	—	433	—
Corporate and other debt securities	1,265	—	1,265	—
Group annuity contract	3	—	3	—
Cash and cash equivalents, net	—	—	—	—
Net plan assets subject to leveling	\$ 2,875	\$ 1,174	\$ 1,701	\$ —
Plan assets not subject to leveling				
U.S. and international equities (a)	1,910			
Corporate and other debt securities	193			
Real estate investments	302			
Private partnerships	48			
Hedge funds	287			
Cash and cash equivalents, net (b)	111			
Total plan assets not subject to leveling	2,851			
Net plan assets	\$ 5,726			

(a) U.S. and international equity securities include investments in small, medium, and large capitalization stocks of public companies held in commingled trust funds.

(b) Cash and cash equivalents are liquid short-term investment funds and include net receivables and payables of the trust. These funds are available for immediate use to fund daily operations, execute investment policies, and serve as a temporary investment vehicle.

The master trust limits the use of derivatives through direct or separate account investments, such that the derivatives used are liquid and able to be readily valued in the market. Derivative usage in separate account structures is primarily for gaining market exposure in an unlevered manner or hedging investment risks. The fair market value of the pension master trust's derivatives through direct or separate account investments resulted in net assets of approximately \$8 million and \$4 million as of December 31, 2019 and 2018, respectively.

There was no activity attributable to Level 3 retirement plan assets during the years ended December 31, 2019 and 2018.

20. STOCK COMPENSATION PLANS

As of December 31, 2019, HII had stock-based compensation awards outstanding under the following plans: the Huntington Ingalls Industries, Inc. 2011 Long-Term Incentive Stock Plan (the "2011 Plan") and the Huntington Ingalls Industries, Inc. 2012 Long-Term Incentive Stock Plan (the "2012 Plan").

Stock Compensation Plans

On March 23, 2012, the Company's board of directors adopted the 2012 Plan, subject to stockholder approval, and the Company's stockholders approved the 2012 Plan on May 2, 2012. Award grants made on or after May 2, 2012, were made under the 2012 Plan. Award grants made prior to May 2, 2012, were made under the 2011 Plan. No future grants will be made under the 2011 Plan.

The 2012 Plan permits awards of stock options, stock appreciation rights, and other stock awards. Each stock option grant is made with an exercise price of not less than 100% of the closing price of HII's common stock on the date of grant. Stock awards, in the form of RPSRs, restricted stock rights ("RSRs"), and stock rights, are granted to key employees and members of the board of directors without payment to the Company. The 2012 Plan authorized (i) 3.4 million new shares; plus (ii) any shares subject to outstanding awards under the 2011 Plan that were subsequently forfeited to the Company; plus (iii) any shares subject to outstanding awards under the 2011 Plan that were subsequently exchanged by the participant as full or partial payment to the Company in connection with any such award or exchanged by a participant or withheld by the Company to satisfy the tax withholding obligations related to any such award. As of December 31, 2019, the remaining aggregate number of shares of the Company's common stock authorized for issuance under the 2012 Plan was 3.9 million.

The 2011 Plan permitted the awards of stock options and other stock awards. Each stock option grant was made with an exercise price of not less than 100% of the closing price of HII's common stock on the date of grant, with the exception of stock options issued at the time of the spin-off in exchange for Northrop Grumman stock options. Stock awards, in the form of stock rights, were granted to members of the board of directors without payment to the Company.

Stock Awards

Stock awards include RPSRs, RSRs, and stock rights. The fair value of stock awards is determined based on the closing market price of the Company's common stock on the grant date. Compensation expense for stock awards is measured based on the grant date fair value and recognized over the vesting period, generally three years.

For purposes of measuring compensation expense, the amount of shares ultimately expected to vest is estimated at each reporting date based on management's expectations regarding the relevant service or performance criteria.

The Company issued the following stock awards in the years ended December 31, 2019, 2018, and 2017:

Restricted Performance Stock Rights - For the year ended December 31, 2019, the Company granted approximately 0.1 million RPSRs at a weighted average share price of \$210.24. These rights are subject to cliff vesting on December 31, 2021. For the year ended December 31, 2018, the Company granted approximately 0.1 million RPSRs at a weighted average share price of \$ 261.88. These rights are subject to cliff vesting on December 31, 2020. For the year ended December 31, 2017, the Company granted approximately 0.1 million RPSRs at a weighted average share price of \$218.54. These rights were fully vested as of December 31, 2019. All of the RPSRs are subject to the achievement of performance-based targets at the end of the respective vesting periods and will ultimately vest between 0% and 200% of grant date value.

Restricted Stock Rights - Retention stock awards are granted to key employees primarily to ensure business continuity. In 2019, no retention stock awards were granted. In 2018, the Company granted approximately 2,900 RSRs at a weighted average share price of \$ 225.68, with cliff vesting two to three years from the grant date. In 2017, the Company granted approximately 3,100 RSRs at a weighted average share price of \$ 188.13, with cliff vesting two years from the grant date. As of December 31, 2019, approximately 1,500 of these RSRs were outstanding.

For the year ended December 31, 2019, 0.3 million stock awards vested, of which approximately 0.1 million were transferred to the Company from employees in satisfaction of minimum tax withholding obligations. For the year ended December 31, 2018, 0.2 million stock awards vested, of which approximately 0.1 million were transferred to the Company from employees in satisfaction of minimum tax withholding obligations. For the year ended December 31, 2017, 0.4 million stock awards vested, of which approximately 0.2 million were transferred to the Company from employees in satisfaction of minimum tax withholding obligations.

Stock Rights and Stock Issuances - The Company granted stock rights to its non-employee directors on a quarterly basis in 2019, with each grant less than 10,000 shares. All stock rights granted to non-employee directors are fully vested on the grant date. If a non-employee director has met certain stock ownership guidelines, the non-employee director may elect under the terms of the Directors' Compensation Policy and Board Deferred Compensation Policy to receive their annual equity award for the following calendar year in the form of either shares of the Company's common stock or stock units that are payable in the fifth calendar year after the year in which the annual equity award is earned, or, if earlier, upon termination of the director's board service.

Non-employee directors may also elect to receive their annual cash retainers in the form of stock units that become payable upon termination of the director's board service. Non-employee directors who elect to receive their annual cash retainers in the form of stock units and have met their stock ownership guidelines may elect under the terms of the Directors' Compensation Policy and Board Deferred Compensation Policy to receive stock units for the following calendar year that are payable in the fifth calendar year after the year in which the stock units are earned, or, if earlier, upon termination of the director's board service.

Stock award activity for the years ended December 31, 2019, 2018, and 2017, was as follows:

	Stock Awards (in thousands)	Weighted-Average Grant Date Fair Value	Weighted Average Remaining Contractual Term
Outstanding as of December 31, 2016	578	\$ 113.95	0.8 years
Granted	109	217.02	
Adjustment due to performance	163	97.00	
Vested	(387)	97.00	
Forfeited	(14)	154.75	
Outstanding as of December 31, 2017	449	147.13	0.8 years
Granted	99	259.62	
Adjustment due to performance	98	142.85	
Vested	(235)	142.85	
Forfeited	(12)	218.50	
Outstanding as of December 31, 2018	399	174.07	0.7 years
Granted	132	210.16	
Adjustment due to performance	114	135.86	
Vested	(265)	135.86	
Forfeited	(6)	232.60	
Outstanding as of December 31, 2019	374	\$ 201.92	0.9 years

Vested awards include stock awards that fully vested during the year based on the level of achievement of the relevant performance goals. The performance goals for outstanding RPSRs granted in 2019 are based on three metrics as defined in the grant agreements: earnings before interest, taxes, depreciation, amortization, and pension ("EBITDAP"), weighted at 40%, pension-adjusted return on invested capital ("ROIC"), weighted at 40%, and relative EBITDAP growth, weighted at 20%. The Company's EBITDAP growth will be measured against EBITDAP growth of the S&P Aerospace and Defense Select Index. The performance goals for outstanding RPSRs granted in 2018 and 2017 are based on EBITDAP and ROIC, each weighted at 50%.

Stock Options

Effect of the Spin-Off - Prior to the spin-off from Northrop Grumman, Hill's current and former employees received stock options under Northrop Grumman's stock-based award plans (the "Northrop Grumman Plan"). As of the date of the spin-off, the stock options under the Northrop Grumman Plan were converted to stock options under the 2011 Plan. The conversion was effected so that the outstanding stock options held by the Company's current and former employees on the distribution date were adjusted to reflect the value of the distribution, such that the intrinsic value of the stock options was not diluted at the time of, and due to, the separation. This was achieved using the conversion rate included in the spin-off agreement. Unless otherwise stated, share amounts and share prices detailed below were retroactively adjusted to reflect the impact of the conversion. The Company measured the fair value of the stock options immediately before and after the conversion, and there was no incremental compensation expense associated with the conversion.

The following is a description of the Northrop Grumman Plan stock options, which were converted into stock options under the 2011 Plan.

Converted Stock Options - As of the date of the spin-off, outstanding stock options held by HII's current and former employees under the Northrop Grumman Plan were converted to stock options of HII under the 2011 Plan. Based on the conversion factor of 1.65, included in the spin-off agreement, approximately 1.0 million stock options under the Northrop Grumman Plan were converted into approximately 1.6 million stock options under the 2011 Plan, approximately 1.4 million of which were fully vested at the time of conversion. Outstanding stock options granted prior to 2008 generally vested in 25% increments over four years from the grant date and expired ten years after the grant date. Stock options granted in 2008 and later vested in 33% increments over three years from the grant date and expired seven years after the grant date. The cumulative intrinsic value of the stock options at conversion was maintained in the conversion, and totaled \$15 million at March 31, 2011.

Compensation expense for the outstanding converted stock options was determined at the time of grant by Northrop Grumman. No stock options were granted during the years ended December 31, 2019, 2018, and 2017. The fair value of the stock options was expensed on a straight-line basis over the vesting period of the options. The fair value of each of the stock options was estimated on the date of grant using a Black-Scholes option pricing model.

The stock option activity for the years ended December 31, 2019, 2018, and 2017, was as follows:

	Shares Under Option (in thousands)	Weighted- Average Exercise Price	Weighted- Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (\$ in millions)
Outstanding as of December 31, 2016	262	\$ 37.73	0.1 years	\$ 38
Exercised	(262)	37.73		
Outstanding as of December 31, 2017	—	—		
Outstanding as of December 31, 2018	—	—		—
Outstanding as of December 31, 2019	—	\$ —		\$ —
Vested as of December 31, 2019	—	\$ —		\$ —

The intrinsic value of stock options exercised during the year ended December 31, 2017, was \$ 43 million. Intrinsic value was measured using the fair market value at the date of exercise for stock options exercised or at period end for outstanding stock options, less the applicable exercise price. The Company issued new shares to satisfy exercised stock options.

Compensation Expense

The Company recorded \$30 million, \$36 million, and \$34 million of expense related to stock awards for the years ended December 31, 2019, 2018, and 2017, respectively. The Company recorded \$6 million, \$8 million, and \$9 million (net of impact of reduction in statutory federal corporate income tax rate) as tax benefits related to stock awards for the years ended December 31, 2019, 2018, and 2017, respectively.

The Company recognized tax benefits for the years ended December 31, 2019, 2018, and 2017, of \$ 11 million, \$16 million, and \$28 million, respectively, from the issuance of stock in settlement of stock awards, and \$17 million for the year ended December 31, 2017, from the exercise of stock options. All outstanding stock options were exercised as of December 31, 2017. Accordingly, there were no tax benefits associated with the exercise of stock options in 2018 and 2019.

Unrecognized Compensation Expense

As of December 31, 2019, the Company had less than \$ 1 million of unrecognized compensation expense associated with RSRs granted in 2018, which will be recognized over a weighted average period of 1.1 years, and \$28 million of unrecognized expense associated with RPSRs granted in 2019 and 2018, which will be recognized over a weighted average period of 1.1 years. As of December 31, 2019, the Company had no unrecognized compensation expense related to stock options.

21. UNAUDITED SELECTED QUARTERLY DATA

Unaudited quarterly financial results for the years ended December 31, 2019 and 2018, are set forth in the following tables:

(\$ in millions, except per share amounts)	Year Ended December 31, 2019			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr ⁽¹⁾
Sales and service revenues	\$ 2,080	\$ 2,188	\$ 2,219	\$ 2,412
Operating income	161	175	214	186
Earnings before income taxes	149	164	198	172
Net earnings	118	128	154	149
Dividends declared per share	\$ 0.86	\$ 0.86	\$ 0.86	\$ 1.03
Basic earnings per share	\$ 2.85	\$ 3.07	\$ 3.74	\$ 3.62
Diluted earnings per share	\$ 2.85	\$ 3.07	\$ 3.74	\$ 3.61

⁽¹⁾ In the fourth quarter of 2019, the Company recorded a \$ 29 million goodwill impairment charge.

(\$ in millions, except per share amounts)	Year Ended December 31, 2018			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Sales and service revenues	\$ 1,874	\$ 2,020	\$ 2,083	\$ 2,199
Operating income	191	257	290	213
Earnings before income taxes	195	262	295	219
Net earnings	156	239	229	212
Dividends declared per share	\$ 0.72	\$ 0.72	\$ 0.72	\$ 0.86
Basic earnings per share	\$ 3.48	\$ 5.41	\$ 5.29	\$ 4.96
Diluted earnings per share	\$ 3.48	\$ 5.40	\$ 5.29	\$ 4.94

22. SUBSIDIARY GUARANTORS

As described in Note 15: Debt, the Company issued senior notes through the consolidating parent company, HII. Performance of the Company's obligations under its senior notes outstanding as of December 31, 2019, including any repurchase obligations resulting from a change of control, is fully and unconditionally guaranteed, jointly and severally, on an unsecured basis, by each of HII's existing and future material domestic subsidiaries ("Subsidiary Guarantors"). The Subsidiary Guarantors are 100% owned by HII. Under SEC Regulation S-X Rule 3-10, each HII subsidiary that did not provide a guarantee ("Non-Guarantors") is minor and HII, as the parent company issuer, did not have independent assets or operations. There are no significant restrictions on the ability of the parent company and the Subsidiary Guarantors to obtain funds from their respective subsidiaries by dividend or loan, except those imposed by applicable law.

23. SUBSEQUENT EVENT

On February 4, 2020, the Company entered into an agreement with KONGSBERG Gruppen ASA ("Kongsberg") to acquire Hydroid, Inc. ("Hydroid"), a leading provider of advanced marine robotics to the defense and maritime markets, for approximately \$350 million of cash, subject to certain adjustments. HII and Kongsberg expect to make a joint election under Section 338(h)(10) of the Internal Revenue Code, which treats the transaction as an asset purchase for tax purposes. This election would generate a cash tax benefit to the Company with an estimated net present value of \$50 million. In conjunction with the transaction, HII and Kongsberg Maritime AS are establishing a strategic alliance to jointly market naval and maritime products and services to the U.S. government market and potentially to global markets. Hydroid, based in Pocasset, Massachusetts, will become part of HII's Technical Solutions segment. The acquisition of Hydroid expands HII capabilities in the strategically important and rapidly growing autonomous and unmanned maritime systems market. The transaction is subject to regulatory approval and customary closing conditions and is expected to close in the first quarter of 2020. The Company's financial results will not include Hydroid's results until the acquisition is closed.

On February 11, 2020, the Company entered into an agreement to contribute its San Diego Shipyard to Titan Acquisition Holdings, L.P. ("Titan") in exchange for a minority interest in Titan, a joint venture comprised of Vigor

Industrial LLC and MHI Holdings, LLC. The addition of the San Diego Shipyard will expand Titan's ship repair and complex fabrication business with critical mass, expanded capabilities, and strategically located facilities. The transaction is subject to customary closing conditions and is expected to close in the second quarter of 2020.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

The Company's management, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of December 31, 2019. Based on that evaluation, the Company's Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2019, the Company's disclosure controls and procedures were effective to ensure that information required to be disclosed in reports the Company files or submits under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (ii) accumulated and communicated to management to allow their timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

During the three months ended December 31, 2019, no change occurred in the Company's internal control over financial reporting that materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. In order to evaluate the effectiveness of internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act, management has conducted an assessment, including testing, using the criteria in *Internal Control – Integrated Framework (2013)*, issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). The Company's system of internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on its assessment, management has concluded that the Company maintained effective internal control over financial reporting as of December 31, 2019, based on criteria in *Internal Control – Integrated Framework (2013)*, issued by the COSO. The effectiveness of the Company's internal control over financial reporting as of December 31, 2019, has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is included in Item 8.

/s/ C. Michael Petters

C. Michael Petters

President and Chief Executive Officer

/s/ Christopher D. Kastner

Christopher D. Kastner

Executive Vice President and Chief Financial Officer

ITEM 9B. OTHER INFORMATION

None.

PART III**ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE****Directors**

Information regarding our directors will be incorporated herein by reference to the Proxy Statement for our 2020 Annual Meeting of Stockholders, to be filed with the SEC within 120 days after the end of the Company's fiscal year.

Information about our Executive Officers

The following table sets forth certain information as of February 7, 2020, concerning our executive officers, including a five-year employment history.

Name	Age	Position(s)
C. Michael Petters	60	President and Chief Executive Officer
Bharat B. Amin	65	Executive Vice President and Chief Information Officer
Jennifer R. Boykin	55	Executive Vice President and President, Newport News Shipbuilding
Brian J. Cuccias	63	Executive Vice President and President, Ingalls Shipbuilding
Jerri F. Dickseski	57	Executive Vice President, Communications
William R. Ermatinger	56	Executive Vice President and Chief Human Resources Officer
Edgar A. Green III	54	Executive Vice President and President, Technical Solutions
Christopher D. Kastner	56	Executive Vice President and Chief Financial Officer
Nicolas G. Schuck	46	Corporate Vice President, Controller and Chief Accounting Officer
D. Scott Stabler II	60	Executive Vice President, Chief Transformation Officer
Mitchell B. Waldman	59	Executive Vice President, Government and Customer Relations
Kellye L. Walker	53	Executive Vice President and Chief Legal Officer
D. R. Wyatt	61	Corporate Vice President and Treasurer

C. Michael Petters, President and Chief Executive Officer - Mr. Petters has been our President and Chief Executive Officer since March 2011. Prior to that and from 2008, Mr. Petters was President of Northrop Grumman Shipbuilding ("NGSB"). Before that and from 2004, he was President of Northrop Grumman Newport News. Since joining Newport News Shipbuilding and Dry Dock Company in 1987, Mr. Petters' responsibilities have included oversight of the *Virginia*-class submarine program, the nuclear-powered aircraft carrier programs, aircraft carrier refueling and overhaul, submarine fleet maintenance, commercial and naval ship repair, human resources and business and technology development. Mr. Petters holds a B.S. in Physics from the U.S. Naval Academy and an M.B.A. from the College of William and Mary.

Bharat B. Amin, Executive Vice President and Chief Information Officer - Mr. Amin was appointed Executive Vice President and Chief Information Officer in January 2020. Prior to that and from December 2014, he was Vice President and Chief Information Officer for Newport News Shipbuilding. Prior to that, he held various leadership positions at BAE Systems Inc., including Business Technology Officer and Vice President and CIO of the Global Land and Armament Sector. Mr. Amin also held leadership positions in IT and Engineering as Corporate Director--Computer Integrated Manufacturing, IT Director and Senior Industrial Engineer. He holds a B.S. in Mechanical Engineering from Maharaja Sayajirao University, India, as well as a M.S. in Industrial Engineering and an Executive M.B.A. in International Business and Finance from Rutgers University.

Jennifer R. Boykin, Executive Vice President and President, Newport News Shipbuilding - Ms. Boykin was elected Executive Vice President and President, Newport News Shipbuilding effective July 2017. From 2012 until she assumed her current position, Ms. Boykin was Vice President, Engineering and Design for Newport News Shipbuilding. Since joining Newport News Shipbuilding in the Nuclear Division in 1987, Ms. Boykin has had a variety of responsibilities, including serving as Vice President of Quality and Process Excellence, Director of Facilities and Waterfront Support, and program manager for the Nuclear Engineering Division. Ms. Boykin also served as a construction superintendent for the aircraft carrier program during construction of USS *John C. Stennis* and

USS *Harry S. Truman*. Ms. Boykin holds a B.S. in Marine Engineering from the U.S. Merchant Marine Academy and a Master's Degree in Engineering Management from The George Washington University.

Brian J. Cuccias, Executive Vice President and President, Ingalls Shipbuilding - Mr. Cuccias has been Executive Vice President and President, Ingalls Shipbuilding, since April 2014. Prior to that and from February 2011, he served in several different positions at our Ingalls Shipbuilding segment, including Vice President, Program Management, Vice President, Amphibious Ship Programs, and Vice President, Large Deck Amphibious Ships. From 2008 to February 2011, Mr. Cuccias was Vice President, Surface Combatants for NGSB. After joining a predecessor of Northrop Grumman in 1979, he held a variety of positions, including assistant to the group vice president of Avondale Industries, sector vice president, material for Northrop Grumman Ship Systems, and DDG(X) and DDG 1000 program manager and vice president. Mr. Cuccias holds a B.S. in Accounting from the University of South Alabama.

Jerri F. Dickeski, Executive Vice President, Communications - Ms. Dickeski has been Executive Vice President, Communications since March 2011. In this position, she is responsible for our communications strategy and execution. From 2008 to 2011, Ms. Dickeski served as Sector Vice President of Communications for NGSB. From 2001 to 2008, she was Director of Communications at Northrop Grumman Newport News. She joined Newport News Shipbuilding Inc. in 1991. Ms. Dickeski holds both a B.A. and an M.A. in English from Old Dominion University.

William R. Ermatinger, Executive Vice President and Chief Human Resources Officer - Mr. Ermatinger has been Executive Vice President and Chief Human Resources Officer since March 2011. Prior to that and from 2008, Mr. Ermatinger was Sector Vice President of Human Resources and Administration for NGSB. In that position, he was responsible for all NGSB human resources and administration activities. Since joining a predecessor of Northrop Grumman in 1987, Mr. Ermatinger has held several human resources management positions with increasing responsibility, including Vice President of Human Resources and Administration of Northrop Grumman Newport News. Mr. Ermatinger holds a B.A. in Political Science from the University of Maryland Baltimore County.

Edgar A. Green III, Executive Vice President and President, Technical Solutions - Mr. Green was appointed Executive Vice President and President, Technical Solutions in December 2016. Prior to that and from January 2015, he served as Corporate Vice President, Corporate Development. From January 2013 to January 2015, Mr. Green served as Vice President, Component Manufacturing, for Newport News Shipbuilding, and, from March 2011 to January 2013, he served as Corporate Vice President, Investor Relations, of HII. Prior to joining HII in 2011, Mr. Green served as Vice President of Investor Relations at Celanese Corp. Before that he was an investment banker and research analyst at Wells Fargo, where he covered the defense and aerospace industry, and a manufacturing plant engineer and maintenance manager at Eaton Corp.'s Truck Components Division. Mr. Green also served as a U.S. Navy nuclear submarine officer. He holds a B.S. in Systems Engineering from the U.S. Naval Academy and an M.B.A. from Duke University.

Christopher D. Kastner, Executive Vice President and Chief Financial Officer - Mr. Kastner was elected Executive Vice President and Chief Financial Officer effective March 2016. From August 2012 until he assumed his current position, Mr. Kastner served as Corporate Vice President and General Manager, Corporate Development. Prior to that and from March 2011, he served as Vice President and Chief Financial Officer of our Ingalls Shipbuilding segment. Before that and from 2008, Mr. Kastner served as Vice President, Business Management and Chief Financial Officer of NGSB, Gulf Coast, and served as Vice President, Contracts and Risk Management of Northrop Grumman Ship Systems from 2006 to 2008. Prior to that, he held several positions at other Northrop Grumman businesses, including Corporate Director of Strategic Transactions. Mr. Kastner holds a B.A. in Political Science from the University of California at Santa Barbara and an M.B.A. from Pepperdine University.

Nicolas G. Schuck, Corporate Vice President, Controller and Chief Accounting Officer - Mr. Schuck was appointed Corporate Vice President, Controller and Chief Accounting Officer effective August 2015. Prior to that, he was Assistant Controller at our Newport News Shipbuilding division. Prior to that and since joining us in January 2012, he served as Corporate Assistant Controller. From December 2009 until December 2011, Mr. Schuck served as Director, Finance at ManTech International Corporation, a provider of technologies and solutions for national security programs for the intelligence community and other U.S. federal government customers. Prior to that, he worked for PricewaterhouseCoopers and Arthur Andersen. Mr. Schuck attended the National Institute of Economics and Accounting in Paris. He holds a Bachelor's Degree and a Master's Degree in Accounting and Finance and is a certified public accountant.

D. Scott Stabler II, Executive Vice President and Chief Transformation Officer - Mr. Stabler has been Executive Vice President and Chief Transformation Officer since February 2018. In this position, he coordinates with our operating segments to assess and facilitate implementation of a transformative business model and process changes to meet rapidly evolving customer demand. Prior to his current position and from January 2013, Mr. Stabler served as Corporate Vice President, Internal Audit. From March 2011 to January 2013, he served as Corporate Vice President, Corporate Operations. Prior to that and after joining Newport News Shipbuilding in 1984, Mr. Stabler held various positions of increasing responsibility in the areas of engineering, purchasing, business development, and program management. He holds a B.S. in Engineering from North Carolina State and an M.B.A. from the College of William and Mary.

Mitchell B. Waldman, Executive Vice President, Government and Customer Relations - Mr. Waldman has been Executive Vice President, Government and Customer Relations since March 2011. In this position, he is responsible for the development and management of our government and customer affairs programs. From 2009 to 2011, Mr. Waldman served as Vice President of Business Development of Advanced Programs and Technology for Northrop Grumman's Aerospace Systems sector. Prior to that position, he served as Northrop Grumman's Corporate Director for Acquisition Policy from 2008. From 2003 to 2008, Mr. Waldman served as National Security Advisor for former Sen. Trent Lott. Prior to that, he held various senior executive positions within the Department of the Navy, including Deputy Assistant Secretary of the Navy (Ships). He holds a B.S. in Mechanical Engineering from the University of Florida and a J.D. from Catholic University.

Kellye L. Walker, Executive Vice President and Chief Legal Officer - Ms. Walker was elected Executive Vice President and Chief Legal Officer effective January 2015. In this position, she has overall leadership responsibility for our law department and outside counsel. Prior to joining us, Ms. Walker was with American Water Works Company, Inc., serving as Chief Administrative Officer, General Counsel and Secretary from September 2010 through May 2014. She served as their Senior Vice President, General Counsel and Secretary from January 2010 through January 2015. From February 2007 to June 2009, Ms. Walker served as Senior Vice President and General Counsel of Diageo North America, Inc., the largest operating company of Diageo plc. From February 2003 to December 2006, she served as Senior Vice President, General Counsel and Secretary of BJ's Wholesale Club, Inc., a leading warehouse club operator. Ms. Walker also served as a partner with the law firm of Hill & Barlow in Boston, Massachusetts, and as a partner and/or associate with the law firms of Chaffe, McCall, Phillips, Toler & Sarpy in New Orleans, Louisiana, and Boulton, Cummings, Connors & Berry in Nashville, Tennessee. Ms. Walker holds a B.S. in Business Administration, Marketing from Louisiana Tech University and a J.D. from Emory University School of Law.

D. R. Wyatt, Corporate Vice President and Treasurer - Mr. Wyatt has been Corporate Vice President and Treasurer since March 2011. Prior to that, he was Director of Business Management at NGSB where he was responsible for aircraft carriers, carrier fleet support, and energy business. Prior to his appointment as Director of Business Management, Mr. Wyatt served as Treasurer of Newport News Shipbuilding Inc., Assistant Treasurer and Manager of Finance, and has held various positions in the financial area, including cost estimating, cost control, accounting, financial analysis, and government accounting. He has extensive Treasury experience, including responsibility for corporate finance, cash management, risk management and all financings, capital structure, capital market interface, rating agency relationships, cash and financial forecasting, working capital management, short term investments, strategic transactions, pension asset management, and insurance and loss control. Mr. Wyatt holds a B.S. in Economics from Hampden-Sydney College and an M.B.A. from Old Dominion University.

Audit Committee Financial Expert

Information as to the Audit Committee and the Audit Committee Financial Expert will be incorporated herein by reference to the Proxy Statement for our 2020 Annual Meeting of Stockholders, to be filed within 120 days after the end of the Company's fiscal year.

Code of Ethics

We have adopted a Code of Ethics and Business Conduct for all of our employees, including the principal executive officer, principal financial officer, and principal accounting officer. The Code of Ethics and Business Conduct can be found on our internet website at www.huntingtoningalls.com under "Investor Relations—Company Information—Leadership and Governance." A copy of the Code of Ethics and Business Conduct is available to any stockholder who requests it by writing to: Huntington Ingalls Industries, Inc., c/o Office of the Secretary, 4101 Washington

Avenue, Newport News, VA 23607. If we make any substantive amendments to the Code of Ethics and Business Conduct or grant any waivers, including any implicit waiver, from a provision of the Code of Ethics and Business Conduct, in each case as it relates to any provision of the Code of Ethics and Business Conduct specified in applicable SEC rules or stock exchange rules, to our Chief Executive Officer, Chief Financial Officer, or Chief Accounting Officer, we will disclose the nature of the amendment or waiver on our website.

Our website and information contained on our website or incorporated into our website are not intended to be incorporated into this report on Form 10-K or other filings with the SEC.

Other Disclosures

Other disclosures required by this Item will be incorporated herein by reference to the Proxy Statement for our 2020 Annual Meeting of Stockholders, to be filed within 120 days after the end of the Company's fiscal year.

ITEM 11. EXECUTIVE COMPENSATION

Information concerning executive compensation, including information concerning compensation committee interlocks, insider participation, and the compensation committee report, will be incorporated herein by reference to the Proxy Statement for our 2020 Annual Meeting of Stockholders, to be filed within 120 days after the end of the Company's fiscal year.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information as to security ownership of certain beneficial owners and management and related stockholder matters will be incorporated herein by reference to the Proxy Statement for our 2020 Annual Meeting of Stockholders, to be filed within 120 days after the end of the Company's fiscal year.

Equity Compensation Plan Information

The following table provides information regarding the equity securities available for issuance under our equity compensation plans as of December 31, 2019.

Equity Compensation Plan Information			
Plan category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights⁽¹⁾	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders	373,790	\$0.00	3,862,196
Equity compensation plans not approved by security holders ⁽²⁾	—	—	—
Total	373,790	\$0.00	3,862,196

⁽¹⁾ Includes grants made under the Huntington Ingalls Industries, Inc. 2012 Long-Term Incentive Stock Plan (the "2012 Plan"), which was approved by our stockholders on May 2, 2012, and the Huntington Ingalls Industries, Inc. 2011 Long-Term Incentive Stock Plan (the "2011 Plan"), which was approved by the sole stockholder of HII prior to its spin-off from Northrop Grumman Corporation. Of these shares, 27,123 were stock rights granted under the 2011 Plan. In addition, this number includes 36,864 stock rights, 1,510 restricted stock rights, and 308,293 restricted performance stock rights granted under the 2012 Plan, assuming target performance achievement.

⁽²⁾ There are no awards made under plans not approved by security holders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information as to certain relationships and related transactions and director independence will be incorporated herein by reference to the Proxy Statement for our 2020 Annual Meeting of Stockholders, to be filed within 120 days after the end of the Company's fiscal year.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information as to principal accountant fees and services will be incorporated herein by reference to the Proxy Statement for our 2020 Annual Meeting of Stockholders, to be filed within 120 days after the end of the Company's fiscal year.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) 1. Report of Independent Registered Public Accounting Firm

- Financial Statements
- Consolidated Statements of Operations and Comprehensive Income
- Consolidated Statements of Financial Position
- Consolidated Statements of Cash Flows
- Consolidated Statements of Changes in Equity
- Notes to Consolidated Financial Statements

2. Financial Statement Schedules

Schedule II - Valuation and Qualifying Accounts

All other schedules have been omitted because they are not applicable, not required, or the information has been otherwise supplied in the financial statements or notes to the financial statements.

SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS

	<u>Balance at Beginning of Period</u>	<u>(Benefits)/Charges to Income</u>	<u>Other</u>	<u>Balance at End of Period</u>
Year Ended December 31, 2017				
Valuation allowance for deferred tax assets	\$ 11	\$ 1	\$ —	\$ 12
Year Ended December 31, 2018				
Valuation allowance for deferred tax assets	12	—	—	12
Year Ended December 31, 2019				
Valuation allowance for deferred tax assets	\$ 12	\$ 3	\$ —	\$ 15

3. Exhibits

- 2.1 [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 \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 4, 2011\).](#)
- 3.1 [Restated Certificate of Incorporation of Huntington Ingalls Industries, Inc., filed March 30, 2011 \(incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on April 4, 2011\).](#)
- 3.2 [Certificate of Amendment to the Restated Certificate of Incorporation of Huntington Ingalls Industries, Inc., dated May 28, 2014 \(incorporated by reference to Exhibit 3.2 to the Company's Quarterly Report on Form 10-Q filed on August 7, 2014\).](#)
- 3.3 [Certificate of Amendment to the Restated Certificate of Incorporation of Huntington Ingalls Industries, Inc., dated May 21, 2015 \(incorporated by reference to Exhibit 3.3 to the Company's Quarterly Report on Form 10-Q filed on August 6, 2015\).](#)
- 3.4 [Restated Bylaws of Huntington Ingalls Industries, Inc. \(incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on February 1, 2016\).](#)
- 4.1 [Indenture, dated as of November 17, 2015, by and among Huntington Ingalls Industries, Inc., the guarantors party thereto, and The Bank of New York Mellon, as trustee \(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 17, 2015\).](#)

- 4.2 [First supplemental indenture, dated as of February 17, 2017, to the indenture, dated as of November 17, 2015, among Huntington Ingalls Industries, Inc., the guarantors party thereto, and The Bank of New York Mellon, as trustee \(incorporated by reference to Exhibit 4.2 to the Company's Quarterly Report on Form 10-Q filed November 8, 2017\).](#)
- 4.3 [Second supplemental indenture, dated as of August 27, 2019, to the indenture, dated as of November 17, 2015, among Huntington Ingalls Industries, Inc., the guarantors party thereto, and The Bank of New York Mellon, as trustee \(incorporated by reference to Exhibit 4.1 to the Company's Quarterly Report on Form 10-Q filed on November 7, 2019\).](#)
- 4.4 [Indenture, dated as of December 1, 2017, by and among Huntington Ingalls Industries, Inc., the guarantors party thereto, and Wells Fargo Bank, National Association, as trustee \(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on December 4, 2017\).](#)
- 4.5 [First supplemental indenture, dated as of August 27, 2019, to the indenture, dated as of December 1, 2017, among Huntington Ingalls Industries, Inc., the guarantors party thereto, and Wells Fargo Bank, National Association, as trustee \(incorporated by reference to Exhibit 4.2 to the Company's Quarterly Report on Form 10-Q filed on November 7, 2019\).](#)
- 4.6 [Description of Securities](#)
- 10.1 [Credit Agreement, dated as of November 22, 2017, among Huntington Ingalls Industries, Inc., as borrower, the lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent and an issuing bank, and certain other issuing banks \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 27, 2017\).](#)
- 10.2 [Form of Amended and Restated Indemnification Agreement and Schedule of directors and officers who have entered into such agreement \(incorporated by reference to Exhibit 10.2 to the Company's Annual Report on Form 10-K filed on February 19, 2015\).](#)
- 10.3 [Intellectual Property License Agreement, dated as of March 29, 2011, between Northrop Grumman Systems Corporation and Northrop Grumman Shipbuilding, Inc. \(incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed on April 4, 2011\).](#)
- 10.4 [Tax Matters Agreement, dated as of March 29, 2011, among Northrop Grumman Corporation \(formerly New P, Inc.\), Huntington Ingalls Industries, Inc. and Titan II Inc. \(formerly Northrop Grumman Corporation\) \(incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed on April 4, 2011\).](#)
- 10.5 [Loan Agreement, dated as of May 1, 1999, between Ingalls Shipbuilding, Inc. and the Mississippi Business Finance Corporation relating to the Economic Development Revenue Bonds \(Ingalls Shipbuilding, Inc. Project\) Taxable Series 1999A due 2024 \(incorporated by reference to Exhibit 10.6 to the Company's Amendment No. 1 to Registration Statement on Form 10 filed on November 24, 2010\).](#)
- 10.6 [Indenture of Trust, dated as of May 1, 1999, between the Mississippi Business Finance Corporation and the First National Bank of Chicago, as Trustee, relating to the Economic Development Revenue Bonds \(Ingalls Shipbuilding, Inc. Project\) Taxable Series 1999A due 2024 \(incorporated by reference to Exhibit 10.7 to the Company's Amendment No. 1 to Registration Statement on Form 10 filed on November 24, 2010\).](#)
- 10.7 [Loan Agreement, dated as of December 1, 2006, between Northrop Grumman Ship Systems, Inc. and the Mississippi Business Finance Corporation relating to the Gulf Opportunity Zone Industrial Development Revenue Bonds \(Northrop Grumman Ship Systems, Inc. Project\), Series 2006 due 2028 \(incorporated by reference to Exhibit 10.8 to the Company's Amendment No. 1 to Registration Statement on Form 10 filed on November 24, 2010\).](#)
- 10.8 [Trust Indenture, dated as of December 1, 2006, between the Mississippi Business Finance Corporation and The Bank of New York Trust Company, N.A., as Trustee, relating to the Gulf Opportunity Zone Industrial Development Revenue Bonds \(Northrop Grumman Ship Systems, Inc. Project\), Series 2006 due 2028 \(incorporated by reference to Exhibit 10.9 to the Company's Amendment No. 1 to Registration Statement on Form 10 filed on November 24, 2010\).](#)

- 10.9 [Guaranty Agreement, dated as of May 1, 1999, between Litton Industries, Inc. and The First National Bank of Chicago, as Trustee \(incorporated by reference to Exhibit 10.10 to the Company's Amendment No. 2 to Registration Statement on Form 10 filed on December 21, 2010\).](#)
- 10.10 [Assumption of Guaranty of Litton Industries, Inc., dated as of January 1, 2003, by Northrop Grumman Systems Corporation \(incorporated by reference to Exhibit 10.11 to the Company's Amendment No. 2 to Registration Statement on Form 10 filed on December 21, 2010\).](#)
- 10.11 [Guaranty Agreement, dated as of December 1, 2006, between Northrop Grumman Corporation and The Bank of New York Trust Company, N.A., as Trustee \(incorporated by reference to Exhibit 10.12 to the Company's Amendment No. 2 to Registration Statement on Form 10 filed on December 21, 2010\).](#)
- 10.12 [Performance and Indemnity Agreement, dated as of March 30, 2011, between Huntington Ingalls Industries, Inc. and Titan II Inc. \(formerly Northrop Grumman Corporation\) relating to the Gulf Opportunity Zone Industrial Development Revenue Bonds \(incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed on May 11, 2011\).](#)
- 10.13 [Performance and Indemnity Agreement, dated as of March 30, 2011, between Huntington Ingalls Industries, Inc. and Titan II Inc. \(formerly Northrop Grumman Corporation\) relating to certain performance guarantees associated with certain U.S. Navy shipbuilding contracts \(incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q filed on May 11, 2011\).](#)
- 10.14 [Ingalls Guaranty Performance, Indemnity and Termination Agreement, dated as of March 29, 2011, among Huntington Ingalls Industries, Inc., Northrop Grumman Systems Corporation and Northrop Grumman Shipbuilding, Inc. \(incorporated by reference to Exhibit 10.8 to the Company's Quarterly Report on Form 10-Q filed on May 11, 2011\).](#)
- 10.15* [Huntington Ingalls Industries Supplemental Plan 2 \(incorporated by reference to Exhibit 10.16 to the Company's Amendment No. 4 to Registration Statement on Form 10 filed on January 18, 2011\) and Amendment to Appendix G to the plan.](#)
- 10.16* [Second Amendment to Appendix G to Huntington Ingalls Industries Supplemental Plan 2-Officers Supplemental Executive Retirement Plan, as amended January 7, 2015 \(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 19, 2018\).](#)
- 10.17* [Huntington Ingalls Industries ERISA Supplemental Plan \(incorporated by reference to Exhibit 10.17 to the Company's Amendment No. 4 to Registration Statement on Form 10 filed on January 18, 2011\).](#)
- 10.18* [Severance Plan for Elected and Appointed Officers of Huntington Ingalls Industries, as amended and restated effective January 1, 2019 \(incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on December 19, 2018\).](#)
- 10.19* [Huntington Ingalls Industries Deferred Compensation Plan \(incorporated by reference to Exhibit 10.19 to the Company's Amendment No. 4 to Registration Statement on Form 10 filed on January 18, 2011\).](#)
- 10.20* [Huntington Ingalls Industries Savings Excess Plan \(incorporated by reference to Exhibit 10.20 to the Company's Amendment No. 4 to Registration Statement on Form 10 filed on January 18, 2011\).](#)
- 10.21* [First Amendment to the Huntington Ingalls Industries Savings Excess Plan \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed on August 3, 2017\).](#)
- 10.22* [Huntington Ingalls Industries Officers Retirement Account Contribution Plan \(incorporated by reference to Exhibit 10.21 to the Company's Amendment No. 4 to Registration Statement on Form 10 filed on January 18, 2011\).](#)
- 10.23* [HII Newport News Shipbuilding Inc. Retirement Benefit Restoration Plan \(incorporated by reference to Exhibit 10.22 to the Company's Amendment No. 4 to Registration Statement on Form 10 filed on January 18, 2011\).](#)

[Table of Contents](#)

10.24*	Huntington Ingalls Industries Electronic Systems Executive Pension Plan (incorporated by reference to Exhibit 10.23 to the Company's Amendment No. 4 to Registration Statement on Form 10 filed on January 18, 2011).
10.25*	Huntington Ingalls Industries, Inc. Special Officer Retiree Medical Plan (incorporated by reference to Exhibit 10.24 to the Company's Amendment No. 4 to Registration Statement on Form 10 filed on January 18, 2011).
10.26*	Huntington Ingalls Industries, Inc. 2011 Long-Term Incentive Stock Plan (incorporated by reference to Exhibit 10.25 to the Company's Amendment No. 8 to Registration Statement on Form 10 filed on March 15, 2011).
10.27*	Huntington Ingalls Industries, Inc. Annual Incentive Plan, as amended and restated December 13, 2018 (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on December 19, 2018).
10.28*	Form of Award Certificate applicable to Non-Employee Director Stock Units Granted Under the 2011 and 2012 Long-Term Incentive Stock Plans (incorporated by reference to Exhibit 10.30 to the Company's Annual Report on Form 10-K filed on February 27, 2013).
10.29*	Form of Award Certificate applicable to Restricted Performance Stock Rights Granted Under the 2011 and 2012 Long-Term Incentive Stock Plans (incorporated by reference to Exhibit 10.31 to the Company's Annual Report on Form 10-K filed on February 27, 2014).
10.30*	Form of Award Certificate applicable to Restricted Stock Rights Granted Under the 2011 and 2012 Long-Term Incentive Stock Plans (incorporated by reference to Exhibit 10.32 to the Company's Annual Report on Form 10-K filed on February 27, 2014).
10.31*	Form of Award Certificate applicable to Stock Options Granted Under the 2011 and 2012 Long-Term Incentive Stock Plans (incorporated by reference to Exhibit 10.33 to the Company's Annual Report on Form 10-K filed on February 27, 2014).
10.32*	Amendment to Terms and Conditions Applicable to 2012, 2013 and 2014 Restricted Performance Stock Rights of Irwin F. Edenzon (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 17, 2013).
10.33*	Huntington Ingalls Industries, Inc. 2012 Long-Term Incentive Stock Plan (incorporated by reference to Annex A to the Proxy Statement filed on April 3, 2012).
10.34*	Performance-Based Compensation Policy of Huntington Ingalls Industries, Inc (incorporated by reference to Annex B to the Proxy Statement filed on April 3, 2012).
10.35*	Huntington Ingalls Industries, Inc. Amended and Restated Directors' Compensation Policy (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed on December 19, 2018).
10.36*	Huntington Ingalls Industries, Inc. Directors Compensation Policy--Amended and Restated Board Deferred Compensation Policy (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed on December 19, 2018).
21.1	List of subsidiaries of Huntington Ingalls Industries, Inc.
23.1	Consent of Deloitte & Touche LLP.
31.1	Certification of the Chief Executive Officer Pursuant to Exchange Act Rule 13a-14(a)/15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Chief Financial Officer Pursuant to Exchange Act Rule 13a-14(a)/15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

[Table of Contents](#)

- 32.1 [Certificate of the Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 32.2 [Certificate of the Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 101 The following financial information for the company, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Statements of Operations and Comprehensive Income (Loss), (ii) the Consolidated Statements of Financial Position, (iii) the Consolidated Statements of Cash Flows, (iv) the Consolidated Statements of Changes in Equity, and (v) the Notes to Consolidated Financial Statements.
- 104 The cover page from the Company's Annual Report on form 10-K, formatted in Inline XBRL and contained in Exhibit 101.

*Indicates management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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, on the 13th day of February, 2020.

Huntington Ingalls Industries, Inc.

/s/ C. Michael Petters

C. Michael Petters

President and Chief Executive Officer

[Table of Contents](#)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ C. Michael Petters</u> C. Michael Petters	President, Chief Executive Officer and Director (Principal Executive Officer)	February 13, 2020
<u>/s/ Christopher D. Kastner</u> Christopher D. Kastner	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 13, 2020
<u>/s/ Nicolas Schuck</u> Nicolas Schuck	Corporate Vice President, Controller and Chief Accounting Officer (Principal Accounting Officer)	February 13, 2020
<u>/s/ Thomas B. Fargo</u> Thomas B. Fargo	Chairman	February 13, 2020
<u>/s/ Philip M. Bilden</u> Philip M. Bilden	Director	February 13, 2020
<u>/s/ Augustus L. Collins</u> Augustus L. Collins	Director	February 13, 2020
<u>/s/ Kirkland H. Donald</u> Kirkland H. Donald	Director	February 13, 2020
<u>/s/ Victoria D. Harker</u> Victoria D. Harker	Director	February 13, 2020
<u>/s/ Anastasia D. Kelly</u> Anastasia D. Kelly	Director	February 13, 2020
<u>/s/ Tracy B. McKibben</u> Tracy B. McKibben	Director	February 13, 2020
<u>/s/ Thomas C. Schievelbein</u> Thomas C. Schievelbein	Director	February 13, 2020

/s/ John K. Welch

John K. Welch

Director

February 13, 2020

/s/ Stephen R. Wilson

Stephen R. Wilson

Director

February 13, 2020

DESCRIPTION OF SECURITIES REGISTERED UNDER SECTION 12 OF THE EXCHANGE ACT

Description of Common Stock

General

The Restated Certificate of Incorporation (the "**Restated Certificate**") of Huntington Ingalls Industries, Inc. (the "**Company**," "**us**," "**we**," or "**our**"), as amended, authorizes the issuance of up to 150,000,000 shares of common stock, par value \$0.01 per share ("**Common Stock**"), and up to 10,000,000 shares of preferred stock, par value \$0.01 per share ("**Preferred Stock**"). Our Common Stock is registered under Section 12(b) of the Securities Exchange Act of 1934, as amended.

Voting Rights

Holders of Common Stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights for the election of directors. Holders of a plurality of the shares entitled to vote in any election of directors may elect all of the directors standing for election.

Dividends

Dividends may be paid on our Common Stock and on any class or series of stock entitled to participate with our Common Stock as to dividends, but only when and as declared by our Board of Directors ("**Board**") and only if full dividends on all then-outstanding series of our Preferred Stock for the then current and prior dividend periods have been paid or provided for.

Rights Upon Liquidation

If we liquidate, holders of our Common Stock are entitled to receive all remaining assets available for distribution to stockholders after satisfaction of our liabilities and the preferential rights of any our Preferred Stock that may be outstanding at that time.

Other Rights

The outstanding shares of our Common Stock are fully paid and nonassessable. The holders of our Common Stock do not have any preemptive, conversion or redemption rights.

Preferred Stock

Under the terms of the Restated Certificate, the Board is authorized, subject to any limitations prescribed by law, without stockholder approval, to issue shares of Preferred Stock in one or more series. Each such series of Preferred Stock shall have such powers (including voting powers, full or limited, or no voting powers), and such designations, preferences and relative, participating, optional or other rights and such qualifications limitations or restrictions thereof, if any, as shall be determined by the Board.

The rights, preferences and privileges of holders of Common Stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of Preferred Stock which the Company may designate and issue in the future. In addition, the issuance of Preferred Stock could impede the completion of a merger, tender offer or other takeover attempt.

Exhibit 4.6

Other Provisions of Our Restated Certificate and Bylaws and the General Corporation Law of Delaware

Board Vacancies

Under the Restated Certificate, newly created directorships resulting from any increase in the authorized number of directors or any vacancies on the Board resulting from death, resignation, disqualification, removal or other cause shall be filled solely by the affirmative vote of a majority of the remaining directors then in office, even though less than a quorum of the Board.

Special Meetings

Our Restated Bylaws (the "**Bylaws**") provide that special meetings of the stockholders may only be called by the Board, the Chairperson of the Board or the holders of shares representing at least twenty percent of all the shares of our capital stock issued and outstanding and entitled to vote at such meeting.

Bylaw Amendments

Our Restated Certificate provides that the Bylaws may be amended by the affirmative vote of the Board or by the affirmative vote of the holders of a majority of the shares of our capital stock issued and outstanding and entitled to vote at a stockholder meeting.

Advance Notice Provisions

Under our Bylaws, in order for any matter to be considered "properly brought" before an annual or special meeting by a stockholder, stockholders must comply with certain requirements regarding advance notice to the Company.

Action by Written Consent

Under the General Corporation Law of Delaware and our Bylaws, any action required or permitted to be taken by the stockholders of the Company must be taken at a duly called annual or special meeting, unless the Board authorizes such action to be taken by the written consent of the holders of outstanding shares of stock having not less than the minimum voting power that would be necessary to authorize or take such action at a meeting of stockholders at which all shares entitled to vote thereon were present and voted.

Director Liability

The Restated Certificate contains certain provisions permitted under the General Corporation Law of Delaware relating to the liability of directors. The provisions eliminate a director's personal liability for monetary damages for a breach of fiduciary duty, except in certain circumstances involving wrongful acts, such as the breach of a director's duty of loyalty or acts or omissions which involve intentional misconduct or a knowing violation of law. Further, the Restated Certificate and Bylaws contain provisions to indemnify our directors and officers to the fullest extent permitted by the General Corporation Law of Delaware.

Section 203 of the General Corporation Law of Delaware

We are subject to the provisions of Section 203 of the General Corporation Law of Delaware. Section 203 prohibits a publicly-held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes mergers, asset sales and other transactions resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an "interested stockholder" is a person

Exhibit 4.6

who, together with affiliates and associates, owns, or within three years did own, 15% or more of the Company's voting stock.

SUBSIDIARIES OF HUNTINGTON INGALLS INDUSTRIES, INC.

Name of Subsidiary	Jurisdiction of Organization	Ownership Percentage
AC Technologies, Inc.	Delaware	100%
Avondale Engineering & Construction Company	Delaware	100%
CyberCENTS Solutions LLC	Delaware	100%
Fleet Services Holding Corp.	Delaware	100%
Fulcrum IT Services, LLC	Virginia	100%
G2, Inc.	Maryland	100%
Hanford Integrated Infrastructure Services Contractor, LLC	Delaware	100%
HII Energy Inc.	Virginia	100%
HII Fleet Support Group LLC	Delaware	100%
HII Mechanical Inc.	Virginia	100%
HII Mission Driven Innovative Government Solutions Inc.	Delaware	100%
HII Mission Driven Innovative Solutions Inc.	Delaware	100%
HII Mission Driven Innovative Solutions Holding Company	Delaware	100%
HII Mission Driven Innovative Technical Services LLC	Alabama	100%
HII Nuclear Inc.	Delaware	100%
HII San Diego Shipyard Inc.	California	100%
HII Services Corporation	Delaware	100%
HII Systems Innovations Inc.	Texas	100%
HII Technical Solutions Corporation	Delaware	100%
HII Technical Solutions Limited	United Kingdom	100%
HII Unmanned Maritime Systems Inc.	Delaware	100%
HII (US) International Holding Company	Delaware	100%
HII (UK) International Holding Company Ltd.	United Kingdom	100%
Huntington Ingalls Engineering Services, Inc.	Delaware	100%
Huntington Ingalls Incorporated	Virginia	100%
Huntington Ingalls Industries Australia PTY Ltd.	Australia	100%
Huntington Ingalls Industries Energy and Environmental Services, Inc.	Delaware	100%
Huntington Ingalls Industries International Shipbuilding, Inc.	Nevada	100%
Huntington Ingalls Industries Risk Management LLC	Vermont	100%
Huntington Ingalls Unmanned Maritime Systems, Inc.	Delaware	100%
Ingalls Shipbuilding, Inc.	Delaware	100%
Integrated Information Technology Corporation	Illinois	100%
Nationwide Remediation Partners, LLC	Delaware	100%
Newport News Nuclear BWXT-Los Alamos, LLC	Delaware	51%
Newport News Nuclear, Inc.	Virginia	100%
Newport News Reactor Services, Inc.	Virginia	100%
Newport News Shipbuilding and Dry Dock Company	Delaware	100%
Novonics Corporation	California	100%
NSI (AUST) PTY LTD	Australia	50%
Pegasus International, Inc.	Texas	100%
Pegasus International Services, Inc.	Nevada	100%
Pegasus International (UK), LTD	United Kingdom	100%

TITAN II Inc.	Delaware	100%
The PTR Group, LLC	Virginia	100%
Trusted Security Alliance, LLC	Maryland	75%
Universal Cayman, Inc.	Cayman Islands	100%
Universal Ensco, Inc.	Texas	100%
UniversalPegasus International Holdings, Inc.	Delaware	100%
UniversalPegasus International, Inc.	Delaware	100%
UniversalPegasus International Trinidad and Tobago Limited	Trinidad and Tobago	86.5%
UniversalPegasus International Canada, Inc.	Canada - Alberta	100%
UP International, Inc.	Delaware	100%
UPI Projects Canada Ltd.	Canada - Alberta	100%
UPI (EG), LLC	Texas	100%
UP Support Services, Inc.	Delaware	100%
UP Verification Trinidad and Tobago Limited	Trinidad and Tobago	100%
Veritas Analytics, Inc.	Virginia	100%

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-173168, 333-173170, 333-173171, 333-173173, 333-183326, 333-221451, 333-221452 and 333-232250 on Form S-8 of our reports dated February 13, 2020, relating to the consolidated financial statements and financial statement schedule of Huntington Ingalls Industries, Inc. and subsidiaries (the "Company"), and the effectiveness of the Company's internal control over financial reporting, appearing in this Annual Report on Form 10-K of the Company for the year ended December 31, 2019.

/s/ DELOITTE & TOUCHE LLP

Richmond, Virginia
February 13, 2020

**CERTIFICATION PURSUANT TO
EXCHANGE ACT RULE 13A-14(A)/15D-14(A)
AS ADOPTED PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, C. Michael Petters, certify that:

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

Date: February 13, 2020

/s/ C. Michael Petters

C. Michael Petters

President and Chief Executive Officer

**CERTIFICATION PURSUANT TO
EXCHANGE ACT RULE 13A-14(A)/15D-14(A)
AS ADOPTED PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Christopher D. Kastner, certify that:

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

Date: February 13, 2020

/s/ Christopher D. Kastner

Christopher D. Kastner

Executive 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 Annual Report of Huntington Ingalls Industries, Inc. (the "company") on Form 10-K for the period ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, C. Michael Petters, the President and Chief Executive Officer of the company, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge, 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: February 13, 2020

/s/ C. Michael Petters

C. Michael Petters

President and Chief Executive 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 Annual Report of Huntington Ingalls Industries, Inc. (the "company") on Form 10-K for the period ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Christopher D. Kastner, Executive Vice President, Business Management and Chief Financial Officer of the company, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge, 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: February 13, 2020

/s/ Christopher D. Kastner

Christopher D. Kastner

Executive Vice President and Chief Financial Officer