HUNTINGTON INGALLS INDUSTRIES, INC.
Form 10-K
February 16, 2017

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

FORM 10-K

ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016
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	90-0607005
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
4101 Washington Avenue Newport News, VA 23607	(757) 380-2000 (Registrant's telephone number, including area code)

(Address of principal executive offices)
Securities registered pursuant to section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.01 par value	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 ý 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 ý

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 ý No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ý No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ¨

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

Large accelerated filer ý	Accelerated filer ¨
Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨

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

As of June 30, 2016, 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 $7,873 million.

As of February 10, 2017, 46,030,947 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 2017 Annual Meeting of Stockholders are incorporated by reference in Part III of this Form 10-K.

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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 ("Ingalls") and Newport News Shipbuilding ("Newport News") segments in Mississippi and Virginia have built more ships in more ship classes than any other U.S. naval shipbuilder. Our Technical Solutions segment was established in December 2016 and provides a wide range of professional services, including fleet support, integrated missions solutions, and nuclear and environmental and oil and gas services.

We conduct most of our business with the U.S. Government, principally the Department of Defense ("DoD"). As prime contractor, principal subcontractor, team member, or partner, we participate in many high-priority U.S. defense technology 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 range of services to the governmental, energy, and oil and gas markets through our Technical Solutions segment.

Headquartered in Newport News, Virginia, we employ approximately 37,000 people operating both domestically and internationally. We became an independent, publicly-owned company in 2011, when we were spun off from Northrop Grumman.

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, surface combatants, and National Security Cutters ("NSCs"). 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.

In October 2014, we ceased shipbuilding construction operations at our Avondale, Louisiana shipyard ("Avondale") and consolidated that activity at our Pascagoula, Mississippi facility, which we believe has enhanced our competitive position by decreasing our fixed overhead expenses, improving facility utilization to provide a more cost-efficient construction process, centralizing our shipbuilding learning and increasing the benefits of serial production, and reducing program costs. In March 2015, we sold our Gulfport Composite Center of Excellence (the "Gulfport facility") in Gulfport, Mississippi, to the Mississippi State Port Authority, due to limited demand from the U.S. Navy for composite products provided by our Gulfport facility.

Amphibious Assault Ships

We construct amphibious assault and expeditionary warfare ships for the U.S. Navy, which include the U.S. Navy large deck amphibious ships ("LHA") and amphibious transport dock ships ("LPD"). 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 new class of enhanced amphibious assault ships designed from the keel up to be an aviation optimized Marine assault platform. We delivered USS America (LHA 6) in the second quarter of 2014, are currently constructing Tripoli (LHA 7), scheduled for delivery in 2018, and in 2016 were awarded the construction contract for Bougainville (LHA 8).

The LPD program is a long-running production program in which we have generated efficiencies through ship-over-ship learning. We are currently constructing two San Antonio class (LPD 17) amphibious transport dock ships, Portland (LPD 27) and Fort Lauderdale (LPD 28), scheduled for delivery in 2017 and 2021, respectively. In 2016, we delivered USS John P. Murtha (LPD 26).

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 29 Arleigh Burke class (DDG 51) destroyers to the U.S. Navy, including delivery of John Finn (DDG 113) in 2016. We are currently constructing Ralph Johnson (DDG 114), scheduled for delivery in 2017. In 2013, we were awarded a multi-year contract totaling $3.3 billion for construction of five additional Arleigh Burke class (DDG 51) destroyers as a part of a larger U.S. Navy order for nine Arleigh Burke class (DDG 51) destroyers. We are currently constructing Paul Ignatius (DDG 117), Delbert D. Black (DDG 119), and Frank E. Petersen Jr. (DDG 121), with deliveries scheduled in 2018, 2019, and 2020, respectively.

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 Hamilton (NSC 4), USCGC James (NSC 5), and USCGC Munro (NSC 6) to the U.S. Coast Guard in 2014, 2015, and 2016, respectively. Kimball (NSC 7) and Midgett (NSC 8) are currently under construction and are scheduled for delivery in 2018 and 2019, respectively. We were awarded the construction contract for NSC 9 (unnamed) in 2016, which is scheduled for delivery in 2020.

Newport News

The core business of our Newport News segment ("NNS") 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 one of the largest shipyards in the United States, 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 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.

We delivered the U.S. Navy's newest carrier and the last of the Nimitz class (CVN 68), USS George H.W. Bush (CVN 77), in 2009. We have been engaged in design work and construction on the next generation Gerald R. Ford class (CVN 78) aircraft carrier for over ten years. In 2008, we were awarded a $5.1 billion contract for detail design and construction of the first ship of the class, Gerald R. Ford (CVN 78), which is scheduled for delivery in 2017. We also received awards in 2009 through 2016 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). We have also received awards totaling $152 million for advance planning and long-lead time material acquisition for the third Gerald R. Ford class (CVN 78) aircraft carrier, Enterprise (CVN 80).

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.

We have received cumulative awards to date totaling $2.6 billion under an execution contract for the RCOH of USS Abraham Lincoln (CVN 72), which is scheduled for redelivery in 2017. We are currently performing under a planning contract for 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 four Nimitz class (CVN 68) carriers, and our highly trained workforce, as well as the fact that RCOH work is capital-intensive and has 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.

The U.S. Navy awarded us a $745 million contract in 2013 to inactivate USS Enterprise (CVN 65), the world's first nuclear-powered aircraft carrier, which was built by us and commissioned in 1961. USS Enterprise (CVN 65) has a scheduled redelivery date in 2017 for final dismantlement. Aircraft carriers have a lifespan of approximately 50 years, and we believe the ten Nimitz class (CVN 68) carriers delivered by us that are currently in active service, as well as Gerald R. Ford class (CVN 78) aircraft carriers we will deliver in the future, present a significant opportunity 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 59 submarines to the U.S. Navy since 1960, comprised of 45 fast attack and 14 ballistic missile submarines. Of the 52 nuclear-powered fast attack submarines currently in active service, 25 were delivered by Newport News. Our nuclear submarine program, located at our Newport News shipyard, includes construction, engineering, design, research, and integrated planning.

In February 1997, we executed 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 is scheduled for delivery in 2019. In 2014, the team was awarded a construction contract for the fourth block of ten Virginia class (SSN 774) submarines, continuing the two submarines per year production rate. The first submarine of the block IV contract is scheduled for delivery in 2019, and the last is scheduled for delivery in 2023.

Columbia class (SSBN 826) Submarines

The U.S. Navy has committed to 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. 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 Columbia class (SSBN 826) program’s Milestone B, which formally authorizes the program’s entry into the engineering and manufacturing development phase. We continue to perform design work as a subcontractor to Electric Boat, and we have entered into a team agreement with Electric Boat to build modules for the entire Columbia class (SSBN 826) submarine program that leverages our Virginia class (SSN 774) experience. The team agreement is subject to the U.S. Navy's concurrence. Construction of the first Columbia class (SSBN 826) submarine is expected to begin in 2021, with procurement of long-lead-time materials and advance construction beginning prior to that time. We believe the Columbia class (SSBN 826) of submarines represents a significant opportunity for us in the future.

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 the fourth quarter of 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 and non-nuclear fabrication, equipment repair, and technical engineering services; nuclear management and operations and environmental management services for DoE, DoD, state and local governments, and private sector companies; and full-service engineering, procurement, construction management (“EPCM”) and engineering and field services solutions to the oil and gas industry. Our Technical Solutions segment is comprised of our subsidiaries AMSEC, Camber Corporation ("Camber"), Continental Maritime of San Diego ("CMSD"), Newport News Industrial Corporation ("NNI"), Stoller Newport News Nuclear ("SN3"), Undersea Solutions Corporation ("USC"), and UniversalPegasus International ("UPI").

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 ship technical and waterfront 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 array of life-cycle sustainment services, we provide undersea vehicle and specialized craft development and prototyping services.

Integrated Missions Solutions Services

Our integrated missions solutions services include high-end IT and mission-based solutions to DoD, intelligence, and federal civilian customers, such as the Administrative Office of the United States 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 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 to DoE, DoD, state and local governments, and private sector companies. We also provide a wide range of services, including fabrication, equipment repair, and technical engineering services, to commercial industries, the National Aeronautics and Space Administration, DoD, and DoE. As part of our nuclear and environmental services, we participate in a joint venture, Savannah River Nuclear Solutions, LLC ("SRNS"), which provides site management and operations at the DoE's Savannah River Site near Aiken, South Carolina. We have a 34% ownership interest in SRNS.

Oil and Gas Services

We 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. We also offer related field services, including survey, inspection, commissioning and start-up, operations and maintenance, and optimization and debottlenecking.

Corporate

Huntington Ingalls Industries, Inc. was incorporated in Delaware on August 4, 2010. 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.

Summary Segment Financial Data

For a more complete understanding of our segment financial information, see Segment Operating Results in Item 7 and Note 9: Segment Information in Item 8.

Customers

Our revenues are primarily derived from the U.S. Government. In 2016, 2015, and 2014, approximately 89%, 89%, and 88%, respectively, of our revenues were generated from the U.S. Navy, and approximately 6%, 7%, and 8%, respectively, were generated from the U.S. Coast Guard. In 2016, 2015, and 2014, we generated approximately 4%, 3%, and 2%, respectively, of our revenues from commercial customers and 1%, 1%, and 2%, respectively, from other government agencies.

Intellectual Property

We develop and incorporate into our vessels new technologies, manufacturing processes, and systems-integration practices. In addition to owning a large portfolio of proprietary intellectual property, we license intellectual property rights to and from others. The U.S. Government receives non-exclusive licenses to our patents 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 technology covered by our patents licensed 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, 2016 and 2015, our total backlog was approximately $21 billion and $22 billion, respectively. We expect approximately 30% of backlog at December 31, 2016, to be converted into sales in 2017.

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 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 used 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. Generally, for long-term contracts, we obtain price quotations for many of our materials 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.

Research and Development

We conduct research and development activities as part of our normal business operations to facilitate innovative product development and evolution. Our research and development activities primarily include Independent Research and Development ("IR&D") related to government programs. We recover a significant portion of our IR&D expenditures through overhead charges to U.S. Government contracts, consistent with U.S. Government regulations. We include IR&D expenses in general and administrative expenses. Company-sponsored IR&D expenses totaled $19 million for each of the years ended December 31, 2016, and 2015, and $18 million for the year ended December 31, 2014.

At our Virginia Advanced Shipbuilding and Carrier Integration Center ("VASCIC"), located in Newport News, Virginia, we conduct on-site warfare systems testing, training, and laboratory research for the next generation of aircraft carriers, submarines, and other ships. VASCIC serves as the focal point for the integration of ship systems and the application of new technologies. It includes a classified facility and an integration area that facilitates research and development related to setup and testing of electronics, as well as hull, mechanical, and electrical systems, prior to introducing new equipment on board a ship. It also has modeling and simulation capability allowing for visualization using 3-D displays. We believe VASCIC represents a competitive advantage for us by developing future naval capabilities, reducing total ownership cost, and facilitating technology transfer.

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, and our compliance with, our internal control systems and policies. Systems subject to audit or review include our accounting systems, purchasing systems, billing systems, property management and control systems, cost estimating systems, earned value management systems, compensation systems, and management information 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 business systems subject to its review. 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. When appropriate, we modify our affected business systems to address the U.S. Government's concerns.

The U.S. Government generally has the ability to terminate contracts, in whole or in part, with little to no prior notice, for convenience or for default based on performance. In the event of termination for convenience, contractors are normally able to recover costs already incurred on the contracts and receive profit on those costs up to the amount authorized under the contract, but not the anticipated 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. Termination resulting from our default could expose us to various liabilities, including excess reprocurement 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. 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 prepare, 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. Such REAs are not considered claims under the Contract Disputes Act of 1978, although they may be converted to such claims if good faith negotiations to resolve the REAs are not satisfactory.

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 that each bidder submit information on pricing, estimated costs of completion, and anticipated profit margins in order to assess cost realism. The U.S. Navy uses this information and other data to determine an estimated cost for each bidder. Under U.S. Government regulations, certain costs, including certain financing costs and marketing expenses, are not allowable contract costs and, therefore, are not recoverable. The U.S. Government also regulates the methods by which all 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, but not limited to, the Federal Acquisition Regulation ("FAR"), the Truth in Negotiations Act, the Procurement Integrity Act, the False Claims Act, Cost Accounting Standards, 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. 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, perform 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.

Although we recently competed with another large defense contractor for the first time to construct a large deck amphibious ship which was awarded to us, we are currently the only builder of large deck amphibious assault 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 and well positioned to be awarded future contracts for these types of vessels. We are one of only two companies currently designing and building nuclear-powered submarines for the U.S. Navy, and we are party to a long-term teaming agreement with the other company for the production of such vessels. 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 well 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 a cost 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 and affected by federal, state, and local laws and regulations relating to the protection of the environment. We accrue estimated costs to complete 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 in 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 would 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, 2016, our probable future costs for environmental remediation were approximately $1 million, which were accrued in other current liabilities in the consolidated statement of financial position. Although information gained as projects progress 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 may incur additional environmental costs in the future related to our wind down of shipbuilding at Avondale. Any additional costs are not reasonably estimable at this time due to insufficient information about the nature, timing, and extent of any potential environmental remediation we may be required to perform or the related costs that we may incur. Accordingly, such potential environmental costs associated with the wind down of Avondale are not included in our $1 million accrual for environmental remediation costs or our $276 million estimate of Avondale restructuring costs, or otherwise reflected in our consolidated financial statements. We expect that a significant portion of any future environmental remediation costs we might incur at Avondale would be recoverable in accordance with government accounting practices under the FAR.

We believe that 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 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 continue to incur capital and operating costs in the future to comply with current and future environmental laws and regulations. At this time, we do not 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 involves work with hazardous materials and processes and remains one of the most hazardous industries. 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 one industrial related fatality in the past seven years. We strive to keep our Occupational Safety and Health Administration ("OSHA") compliance programs strong. In 1995, our Newport News shipyard became the first shipyard to be awarded the Star Award from OSHA's Voluntary Protection Program

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("OSHA VPP"). To earn this award, we joined efforts with our unions and supported participation in the OSHA VPP, in which all parties assist each other to make our shipyard a safer place to work. Our CMSD facility has also been certified as an OSHA VPP Star Site.

The U.S. Navy, Nuclear Regulatory Commission, and DoE each regulate and control various matters relating to nuclear materials we handle. 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 37,000 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 5,000 engineers and designers and approximately 2,500 employees with advanced degrees. Our workforce contains many third-, fourth-, and fifth-generation employees, and approximately 1,000 employees have 40 or more years of continuous service. Employees in our shipbuilding divisions with more than 40 years of service achieve the honor of "Master Shipbuilder." As of December 31, 2016, there were 911 Master Shipbuilders at Newport News and 298 at Ingalls. We employ more than 5,500 veterans across the enterprise.

More than 1,600 apprentices are trained by our two shipbuilding units each year in more than 27 crafts and advanced programs. From nuclear pipe welders to senior executives, approximately 4,500 apprentice alumni, 3,000 at Newport News and 1,500 at Ingalls, continue to work with us.

Approximately 50% of our employees are covered by a total of eight collective bargaining agreements and two DoE site stabilization agreements. Newport News has three collective bargaining agreements covering represented employees, one of which covers approximately 50% of Newport News employees and expires in July 2017. The remaining two collective bargaining agreements at Newport News expire in August 2018 and December 2018. Newport News craft workers employed at the Kesselring Site near Saratoga Springs, New York are represented under an indefinite DoE site agreement. Newport News is currently negotiating with the International Association of Machinist and Aerospace Workers ("IAM"), which was recently determined to be the exclusive representative for approximately 200 Newport News radiological control, calibration, and laboratory technicians. Ingalls has five collective bargaining agreements covering represented employees, all of which expire in March 2018. Approximately 35 Technical Solutions craft employees at the Hanford Site near Richland, Washington are represented under an indefinite DoE site stabilization agreement. We believe that 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 as soon as reasonably practicable 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.

Our SEC filings are also available at the Public Reference Room of the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling 1-800-SEC-0330.

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

Executive Officers of the Registrant

See Executive Officers of the Registrant in Item 4A for information about our executive officers.

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, may 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;
- 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 a single customer, the U.S. Government, for substantially all of our business, and changes affecting this customer's priorities and spending 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, such as aircraft carriers and submarines, and non-nuclear ships, such as surface combatants and expeditionary warfare and amphibious assault 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. Substantially all of our revenues in 2016 were derived from products and services ultimately sold to the U.S. Government, and we expect this to continue in the foreseeable future. In addition, most of our backlog was U.S. Government related as of December 31, 2016. Our U.S. Government contracts are subject to various risks, including our customers' political and budgetary constraints and processes, changes in customers' short-range and long-range strategic plans, the timing of contract awards, significant changes in contract scheduling, intense contract and funding competition, difficulty in 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 ability to do 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 allocation of defense funds to the U.S. Navy and the U.S. Coast Guard. 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. Consequently, programs are often partially funded initially and receive additional funding only as Congress makes additional appropriations. If we incur costs in excess of existing funding on a contract, we may be at risk for recovery of 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, in continuing resolutions, or in 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 ships or funding for individual programs and delay purchasing or payment decisions by our customers. In August 2011, the Budget Control Act (the "BCA") established limits on U.S. Government discretionary spending, including a reduction of defense spending by approximately $487 billion from fiscal years 2012 through 2021, representing approximately 8% of planned defense spending. The BCA also provided that the defense budget would face “sequestration” cuts of up to an additional $500 billion during that same period to the extent that discretionary spending limits are exceeded, representing approximately 9% of planned defense spending, and $500 billion for non-defense discretionary spending, including the U.S. Coast Guard.

The Bipartisan Budget Act of 2015 (the "BBA 2015") provided sequestration relief for fiscal years 2016 and 2017, but sequestration remains in effect for fiscal years 2018 through 2021. Long-term uncertainty remains with respect to overall levels of defense spending, and it is likely that U.S. Government discretionary spending levels 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 potential changes in customer priorities due to 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, 2016, our aircraft carrier programs accounted for approximately 31% of our consolidated revenue. We cannot predict the impact of changes in 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 to no prior notice, for convenience or for default based on performance. In the event of termination for the U.S. Government's convenience, contractors are normally able to recover costs already incurred on the contracts and receive profit on those costs up to the amount authorized under the contract, but not the anticipated 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. 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 fixed price and other contracts that cannot be justified as increases in contract value due from customers exposes us to reduced profitability and 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 initial estimates used for calculating contract costs. Reasons may include unavailability or reduced productivity of labor, 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 programs could have a material adverse effect on our financial position, results of operations, or cash flows.

Our ability to recover the costs we incur and realize profits on contracts with our U.S. Government customers depends on the type of contract under which we are performing. Our U.S. Government business is currently performed under firm fixed price ("FFP"), fixed price incentive ("FPI"), cost plus incentive fee ("CPIF"), cost plus fixed fee ("CPFF"), and cost plus award fee ("CPAF") contracts. Under FFP contracts, we retain all cost savings on completed contracts but are responsible for the full amount of all expenditures in excess of the contract price. FPI contracts, on the other hand, are flexibly priced agreements under which cost overruns and underruns to an agreed target cost are shared between the U.S. Government and us. The U.S. Government is liable for its share of allowable costs up to a ceiling price, and we are responsible for all costs incurred in excess of such ceiling price, typically 125-135% of target cost. Our profit on FPI contracts varies according to a contract formula that generally compares the amount of costs incurred to the contract target cost. Under CPIF, CPFF, and CPAF contracts, we are generally required to perform the contract only to the extent the U.S. Government makes funds available, and we recover all allowable costs incurred in the performance of the contract. Under CPIF contracts, our profit is determined by a contractually specified formula that compares allowable incurred costs to the contract target cost, subject in some instances to a maximum or minimum fee percentage. Under CPFF contracts, the dollar amount of profit received is the same without regard to the amount of costs incurred. Under CPAF contracts, the dollar amount of profit received is determined by the award fee provisions in the contract.

Of Ingalls' revenues in 2016, approximately 91% were generated from FPI contracts, approximately 5% were generated from CPAF contracts, approximately 2% were generated from CPFF contracts, and approximately 2% were generated from FFP contracts. Of Newport News' 2016 revenues, approximately 39% were generated from CPFF contracts, approximately 38% were generated from FPI contracts, consisting primarily of submarine construction contracts, approximately 22% were generated from CPIF contracts, consisting primarily of aircraft carrier construction and RCOH contracts, and approximately 1% were generated from FFP contracts. Of Technical Solutions' revenues in 2016, approximately 34% were generated from time and material contracts, approximately 26% were generated from CPFF contracts, approximately 26% were generated from FFP contracts, approximately 10% were generated from CPAF contracts, approximately 3% were generated from FPI contracts, and approximately 1% were generated from CPIF contracts. 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 under 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, and the timing of product deliveries. We may experience significant variances from our assumptions and projections, delays in our contract performance, and variances in the timing of our product deliveries. If our actual experience differs significantly from our assumptions or projections, or, if 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 and major components and sub-systems for our products and to produce hardware elements and sub-assemblies and perform certain services that 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 a misalignment 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 perform our obligations on a timely basis could be adversely affected if one or more of our suppliers or subcontractors are unable to provide the agreed-upon products or materials or perform the agreed-upon services in a timely, compliant and cost-effective manner or otherwise fail to satisfy contractual requirements. The inability of our suppliers or subcontractors to perform 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 means to support our existing suppliers and subcontractors.

Our costs to manufacture our products can increase over the terms of our contracts. We may be protected from increases in material costs through cost escalation provisions contained in some of our U.S. Government contracts, to the extent that such increases are consistent with industry indices. Even with these provisions, however, the difference in basis between our actual material costs and these indices may expose us to cost uncertainty. In addition, significant delays in deliveries of key raw materials, which may occur as a result of availability or price, could have a material adverse effect on our financial position, results of operations, or cash flows.

In connection with our U.S. Government contracts, we are required to procure certain raw materials, components, and parts from supply sources approved by the customer. 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 in a timely, compliant, or cost-effective manner could affect our ability to perform our contract.

Our procurement practices are intended to reduce the likelihood of our procurement of unauthorized or non-compliant parts and materials. We rely on our subcontractors and suppliers to comply with applicable laws and regulations regarding the parts and materials we procure from them, and, in some circumstances, we rely on certifications from our subcontractors and suppliers regarding their compliance. Notwithstanding the actions we take to mitigate the risk of receiving parts and materials that fail to meet specifications, subcontractors and suppliers have in the past provided us with non-compliant parts and materials.

Our inability to procure or 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 we acquire from our subcontractors and suppliers could have a material adverse effect on our financial position, results of operations, or cash flows.

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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.

The defense industry has experienced, and we expect will continue to experience, significant changes to business practices resulting from an increased focus by DoD on affordability, efficiencies, business systems, recovery of costs, and a reprioritization of available defense funds to key areas for future defense spending. The DoD continues to adjust its procurement practices, requirements criteria, and source selection methodology in an ongoing effort to reduce costs, gain efficiencies, and enhance program management and control. We expect DoD's focus on business practices to impact the contracting environment in which we operate as we and others in the industry adjust our practices to address the DoD's initiatives and the reduced level of spending by the DoD. Depending on how these initiatives are implemented, they could have an impact on our current programs, as well as new business opportunities with the DoD. In addition to DOD's business practice iniatives, the DCMA and DCAA have implemented cost recovery/cost savings initiatives to prioritize efforts to recover costs. 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. In addition, the thresholds for certain allowable costs, including compensation costs, have been significantly reduced, and other thresholds are being challenged, debated, and, in certain cases, modified. Significant changes to the thresholds for allowable 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. We must develop and maintain the workforce, technologies, facilities, equipment, and financial capacity needed 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 workers with the necessary skills and/or security clearances. At the same time, stable future revenues and costs are important for us to maintain a qualified workforce. Development and maintenance of the necessary nuclear expertise 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 incur difficulties in performing our contracts and attracting 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. The reduction in shipbuilding activity by the U.S. Navy, as evidenced by the reduction in fleet size from 566 ships in 1989 to 274 ships as of December 31, 2016, has resulted in workforce reductions in the industry but little infrastructure consolidation. The general result has been fewer contracts awarded to the same fixed number of shipyards. Six major private United States shipyards, three 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 construction contracts to build surface combatants and submarines. We also recently competed with the same contractor for the first time to build a large deck amphibious ship, which was awarded to us. We may in the future compete with the same and other defense contractors to build other ships for which we are currently the sole source, including expeditionary warfare and other 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 were to become 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 other companies that provide engineering support services. Such competition increases the risk that 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 may 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 consistent basis. In addition, our nuclear operations are subject to an enhanced regulatory environment, which results in increased performance and compliance efforts and 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 operate in a heavily regulated environment and are routinely audited and reviewed 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 review our contract performance, cost structures, and compliance with applicable laws, regulations, and standards, as well as the adequacy of our 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 us significant reputational harm.

Whether or not illegal activities are alleged, the U.S. Government has the ability to decrease or withhold contract payments if it determines significant deficiencies exist in business systems subject to its review. 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. When appropriate, we will modify our affected business systems to address the U.S. Government's concerns.

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. These recommendations 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 the costs allocated to our government contracts. Such audits, investigations, and inquiries may result in future reductions of our contract prices. 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 previously reimbursed.

We must comply with a variety of federal laws and regulations, including the FAR, 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 Cost Accounting Standards, and we are subject, from time to time, to U.S. Government investigations relating to our operations. If we are convicted or otherwise found to have engaged in illegal activities, or are found not to have acted responsibly as defined by the law, 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.

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

We design, develop, and manufacture products and provide services applied by our customers in a variety of environments. Problems and delays in product development or with delivery of subcontractor components or services as a result of issues with respect to 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 technology that is supplied by the U.S. Navy, other contractors, or us. Problems developing 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 technology or mid-construction design changes can both increase the cost of a ship and delay delivery. Late delivery of information can also cause inefficiencies in the construction process, increase costs, and put the delivery schedule at risk, which could 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 focus to respond to unforeseen problems, loss of follow-on work, and, in the case of certain contracts, repayment 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 analyze 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.

We may not recover all of our costs related to the wind down of shipbuilding at our Avondale shipyard.

In October 2014, we ceased shipbuilding construction operations at our Avondale, Louisiana shipyard and consolidated all Ingalls shipbuilding into our Pascagoula shipyard. In connection with and as a result of the wind down of shipbuilding at Avondale, we have incurred substantial restructuring costs and asset write-downs, which we currently estimate at $276 million. We have engaged in communications and negotiations with the U.S. Navy since 2010 regarding the amount and recovery of our restructuring and shutdown costs. In June 2016, we filed a request with the contracting officer seeking a final decision regarding our recovery of the Avondale restructuring and shutdown costs. In December 2016, the contracting officer denied our claim, on the purported basis that we had not adequately shown savings and other benefits that would accrue to the U.S. Government from the closing of Avondale and consolidation of Ingalls Shipbuilding to the Pascagoula facility. While we intend to pursue our claim pursuant to the Contract Disputes Act, any inability to recover our restructuring expenses substantially in accordance with our cost recovery expectations could result in a material adverse effect on our financial position, results of operations, or cash flows.

In addition to restructuring costs and asset write-downs associated with winding down shipbuilding operations at Avondale, we may incur environmental costs in connection with the wind down. Such costs, which we cannot reasonably estimate at this time, could be significant. The actual restructuring expenses we have and may incur in the future in connection with our wind down of Avondale, including potential environmental costs, may be greater than our current estimate.

We use estimates when accounting for contracts. Changes in estimates could affect our profitability and our overall financial position.

Contract accounting requires judgment 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. Assessing risks, estimating contract revenues and costs, and making assumptions regarding schedule and technical issues for these ships are subject to the variability of the final ship design and evolving scope of work. Our assumptions on ship contracts include the length of time to complete the contract, because total costs include expected increases in wages and material prices. Similarly, our assumptions include the future impact of our efficiency initiatives and cost reduction efforts. We consider incentives, awards, and penalties related to contract performance when we estimate revenues and profit rates, and we record them when sufficient information exists to assess anticipated contract performance.

The judgment and estimation processes described above 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 underlying 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, floods, and environmental disasters, such as oil spills. The damage and disruption resulting from natural and environmental disasters may be significant. Natural disasters can disrupt our facilities, systems, or projects, which can interrupt operational processes and performance on our contracts. Should insurance or other risk transfer mechanisms be unavailable or insufficient to recover material costs associated with natural or environmental disasters, 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.

Natural disasters can disrupt our workforce, electrical and other power distribution networks, computer and internet operations and accessibility, and the critical industrial infrastructure needed for normal business operations. These disruptions could adversely affect our contract performance and financial results. Environmental disasters, particularly oil spills in waterways and bodies of water used for the transport and testing of our ships, can disrupt the timing of performance under our contracts with the U.S. Navy and the U.S. Coast Guard.

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 types of events described above, operation of our facilities may be disrupted by civil unrest, acts of sabotage or terrorism, and other local security concerns. 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 negotiate and enter into insurance agreements to cover our significant risks and potential liabilities, including, among others, 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 reasonably obtainable in the market 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 of such events. Such limitations on the availability of insurance coverage may result in us bearing 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 where we have insurance coverage, disputes with insurance carriers over coverage may affect the timing of cash flows, and, if litigation with the insurance carrier becomes necessary, 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 eight collective bargaining agreements and two DoE site stabilization agreements. Newport News has three collective bargaining agreements covering represented employees, one of which covers approximately 50% of Newport News employees and expires in July 2017. The remaining two collective bargaining agreements at Newport News expire in August 2018 and December 2018. Newport News craft workers employed at the Kesselring Site near Saratoga Springs, New York are represented under an indefinite DoE site agreement. Newport News is currently negotiating with IAM, which was recently determined to be the exclusive representative for approximately 200 Newport News radiological control, calibration, and laboratory technicians. Ingalls has five collective bargaining agreements covering represented employees, all of which expire in March 2018. Approximately 35 Technical Solutions craft employees at the Hanford Site near Richland, Washington are represented under an indefinite DoE site stabilization agreement.

Collective bargaining agreements generally expire after three to five years, and we negotiate successor agreements as each of our collective bargaining agreements expires. While we believe we maintain good relationships with our represented workers, it is possible that we may experience difficulties renegotiating expiring collective bargaining agreements. We have, in the past, experienced 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 earnings, equity, and contributions to our defined benefit pension and other postretirement benefit plans in future periods.

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. Changes to these estimates and assumptions could have a material adverse effect on our financial position, results of operations, or cash flows. Differences between actual investment returns and our assumed long-term returns on assets will result in future changes in pension expense and the funded status of our plans, and could increase future funding of the plans.

Timing differences exist among the accrual of pension costs under accounting principles generally accepted in the United States of America ("GAAP"), pension funding requirements, and the recovery of pension costs that are allowable under our government contracts. Such timing differences could have a material adverse effect on our financial position, results of operations, or cash flows. On December 27, 2011, the U.S. Cost Accounting Standards ("CAS") Board issued its final CAS Harmonization Rule. The rule impacted pension costs on contracts beginning in 2013 and was effective for forward pricing purposes for contracts negotiated on or after February 27, 2012. Although we believe contractors are entitled to an equitable adjustment on CAS-covered contracts awarded prior to the February 27, 2012 effective date, the application of this rule could have a material adverse effect on our financial position, results of operations, or cash flows if we are unable to successfully recover such equitable adjustment.

For a complete discussion regarding how our consolidated financial statements can be affected by pension plan accounting policies and regulatory changes, see Critical Accounting Policies, Estimates, and Judgments in Item 7.

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 handle 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 render a party liable 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 have incurred, and expect to incur in the future, costs to comply with federal and state environmental laws and regulations related to the cleanup of pollutants released into the environment. In addition, if we are found to be in violation of 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 that 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 impacts, 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.

We ceased shipbuilding construction at our Avondale, Louisiana shipyard in 2014. Our wind down of operations at this shipyard may result in environmental costs, the amount of which we cannot currently estimate. Such costs could be significant and could have a material adverse effect on our financial position, results of operations, or cash flows.

Market volatility and adverse capital or credit 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 and the ability of counterparties to perform on financial agreements.

The financial markets can experience high levels of volatility and disruption, reducing the availability of credit for certain issuers. We may access these markets from time to time to support certain business activities, including funding acquisitions and capital expansion projects and refinancing existing indebtedness. We also access these markets to obtain credit support for our workers' compensation self-insurance program and arrange for letters of credit. A number of factors could cause us to incur higher borrowing costs and to have greater difficulty accessing public and private markets for debt. These factors include 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 or financing commitments, make future investments or desirable acquisitions, or respond to competitive challenges.

Tightening credit markets could also adversely affect our suppliers' and subcontractors' ability to obtain financing. Delays in suppliers' or subcontractors' ability to obtain financing, or the unavailability of financing, could negatively affect their ability to perform their contracts with us and cause our inability 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 significant incremental costs and delays.

We have existing agreements with counterparties in the financial markets, including brokers and dealers, commercial banks, and other institutional parties, and may in the future enter into agreements with such parties. These transactions expose us to potential credit risk in the event of default of a counterparty. In addition, our credit risk may be increased when collateral held by us to secure performance of a counterparty cannot be liquidated upon a sale or is liquidated at prices not sufficient to recover the full amount due to us under the related contract.

Our reputation and our ability to do 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 may not, however, prevent all such misconduct committed by our employees, agents, business partners, and others working on our behalf, including suppliers and subcontractors, and the risk of improper conduct may be expected to increase as we expand into commercial markets and 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 harm.

Our business 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, we face cyber security and other security threats to our information technology infrastructure, including threats to our and the U.S. Government's proprietary and classified information. We face unauthorized and unlawful attempts to gain access to our information technology infrastructure, including coordinated attacks from groups of hackers, and we could also face attempts to gain physical access to classified and other sensitive information located at our facilities. 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, which could have a material adverse effect on our operations, financial position, results of operations, or cash flows.

In addition, our suppliers, subcontractors, and other business partners face cyber security and other security threats. Although we work cooperatively with our customers, suppliers, subcontractors, and other business partners to seek to minimize the impact of cyber threats, other security threats, or business disruptions, we must rely on the safeguards put in place 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 various 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, operation, security, and repair, including repairs required by the U.S. Navy, the Nuclear Regulatory Commission, or the DoE;
- Reputational harm;
- 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 or 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 corrective action 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, DoE, and 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 processes designed to achieve a desired return or strategic objective. Business acquisitions generally involve estimates, assumptions, and judgments to determine acquisition prices, which prices 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 initial estimates. 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.

As of December 31, 2016, goodwill and purchased intangible assets generated from prior business acquisitions accounted for approximately 19% and 9%, respectively, of our total assets. We evaluate goodwill values for impairment annually on November 30, 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 judgment. 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.

In the fourth quarter of 2015, the second quarter of 2015, and the fourth quarter of 2014, we recorded goodwill impairment charges at our Technical Solutions segment of $16 million, $59 million, and $47 million, respectively. The Oil and Gas reporting unit within our Technical Solutions segment is sensitive to developments in the oil and gas industry. The goodwill impairment charges were primarily driven by continuing declines in oil prices and the resulting decreases in industry market multiples. In the fourth quarter of 2015, we also recorded an intangible asset impairment of $27 million at our Technical Solutions segment as a result of declining market conditions and updated expectations.

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 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 impairments that result in us recording additional goodwill 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 tax determination 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. Both the incoming Administration and the new Congress have offered plans to reform the federal income tax code, along with other significant policy initiatives, some of which could have a material impact on the Company.

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 in views among the joint venture participants may result in delayed decisions or in 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, in order to establish or preserve 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 review, evaluate, and consider potential acquisitions and investments. In evaluating such transactions, we make difficult judgments regarding the value of business opportunities, technologies, and other assets, the risks and costs of potential liabilities, and the future prospects of business opportunities. In addition, acquisitions and investments 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 charges for impairments of purchased intangible assets.

We are subject to various claims and litigation that could ultimately be resolved against us, requiring material future 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 matters, compliance matters, claims, and investigations, which could divert financial and management resources and result in fines, penalties, compensatory, treble or other damages, or nonmonetary relief. 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 obtain 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. More recently, the U.S. Government has asserted or sought to obtain more extensive rights in intellectual property associated with its contracts. The U.S. Government's efforts could result in a decrease in our ability to control the use of certain of our intellectual property rights in a government contracting environment. Our intellectual property is also subject to challenge, invalidation, misappropriation, or circumvention by third parties.

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 unpatented proprietary information.

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 maintain our rights in 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.

Our debt exposes us to certain risks.

As of December 31, 2016, we had $1,278 million of debt under senior notes and $1,225 million of additional borrowing capacity under our Second Amended and Restated Credit Agreement (the “Amended Credit Facility”). Our current level of debt 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, to the extent borrowings under our Amended Credit Facility 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.

Because we use a portion of our cash flow from operations to service our debt, we could fail to generate sufficient cash to fund our liquidity needs or fail to satisfy the restrictive covenants and borrowing limitations to which we are subject under our various debt arrangements. Moreover, we have significant additional borrowing capacity and may be able to incur significant additional debt in the future. To the extent new debt is added to our current debt levels, the related risks that we face could be increased.

Restrictive covenants in the indentures governing our senior notes and our Amended Credit Facility may restrict our ability to pursue our business strategies.

The terms of our Amended Credit Facility limit our ability, among other things, to:

- Incur additional debt;
- Pay dividends or make other distributions on, or repurchase or redeem, our stock;
- Prepay, redeem, or repurchase certain of our debt;
- Make investments;
- Consolidate, merge, sell, or otherwise dispose of all or substantially all of our assets; and
- Incur liens.

In addition, the terms of our Amended Credit Facility require us to maintain a maximum leverage ratio.

The indentures governing our two tranches of 5.000% senior notes limit our ability, among other things, to:

- Consolidate, merge, sell, or otherwise dispose of all or substantially all of our assets; and
- Incur liens.

These covenants may restrict our financial flexibility, limit our strategic initiatives, restrict our ability to grow, or limit our ability to respond to competitive changes. These covenants may affect how we conduct our business, and we may be unable to engage in favorable business activities or finance future operations or capital needs. These covenants may, therefore, affect our ability to successfully execute our business strategy and operate our business.

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 provide for a partially classified board of directors, 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 harm 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. Consequently, the U.S. Navy requires us to include in our contracts with the Navy provisions regarding notice and approval rights 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. We have included such provisions in solicitations for future U.S. Navy nuclear work, and we expect them to be included in future contracts with the Navy for nuclear work.

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; Avondale (New Orleans), Louisiana; Pascagoula, Mississippi; Houston, Texas; Fairfax, Hampton, Newport News, Suffolk, and Virginia Beach, Virginia; and Washington, D.C.

Ingalls - The properties comprising our Ingalls operating segment are located in Pascagoula, Mississippi, and Avondale, Louisiana.

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 50 years of the lease and beyond.

In October 2014, we ceased shipbuilding construction operations at the Avondale facility. Our Avondale shipyard is located on approximately 268 acres on the banks of the Mississippi River, approximately 12 miles upriver from downtown New Orleans. Approximately 20% of the Avondale shipyard is leased from several third parties. The leases have varying expiration dates and typically contain renewal rights. When it was operating, the Avondale shipyard site had the capacity to manufacture large amphibious assault ships and military and commercial transport vessels.

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 that 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, Maryland, primarily provide integrated missions solutions services. Properties located in Broomfield, Colorado, and Newport News, Virginia, primarily provide nuclear and environmental services. A property located in Houston, Texas provides oil and gas services.
We believe that 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 would likely have a material adverse effect on us because of our reliance on government contracts.

In January 2013, we disclosed to the DoD, including the U.S. Navy, and the U.S. Department of Homeland Security, including the U.S. Coast Guard, pursuant to the FAR, that we had initiated an internal investigation regarding whether certain employees at Ingalls mischarged time or misstated progress on Navy and Coast Guard contracts. We conducted an internal investigation, led by external counsel, and have taken remedial actions, including the termination of employees in instances where we believed grounds for termination existed. We provided information regarding our investigation to the relevant government agencies. We agreed with the U.S. Navy and U.S. Coast Guard that they would initially withhold $24 million in payments on existing contracts pending receipt of additional information from our internal investigation. The U.S. Navy has reduced its portion of the withhold from $18.2 million to $4.7 million, while expressing its view that the gross amount of potential mischarging incurred by the Navy will likely not exceed $3.1 million. The U.S. Coast Guard informed us in June 2014 that it was provisionally reducing its withhold from $5.8 million to $3.6 million. Based on the results of our internal investigation, we estimate that the maximum amount of U.S. Navy and Coast Guard mischarging is approximately $4 million. We are continuing discussions with our U.S. Government customers regarding the potential release of an additional portion of the withheld funds, but we cannot predict whether or when these customers will agree to any additional release of the withhold amounts.

In June 2015, the DoJ informed us that it is investigating the matters we disclosed to the DoD in January 2013. In July 2015, the DoJ requested information from us, and we are cooperating with the DoJ’s requests and have provided certain information to the DoJ. Depending upon the outcome of this matter, we could be subject to civil penalties, damages, and/or suspension or debarment from future U.S. Government contracts, which could have a material effect on our consolidated financial position, results of operations, or cash flows. Given the current stage of our discussions with the DoJ, we are currently unable to estimate the ultimate outcome of this matter.

Litigation - We are party to various claims and legal proceedings that arise in the ordinary course of business. Although we believe that the resolution of any of these various claims and legal proceedings 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.

In January 2011, the U.S. Department of Justice ("DoJ") first informed us through Northrop Grumman of a False Claims Act complaint (the "Complaint") that was filed under seal in the U.S. District Court for the District of

Columbia. The redacted copy of the Complaint we received alleged that, through largely unspecified fraudulent means, we and Northrop Grumman obtained federal funds that were restricted by law for the consequences of Hurricane Katrina, and used those funds to cover costs under certain shipbuilding contracts that were unrelated to Katrina and for which we and Northrop Grumman were not entitled to recovery under the contracts. The Complaint sought monetary damages of at least $835 million, plus penalties, attorneys' fees and other costs of suit. Damages under the False Claims Act may be trebled upon a finding of liability.

In July 2012, the District Court entered an order permitting us to disclose certain information not included in the redacted copy of the Complaint received by us, including the date the Complaint was filed, the decision of the DoJ to decline intervention in the case, and the principal parties involved in the case. The Complaint was filed on June 2, 2010, by relators Gerald M. Fisher and Donald C. Holmes. In December 2011, the DoJ filed a Notice of Election to Decline Intervention in the case. As of August 29, 2012, Gerald M. Fisher was no longer a relator in or party to this case. In February 2013, the U.S. District Court for the District of Columbia granted the defendants' motion to transfer venue, and the case was transferred to the U.S. District Court for the Southern District of Mississippi. We filed a motion to dismiss the case and a motion to disqualify relator Holmes, and all other matters were stayed pending resolution of those motions. In June 2015, the District Court granted our motion to disqualify Holmes as relator, dismissed the case as to Holmes, and entered final judgment in favor of us. Holmes appealed the District Court's decision to the U.S. Court of Appeals for the Fifth Circuit, and, in March 2016, the Court of Appeals affirmed the District Court's decision. Holmes filed a petition for writ of certiorari with the Supreme Court of the United States, seeking review of the Fifth Circuit decision. That petition was denied in October 2016, and the matter is now concluded.
In 2015, we received a Civil Investigative Demand from the DoJ relating to an investigation of certain allegedly non-conforming parts we purchased from one of our suppliers for use in connection with U.S. Government contracts. We have cooperated with the DoJ in connection with its investigation. In 2016, we were made aware that we are a defendant in a False Claims Act lawsuit filed under seal in the U.S. District Court for the Middle District of Florida related to our purchase of the allegedly non-conforming parts from the supplier. Depending upon the outcome of this matter, 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. The matter remains sealed and given the current posture of the matter, we are unable to estimate an amount or range of reasonably possible loss or to express an opinion regarding the ultimate outcome.

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 and $173 million in damages plus substantial interest and litigation expenses. In July 2014, the Republic filed in the arbitration a statement of defense denying all our allegations and a counterclaim alleging late redelivery of the frigates, unfinished work, and breach of warranty and asserting damages of $61 million plus interest. An arbitration hearing was held in January 2015, and we cannot predict when the arbitration panel will render a decision. No assurances can be provided regarding the ultimate outcome of this matter.

ITEM 4. MINE SAFETY DISCLOSURES

None.

ITEM 4A. EXECUTIVE OFFICERS OF THE REGISTRANT

The following table sets forth certain information as of February 10, 2017, concerning our executive officers, including a five-year employment history.

Name	Age	Position(s)
C. Michael Petters	57	President and Chief Executive Officer
Brian J. Cuccias	60	Executive Vice President and President, Ingalls Shipbuilding
Jerri F. Dickseski	54	Executive Vice President, Communications
William R. Ermatinger	53	Executive Vice President and Chief Human Resources Officer
Edgar A. Green III	51	Executive Vice President and President, Technical Solutions
Christopher D. Kastner	53	Executive Vice President, Business Management and Chief Financial Officer
Matthew J. Mulherin	57	Executive Vice President and President, Newport News Shipbuilding
Nicolas G. Schuck	43	Corporate Vice President, Controller and Chief Accounting Officer
Michael S. Smith	43	Executive Vice President, Strategy and Development
Mitchell B. Waldman	56	Executive Vice President, Government and Customer Relations
Kellye L. Walker	50	Executive Vice President and General Counsel
D. R. Wyatt	58	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.

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. Dickseski, Executive Vice President, Communications - Ms. Dickseski 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. Dickseski 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. Dickseski 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, Business Management and Chief Financial Officer - Mr. Kastner was elected Executive Vice President, Business Management 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.

Matthew J. Mulherin, Executive Vice President and President, Newport News Shipbuilding - Mr. Mulherin has been Executive Vice President and President, Newport News Shipbuilding since March 2011. From 2008 until he assumed his current position, Mr. Mulherin was Sector Vice President and General Manager, Newport News for NGSB. Since joining Newport News Shipbuilding and Dry Dock Company in 1981, Mr. Mulherin has had a variety of responsibilities, including serving as Vice President of the CVNX program, Vice President of the CVN 21 program, and Vice President of Programs for the Newport News operations, where he successfully led the aircraft carrier design and construction programs, carrier refueling and overhaul programs, and the submarine program. Mr. Mulherin holds a B.S. in Civil Engineering from Virginia Polytechnic Institute and State 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.

Michael S. Smith, Executive Vice President, Strategy and Development - Mr. Smith was appointed Executive Vice President, Strategy and Development, effective March 2016. Prior to that and since joining HII in 2014, he served as Corporate Vice President, Business Growth, and, more recently, as Corporate Vice President, Corporate Development-Nuclear and Environmental Services. Prior to joining us, Mr. Smith worked ten years at BAE Systems, most recently as Sector Vice President, Business Development, Strategy and Planning, for the Support Solutions sector. Prior to BAE, he worked at Marsh USA, Inc. as a leader of the company's nuclear risk practice and then as vice president for insurance services. Mr. Smith also served five years as a surface warfare officer in the U.S. Navy. He holds a B.S. in Industrial Engineering and a Master's Degree in Engineering Management from Stanford University.

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 General Counsel - Ms. Walker was elected Executive Vice President and General Counsel 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 Boult, 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, 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.

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".

The following table sets forth, for the periods indicated, the high and low closing sale prices of our common stock as reported in the consolidated reporting system for the New York Stock Exchange Composite Transactions:

	2016		2015	
	High	Low	High	Low
January through March	$138.52	$121.41	$144.00	$109.42
April through June	$168.03	$137.35	$142.99	$111.38
July through September	$174.09	$149.11	$128.22	$102.76
October through December	$187.96	$146.75	$136.55	$103.58

Stockholders

The approximate number of common stockholders was 18,114 as of February 10, 2017.

Dividends

Quarterly cash dividends per common share for the most recent two years were as follows:

	2016	2015
January through March	$0.50	$0.40
April through June	$0.50	$0.40
July through September	$0.50	$0.40
October through December	$0.60	$0.50

The terms of our Second Amended and Restated Credit Agreement (the “Amended Credit Facility”) limit our ability to pay dividends. See Note 14: Debt in Item 8.

Annual Meeting of Stockholders

Our Annual Meeting of Stockholders will be held on May 3, 2017, 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, 2012, to the Standard & Poor's ("S&P") 500 Index and the S&P 500 Aerospace and Defense Index.

(1) The cumulative total return assumes reinvestment of dividends.
(2) The total return is weighted according to market capitalization of each company at the beginning of each year.
(3) The S&P 500 Aerospace & Defense Index is comprised of Arconic, Inc., The Boeing Company, General Dynamics Corporation, L-3 Technologies, Inc., Lockheed Martin Corporation, Northrop Grumman Corporation, Raytheon Company, Rockwell Collins, Inc., Textron, Inc., TransDigm Group Incorporated, and United Technologies Corporation, among other companies.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

In October 2014, our board of directors authorized an increase in our stock repurchase program from $300 million to $600 million and an extension of the term of the program to October 31, 2019. In October 2015, our board of directors authorized an increase in our stock repurchase program from $600 million to $1,200 million. Repurchases are made from time to time at management's discretion in accordance with applicable federal securities laws. All repurchases of HII common stock have been recorded as treasury stock. The following table summarizes information by month relating to purchases made by or on behalf of the Company of shares of the Company's common stock during the quarter ended December 31, 2016.

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, 2016 through October 31, 2016	94,999	$156.65	94,999	$ 541.8
November 1, 2016 through November 30, 2016	133,587	155.56	133,587	521.0
December 1, 2016 through December 31, 2016	24,180	177.97	24,180	516.7
Total	252,766	$158.11	252,766	$ 516.7

Securities Authorized for Issuance Under Equity Compensation Plans

For information regarding securities authorized for issuance under our equity compensation plans, see Note 19: 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.

	Year Ended December 31				
($ in millions, except per share amounts)	2016	2015	2014	2013	2012
Sales and service revenues	$7,068	$7,020	$6,957	$6,820	$6,708
Goodwill impairment	—	75	47	—	—
Operating income (loss)	858	769	655	512	358
Net earnings (loss)	573	404	338	261	146
Total assets	6,352	6,024	6,239	6,190	6,353
Long-term debt [1]	1,278	1,273	1,562	1,665	1,740
Total long-term obligations	3,356	3,260	3,562	3,277	4,302
Net cash provided by (used in) operating activities	822	861	755	260	332
Free cash flow [2]	537	673	590	121	170
Dividends declared per share	$2.10	$1.70	$1.00	$0.50	$0.10
Basic earnings (loss) per share	$12.24	$8.43	$6.93	$5.25	$2.96
Diluted earnings (loss) per share	$12.14	$8.36	$6.86	$5.18	$2.91

[1] Long-term debt does not include the current portion of long-term debt, which is included in current liabilities.

(2) Free cash flow is a non-GAAP financial measure and represents cash from operating activities less capital expenditures. 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 and Newport News segments in Mississippi and Virginia have built more ships in more ship classes than any other U.S. naval shipbuilder. Our Technical Solutions segment provides a wide range of professional services, including fleet support, integrated missions solutions, nuclear and environmental, and oil and gas services. Headquartered in Newport News, Virginia, HII employs approximately 37,000 people operating both domestically and internationally.

We conduct most of our business with the U.S. Government, principally the DoD. As prime contractor, principal subcontractor, team member, or partner, we participate in many high-priority U.S. defense technology 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 range of services to the governmental, energy, and oil and gas markets through our Technical Solutions segment.

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

In August 2011, the BCA established limits on U.S. Government discretionary spending, including a reduction of defense spending by approximately $487 billion for fiscal years 2012 through 2021. The BCA also provided that the defense budget would face “sequestration” cuts of up to an additional $500 billion during that same period, to the extent that discretionary spending limits are exceeded, and $500 billion for non-defense discretionary spending, including the U.S. Coast Guard.

The BBA 2015 provided sequestration relief for fiscal years 2016 and 2017, but sequestration remains in effect for fiscal years 2018 through 2021. Long-term uncertainty remains with respect to overall levels of defense spending, and it is likely that U.S. Government discretionary spending levels will continue to be subject to significant pressure despite the President's recent executive order indicating the new Administration's desire to increase investment in readiness and modernization.

We cannot predict the impact that sequestration cuts or reprioritization of readiness and modernization investment may have on funding for our individual programs. 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 and 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 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, including sequestration as currently mandated, 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 that result from sequestration will have serious negative consequences for the security of our country, 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. Congress and the new Administration continue to discuss various options to address sequestration in future budget planning, but we cannot predict the outcome of these efforts. 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 defense of the United States and its allies requires the ability to respond to constantly evolving threats, terrorist acts, regional conflicts, and cyber attacks, responses to which are increasingly dependent on early threat identification. National responses to such threats can require unilateral or cooperative initiatives that include dissuasion, deterrence, active defense, security and stability operations, and peacekeeping. We believe the U.S. Government will continue to place a high priority on the protection of its engaged forces and citizenry and on minimizing collateral damage when force must be applied in pursuit of national objectives.

The United States' engagement in combating terrorism around the world, coupled with the need to modernize U.S. military forces, has driven DoD funding levels since 2001. In March 2014, the DoD released its Report of the Quadrennial Defense Review ("QDR"), a legislatively-mandated review of military strategy and priorities that shapes defense funding over the ensuing four years. The QDR built upon the 2012 Defense Strategic Guidance, prioritizing three strategic pillars: defending the homeland; building security globally by projecting U.S. influence and deterring aggression; and remaining prepared to win decisively against any adversary should deterrence fail. Guided by this updated defense strategy, DoD plans to rebalance the military over the next decade and put it on a sustainable path to protect and advance U.S. interests and sustain U.S. global leadership. The new Administration has also announced that it intends to undertake a review to assess readiness conditions, including training, equipment maintenance, munitions, modernization, and infrastructure, to guide the development of a budget amendment for fiscal year 2017, as well as budget requests for fiscals years 2018 and 2019.

We expect that the DoD execution of its strategy will require an affordable balance between investments in current missions and investments in new capabilities to meet future challenges. The DoD faces the additional challenge of recapitalizing equipment and rebuilding readiness at a time when the DoD is pursuing modernization of its capabilities, while still facing additional budget cuts from sequestration. While the BBA 2015 provided sequestration relief for fiscal years 2016 and 2017, it is unclear how sequestration could impact programs for 2018 and beyond. BCA spending caps 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 July 2016, the U.S. Navy released its 2017 Shipbuilding Plan (the "2017 Plan"), which anticipates a fleet of 308 ships comprised of 12 ballistic missile submarines, 11 nuclear-powered aircraft carriers, 48 nuclear-powered attack submarines, 88 large multi-mission surface combatants, 52 small multi-role surface combatants, 34 amphibious landing ships, 29 combat logistics force ships, and 34 support vessels. The 2017 Plan also notes that the Chief of Naval Operations and Commandant of the Marine Corps have determined that the force structure required to support a 2.0 Marine Expeditionary Brigade assault echelon is 38 amphibious ships, but due to budget pressures the 2017 Plan only supported an inventory of 34 active amphibious ships. The 2017 Plan also emphasized the requirement to replace submarines of the Ohio class as they retire. This would require that the lead Columbia class (SSBN 826) submarine be purchased in fiscal year 2021, with the second ship of the class to be purchased in fiscal year 2024, followed by funding of one Columbia class (SSBN 826) submarine each year between 2026 and 2035.

In December 2016, the U.S. Navy released the findings of a year-long Force Structure Assessment that was 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. It remains unclear whether the 2016 Force Structure Assessment will have any bearing on the outcome of the new Administration’s assessment of readiness conditions, including training, equipment maintenance, munitions, modernization, and infrastructure, that will guide the development of a budget amendment for fiscal year 2017, as well as budget requests for fiscals years 2018 and 2019.

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 a 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. The U.S. Navy must compete with other national priorities, including other defense activities and entitlement programs, for a share of federal budget funding.

The DoD continues to adjust its procurement practices, requirements criteria, and source selection methodology in an ongoing effort to reduce costs, gain efficiencies, and enhance program management and control. The most recent initiatives, included in the September 2014 BBP 3.0, are organized into eight major areas: achieve affordable programs; achieve dominant capabilities while controlling lifecycle costs; incentivize productivity in industry and government; incentivize innovation in industry and government; eliminate unproductive processes and bureaucracy; promote effective competition; improve tradecraft in acquisition of services; and improve the professionalism of the total acquisition workforce. While the impact to our business resulting from these initiatives 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 long-term contracts typically fall into one of two broad categories:

- Flexibly-Priced Contracts - Includes both cost-type and fixed-price incentive 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. Fixed-price incentive contracts also 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. Approximately 94%, 95%, and 94% of our revenues for the years ended December 31, 2016, 2015, and 2014, respectively, were generated from flexibly-priced contracts, including certain fixed-price incentive contracts that have exceeded their cost-share limit.

- 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. Time and materials contracts, which specify a fixed hourly rate for each labor hour charged, are considered firm fixed-price contracts. Approximately 6%, 5%, and 6% of our revenues for the years ended December 31, 2016, 2015, and 2014, respectively, were generated from firm fixed-price arrangements.

Contract Fees - Negotiated contract fee structures for both flexibly-priced and firm fixed-price contracts 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. Fees that we are reasonably assured of collecting and can be reasonably estimated are recorded over the performance period of the contract.

CRITICAL ACCOUNTING POLICIES, ESTIMATES, AND JUDGMENTS

Our consolidated financial statements are prepared in accordance with 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 the 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

Overview - Most of our revenues are derived from long-term contracts for the production of goods and services provided to the federal government, which are accounted for in conformity with GAAP for construction-type and production-type contracts and federal government contractors. We have other types of contracts, such as services and commercial arrangements, for which revenues are recognized upon delivery or as services are rendered once persuasive evidence of an arrangement exists, the price is fixed or determinable, and collectibility is reasonably assured. Costs related to these contracts are expensed as incurred. We classify contract revenues as product sales or service revenues depending on the predominant attributes of the relevant underlying contracts. We consider the nature of these contracts and the types of products and services provided when determining the proper accounting method for a particular contract.

Percentage-of-Completion Accounting - We generally recognize revenues from our long-term contracts under the cost-to-cost measure of the percentage-of-completion method of accounting. The percentage-of-completion method recognizes income as work on a contract progresses. For most contracts, we calculate sales based on the percentage of costs incurred in relation to total Estimated Costs at Completion of the contract ("EAC"). For certain contracts with large up-front purchases of material, sales are calculated based on the percentage that direct labor costs incurred bear to total estimated direct labor costs at completion. For certain contracts that provide for deliveries of a substantial number of similar units, sales are accounted for using units of delivery as the basis to measure progress toward completion.

The use of the percentage-of-completion method depends on our ability to make reasonably dependable cost estimates for the design, manufacture, and delivery of our products and services. Such costs are typically incurred over a period of several years, and estimation of these costs requires the use of judgment. We record sales under cost-type contracts as costs are incurred.

Many contracts contain positive and negative profit incentives based upon performance relative to predetermined targets that may occur during or subsequent to delivery of the product. These incentives take the form of potential additional fees to be earned or penalties to be incurred. Incentives and award fees that we are reasonably assured of collecting and can be reasonably estimated are recorded over the performance period of the contract. Incentives and award fees that we are not reasonably assured of collecting or cannot be reasonably estimated are recorded when awarded or at such time as a reasonable estimate can be made.

At the start of each contract, we estimate an initial profit-booking rate that considers risks related to technical requirements and feasibility, schedule, and contract costs. Management then performs periodic reviews of our contracts in order to evaluate technical matters, schedule, and contract costs. During the life of a contract, the profit-booking rate may increase as we are able to retire risks in connection with technical matters, schedule, and contract costs. Conversely, if we are not able to retire these risks, our EAC may increase, resulting in a lower profit-booking rate.

Changes in estimates of contract sales, costs, and profits are recognized using the cumulative catch-up method of accounting. This method recognizes in the current period the cumulative effect of the changes in current and prior periods. Hence, the effect of the changes in future periods of contract performance is recognized as if the revised estimate had been the original estimate. A significant change in an estimate on one or more contracts in a period could have a material effect on our consolidated financial position or results of operations for that period.

For the years ended December 31, 2016, 2015, and 2014, favorable and unfavorable cumulative catch-up adjustments were as follows:

	Year Ended December 31		
($ in millions)	2016	2015	2014
Gross favorable adjustments	$297	$304	$253
Gross unfavorable adjustments	(73)	(65)	(31)
Net adjustments	$224	$239	$222

For the year ended December 31, 2016, favorable cumulative catch-up adjustments were primarily related to risk retirement on USS John P. Murtha (LPD 26), the Virginia class (SSN 774) submarine program, Portland (LPD 27), the Legend class NSC program, and the Arleigh Burke class (DDG 51) destroyer program. During the same period, unfavorable cumulative catch-up adjustments included lower performance on the RCOH of USS Abraham Lincoln (CVN 72) and construction of Gerald R. Ford (CVN 78), as well as other individually insignificant adjustments.

For the year ended December 31, 2015, favorable cumulative catch-up adjustments were primarily related to risk retirement on the Virginia class (SSN 774) submarine program, the Legend class NSC program, and the San Antonio class (LPD 17) program, including delivered ships, the resolution of outstanding contract changes on the America class (LHA 6) program and the RCOH of USS Theodore Roosevelt (CVN 71), and contract impacts of the Aon litigation settlement. During the same period, unfavorable cumulative catch-up adjustments included lower performance on Gerald R. Ford (CVN 78), as well as other individually insignificant adjustments.

For the year ended December 31, 2014, favorable cumulative catch-up adjustments were primarily related to risk retirement on the Virginia class (SSN 774) submarine program, the Legend class NSC program, the San Antonio class (LPD 17) program, including delivered LPD ships, and the construction contract for Gerald R. Ford (CVN 78). During the same period, none of the unfavorable cumulative catch-up adjustments were individually significant.

Cost Estimation - The cost estimation process requires significant judgment and is based upon the professional knowledge and experience of our engineers, program managers, and financial professionals. Factors we consider 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 delays in performance, the availability and timing of funding from the customer, and the recoverability of any claims included in the estimates to complete. A significant change in an estimate on one or more contracts in a period could have a material effect on our consolidated financial position or results of operations for that period, and, where such changes occur, separate disclosure is made of the nature, underlying conditions, and financial impact of the change. We update our contract cost estimates at least annually and more frequently as determined by events or circumstances. We review and assess our cost and revenue estimates for each significant contract on a quarterly basis.

We record a provision for the entire loss on a contract in the period the loss is determined when estimates of total costs to be incurred on the contract exceed estimates of total revenues to be earned. We offset loss provisions first against costs that are included in unbilled accounts receivable or inventoried costs, with any remaining amount reflected in other current liabilities.

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, 2016 and 2015, was $1,234 million and $956 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 first 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 perform a second step to estimate the fair value of goodwill, based in part on the fair value of the underlying operations. We record a charge to operations when we determine that the recorded amount of goodwill exceeds its fair value during this second step.

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, 2016 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, 2016.

In conjunction with the realignment of our operations on December 1, 2016, we allocated goodwill among new and realigned reporting units based on the relative fair values of the reporting units being realigned. As a result, during the fourth quarter of 2016, we performed a quantitative assessment of goodwill immediately after the realignment for each of the reporting units impacted by our realignment. Based on this quantitative assessment no impairment charge was necessary as a result of the realignment.

November 30, 2015 and December 31, 2015 Impairment Tests - We performed our annual goodwill impairment test as of November 30, 2015, and, while the annual impairment test did not result in an impairment, considering the limited excess fair value of goodwill over its carrying value in our Oil and Gas reporting unit and the continued decline in oil prices and related industry activity levels, we performed an interim assessment of goodwill as of December 31, 2015. Our determination of fair value as of December 31, 2015, considered industry events that occurred in the period since our annual goodwill impairment test, as well as the updated long term outlook for this reporting unit. Those events included continued deterioration in the oil and gas markets, numerous industry-wide project deferrals, and capital spending cuts announced by industry leaders. The analysis concluded the fair value of this reporting unit was less than its carrying value as of December 31, 2015, and we recorded a goodwill impairment charge of $16 million at our Oil and Gas reporting unit in our Technical Solutions segment in the fourth quarter of 2015. We determined that the estimated fair values of our remaining reporting units significantly exceeded their corresponding carrying values as of November 30, 2015.

May 31, 2015 Impairment Test - We continuously monitor industry events and changes in circumstances in the industries in which our reporting units conduct business. In consideration of the Oil and Gas reporting unit’s sensitivity to developments within its industry, the continued decline in crude oil prices, significant reductions in its customer capital spending plans, and project delays, we concluded an interim goodwill impairment test was necessary to determine whether it was more likely than not that the fair value of our Oil and Gas reporting unit was still higher than its carrying value as of May 31, 2015. Our assessment considered the aforementioned changes to expectations that were considered as part of our annual goodwill impairment test as of November 30, 2014. As a result of our analysis, we recorded a $59 million goodwill impairment charge at our Oil and Gas reporting unit in our Technical Solutions segment in the second quarter of 2015.

November 30, 2014 Impairment Test - We performed our annual goodwill impairment testing as of November 30, 2014, and determined that goodwill at our Oil and Gas reporting unit in our Technical Solutions segment was impaired by $47 million. The goodwill impairment charge was primarily driven by the drop in oil prices and the resulting decrease in industry market multiples. We determined that the estimated fair values of our remaining reporting units significantly exceeded their corresponding carrying values as of November 30, 2014.

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

December 31, 2015 Impairment Test - We performed an impairment test as of December 31, 2015, on the amortizable intangible assets that arose from the UPI acquisition, which reside in our Oil and Gas reporting unit within our Technical Solutions segment. The Oil and Gas asset group’s long-lived intangible assets consist primarily of customer relationships and, to a lesser degree, trade name and developed technology. We performed our impairment test considering the latest market conditions and expectations, as well as lower anticipated revenue and profitability. Based on the nature of UPI's intangible assets, we performed the recoverability test at the reporting unit level. In connection with the recoverability test, we reevaluated the remaining useful lives of the intangible assets and determined the total undiscounted pretax cash flows generated by the reporting unit over the remaining useful life of the primary asset, customer relationships. The carrying amount of the reporting unit was greater than the total undiscounted pretax cash flows, and, as a result, the intangible assets were written down by $27 million, charged against cost of sales and service revenues within income from operations at our Oil and Gas reporting unit in our Technical Solutions segment.

Litigation, Commitments and Contingencies

Overview - We are subject to a range of claims, lawsuits, environmental and income tax matters, and administrative proceedings 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 amounts as 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 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 December 31, 2016 and 2015, were $19 million and $18 million, respectively, and consist primarily of obligations associated with the wind down of shipbuilding operations at our Avondale facility. 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, 2016, 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 these facilities 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 claims and 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 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 13: 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 income, 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 18: 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 outlines 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 (loss) within general and administrative expenses. For the years ended December 31, 2016, 2015, and 2014, our CAS costs in excess of FAS expenses were $145 million, $104 million, and $72 million, respectively.

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.

During 2012, the Moving Ahead for Progress in the 21st Century Act ("MAP-21") was enacted. MAP-21 included provisions for potential pension relief to plan sponsors in the form of higher interest rate assumptions that were used to determine minimum funding requirements. The relief derived from these provisions was to be phased out to lower levels over the next few years. The enactment of the Highway and Transportation Funding Act (“HATFA”) in 2014 and BBA 2015 successively provided for the continuation of higher interest rate assumptions used to determine minimum funding requirements and extended the pension relief phase-out period. We consider the effects of legislation such as MAP-21, HATFA, and BBA 2015 in the context of current year and future projected funded status levels in deciding the level of contributions to make to our plans each year.

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.

When PPA was enacted, it was anticipated that the amounts required to be funded would exceed government contractors' recovery of those costs under CAS. To remedy this cash flow misalignment, on December 27, 2011, the U.S. Cost Accounting Standards Board issued its final CAS Harmonization Rule ("Harmonization"). Harmonization is intended to improve the alignment of the pension cost recovered through contract pricing under CAS and the pension funding requirements under the PPA. Harmonization became effective for forward pricing purposes for contracts negotiated on or after February 27, 2012. Under Harmonization, only contracts entered into before the effective date qualify for an equitable adjustment. Price proposals for CAS covered contracts awarded on or after the effective date of February 27, 2012, reflect the effects of the rule. Harmonization affects pension costs on contracts over a phase-in period ending in 2017. Our CAS pension cost recoveries are expected to remain unaffected by the pension relief provisions offered under MAP-21, HATFA, and BBA 2015 because of the method permitted under Harmonization we use to determine the CAS interest rate, which is a current market rate.

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 4.47% and 4.73% as of December 31, 2016 and 2015, respectively. Our weighted average discount rate for other postretirement benefits was 4.38% and 4.58% as of December 31, 2016 and 2015, 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 7.50% expected long-term rate of return assumption to record 2016 and 2015 pension expense. Our 2017 expected long-term rate of return assumption is 7.25%, a decrease of 0.25% from 2016, based on our updated view of portfolio and market expectations.

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. If the IRS publishes updated mortality tables for funding purposes, our pension contributions might be affected.

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 from actual experience or changes in assumptions are deferred in accumulated other comprehensive income. 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 2016, the actual return on assets was approximately 6.9%, which was less than the expected return assumption of 7.5%. For the year ended December 31, 2016, the weighted average discount rates for our pension and other postretirement benefit plans decreased by 26 and 20 basis points, respectively. These differences in asset returns and discount rates resulted in an actuarial loss of $25 million and an actuarial loss of $241 million, respectively, as of December 31, 2016.

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 2017 Expense	Increase (Decrease) in December 31, 2016 Obligations
25 basis point decrease in discount rate	$ 21	$ 228
25 basis point increase in discount rate	(20)	(216)
25 basis point decrease in expected return on assets	13	
25 basis point increase in expected return on assets	(13)	

Assuming a 7.25% expected return on asset 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 or other interest rates generally did not impact CAS costs. Under 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 bonds. When Harmonization is fully phased in, the greater of the two liabilities will be used for CAS cost calculations. Generally, liabilities based on a discount rate of high quality bonds will be higher than liabilities calculated prior to Harmonization. The four year phase in period that will be completed in 2017 requires the use of a blend of the pre and post Harmonization liabilities.

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 employee's average future service life of approximately 12 years. Under CAS, actuarial gains and losses were amortized over a 15-year period without regard to a corridor approach. Under Harmonization, the amortization period for CAS changed to 10 years for actuarial gains and losses beginning in 2013. 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 Adjustment in 2016 and 2015 was a net benefit of $145 million and $104 million, respectively. The favorable change was primarily driven by the continued phase-in of Harmonization. The FAS/CAS Adjustment in 2014 was a net benefit of $72 million. The favorable change from 2014 to 2015 was driven by the phase-in of Harmonization and better than expected 2014 asset returns, partially offset by higher FAS expense primarily due to lower discount rates at the end of 2014. Our projected 2017 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, 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 18: Employee Pension and Other Postretirement Benefits, in Item 8.

Accumulated Other Comprehensive Income - 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 income along with unrecognized prior service costs arising from plan amendments. As disclosed in Note 18: Employee Pension and Other Postretirement Benefits in Item 8, net pre-tax unrecognized actuarial losses as of December 31, 2016 and 2015 were $1,583 million and $1,412 million, respectively. The increase in these actuarial losses in 2016 was primarily driven by a decrease in the discount rates used to determine benefit obligations, which accounted for $241 million, and by 2016 actual asset returns being less than expected by $25 million, and $78 million of amortization of previously unrecognized actuarial losses.

Net pre-tax unrecognized prior service costs (credits) as of December 31, 2016 and 2015 were $(18) million and $(19) million, respectively. These net deferred costs (credits) primarily originated from plan amendments, including those resulting from collective bargaining agreements. The decrease in unrecognized prior service costs (credits) in 2016 primarily resulted from 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 required 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 2.54% and 2.12% as of December 31, 2016 and 2015, 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 $(46) million and $56 million, respectively. The workers' compensation benefit obligation on an undiscounted basis was $835 million and $825 million as of December 31, 2016 and 2015, respectively.

Accounting Standards Updates

See Note 3: Accounting Standards Updates in Item 8 for information related to accounting standards updates.

CONSOLIDATED OPERATING RESULTS

Selected financial highlights are presented in the following table:

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Sales and service revenues	$7,068	$7,020	$6,957	$48	1 %	$63	1 %
Cost of product sales and service revenues	5,608	5,517	5,540	91	2 %	(23)	— %
Income (loss) from operating investments, net	6	10	11	(4)	(40)%	(1)	(9)%
Other income and gains	15	—	—	15	— %	—	— %
General and administrative expenses	623	669	726	(46)	(7)%	(57)	(8)%
Goodwill impairment	—	75	47	(75)	(100)%	28	60 %
Operating income (loss)	858	769	655	89	12 %	114	17 %
Interest expense	74	137	149	(63)	(46)%	(12)	(8)%
Other income	—	—	1	—	— %	(1)	(100)%
Federal and foreign income taxes	211	228	169	(17)	(7)%	59	35 %
Net earnings (loss)	$573	$404	$338	$169	42 %	$66	20 %

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:

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Product sales	$5,631	$5,665	$5,712	$(34)	(1)%	$(47)	(1)%
Service revenues	1,437	1,355	1,245	82	6 %	110	9 %
Sales and service revenues	$7,068	$7,020	$6,957	$48	1 %	$63	1 %

2016 - Product sales in 2016 decreased $34 million, or 1%, from 2015. Product sales at our Ingalls segment increased $138 million in 2016, primarily as a result of higher volumes in surface combatants, partially offset by lower volumes in the Legend class NSC program. Newport News product sales decreased $275 million in 2016, primarily as a result of lower volumes in aircraft carriers. Technical Solutions product sales increased $103 million in 2016, primarily as a result of higher volumes in nuclear and environmental products.

Service revenues in 2016 increased $82 million, or 6%, from 2015. Service revenues at our Ingalls segment increased $63 million in 2016, as a result of higher volumes in surface combatants and amphibious assault ships services. Service revenues at our Newport News segment increased $65 million in 2016, primarily as a result of higher volumes in submarines and naval nuclear support services. Service revenues at our Technical Solutions segment decreased $46 million in 2016, primarily due to lower volumes in nuclear and environmental, fleet support, and oil and gas services, partially offset by higher volumes in integrated mission solutions services following the acquisition of Camber.

2015 - Product sales in 2015 decreased $47 million, or 1%, from 2014. Product sales at our Ingalls segment decreased $115 million in 2015, primarily due to lower volumes in amphibious assault ships and the Legend class NSC program, partially offset by higher volumes in surface combatants. Newport News product sales increased $45 million in 2015, as a result of higher volumes in submarines, partially offset by lower volumes in aircraft carriers. Technical Solutions product sales increased $23 million in 2015, as a result of higher volumes in nuclear and environmental fabrication.

Service revenues in 2015 increased $110 million, or 9%, from 2014. Service revenues at our Ingalls segment increased $17 million in 2015, as a result of higher volumes in surface combatants services. Service revenues at our Newport News segment increased $126 million in 2015, primarily driven by higher volumes in naval nuclear support services. Service revenues at our Technical Solutions segment decreased $33 million in 2015, primarily due to lower volumes in nuclear and environmental services, partially offset by higher volumes in fleet support 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:

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Cost of product sales	$4,380	$4,319	$4,489	$61	1 %	$(170)	(4)%
% of product sales	77.8 %	76.2 %	78.6 %	—		—	
Cost of service revenues	1,228	1,198	1,051	30	3 %	147	14 %
% of service revenues	85.5 %	88.4 %	84.4 %	—		—	
Income (loss) from operating investments, net	6	10	11	(4)	(40)%	(1)	(9)%
Other income and gains	15	—	—	15	— %	—	— %
General and administrative expenses	623	669	726	(46)	(7)%	(57)	(8)%
% of total sales and service revenues	8.8 %	9.5 %	10.4 %	—		—	
Goodwill impairment	—	75	47	(75)	(100)%	28	60 %
Cost of sales and service revenues	$6,210	$6,251	$6,302	$(41)	(1)%	$(51)	(1)%

Cost of Product Sales

2016 - Cost of product sales in 2016 increased $61 million, or 1%, compared to 2015. Cost of product sales at our Ingalls segment increased $194 million in 2016, primarily as a result of the impact in 2015 of the settlement of the Aon litigation and the volume changes described above, partially offset by higher risk retirement in the San Antonio class (LPD 17) program. Cost of product sales at our Newport News segment decreased $220 million in 2016, primarily as a result of the volume changes described above, partially offset by lower risk retirement in the Virginia class (SSN 774) submarine program. Cost of product sales at our Technical Solutions segment increased $87 million in 2016, primarily due to the higher volumes described above. Cost of product sales as a percentage of product sales increased from 76.2% in 2015 to 77.8% in 2016, primarily driven by the impact in 2015 of the settlement of the Aon litigation and lower risk retirement in the Virginia class (SSN 774) submarine program, partially offset by higher risk retirement in the San Antonio class (LPD 17) program.

2015 - Cost of product sales in 2015 decreased $170 million, or 4%, compared to 2014. Cost of product sales at our Ingalls segment decreased $225 million in 2015, primarily due to the settlement of the Aon litigation and the lower sales volumes described above. Cost of product sales at our Newport News segment increased $34 million in 2015, primarily due to the higher sales volumes described above and year-to-year variances in contract mix. Cost of product sales at our Technical Solutions segment increased $21 million in 2015, primarily due to the higher sales volumes described above. Cost of product sales as a percentage of product sales decreased from 78.6% in 2014 to 76.2% in 2015, primarily driven by the settlement of the Aon litigation, higher performance in amphibious assault ships, and year-to-year variances in contract mix, partially offset by lower performance in aircraft carriers.

Cost of Service Revenues

2016 - Cost of service revenues in 2016 increased $30 million, or 3%, compared to 2015. Cost of service revenues at our Ingalls segment increased $66 million in 2016, primarily as a result of the higher sales volumes described above. Cost of service revenues at our Newport News segment increased $32 million in 2016, primarily as a result of the higher sales volumes described above. Cost of service revenues at our Technical Solutions segment decreased $68 million in 2016, as a result of the intangible asset impairment charge in 2015 and the lower sales volumes described above. Cost of service revenues as a percentage of service revenues declined from 88.4% in 2015 to 85.5% in 2016, primarily driven by the intangible asset impairment charge in 2015, improved performance in fleet support services in 2016, and year-to-year variances in contract mix.

2015 - Cost of service revenues in 2015 increased $147 million, or 14%, compared to 2014. Cost of service revenues at our Ingalls segment increased $15 million in 2015, primarily as a result of the higher sales volumes described above. Cost of service revenues at our Newport News segment increased $119 million in 2015, primarily as a result of the higher sales volumes described above. Cost of service revenues at our Technical Solutions segment increased $13 million in 2015, primarily as a result of the intangible asset impairment charge, partially offset by the lower sales volumes described above. Cost of service revenues as a percentage of service revenues increased from 84.4% in 2014 to 88.4% in 2015, primarily driven by the intangible asset impairment charge and lower performance in oil and gas services, as well as lower performance in aircraft carriers services and year-to-year variances in contract mix.

Income (Loss) 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.

2016 - Income from operating investments, net decreased $4 million, or 40%, to $6 million in 2016 from $10 million in 2015. The decrease resulted from lower equity income from our Savannah River Nuclear Solutions, LLC investment.

2015 - Income from operating investments, net decreased $1 million, or 9%, to $10 million in 2015 from $11 million in 2014. The decrease resulted from lower equity income from our Savannah River Nuclear Solutions, LLC investment.

Other Income and Gains

2016 - Other income and gains increased $15 million in 2016 compared to 2015. The increase resulted from state and local government grants at our Newport News 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.

2016 - General and administrative expenses in 2016 decreased $46 million, or 7%, compared to 2015. This decrease was primarily driven by favorable changes in the FAS/CAS Adjustment and lower current state tax expense.

2015 - General and administrative expenses in 2015 decreased $57 million, or 8%, compared to 2014. This decrease was primarily the result of a favorable change in the FAS/CAS Adjustment and lower overhead costs, offset by the inclusion of UPI and higher state tax expense.

Impairment of Goodwill

As discussed above under 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.

We recorded goodwill impairment charges in 2015 and 2014 of $75 million and $47 million, respectively, in our Technical Solutions segment. See Note 12: Goodwill and Other Purchased 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 FAS/CAS Adjustment and non-current state income taxes, neither of which affects segment performance, because neither is an allowable cost under our U.S. Government contracts. 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 segment operating income to operating income:

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Segment operating income (loss)	$715	$667	$585	$48	7 %	$82	14 %
FAS/CAS Adjustment	145	104	72	41	39 %	32	44 %
Non-current state income taxes	(2)	(2)	(2)	—	— %	—	— %
Operating income (loss)	$858	$769	$655	$89	12 %	$114	17 %

Segment Operating Income

2016 - Segment operating income in 2016 was $715 million, compared to $667 million in 2015. The increase was primarily due to the goodwill and intangible asset impairment charges in the Technical Solutions segment in 2015, higher risk retirement on the San Antonio class (LPD 17) program, favorable changes in overhead cost, and the receipt of a local government incentive grant, partially offset by the impact in 2015 of the settlement of the Aon litigation, lower risk retirement in the Virginia class (SSN 774) submarine program, and lower volume and lower risk retirement on the execution contract for the RCOH of USS Abraham Lincoln (CVN 72).

2015 - Segment operating income in 2015 was $667 million, compared to $585 million in 2014. The increase was primarily due to the settlement of the Aon litigation, higher performance and volumes in submarines, and higher performance on amphibious assault ships, partially offset by the goodwill and intangible asset impairment charges in the Technical Solutions segment and lower performance on aircraft carriers.

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

FAS/CAS Adjustment

The FAS/CAS Adjustment represents the difference between our pension and postretirement plan expense under FAS and under CAS.

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
FAS expense	$(161)	$(168)	$(155)	$7	4 %	$(13)	(8)%
CAS cost	306	272	227	34	13 %	45	20 %
FAS/CAS Adjustment	$145	$104	$72	$41	39 %	$32	44 %

2016 - The FAS/CAS Adjustment in 2016 was a net benefit of $145 million, compared to a net benefit of $104 million in 2015. The favorable change was primarily driven by the continued phase-in of Harmonization.

2015 - The FAS/CAS Adjustment in 2015 was a net benefit of $104 million, compared to a net benefit of $72 million in 2014. The favorable change was driven by the phase-in of Harmonization and better than expected 2014 asset returns, partially offset by higher FAS expense primarily due to lower discount rates at the end of 2014.

We expect the FAS/CAS Adjustment in 2017 to be a net benefit of approximately $198 million ($167 million FAS and $365 million CAS), primarily driven by the continued phase-in of Harmonization. The expected FAS/CAS Adjustment is subject to change during 2017, 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.

2016 - Non-current state income tax expense remained constant at $2 million in 2016 and 2015. Deferred state income tax expense in 2016 was $8 million as compared to deferred state income tax expense of less than $1 million in 2015. The increase in deferred state income tax expense was primarily attributable to changes in the timing of contract taxable income and pension related adjustments. In 2016, the decrease in state uncertain tax positions resulted in a net tax benefit of $6 million, as compared to $2 million of tax expense in 2015. The state uncertain tax position was settled through agreement with the applicable taxing authority and was partially offset by the recognition of a non-current state tax expense in a different jurisdiction impacted by the results of the settlement. See Note 13: Income Taxes.

2015 - The non-current state income tax expense remained constant at $2 million in 2015 and 2014. Non-current state income tax expense in 2015 was primarily attributable to changes in the timing of contract taxable income and pension related adjustments, partially offset by a reduction in the valuation allowance for state tax credit carryforwards.

Interest Expense

2016 - Interest expense in 2016 was $74 million, compared to $137 million in 2015. The decrease was primarily a result of refinancing $600 million principal amount of 7.125% senior notes with 5.000% senior notes and repayment in 2015 of credit facility term loans, as well as the loss on early extinguishment of debt in 2015. See Note 14: Debt in Item 8.

2015 - Interest expense in 2015 was $137 million, compared to $149 million in 2014. The decrease was primarily a result of refinancing $600 million principal amount of 6.875% senior notes with 5.000% senior notes and repayment in full of the term loans, partially offset by loss on early extinguishment of debt. See Note 14: Debt in Item 8.

Federal and Foreign Income Taxes

2016 - Our effective tax rate on earnings from continuing operations was 26.9% in 2016, compared to 36.1% in 2015. The decrease in our effective tax rate for 2016 was primarily attributable to the adoption of ASU 2016-09, which reduced income tax expense by the income tax benefits resulting from stock award settlement activity, a re-measurement of uncertain tax positions that resulted in a decrease in cumulative unrecognized tax benefits, and the goodwill impairment that was recorded in 2015. See Note 13: Income Taxes.

2015 - Our effective tax rate on earnings from continuing operations was 36.1% in 2015, compared to 33.3% in 2014. The increase in our effective tax rate for 2015 was primarily attributable to adjustments to the domestic manufacturing deduction and an increase in the goodwill impairment that is not amortizable for tax purposes.

SEGMENT OPERATING RESULTS

Basis of Presentation

We are aligned into three reportable segments: Ingalls, Newport News, and Technical Solutions. We established the Technical Solutions segment in the fourth quarter of 2016 in conjunction with our acquisition of Camber and realignment of management oversight of operations to enhance strategic and operational alignment among our services businesses. As a result of this realignment, our non-nuclear fleet support and nuclear and environmental services were transferred from our Newport News segment to our Technical Solutions segment. Our oil and gas services were transferred from our Other segment to our Technical Solutions segment, and our Other segment was dissolved. We have reflected the 2016 realignment in prior reporting periods on a retrospective basis, which has resulted in the transfer of revenue, operating profit, assets, and liabilities between our Technical Solutions, Newport News, and Other segments. None of these changes impacted our previously reported consolidated financial position, results of operations, or cash flows.

On December 1, 2016, we completed the acquisition of Camber. In 2015, we completed the acquisition of USG, and, in 2014, we completed the acquisitions of UPI and SN3. We report the post-acquisition results of operations, financial position, and cash flows of Camber, USG, UPI, and SN3 as part of our Technical Solutions segment.

Segment operating results are presented in the following table:

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Sales and Service Revenues							
Ingalls	$2,389	$2,188	$2,286	$201	9 %	$(98)	(4)%
Newport News	4,089	4,298	4,126	(209)	(5)%	172	4 %
Technical Solutions	691	616	627	75	12 %	(11)	(2)%
Intersegment eliminations	(101)	(82)	(82)	(19)	(23)%	—	— %
Sales and service revenues	$7,068	$7,020	$6,957	$48	1 %	$63	1 %
Operating Income (Loss)							
Ingalls	$321	$379	$229	$(58)	(15)%	$150	66 %
Newport News	386	401	389	(15)	(4)%	12	3 %
Technical Solutions	8	(113)	(33)	121	107 %	(80)	(242)%
Segment operating income (loss)	715	667	585	48	7 %	82	14 %
Non-segment factors affecting operating income (loss)							
FAS/CAS Adjustment	145	104	72	41	39 %	32	44 %
Non-current state income taxes	(2)	(2)	(2)	—	— %	—	— %
Operating income (loss)	$858	$769	$655	$89	12 %	$114	17 %

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, including the 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 a particular 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

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Sales and service revenues	$2,389	$2,188	$2,286	$201	9 %	$(98)	(4)%
Segment operating income (loss)	321	379	229	(58)	(15)%	150	66 %
As a percentage of segment sales	13.4 %	17.3 %	10.0 %				

Sales and Service Revenues

2016 - Ingalls revenues, including intersegment sales, increased $201 million, or 9%, in 2016 compared to 2015, primarily driven by higher revenues in surface combatants and amphibious assault ships, partially offset by lower revenues in the Legend class NSC program. Surface combatants revenues increased due to higher volumes on Frank E. Petersen Jr. (DDG 121), Lenah H. Sutcliffe Higbee (DDG 123), and planning yard services, partially offset by lower volume on John Finn (DDG 113) in connection with its delivery in 2016. The increase in amphibious assault ships revenues was due to higher volumes on Fort Lauderdale (LPD 28), Tripoli (LHA 7), and Bougainville (LHA 8), partially offset by lower volumes on Portland (LPD 27) and USS John P. Murtha (LPD 26) following its delivery in 2016. Revenues on the Legend class NSC program decreased due to delivery of USCGC James (NSC 5) in 2015 and lower volume on Munro (NSC 6), partially offset by higher volume on Midgett (NSC 8).

2015 - Ingalls revenues, including intersegment sales, decreased $98 million, or 4%, in 2015 compared to 2014, driven by lower revenues in amphibious assault ships and the Legend class NSC program, partially offset by higher revenues in surface combatants. The decrease in amphibious assault ships revenues was due to lower volumes on USS John P. Murtha (LPD 26), Portland (LPD 27), and USS America (LHA 6), partially offset by higher volume on Tripoli (LHA 7). Revenues on the Legend class NSC program decreased due to lower volumes on USCGC Hamilton (NSC 4) and USCGC James (NSC 5), partially offset by higher volumes on Kimball (NSC 7) and Midgett (NSC 8). Surface combatants revenues increased due to higher volumes on Delbert D. Black (DDG 119) and Frank E. Petersen Jr. (DDG 121), partially offset by lower volumes in the Zumwalt class (DDG 1000) destroyer program.

Segment Operating Income

2016 - Ingalls operating income in 2016 was $321 million, compared to income of $379 million in 2015. The decrease was primarily due to the impact in 2015 of the settlement of the Aon litigation and lower risk retirement on the America class (LHA 6) program, partially offset by higher risk retirement on USS John P. Murtha (LPD 26), Portland (LPD 27), and Ralph Johnson (DDG 114).

2015 - Ingalls operating income in 2015 was $379 million, compared to income of $229 million in 2014. The increase was primarily due to the Aon litigation settlement, the resolution of outstanding contract changes and higher performance on the America class (LHA 6) program, as well as higher performance on the Legend class NSC program, partially offset by the lower volumes described above.

Newport News

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Sales and service revenues	$4,089	$4,298	$4,126	$(209)	(5)%	$172	4 %
Segment operating income (loss)	386	401	389	(15)	(4)%	12	3 %
As a percentage of segment sales	9.4 %	9.3 %	9.4 %				

Sales and Service Revenues

2016 - Newport News revenues, including intersegment sales, decreased $209 million, or 5%, in 2016 compared to 2015, primarily driven by lower revenues in aircraft carriers. Aircraft carriers revenues decreased primarily as a result of lower volumes on Gerald R. Ford (CVN 78) and the execution contract for the RCOH of USS Abraham Lincoln (CVN 72), partially offset by higher volumes on John F. Kennedy (CVN 79) and the advance planning contract for the RCOH of USS George Washington (CVN 73). Submarines revenues related to the Virginia class (SSN 774) submarine program were relatively constant in 2016 compared to 2015 due to higher volumes on Block IV boats and USS John Warner (SSN 785) post-shakedown availability services, offset by lower volumes on Block III boats.

2015 - Newport News revenues, including intersegment sales, increased $172 million, or 4%, in 2015 compared to 2014, primarily driven by higher revenues in submarines and naval nuclear support services, partially offset by lower revenues in aircraft carriers. Submarines revenues related to the Virginia class (SSN 774) submarine program were higher due to higher volumes on Block IV boats, partially offset by lower volumes on Block III boats. Higher revenues in naval nuclear support services were primarily due to higher volumes associated with aircraft carrier support services. Aircraft carrier revenues decreased due to lower volumes on the execution contract for the RCOH of USS Abraham Lincoln (CVN 72) and the construction contract for Gerald R. Ford (CVN 78), partially offset by higher volume on the construction contract for John F. Kennedy (CVN 79).

Segment Operating Income

2016 - Newport News operating income in 2016 was $386 million, compared to income of $401 million in 2015. The decrease was primarily due to lower risk retirement in the Virginia class (SSN 774) submarine program, lower volume and lower risk retirement on the execution contract for the RCOH of USS Abraham Lincoln (CVN 72) and lower volume on Gerald R. Ford (CVN 78), partially offset by favorable changes in overhead cost, and higher volumes on John F. Kennedy (CVN 79) and the RCOH of USS George Washington (CVN 73), as well as the receipt of a local government incentive grant.

2015 - Newport News operating income in 2015 was $401 million, compared to income of $389 million in 2014. The increase was due to higher volumes and performance on the Virginia class (SSN 774) submarine program and the resolution of outstanding contract changes on the RCOH of USS Theodore Roosevelt (CVN 71), partially offset by lower performance on the construction contract for Gerald R. Ford (CVN 78) and lower volumes in aircraft carriers RCOH programs.

Technical Solutions

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Sales and service revenues	$691	$616	$627	$75	12 %	$(11)	(2)%
Segment operating income (loss)	8	(113)	(33)	121	107 %	(80)	(242)%
As a percentage of segment sales	1.2 %	(18.3)%	(5.3)%				

Sales and Service Revenues

2016 - Technical Solutions revenues, including intersegment sales, for the year ended December 31, 2016, increased $75 million, or 12%, compared to 2015, primarily due to higher nuclear and environmental and fleet support revenues, as well as the acquisition of Camber, partially offset by lower revenues in oil and gas services. Nuclear and environmental revenues increased due to higher volumes and the resolution of outstanding contract changes on a commercial contract, partially offset by lower volumes associated with environmental remediation programs.

2015 - Technical Solutions revenues, including intersegment sales, for the year ended December 31, 2015, decreased $11 million, or 2%, compared to 2014, primarily due to lower nuclear and environmental and oil and gas revenues, partially offset by higher fleet support revenues.

Segment Operating Income

2016 - Operating income in the Technical Solutions segment for the year ended December 31, 2016, was $8 million, compared to an operating loss of $113 million in 2015. The increase was primarily due to goodwill and intangible asset impairment charges in 2015 and the resolution of outstanding contract changes on a nuclear and environmental commercial contract.

2015 - Operating loss in the Technical Solutions segment for the year ended December 31, 2015, was $113 million, compared to an operating loss of $33 million in 2014. The increased loss was primarily due to higher goodwill and intangible asset impairment charges in 2015 and lower performance in oil and gas services.

BACKLOG

Total backlog as of December 31, 2016, was approximately $21 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 Indefinite Delivery/Indefinite Quantity 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, 2016 and 2015:

	December 31, 2016			December 31, 2015		
($ in millions)	Funded	Unfunded	Total Backlog	Funded	Unfunded	Total Backlog
Ingalls	$6,033	$ 692	$6,725	$5,153	$ 1,290	$6,443
Newport News	5,799	7,127	12,926	5,759	9,449	15,208
Technical Solutions	712	661	1,373	347	64	411
Total backlog	$12,544	$ 8,480	$21,024	$11,259	$ 10,803	$22,062

We expect approximately 30% of the $21 billion total backlog as of December 31, 2016, to be converted into sales in 2017. U.S. Government orders comprised substantially all of the backlog as of December 31, 2016 and 2015.

Awards

2016 - The value of new contract awards during the year ended December 31, 2016, was approximately $5.2 billion. Significant new awards during this period included contracts for the detail design and construction of Fort Lauderdale (LPD 28), the construction of NSC 9 (unnamed), planning, advanced engineering, and procurement of long-lead material for Bougainville (LHA 8), and additional advance planning for the RCOH of USS George Washington (CVN 73).

2015 - The value of new contract awards during the year ended December 31, 2015, was approximately $7.6 billion. Significant new awards in 2015 included contracts for detail design and construction for John F. Kennedy (CVN 79), construction of Midgett (NSC 8), continued construction of Gerald R. Ford (CVN 78), and advance planning for the RCOH of USS George Washington (CVN 73).

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.

We elected to early adopt ASU 2016-09, as of January 1, 2016. Accordingly, income tax benefits resulting from stock award settlement activity were reported as operating activities in our consolidated statements of cash flows. Prior year tax benefits were retrospectively adjusted in our consolidated statements of cash flows to conform to the current year presentation. In accordance with the new standard, we will continue to present all cash payments made to taxing authorities on behalf of employees for withheld shares as financing activities in our consolidated statements of cash flows.

The following table summarizes key components of cash flow provided by (used in) operating activities:

	Year Ended December 31			2016 over 2015		2015 over 2014	
($ in millions)	2016	2015	2014	Dollars	Percent	Dollars	Percent
Net earnings (loss)	$573	$404	$338	$169	42 %	$66	20 %
Depreciation and amortization	191	188	205	3	2 %	(17)	(8)%
Stock-based compensation	36	43	34	(7)	(16)%	9	26 %
Deferred income taxes	85	(15)	(22)	100	667 %	7	32 %
Retiree benefit funding less than (in excess of) expense	(44)	32	(4)	(76)	(238)%	36	900 %
Insurance proceeds for investing purposes	—	(21)	—	21	100 %	(21)	— %
Impairment of goodwill and intangible assets	—	102	47	(102)	(100)%	55	117 %
Loss on early extinguishment of debt	—	44	37	(44)	(100)%	7	19 %
Trade working capital decrease (increase)	(19)	84	120	(103)	(123)%	(36)	(30)%
Net cash provided by (used in) operating activities	$822	$861	$755	$(39)	(5)%	$106	14 %

Cash Flows

We discuss below our major operating, investing, and financing activities for each of the three years in the period ended December 31, 2016, as classified in our consolidated statements of cash flows.

Operating Activities

2016 - Cash provided by operating activities was $822 million in 2016, compared to $861 million in 2015. The decrease of $39 million in operating cash flow was primarily due to higher funding of retiree benefit plans, a change in trade working capital, and the impact in 2015 of the settlement of the Aon litigation. The change in trade working capital was primarily driven by accounts receivable and accounts payable due to timing of receipts and payments, respectively.

We expect cash generated from operations in 2017, 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.

2015 - Cash provided by operating activities was $861 million in 2015, compared to $755 million in 2014. The favorable change of $106 million in operating cash flow was primarily due to proceeds from the Aon litigation settlement and a change in funding of retiree benefit plans, partially offset by higher payments for income taxes and a change in trade working capital. The change in trade working capital was primarily driven by accounts receivable and accounts payable due to timing of receipts and payments, respectively.

Investing Activities

2016 - Cash used in investing activities was $653 million in 2016, an increase of $512 million from 2015. The change in investing cash flow was driven by the acquisition of Camber in 2016, higher capital expenditures in 2016, the sale of the Gulfport Composite Center of Excellence in March 2015, and proceeds in 2015 from the Aon litigation settlement.

For 2017, we expect our capital expenditures for maintenance and sustainment to be approximately 2.0% to 2.5% of annual revenues and our discretionary capital expenditures to be approximately 2.5% to 3.0% of annual revenues.

2015 - Cash used in investing activities was $141 million in 2015, a decrease of $296 million from 2014. The favorable change in investing cash flow was driven by the 2014 acquisitions of UPI and SN3, the sale of the Gulfport Composite Center of Excellence in March 2015, and proceeds from the Aon litigation settlement.

Financing Activities

2016 - Cash used in financing activities in 2016 was $343 million, compared to $816 million used in 2015. The change was primarily due to decreases of $449 million of debt related expenditures, $38 million of common stock repurchases, and $3 million in employee tax withholdings on share-based payment arrangements, partially offset by an additional $17 million of cash dividend payments in 2016 compared to 2015.

2015 - Cash used in financing activities in 2015 was $816 million, compared to $371 million used in 2014. The increase was primarily due to an additional $316 million of long-term debt repayment, $94 million of repurchases of common stock, $32 million of cash dividend payments, $11 million of debt related expenditures, as well as a $6 million decrease in excess tax benefit related to stock based compensation and a $2 million decrease in proceeds from stock options exercised.

Free Cash Flow

Free cash flow represents cash provided by (used in) operating activities less capital expenditures. 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:

	Year Ended December 31		
($ in millions)	2016	2015	2014
Net cash provided by (used in) operating activities	$822	$861	$755
Less:			
Capital expenditures	(285)	(188)	(165)
Free cash flow	$537	$673	$590

2016 - Free cash flow decreased $136 million from 2015, primarily due to capital expenditures, higher funding of retiree benefit plans, a change in trade working capital, and the impact in 2015 of the settlement of the Aon litigation.

2015 - Free cash flow increased $83 million from 2014, primarily due to proceeds from the Aon litigation settlement and a change in funding of retiree benefit plans, partially offset by higher payments for income taxes, capital expenditures, and a change in trade working capital.

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. If the IRS publishes updated mortality tables for funding purposes, our pension contributions could be affected. We made the following minimum and discretionary contributions to our pension and other postretirement plans in the years ended December 31, 2016, 2015 and 2014:

	Year Ended December 31		
($ in millions)	2016	2015	2014
Pension plans			
Discretionary			
Qualified	$167	$99	$123
Non-qualified	6	4	3
Other benefit plans	32	33	33
Total contributions	$205	$136	$159

We made discretionary contributions to our qualified defined benefit pension plans totaling $167 million, $99 million, and $123 million in the years ended December 31, 2016, 2015, and 2014, respectively.

As of December 31, 2016 and 2015, our qualified pension plans were funded 83% and 84%, respectively, on a FAS basis. As of December 31, 2016 and 2015, 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 develop respective obligations for these two different purposes. We expect our 2017 cash contributions to our qualified defined benefit pension plans to be $290 million, all of which we anticipate will be discretionary and 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 $32 million, $33 million, and $33 million in 2016, 2015, and 2014, respectively. We expect our 2017 contributions to our other postretirement benefit plans to be approximately $37 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 2016, our board of directors authorized an increase in our quarterly cash dividend to $0.60 per share. The board previously increased the quarterly cash dividend to $0.50 per share in October 2015 and $0.40 per share in October 2014. We paid cash dividends totaling $98 million ($2.10 per share), $81 million ($1.70 per share), and $49 million ($1.00 per share) in the years ended December 31, 2016, 2015, and 2014, respectively.

In October 2015, our board of directors authorized an increase in our existing stock repurchase program to $1,200 million of our common stock. The board previously authorized an increase in our existing stock repurchase program from $300 million to $600 million in October 2014. Repurchases are made from time to time at management's discretion in accordance with applicable federal securities laws. For the year ended December 31, 2016, the Company settled for cash $2 million of shares repurchased in the prior year. For the years ended December 31, 2016, 2015, and 2014, we repurchased 1,266,192, 1,987,550, and 1,407,729 shares, respectively, at aggregate costs of $192 million, $234 million, and $138 million, respectively.

Additional Capital - In November 2015, we issued $600 million aggregate principal amount of 5.000% senior notes due November 2025, the net proceeds from which were used to repurchase our 7.125% senior notes due in 2021. In December 2014, we issued $600 million aggregate principal amount of 5.000% senior notes due December 2021, the net proceeds from which were used to repurchase our 6.875% senior notes due in 2018. Interest on our senior notes is payable semi-annually.

In July 2015, we entered into the Amended Credit Facility with third-party lenders. The Amended Credit Facility includes a revolving credit facility of $1,250 million, which may be drawn upon during a period of five years from July 13, 2015. 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 leverage ratio, which may vary between 1.25% and 2.00%. The revolving credit facility also has a commitment fee rate on the unutilized balance based on our leverage ratio. As of December 31, 2016, approximately $25 million in letters of credit were issued but undrawn under the revolving credit facility, and the remaining $1,225 million was unutilized.

We made term loan payments of $395 million during the year ended December 31, 2015, using cash generated from operations.

We were in compliance with all debt-related covenants as of and during the year ended December 31, 2016. For a description of our outstanding debt amounts and related restrictive covenants, see Note 14: Debt in Item 8.

CONTRACTUAL OBLIGATIONS

As of December 31, 2016, our total outstanding long-term debt was $1,278 million, consisting of senior notes and other third-party debt. For a description of our outstanding debt amounts and related restrictive covenants, see Note 14: Debt in Item 8.

In connection with the spin-off, we entered into a Tax Matters Agreement with Northrop Grumman (the "Tax Matters Agreement"), which governs the respective rights, responsibilities, and obligations of Northrop Grumman and us after the spin-off with respect to tax liabilities and benefits, tax attributes, tax contests, and other tax sharing regarding U.S. federal, state, local, and foreign income taxes, other taxes, and related tax returns. We have several liabilities with Northrop Grumman to the Internal Revenue Service ("IRS") for the consolidated U.S. federal income taxes of the

Northrop Grumman consolidated group relating to the taxable periods in which we were part of that group. The Tax Matters Agreement specifies the portion of this tax liability for which we will bear responsibility, and Northrop Grumman has agreed to indemnify us against any amounts for which we are not responsible.

The following table presents our contractual obligations as of December 31, 2016, and the related estimated timing of future cash payments:

($ in millions)	Total	2017	2018 - 2019	2020 - 2021	2022 and beyond
Long-term debt	$1,305	$—	$—	$600	$ 705
Interest payments on long-term debt	498	71	142	138	147
Operating leases	201	40	64	42	55
Purchase obligations (1)	2,600	1,387	941	254	18
Other long-term liabilities (2)	745	130	145	101	369
Total contractual obligations	$5,349	$1,628	$1,292	$1,135	$ 1,294

(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 $217 million is the current portion of workers' compensation liabilities. It excludes obligations for uncertain tax positions of $3 million, for which the timing of the payments, if any, cannot be reasonably estimated.

The above 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 14: Debt and Note 16: Commitments and Contingencies in Item 8.

Off-Balance Sheet Arrangements

In the ordinary course of business, we use standby letters of credit issued by commercial banks and surety bonds issued by insurance companies principally to support our self-insured workers' compensation plans. As of December 31, 2016, $25 million in standby letters of credit were issued but undrawn and $356 million of surety bonds were outstanding.

As of December 31, 2016, we had no other significant off-balance sheet arrangements other than operating leases. For a description of our operating leases, see Note 2: Summary of Significant Accounting Policies and Note 16: Commitments and Contingencies in Item 8.

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
America 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 America class (LHA 6) ships, together with the Wasp class (LHD 1) ships, are the successors to the decommissioned Tarawa class (LHA 1) ships. The America class (LHA 6) ships optimize aviation operations and support capabilities. We delivered USS America (LHA 6) in April 2014, and Tripoli (LHA 7) is currently under construction.
Arleigh Burke class (DDG 51) destroyers	Build guided missile destroyers designed for conducting anti-air, anti-submarine, anti-surface, and strike operations. The Aegis-equipped Arleigh Burke 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 John Finn (DDG 113), and we are currently constructing Ralph Johnson (DDG 114). In June 2013, we were awarded a multi-year contract for construction of five additional Arleigh Burke class (DDG 51) destroyers. The first three ships of that award, Paul Ignatius (DDG 117), Delbert D. Black (DDG 119), and Frank E. Petersen Jr. (DDG 121), are currently under construction.
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 Abraham Lincoln (CVN 72) is currently undergoing RCOH and advance planning efforts for USS George Washington (CVN 73) are in process in preparation for the expected start of its RCOH in 2017.
Columbia class (SSBN 826) submarines	The U.S. Navy has committed to designing the Columbia class (SSBN 826) submarine as a replacement for the current aging Ohio class nuclear ballistic missile submarines, which were first introduced into service in 1981. The Ohio class SSBN includes 14 nuclear ballistic missile submarines and four nuclear cruise missile submarines. The Columbia class (SSBN 826) program currently anticipates 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 Columbia class (SSBN 826) program’s Milestone B, which formally authorizes the program’s entry into the engineering and manufacturing development phase. We continue to perform design work as a subcontractor to Electric Boat, and we have entered into a team agreement with Electric Boat to build modules for the entire Columbia class (SSBN 826) submarine program that leverages our Virginia class (SSN 774) experience. The team agreement is subject to the U.S. Navy's concurrence. Construction of the first Columbia class (SSBN 826) submarine is expected to begin in 2021, with procurement of long-lead-time materials and advance construction beginning prior to that time.
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.

Gerald R. Ford class (CVN 78) aircraft carriers	Design and construction for the Ford class program, which is the aircraft carrier replacement program for USS Enterprise (CVN 65) and Nimitz class (CVN 68) aircraft carriers. Gerald R. Ford (CVN 78), the first ship of the Ford class, is currently under construction. In June 2015, we were awarded a contract for the detail design and construction of John F. Kennedy (CVN 79), following several years of engineering, advance construction, and purchase of long-lead time components and material. 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.
Integrated missions solutions services	Provide services including high-end information technology and mission-based solutions to DoD, intelligence, and federal civilian customers. Services 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.
Legend 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 nine ships, of which the first six ships have been delivered. Kimball (NSC 7) and Midgett (NSC 8) are currently under construction.
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. Participate in a joint venture, Savannah River Nuclear Solutions, LLC, which 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.

San Antonio 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 San Antonio 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 Somerset (LPD 25), and in 2016, we delivered USS John P. Murtha (LPD 26). We are currently constructing Portland (LPD 27) and Fort Lauderdale (LPD-28). The San Antonio class (LPD 17) currently includes a total of 11 ships.
USS Enterprise (CVN 65)	Defuel and inactivate the world's first nuclear-powered aircraft carrier, which began in 2013.
Virginia class (SSN 774) fast attack submarines	Construct attack submarines as the principal subcontractor to Electric Boat. The Virginia 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 Amended Credit Facility. Our $1,250 million revolving facility under our Amended Credit Facility was undrawn as of December 31, 2016.

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, 2016, 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 Board of Directors and Stockholders of
Huntington Ingalls Industries, Inc.
Newport News, Virginia

We have audited the accompanying consolidated statements of financial position of Huntington Ingalls Industries, Inc. and subsidiaries (the “Company”) as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income (loss), changes in equity, and cash flows for each of the three years in the period ended December 31, 2016. Our audits also included the financial statement schedule listed in the Index at Item 15. These financial statements and financial statement schedule are the responsibility of the Company’s management. Our responsibility is to express an opinion on the financial statements and financial statement schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Huntington Ingalls Industries, Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, present fairly, in all material respects, the information set forth therein.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company’s internal control over financial reporting as of December 31, 2016, based on the criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 16, 2017 expressed an unqualified opinion on the Company’s internal control over financial reporting.

/s/ DELOITTE & TOUCHE LLP

Richmond, Virginia
February 16, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

We have audited the internal control over financial reporting of Huntington Ingalls Industries, Inc. and subsidiaries (the "Company") as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. 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 conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). 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.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel 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 the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the criteria established in Internal Control- Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2016 of the Company and our report dated February 16, 2017 expressed an unqualified opinion on those financial statements and financial statement schedule.

/s/ DELOITTE & TOUCHE LLP

Richmond, Virginia
February 16, 2017

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

	Year Ended December 31		
(in millions, except per share amounts)	2016	2015	2014
Sales and service revenues			
Product sales	$5,631	$5,665	$5,712
Service revenues	1,437	1,355	1,245
Sales and service revenues	7,068	7,020	6,957
Cost of sales and service revenues			
Cost of product sales	4,380	4,319	4,489
Cost of service revenues	1,228	1,198	1,051
Income (loss) from operating investments, net	6	10	11
Other income and gains	15	—	—
General and administrative expenses	623	669	726
Goodwill impairment	—	75	47
Operating income (loss)	858	769	655
Other income (expense)			
Interest expense	(74)	(137)	(149)
Other, net	—	—	1
Earnings (loss) before income taxes	784	632	507
Federal and foreign income taxes	211	228	169
Net earnings (loss)	$573	$404	$338
Basic earnings (loss) per share	$12.24	$8.43	$6.93
Weighted-average common shares outstanding	46.8	47.9	48.8
Diluted earnings (loss) per share	$12.14	$8.36	$6.86
Weighted-average diluted shares outstanding	47.2	48.3	49.3
Net earnings (loss) from above	$573	$404	$338
Other comprehensive income (loss)			
Change in unamortized benefit plan costs	(172)	34	(558)
Other	(1)	(5)	—
Tax benefit (expense) for items of other comprehensive income	67	(12)	217
Other comprehensive income (loss), net of tax	(106)	17	(341)
Comprehensive income (loss)	$467	$421	$(3)

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

HUNTINGTON INGALLS INDUSTRIES, INC.
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

	December 31	
($ in millions)	2016	2015
Assets		
Current Assets		
Cash and cash equivalents	$720	$894
Accounts receivable, net	1,164	1,074
Inventoried costs, net	210	285
Prepaid expenses and other current assets	48	31
Total current assets	2,142	2,284
Property, Plant, and Equipment		
Land and land improvements	252	242
Buildings and leasehold improvements	1,752	1,579
Machinery and other equipment	1,410	1,315
Capitalized software costs	199	180
	3,613	3,316
Accumulated depreciation and amortization	(1,627)	(1,489)
Property, plant, and equipment, net	1,986	1,827
Other Assets		
Goodwill	1,234	956
Other intangible assets, net of accumulated amortization of $488 million as of 2016 and $465 million as of 2015	548	495
Long-term deferred tax assets	314	336
Miscellaneous other assets	128	126
Total other assets	2,224	1,913
Total assets	$6,352	$6,024

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

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

	December 31	
($ in millions)	2016	2015
Liabilities and Stockholders' Equity		
Current Liabilities		
Trade accounts payable	$316	$317
Accrued employees’ compensation	241	215
Current portion of postretirement plan liabilities	147	143
Current portion of workers’ compensation liabilities	217	227
Advance payments and billings in excess of revenues	166	125
Other current liabilities	256	247
Total current liabilities	1,343	1,274
Long-term debt	1,278	1,273
Pension plan liabilities	1,116	1,001
Other postretirement plan liabilities	431	423
Workers’ compensation liabilities	441	460
Other long-term liabilities	90	103
Total liabilities	4,699	4,534
Commitments and Contingencies (Note 16)		
Stockholders’ Equity		
Common stock, $0.01 par value; 150 million shares authorized; 52.6 million issued and 46.2 million outstanding as of December 31, 2016, and 52.0 million issued and 46.9 million outstanding as of December 31, 2015	1	1
Additional paid-in capital	1,964	1,978
Retained earnings (deficit)	1,323	848
Treasury stock	(684)	(492)
Accumulated other comprehensive income (loss)	(951)	(845)
Total stockholders’ equity	1,653	1,490
Total liabilities and stockholders’ equity	$6,352	$6,024

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

HUNTINGTON INGALLS INDUSTRIES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31		
($ in millions)	2016	2015	2014
Operating Activities			
Net earnings (loss)	$573	$404	$338
Adjustments to reconcile to net cash provided by (used in) operating activities			
Depreciation	163	154	166
Amortization of purchased intangibles	23	26	28
Amortization of debt issuance costs	5	8	11
Stock-based compensation	36	43	34
Deferred income taxes	85	(15)	(22)
Proceeds from insurance settlement related to investing activities	—	(21)	—
Impairment of goodwill and intangible assets	—	102	47
Loss on early extinguishment of debt	—	44	37
Change in			
Accounts receivable	(22)	(41)	140
Inventoried costs	75	54	53
Prepaid expenses and other assets	(17)	(31)	7
Accounts payable and accruals	(41)	97	