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

FORM 10-K

(Mark one)

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

FOR THE YEAR ENDED DECEMBER 31, 2019

OR

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

Commission file number 1-12317

NATIONAL OILWELL VARCO, INC.

(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**76-0475815** **(IRS Employer Identification No.)**

7909 Parkwood Circle Drive
Houston, Texas 77036-6565
(Address of principal executive offices)

(713) 346-7500
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $.01 per share	NOV	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

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

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

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

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

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to section 13(1) of the Exchange Act. ☐

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

The aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant as of June 30, 2019 was $ 7.6 billion. As of February 7, 2020, there were 385,946,844 shares of the Company's common stock ($0.01 par value) outstanding.

Documents Incorporated by Reference

Portions of the Proxy Statement in connection with the 2019 Annual Meeting of Stockholders are incorporated in Part III of this report.

FORM 10-K

PART I

ITEM 1. BUSINESS

General

National Oilwell Varco, Inc. ("NOV" or the "Company"), a Delaware corporation incorporated in 1995, is a leading independent provider of equipment and technology to the upstream oil and gas industry. The Company was originally founded in 1862 in Oil City, PA. Over the course of its 156-year history, NOV and its predecessor companies have helped transform the way the industry develops oil and gas fields and improved the cost-effectiveness, efficiency, safety, and environmental impact of global oil and gas operations. Over the past few decades, the Company pioneered and refined key technologies that helped make frontier resources, such as unconventional and deepwater oil and gas, economically viable.

NOV owns an extensive proprietary technology portfolio, which the Company uses to support the industry's full-field drilling, completion, and production needs. By leveraging its unmatched cross-segment capabilities, scope, and scale, NOV continues to develop and introduce technologies that further enhance oilfield economics, with particular focus on those technologies related to drilling automation, multistage completions, predictive analytics and condition-based maintenance, and improved deepwater project economics. Given the breadth and depth of the Company's technology and product offerings, most oil and gas wells around the world see at least some piece of NOV equipment over the course of their lifetime.

NOV serves major-diversified, national, and independent service companies; contractors; and oil and gas operators in 63 countries around the world. The Company currently operates under three segments: Wellbore Technologies, Completion & Production Solutions, and Rig Technologies.

Business Strategy and Competitive Strengths

NOV's primary business objective is to further enhance its position in the marketplace as a leading independent provider of technology and equipment to the upstream oil and gas industry. The Company intends to advance this objective and generate above-average returns on its capital over the long term by delivering technologies, equipment, and services that help lower the marginal cost of developing and producing oil and gas resources and by executing the following strategies that leverage the Company's competitive strengths:

Leverage NOV's advantages of size, scope, scale, and position in the market

NOV's position as a leading independent provider of technology and equipment to the upstream oil and gas industry affords the Company several competitive advantages, as follows:

Economies of scale in procurement and manufacturing. NOV's market leadership and global footprint, which spans almost every major oilfield market, provides the Company with economies of scale. NOV's scope and scale have enabled it to develop a unique global supply chain, which provides the Company with the ability to procure materials from the lowest-cost sources of supply around the world. The Company's global manufacturing footprint and flexibility to produce a diverse array of products also enables NOV to rapidly adapt to changes in demand, efficiently leverage manufacturing capacity that is near high-demand areas, and manufacture goods in the lowest-cost jurisdictions. The geographic diversity of NOV's footprint also reduces potential volatility in the Company's revenues from shifts in location of oilfield activity around the world, regional differences in hydrocarbon prices, and adverse weather and other events.

Scope and scale for distribution and marketing. As a leading independent provider of technology and equipment to the oilfield and with operations in 63 countries, NOV has developed an efficient global distribution network and relationships with virtually every oil and gas operator, service company, and contractor in the world. NOV uses its customer relationships and distribution capabilities to accelerate the commercialization of new products and technologies. NOV routinely develops technologies for use in the global marketplace. NOV's infrastructure allows the Company to quickly penetrate the global marketplace and can create a first-mover advantage as customers prefer to standardize operations around certain products.

Reputation, experience, and benefits of fleet standardization. NOV's reputation and experience make its products a lower-risk purchasing decision for customers. The Company benefits from customer efforts to standardize training, maintenance, and spare parts. Standardized fleets of equipment are easier for customers to operate and maintain, resulting in reduced downtime, lower training costs, better safety, and reduced inventory stocking requirements. Customers may prefer to standardize on equipment from a well-capitalized market leader such as NOV. NOV has entered into long-term service agreements with several large offshore drilling contractors whereby NOV will employ big data analytics and condition monitoring to maximize uptime and reduce the customer's total cost of ownership for drill floor equipment.

Large installed base of equipment. As a leading original equipment manufacturer ("OEM") in the oilfield, NOV is in an excellent position to provide aftermarket support for the industry's largest installed base of equipment. Most oilfield services customers prefer OEM aftermarket support of their equipment, and many of their E&P customers demand it. Customers frequently encounter higher risk and cost when they purchase and use potentially incompatible products from different vendors, particularly where products must interact through complex interfaces, which are common sources of failures and unplanned costs. Additionally, certain past industry events increased the industry's risk profile with government regulatory bodies, who have shown a strong preference for service contractors maintaining critical equipment through the OEM.

Digital products and technologies. NOV's size and scale also provides for inherent competitive advantages in the areas of technology and innovation. NOV often develops technologies and solutions that involve multiple segments and businesses within the Company. Many such solutions could not be developed by smaller, less-diverse organizations, as an appropriate return on the cost of investment to develop certain technologies could not be achieved when applied to a more limited product offering. NOV's efforts in big data, predictive analytics, and associated sensor technologies is an example of one such area. NOV has invested considerable time and resources to develop its Max™ industrial platform, which enables large-scale collection, aggregation, and analytics of real-time equipment data. While the initial application of this platform was a predictive analytics and condition-based monitoring solution for subsea blowout preventers, the platform was designed to be the backbone of all big data products and services offered by the Company and to be used to monitor, analyze, and optimize many of the Company's own manufacturing operations.

Employ a capital-light business model with the ability to quickly scale operations

NOV's manufacturing operations are capital light and have low fixed-asset intensity. The Company's facilities require relatively low investment and maintenance expenditures versus the sales they enable. NOV manufactures a diverse array of products across its manufacturing infrastructure and drives efficiency improvements by shifting production runs to facilities where demand is highest—lowering shipping costs—or to facilities that have the lowest-cost operations. The Company also realizes the benefit of serving a customer base that requires technically complex equipment used in extremely harsh environments. Placing sophisticated tools in a bottomhole assembly at the end of drillpipe to precisely place a wellbore several miles into the earth, and then physically cracking open reservoir rock using large volumes of highly abrasive fluids pumped at extremely high pressures, is incredibly hard on equipment. This harsh operating environment creates recurring sales opportunities for replacement equipment and aftermarket sales and service.

NOV has organized its infrastructure to take advantage of the oil and gas industry's cyclicality. As commodity prices rise, the oilfield typically enters an expansionary phase where large amounts of capital are deployed quickly and equipment orders increase in line. NOV maintains the ability to ramp up manufacturing capacity quickly to capture the value generated by up-cycles while meeting the demands of its customer base. During industry down-cycles, the Company focuses on improving internal efficiencies and advancing technological offerings. NOV's ability to continue, if not accelerate, pursuit of its technological initiatives throughout industry cycles enhances the Company's ability to drive long-term customer and shareholder value. The Company also outsources non-critical machining operations with lower tolerance requirements during times of increased activity levels and brings the machining operations back into Company-owned facilities during down-cycles to improve asset utilization and lower costs.

Capitalize on and drive end-market fragmentation

A key tenet of NOV's business model is to make its technologies and products available to all industry participants. To the extent NOV can provide equipment and technology that is as good, if not better than, products developed by service providers, it will prevent any one organization from having a proprietary advantage and therefore drive fragmentation. This fragmentation expands NOV's customer base and permits the Company to avoid customer concentration in most of its businesses. NOV has resisted the recent trend toward vertical integration, which has left the Company in an attractive and unique position in the marketplace as the only large-cap independent provider of technology and equipment to the oilfield service space. In the international markets, many countries are pursuing initiatives that drive local content and greater local employment in oilfield activity. These actions will likely prompt more local startup enterprises, further expanding the number of customers for NOV's equipment.

Develop proprietary technologies and solutions that assist oil and gas operators in reducing their marginal cost of supply

NOV strives to further develop its substantial technology portfolio and has a reputation for rapidly developing innovative solutions that assist its customers' pursuit of productivity gains. The Company is well positioned to leverage resources and introduce new breakthrough technologies, including digital products that enhance efficiencies and address industry needs, to generate strong returns. The Company's unmatched cross-business-unit capabilities and expertise uniquely position NOV to pioneer proprietary technologies across its business lines. For example, NOV's Wellbore Technologies and Rig Technologies segments jointly introduced closed-loop drilling technologies, which link data from the bottom of the well to the software controls of the drilling rig and use machine learning to drive greater efficiency. NOV works closely with customers to identify needs and its technical experts utilize internal research and development capabilities to develop value-added technologies.

Employ a conservative capital structure with ample liquidity to capitalize on volatility associated with the oil and gas industry

NOV maintains a conservative capital structure, with an investment grade credit rating and ample liquidity. The Company carefully manages its capital structure by continuously monitoring cash flow, capital spending, and debt capacity. Maintaining financial strength inspires confidence from customers who provide NOV with large purchase commitments that the Company delivers over multi-year timeframes and who expect NOV to support their equipment with OEM aftermarket parts and services for decades to come. A strong balance sheet provides NOV with the flexibility to execute its strategy, including advancing technological offerings, through industry volatility and commodity price cycles. The Company intends to maintain a conservative approach to managing its balance sheet to preserve operational and strategic flexibility.

Business Segment Overview

Wellbore Technologies provides the critical technologies, equipment, and services required to maximize customer efficiencies andeconomics associated with oil and gas wells. The segment's offerings are provided through the following business units:

- *Downhole* is a leading independent equipment supplier in the drilling and intervention segment of the industry, with engineering teams, manufacturing facilities, supply hubs and service centers situated in regions of oil and gas activity. With a constantly-evolving product portfolio that includes downhole drilling motors, SelectShift™ motors, agitator systems, as well as fishing and thrutubing tools, the Downhole business unit's offerings enable its customers to achieve significant increases in efficiency, whether in drilling, workover or intervention operations.
- *Tuboscope* is a leader in tubular coating and inspection services, servicing drill pipe and other oil country tubular goods ("OCTG") such as casing, production tubing, and line pipe. Backed by an 80-year track record, Tuboscope offers a fully integrated inspection, coating, and repair process that enables customers to be confident that their critical OCTG will behave as they should when needed. In addition, Tuboscope offers artificial lift rod solutions, line-pipe connection systems, pipe thread protection systems, and RFID technology for complete drillpipe lifecycle management.

- *Grant Prideco* is a leading manufacturer of premium drill-stem tubulars. With an integrated supply chain and a strong offering of premium drillpipe connections, Grant Prideco offers one stop shopping for all drill stem needs. Grant Prideco leverages its expertise in metallurgy and connection technologies to offer an innovative product portfolio that can address customer needs ranging from the simplest vertical land well to the challenging needs of deepwater, extended-reach, high-pressure/high-temperature, and factory-drilling applications.
- *IntelliServ* is the only independent commercial provider of wired drillpipe complete with an associated telemetry network that utilizes real-time broadband data transmission to enable instantaneous two-way communication between the bottomhole assembly and surface control system. IntelliServ™ wired pipe enables real time information, real time bottom-hole pressure monitoring, and significant rig time savings as surveys, downlinks, slide orientations, and other data-driven activities are performed in a matter of seconds versus minutes with conventional telemetry.
- *Directional Drilling* Technologies is a leading designer and manufacturer of downhole tools and technologies used in directional drilling operations. Directional Drilling Technologies measurement-while-drilling tools enable real-time monitoring of the location of wellbore and logging-while-drilling tools provide critical information of the formation being drilled. A comprehensive portfolio of rotary-steerable-systems, including tools with closed-loop directional control, enable directional drillers to drill the desired well trajectory at high rates of penetration with limited interaction from surface. Together these capabilities enable accurate placement of the wellbore in the desired reservoir location to maximize well productivity. As an independent supplier, Directional Drilling Technologies provides broad access to those critical technologies required to drill directional wells efficiently and enables service companies, drilling contractors and E&P operators worldwide to deliver productive wells cost-effectively and reliably.
- *WellSite* Services is a leading provider of solids control and waste management equipment and services, drilling and completion fluids, advanced wellhead cellar systems, managed-pressure-drilling systems, and wellsite logistics solutions. WellSite Services manufactures, sells, and rents highly engineered solids control equipment and provides field services that improve customers' bottom line by efficiently separating solids and reclaiming drilling fluids for re-use. After separating drill cuttings, WellSite Services provides waste management (both onsite and at centralized locations), including transport and storage. Additionally, Wellsite Services provides high-performance drilling fluid, water management solutions and managed pressure drilling services, combined with a network of experts that safely work at the wellsite to ensure that operators have the support they need to bring their wells in on-time and on-budget. WellSite Services offers a diversified range of resources to help manage the full lifecycle of the wellsite from initial preparation and cellar installation to worksite abandonment and remediation, including generators, temperature-control equipment, and other wellsite accessories.
- *ReedHycalog* is positioned as a premier technical business that works directly with Operators to improve their well construction efficiency and economics by providing performance-driven drill bits and borehole enlargement products. The product base is very specialized, centered on the technology that directly breaks the rock, primarily the sale and rental of high-quality, customized fixed cutter drill bits, utilizing industry-leading cutter technology. The product portfolio also includes roller cone drill bits, borehole enlargement tools that excel in the most demanding applications, and geographically focused coring tools and services.
- *M/D Totco* is a leading independent provider of digital solutions to the oilfield, offering the full spectrum of sensors (both surface and downhole), data acquisition units, data aggregation, remote transmission and analytics. Supported by a global field service infrastructure, M/D Totco's ability to deliver real-time data, edge analytics and digital solutions around critical parameters improves safety at the wellsite and increases operational efficiency for its customers, in the office. Using IntelliServ high-speed wired drill pipe telemetry services, M/D Totco harnesses NOV's unique ability to connect downhole tools with surface equipment to enable the world's first closed-loop drilling automation and optimization solutions, using heuristic functions and machine-learning capabilities to transform drilling performance.

Completion & Production Solutions provides the critical technologies necessary to optimize the well completion process and production phase of a well's life cycle. Completion & Production Solutions business units include:

- *Intervention and Stimulation Equipment* ("ISE") designs and manufactures capital equipment and related consumables for oilfield pressure pumpers, coiled tubing service companies, wireline service companies, and well testing/flowback service companies. For hydraulic fracturing jobs, equipment manufactured and assembled by ISE has particularly strong positions in the higher-valued technologies and complex process equipment, such as hydration units, chemical additive systems, blenders, and control systems. In addition, the business unit produces essential consumable components that support pressure pumping spreads, including centrifugal pumps, valves, seats, and flowline equipment, along with equipment for surface well-test and flowback operations for ultimate production assurance. The business unit designs and manufactures equipment used to pump, mix, transport, and store cement used in the well construction process. ISE is also a leading provider of coiled tubing units, pressure control equipment, injector heads, and coiled tubing strings along with providing nitrogen support equipment and snubbing units. The business unit designs and manufactures wireline products for electric and slickline line applications, including critical pressure control equipment like wireline lubricators. ISE also provides integrated control systems, including condition based maintenance solutions into engineered equipment and other digital offerings that extend the life of equipment through real-time analytics, prevents non-productive time, and provides the capability to monitor operations remotely. ISE supports all of its equipment offering by providing comprehensive repair, recertification and other support services through an unmatched global network of aftermarket service and repair facilities.

- *Fiber Glass Systems* is a market leader in the design, manufacture, and delivery of high-end composite piping systems, pressure vessels, tanks, and structures engineered to deliver customers with solutions to both corrosion and weight challenges across a wide array of applications. With manufacturing facilities spanning five continents and a sales and distribution network covering 40 countries, Fiber Glass Systems serves customers in the oil and gas, chemical, industrial, marine, offshore, subsea, fuel handling, and mining industries.

- *Process and Flow Technologies ("PFT")* provides integrated processing, production, and pumping equipment to customers in the oil and gas and industrial markets. For the production space they manufacture pumping technologies, including reciprocating, multistage, and progressive cavity pumps, as well as artificial lift support systems. For the midstream space PFT manufactures closures, transfer pumps, and valves. In the fluid processing space PFT designs and manufactures integrated systems that provide water treatment, separation, sand management, hydrate inhibition, and gas processing for use both on and offshore. Building on its portfolio of processing equipment, PFT offers a comprehensive technology suite of floating production systems including turret mooring systems and topside process modules that are designed to minimize execution risk and maximize operability and crew safety. PFT has the capability to partner with the operator from concept to deployment, as well as to simply operate as the equipment provider to both end customers as well as engineering, procurement and construction ("EPC") firms. PFT, along with alliance partners, offers complete technology, engineering, and project management capabilities to supply comprehensive topside solutions for floating production, storage, and offloading ("FPSO") vessels projects. In the Industrial market PFT manufactures pumping, mixing, agitation equipment, and heat exchangers for general use in industrial end-markets. This equipment is supported by a global aftermarket service organization.

- *Subsea Production Systems* strives to improve subsea infrastructure through technical innovation that improves customer productivity and reduces cost. The business unit manufactures flexible subsea pipe systems, which are designed to operate under demanding offshore conditions around the world. Flexible pipes are highly engineered, complex structures that are helically wound and comprised of multiple unbonded layers of steel and composites, which allow them to withstand the demanding pressures and tensile loads required in deepwater production while remaining resistant to the fatigue induced by wave and tidal action. Subsea Production Systems also provides an assortment of critical equipment necessary for subsea production, such as subsea water injection systems, tie-in connector systems, subsea storage units, and other related equipment.

- *XL Systems* provides integral and weld-on connectors for oil and gas applications, including conductor strings, surface casing, and liners, in sizes ranging from 16 to 72 inches in diameter. XL Systems is the sole provider of a proprietary line of wedge thread connections on large-bore pipe. In addition, XL

Systems supplies connector products in which the threads are machined on high-strength forging material and then welded to pipe.

- *Completion Tools* offers a portfolio of differentiated completion tool products and solutions that address the most pressing needs of the global completions marketplace. The Completion Tools business' product portfolio is highlighted by proprietary technology like the Bulldog™ Frac Sleeve, which utilizes a coiled tubing annular frac system to isolate and stimulate stages while being lighter and easier to handle than other sleeves on the market. Other proprietary technologies include the BPS™ (Burst Port System) Multistage, the VapR™ dissolvable frac plug, Bullmastiff™ Frac System, and i-Frac CEM™ ball-drop-activated multistage frac sleeve. The portfolio also includes liner hanger systems, sub-surface safety valves, and a variety of bridge plugs.

Rig Technologies is the global leader in the engineering, manufacturing, and support of advanced drilling equipment packages and related capital equipment necessary to drill oil and gas wells anywhere in the world. Rig Technologies includes:

- *Rig Equipment designs*, manufactures, and sells land rigs, complete offshore drilling packages, and drilling rig components designed to mechanize and automate many complex drilling rig processes. Rig Equipment's product portfolio includes many equipment designs that changed the way rigs are operated, including the TDS top drive drilling system and automated roughneck. As the oil and gas industry has pushed the boundaries of geology and engineering with the move into the ultra-deepwater and onshore unconventional plays, the Rig Equipment unit has met the increasing challenges of its customer base with constant improvements to both its land and offshore rig equipment offerings. An example of this is the recently introduced NOVOS™ control system that offers drilling process automation, which enables dramatic improvements in drilling efficiency, reliability, and performance. The business unit also provides comprehensive aftermarket products and services to maximize its customers' rig fleets' drilling uptime. Aftermarket offerings include spare parts, repair, and rentals as well as comprehensive remote equipment monitoring, technical support, field service, and customer training through an extensive network of aftermarket service and repair facilities strategically located in major areas of drilling operations around the world.

- *Marine Construction designs*, engineers, and manufactures heavy-lift cranes; a large range of knuckle-boom and lattice boom cranes, including active heave options; mooring, anchor, and deck handling machinery; a full range of models of jacking systems; and offshore wind tower and turbine installation, pipelay and construction vessel systems. Marine Construction serves the oil and gas industry as well as wind energy and other marine-based end markets.

See Note 16 to the Consolidated Financial Statements for financial information by segment and a geographical breakout of revenues and long-lived assets. We have also included a glossary of oilfield terms at the end of Item 1. "Business" of this Annual Report.

Overview of Oil and Gas Well-Construction Processes

The well-construction process starts with an operator and its contractors designating a suitable drilling site and placing a drilling rig at the location. The rig's crew assembles the drill stem, which consists of drillpipe joints, specialized drilling components known as downhole tools, and a drill bit at the end. Modern rigs typically power the drill bit through a drilling motor, which is attached to the bottom of the drill stem and provides rotational force directly to the bit, or a top drive, a device suspended from the derrick that turns the entire drill stem. The evolution of drilling motors and top drives has facilitated operators' abilities to drill directionally and horizontally as opposed to being limited to the traditional vertical trajectory. The Company sells and rents drilling motors, agitators, drill bits, downhole tools and drill pipe through Wellbore Technologies, and sells top drives through Rig Technologies.

Heavy drilling fluids, or “drilling muds,” are pumped down the drill stem and forced out through jets in the bit. The drilling mud returns to the surface through the space between the borehole wall and the drill stem, carrying with it the rock cuttings drilled out by the bit. The cuttings are removed from the mud by a solids control system (which can include shakers, centrifuges, and other specialized equipment) and disposed of in an environmentally sound manner. The solids control system permits the mud, which is often comprised of expensive compounds, to be continuously reused and re-circulated back into the hole. Rig Technologies sells the large “mud pumps” that are used to pump drilling mud through the drill stem, down, and back up the hole. Wellbore Technologies sells and rents solids control equipment and provides solids control, waste management and drilling fluids services.

Many operators internally coat the drill stem to improve its hydraulic efficiency and protect it from the corrosive fluids sometimes encountered during drilling; have hard-facing alloys applied to drillpipe joints, collars, and other components to protect tool joints and casing against wear; and inspect and assess the integrity of the drillpipe from time to time. Wellbore Technologies manufactures and sells drillpipe and provides coating, “hardfacing,” and drillpipe inspection and repair. As hole depth increases, additional joints of drillpipe are continuously added to the drill stem. When the bit becomes dull or the equipment at the bottom of the drill stem – including the drilling motors – otherwise requires servicing, the entire drill stem is pulled out of the hole and disassembled by disconnecting the joints of drillpipe. These are set aside or “racked,” the old bit is replaced or service is performed, and the drill stem is reassembled and lowered back into the hole (a process called “tripping”). During drilling and tripping operations, joints of drillpipe must be screwed together and tightened (“made up”), and loosened and unscrewed (“spun out”), a process that can create a considerable amount of stress on the pipe connections while also being quite time consuming. Rig Technologies provides drilling equipment to manipulate and maneuver the drillpipe in an efficient and safe manner, and Wellbore Technologies manufactures premium connections that are designed to reduce failure downhole and improve the rate of connection on the rig floor. When the hole has reached a specified depth, all the drillpipe is pulled out of the hole, and larger-diameter pipe known as casing is lowered into the hole and permanently cemented in place in order to protect against collapse and contamination of the hole. The casing is typically inspected before it is lowered into the hole, another service provided by Wellbore Technologies. Hole openers from Wellbore Technologies, which mount above the drill bits in the drill stem, open the tolerance of the hole to allow for easier and faster casing installation. Completion & Production Solutions manufactures cement mixing and pumping equipment that is used to cement the casing in place. The rig’s hoisting system raises and lowers the drill stem while drilling or tripping, and lowers casing into the wellbore. A conventional hoisting system is a block-and-tackle mechanism that works within the drilling rig’s derrick. The mechanism is lifted by a series of pulleys that are attached to the drawworks at the base of the derrick. Rig Technologies sells and installs drawworks and pipe hoisting-systems.

During the course of normal drilling operations, the drill stem passes through different geological formations that exhibit varying pressure characteristics. If this pressure is not contained, oil, gas, and/or water would flow out of these formations to the surface. Containing reservoir pressures is accomplished primarily by the circulation of heavy drilling muds and secondarily by blowout preventers (“BOPs”), should the mud prove inadequate. Drilling muds are carefully designed to exhibit certain qualities that optimize the drilling process. In addition to containing formation pressure, they must provide power to the drilling motor; carry drilled solids to the surface; protect the drilled formations from being damaged; and cool the drill bit. Achieving these objectives often requires a formulation specific to a given well, requires a high level of cleanliness for better bottomhole assembly, and can involve the use of expensive chemicals as well as natural materials, such as certain types of clay. The fluid itself is often oil or more expensive synthetic mud. Given the cost, it is highly desirable to reuse as much of the drilling mud as possible. Solids control equipment such as shale shakers, centrifuges, cuttings dryers, and mud cleaners help accomplish this objective. Wellbore Technologies provides drilling fluids and rents, sells, operates, and services solids control equipment. Rig Technologies manufactures pumps that power the flow of the mud and fluid downhole and back to the surface. Drilling muds are formulated based on expected drilling conditions. However, as the hole is drilled, the drill stem may encounter a high-pressure zone where the mud density is inadequate to maintain sufficient pressure. Should efforts to “weight up” the mud to contain such a pressure kick fail, a blowout could result, whereby reservoir fluids would flow uncontrolled into the well. A series of BOPs are positioned at the top of the well and, when activated, form tight seals that prevent the escape of fluids to the surface. Conventional BOPs prevent normal rig operations when closed so the BOPs are activated only if drilling mud and normal well control procedures cannot safely contain the pressure. Rig Technologies engineers and manufactures BOPs.

The operations of the rig and the condition of the drilling mud are closely monitored by various sensors, which measure operating parameters such as the weight on the rig's hook, the incidence of pressure kicks, the operation of the drilling mud pumps, weight on bit, etc. Wellbore Technologies sells and rents drilling rig instrumentation packages that perform these monitoring functions as well as additional sensors that continuously collect downhole data that can be transmitted back to the surface via wired drill pipe. Wellbore Technologies' also offers drilling optimization and automation software and services that utilize this downhole data to maximize drilling performance by mitigating vibrations, dynamic and impact loading, and stick-slip, which ensures longer bit runs, and reduces the number of necessary trips.

During drilling operations, the drilling rig and related equipment and tools are subject to severe stresses, pressures, and temperatures, as well as a corrosive environment, and require regular repair and maintenance. Rig Technologies supplies spare parts and can dispatch field service engineers with the expertise to quickly repair and maintain equipment, minimizing down time.

Once a well has been drilled, cased, and cemented, and the operator determines hydrocarbons are present in commercial quantities, the well is then completed, and sometimes stimulated. After the casing is cemented in place, the well undergoes one of several completion processes to open the bottom of the wellbore and allow hydrocarbons to flow from the reservoir and up the well to the surface. The most commonly used technique is known as perforation. The perforating process entails lowering a string of shaped charges to the desired depth in the well using an electric wireline unit and firing the charges to perforate the casing or liner. Wireline units are also used to perform logging operations and other intervention services. At this point, the operator may decide, based on well design and flow rate, to further enhance production by stimulating the well. Unconventional wells almost always require stimulation through multi-stage hydraulic fracturing, a process by which a fluid or slurry is pumped down the well by large pumping units. This causes the underground formation to crack or fracture, opening up space for hydrocarbons to flow more freely out of tight rock formations. A proppant is suspended in the fluid and lodges in the cracks, propping them open and allowing hydrocarbons to flow after the fluid is gone. A coiled tubing unit is often used to drill out bridge plugs that isolate the many stages needed to stimulate a horizontal well. A coiled tubing unit utilizes a large continuous length of steel tubing to enter and traverse long laterals and perform completion and well remediation operations. As drilling laterals have lengthened in recent years, many operators are electing to use larger high-specification well service rigs to assist in several phases of the completion phase by conveying tools downhole and drilling out completion plugs. Workover rigs are similar to drilling rigs in their capabilities to handle tubing but are usually smaller and somewhat less sophisticated. Completion & Production Solutions provides the essential equipment necessary for the entirety of the completion and stimulation process, designing and manufacturing coiled tubing units, wireline units, pressure pumping equipment, completion tools, snubbing units, nitrogen units, and treating iron. In addition, the well completion process creates a large amount of wear and tear on the equipment used, which creates healthy demand for Completion & Production Solutions' aftermarket services. The use of coiled tubing and wireline equipment typically requires the use of a BOP to ensure safety during operations. Completion & Production Solutions manufactures this well control equipment. Due to the corrosive nature of many produced fluids, production tubing is often inspected and coated, services offered by Wellbore Technologies. Increasingly, operators choose to use corrosion-resistant composite materials or alloys in the process, which are also sold by Completion & Production Solutions.

Once the well has been stimulated, it is usually ready to be capped with a production wellhead and linked up to a gathering system where it can begin producing and generating cash flow for the operator. This process is significantly more involved offshore, where pipes are often required to reach thousands of feet from the wellhead back to the surface, contending with tides, debris, and weather. The development of flexible pipe solved many of the issues associated with linking offshore wells back to their respective FPSOs, which serve as gathering hubs, sometimes in some of the most remote areas of the world. Completion & Production Solutions manufactures flexible subsea pipe in addition to offering turret mooring systems and topside process modules for FPSOs.

Natural decline rates set in as a well ages, and workover procedures and other services may be necessary to extend its life and increase its production rate. Over time, downhole equipment, casing, or tubing may need to be serviced or replaced. When producing wells require anything from routine maintenance to major modifications and repair, a well servicing rig is typically needed. Workover rigs are used to disassemble the wellhead, tubing and other completion components of an existing well in order to stimulate or remediate the well. As a well continues to mature, its natural reservoir pressure may no longer be enough to force fluids to the surface. Artificial lift equipment is then typically installed, which adds energy to the fluid column in a wellbore using one of several types of pumps. In addition to reduced pressure, the water cut of a well's production tends to increase as the well ages, which typically requires the addition of water treatment and separation equipment. The Company offers a comprehensive range of workover rigs through Rig Technologies. Tubing and sucker rods removed from a well during a well remediation operation are often inspected to determine their suitability to be reused in the well, a service Wellbore Technologies provides. Completion & Production Solutions offers several types of artificial lift and related support systems as well as integrated systems that provide water treatment, separation, hydrate inhibition, and gas processing.

Markets and Competition

The Company's customers are predominantly service companies and oil and gas companies. Products within Wellbore Technologies and Completion & Production Solutions are sold and rented worldwide through NOV's sales force and through commissioned representatives. Substantially all of Rig Technologies' capital equipment and spare parts sales, and a large portion of smaller pumps and parts sales, are made through NOV's direct sales force and distribution service centers. Sales to foreign oil companies are often made with or through representative arrangements.

The Company's competition consists primarily of publicly traded oilfield service and equipment companies and smaller independent equipment manufacturers.

The Company's foreign operations, which include significant operations in the Middle East, Africa and Latin America, Russia, the Far East, Canada and Europe are subject to the risks normally associated with conducting business in foreign countries, including foreign currency exchange risks and uncertain political and economic environments, which may limit or disrupt markets, restrict the movement of funds or result in the deprivation of contract rights or the taking of property without fair compensation. Government-owned petroleum companies located in some of the countries in which the Company operates have adopted policies (or are subject to governmental policies) giving preference to the purchase of goods and services from companies that are majority-owned by local nationals. As a result of such policies, the Company relies on joint ventures, license arrangements, and other business combinations with local nationals in these countries. See Note 16 to the Consolidated Financial Statements for information regarding geographic revenue information.

2019 Acquisitions and Other Investments

During 2019, the Company completed a total of three acquisitions and other investments for a total cash consideration of $180 million, net of cash acquired.

Influence of Oil and Gas Activity Levels on the Company's Business

The oil and gas industry has historically experienced significant volatility. Demand for the Company's products and services depends primarily upon the general level of activity in the oil and gas industry worldwide. Oil and gas activity is in turn heavily influenced by, among other factors, oil and gas prices worldwide. High levels of drilling and well remediation generally spurs demand for the Company's products and services. Additionally, high levels of oil and gas activity increase cash flows available for oil and gas companies, drilling contractors, oilfield service companies, and manufacturers of OCTG to invest in equipment that the Company sells.

See additional discussion on the current worldwide economic environment and related oil and gas activity levels in Item 1A. "Risk Factors" and Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Seasonal Nature of the Company's Business

Historically, activity levels of some of the Company's segments have followed seasonal trends to some degree. Extremely harsh winter weather can reduce oilfield operations in far northern or high-altitude locations, including parts of Colorado, Canada, Russia and China, and the annual thaw (or "breakup") in Canada makes some unimproved roads inaccessible to heavy equipment during part of each second quarter. Both situations temporarily reduce demand for the Company's products and services in the effected geographic area, although revenues generally recover once conditions improve. Fluctuations in customer's activity levels caused by national or customary holiday seasons and annual budgetary cycles can also affect their spending levels with the Company, leading to both temporary local decreases and increases in sales. Over the past few years, the Company has seen a more pronounced level of spending during the fourth quarter, and a decline in the first quarter, in certain of its businesses, which it believes is related to annual budgetary cycles. While the Company anticipates that the seasonal and other trends described above may continue, there can be no guarantee that spending by the Company's customers will continue to follow patterns seen in the past.

Research and New Product Development and Intellectual Property

The Company believes that it has been a leader in the development of new technology and equipment to enhance the safety and productivity of drilling and well servicing processes and that its sales and earnings have been dependent, in part, upon the successful introduction of new or improved products. It also invests in new technologies related to its non-oil and gas business as well as renewable energy-related technologies. Through its internal development programs and certain acquisitions, the Company has assembled an extensive array of technologies protected by a substantial number of trademarks, for both goods and services, patents, trade secrets, and other proprietary rights.

As of December 31, 2019, the Company held a substantial number of granted patents and pending patent applications worldwide, including U.S. patents and U.S. patent applications as well as patents and patent applications in a variety of other countries. Expiration dates of such patents range from 2020 to 2035. Additionally, the Company maintains a substantial number of trademarks for both goods and services and maintains a number of trade secrets.

Although the Company believes that this intellectual property has value, competitive products with different designs have been successfully developed and marketed by others. The Company considers the quality and timely delivery of its products, the service it provides to its customers, and the technical knowledge and skills of its personnel to be as important as its intellectual property in its ability to compete. While the Company stresses the importance of its research and development programs, the technical challenges and market uncertainties associated with the development and successful introduction of new products are such that there can be no assurance that the Company will realize future revenue from new products.

Manufacturing and Service Locations

The manufacturing processes for the Company's products generally consist of machining, welding and fabrication, heat treating, assembly of manufactured and purchased components, and testing. Most equipment is manufactured primarily from alloy steel. The availability and price of alloy steel castings, forgings, purchased components, and bar stock is critical to the production and timing of shipments.

Wellbore Technologies designs, manufactures, rents, and sells a variety of equipment and technologies used to perform drilling operations, and offers services that optimize their performance, including: solids control and waste management equipment and services, drilling fluids, premium drillpipe, wired pipe, drilling optimization services, tubular inspection and coating services, instrumentation, downhole tools, and drill bits. Primary facilities are located in Houston, Conroe, Navasota, and Cedar Park, Texas; Veracruz, Mexico; and Dubai, UAE.

Completion & Production Solutions integrates technologies for well completions and oil and gas production. The segment designs, manufactures, and sells equipment and technologies needed for hydraulic fracture stimulation, including pressure pumping trucks, blenders, sanders, hydration units, injection units, flowline, and manifolds; well intervention, including coiled tubing units, coiled tubing, and wireline units and tools; cementing products for pumping, mixing, transport, and storage; onshore production, including fluid processing, composite pipe, surface transfer and progressive cavity pumps, and artificial lift systems; and offshore production, including floating production systems and subsea production technologies. Primary facilities are located in Houston, and Fort Worth, Texas; Tulsa, Oklahoma; Senai, Malaysia; Qingdau, Shandong, China; Kalundborg, Denmark; Superporto du Acu, Brazil; Manchester, England; and Aberdeenshire, Scotland, UK.

Rig Technologies provides drilling rig components, complete land drilling rigs, and offshore drilling equipment packages. Primary manufacturing facilities are located in Houston, Texas; Orange, California; New Iberia, Louisiana; Singapore; and Dubai, UAE.

Raw Materials

The Company believes that materials and components used in its operations are generally available from multiple sources. The prices paid by the Company for its raw materials may be affected by, among other things, energy, steel, and other commodity prices; tariffs and duties on imported materials; and foreign currency exchange rates. The Company has experienced rising, declining, and stable prices for milled steel and standard grades in line with broader economic activity and has generally seen specialty alloy prices continue to rise, driven primarily by escalation in the price of the alloying agents. The Company has generally been successful in its effort to mitigate the financial impact of higher raw materials costs on its operations by applying surcharges to, and adjusting prices on, the products it sells. Higher prices and lower availability of steel and other raw materials the Company uses in its business may adversely impact future periods.

Backlog

The Company monitors its backlog of orders within its Completion & Production Solutions and Rig Technologies segments to guide its planning. Backlog includes orders which typically require more than three months to manufacture and deliver.

Backlog measurements are made on the basis of written orders that are firm but may be defaulted upon by the customer in some instances. Most require reimbursement to the Company for costs incurred in such an event. There can be no assurance that the backlog amounts will ultimately be realized as revenue, or that the Company will earn a profit on backlog work. Backlog for Completion & Production Solutions at December 31, 2019, 2018 and 2017 was $1.3 billion, $0.9 billion and $1.1 billion, respectively. Backlog for Rig Technologies at December 31, 2019, 2018 and 2017, was $3.0 billion, $3.1 billion and $1.9 billion, respectively.

Employees

At December 31, 2019, the Company had a total of 35,479 employees, of which 1,669 were temporary employees and 500 were subject to collective bargaining agreements in the U.S. Additionally, certain employees in various foreign locations are subject to collective bargaining agreements. Based upon the geographical diversification of these employees, we do not believe any risk of loss from employee strikes or other collective actions would be material to the conduct of our operations taken as a whole.

Available Information

The Company's principal executive offices are located at 7909 Parkwood Circle Drive, Houston, Texas 77036. Its telephone number is (713) 346-7500. Further information about the Company's products and services can be found on its website at: http://www.nov.com. The Company's common stock is traded on the New York Stock Exchange under the symbol "NOV". The Company's annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all related amendments are available free of charge on the Investor Relations portion of the Company's website, www.nov.com/investor, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission ("SEC"). The Company's Code of Ethics is also posted on its website.

ITEM 1A. RISK FACTORS

You should carefully consider the risks described below, in addition to other information contained or incorporated by reference herein. Realization of any of the following risks could have a material adverse effect on our business, financial condition, cash flows and results of operations.

We are dependent upon the level of activity in the oil and gas industry, which is volatile and has caused, and may cause future, fluctuations in our operating results.

The oil and gas industry historically has experienced significant volatility. Demand for our products and services depends primarily upon the number of oil rigs in operation, the number of oil and gas wells being drilled, the depth and drilling conditions of these wells, the volume of production, the number of well completions, capital expenditures of other oilfield service companies and the level of workover activity. Drilling and workover activity can fluctuate significantly in a short period, particularly in the United States and Canada. The willingness of oil and gas operators to make capital expenditures to explore for and produce oil and natural gas and the willingness of oilfield service companies to invest in capital equipment will continue to be influenced by numerous factors over which we have no control, including the:

- current and anticipated future prices for oil and natural gas;
- volatility of prices for oil and natural gas;
- ability or willingness of the members of the Organization of Petroleum Exporting Countries ("OPEC") and other countries, such as Russia, to maintain or influence price stability through voluntary production limits;
- sanctions and other restrictions placed on certain oil producing countries, such as Russia, Iran, and Venezuela;
- level of production by non-OPEC countries including production from U.S. shale plays;
- level of excess production capacity;
- cost of exploring for and producing oil and gas;
- level of drilling activity and drilling rig dayrates;
- worldwide economic activity and associated demand for oil and gas;
- public health crises and other catastrophic events, such as the coronavirus outbreak at the beginning of 2020;
- availability and access to potential hydrocarbon resources;
- national government political requirements;
- fluctuations in political conditions in the United States and abroad;
- currency exchange rate fluctuations and devaluations;
- development of alternate energy sources; and,
- environmental regulations.

Expectations for future oil and gas prices cause many shifts in the strategies and expenditure levels of oil and gas companies, drilling contractors, and other service companies, particularly with respect to decisions to purchase major capital equipment of the type we manufacture. Oil and gas prices, which are determined by the marketplace, may remain below a range that is acceptable to certain of our customers, which could continue the reduced demand for our products and have a material adverse effect on our financial condition, results of operations and cash flows.

There are risks associated with certain contracts for our equipment.

As of December 31, 2019, we had a backlog of capital equipment to be manufactured, assembled, tested and delivered by Completion & Production Solutions and Rig Technologies in the amount of $1.3 billion and $3.0 billion, respectively. The following factors, in addition to others not listed, could reduce our margins on these contracts, adversely impact completion of these contracts, adversely affect our position in the market or subject us to contractual penalties:

- financial challenges for consumers of our capital equipment;
- credit market conditions for consumers of our capital equipment;
- our failure to adequately estimate costs for making this equipment;
- our inability to deliver equipment that meets contracted technical requirements;
- our inability to maintain our quality standards during the design and manufacturing process;
- our inability to secure parts made by third party vendors at reasonable costs and within required timeframes;
- unexpected increases in the costs of raw materials;
- our inability to manage unexpected delays due to weather, shipyard access, labor shortages or other factors beyond our control; and,
- the imposition of tariffs or duties between countries, which could materially affect our global supply chain. For example, section 232 tariffs on steel may increase our costs, reduce margins or otherwise adversely affect the Company.

The Company's existing contracts for rig and production equipment generally carry significant down payment and progress billing terms favorable to the ultimate completion of these projects and the majority do not allow customers to cancel projects for convenience. However, unfavorable market conditions or financial difficulties experienced by our customers may result in cancellation of contracts or the delay or abandonment of projects. Any such developments could have a material adverse effect on our operating results and financial condition.

Competition in our industry, including the introduction of new products and technologies by our competitors, as well as the expiration of the intellectual property rights protecting our products and technologies, could ultimately lead to lower revenue and earnings.

The oilfield products and services industry is highly competitive. We compete with national, regional and foreign competitors in each of our current major product lines. Certain of these competitors may have greater financial, technical, manufacturing and marketing resources than us, and may be in a better competitive position. The following can each affect our revenue and earnings:

- price changes;
- improvements in the availability and delivery of products and services by our competitors;
- the introduction of new products and technologies by our competitors; and,
- the expiration of intellectual property rights protecting our products and technologies.

We are a leader in the development of new technology and equipment to enhance the safety and productivity of drilling and well servicing processes. If we are unable to maintain our technology leadership position, it could adversely affect our competitive advantage for certain products and services. Our revenues and operating results have been dependent, in part, upon the successful introduction of new or improved products. Through our internal development programs and acquisitions, we have assembled an extensive array of technologies protected by a substantial number of trade and service marks, patents, trade secrets, and other proprietary rights, some of which expire in the near future. The expiration of these rights could have a material adverse effect on our operating results. Furthermore, while the Company stresses the importance of its research and development programs, the technical challenges and market uncertainties associated with the development and successful introduction of new products are such that there can be no assurance that the Company will realize future revenue from new products.

The tools, techniques, methodologies, programs and components we use to provide our services may infringe upon the intellectual property rights of others. Infringement claims generally result in significant legal and other costs and may distract management from running our core business. Royalty payments under licenses from third parties, if available, would increase our costs. Additionally, developing non-infringing technologies would increase our costs. If a license were not available, we might not be able to continue providing a particular service or product, which could adversely affect our financial condition, results of operations and cash flows.

In addition, certain foreign jurisdictions and government-owned petroleum companies located in some of the countries in which we operate have adopted policies or regulations which may give local nationals in these countries competitive advantages. Actions taken by our competitors and changes in local policies, preferences or regulations could impact our ability to compete in certain markets and adversely affect our financial results.

A significant portion of our revenue is derived from our non-United States operations, which exposes us to risks inherent in doing business in each of the 63 countries in which we operate.

Approximately 63% of our revenues in 2019 were derived from operations outside the United States (based on revenue destination). Our foreign operations include significant operations in every oil producing region in the world. Our revenues and operations are subject to the risks normally associated with conducting business in foreign countries, including:

- uncertain political, social and economic environments;
- social unrest, acts of terrorism, war and other armed conflict;
- public health crises and other catastrophic events, such as the coronavirus outbreak at the beginning of 2020;
- trade and economic sanctions and other restrictions imposed by the United States, European Union or other countries;
- restrictions under the United States Foreign Corrupt Practices Act ("FCPA") or similar legislation, as well as foreign anti-bribery and anti-corruption laws;
- confiscatory taxation, tax duties, complex and everchanging tax regimes or other adverse tax policies;
- exposure to expropriation of our assets and other actions by foreign governments;
- deprivation of contract rights;
- restrictions on the repatriation of income or capital;
- inflation; and,
- currency exchange rate fluctuations and devaluations.

Our failure to comply with complex U.S. and foreign laws and regulations could have a material adverse effect on our business and our results of operations.

Our ability to comply with various complex U.S. and foreign laws and regulations, such as the FCPA, the U.K. Bribery Act and other foreign anti-bribery and anti-corruption laws, as well as various trade control regulations, is dependent on the success of our ongoing compliance program, including our ability to continue to effectively supervise and train our employees to deter prohibited practices. These various laws and regulations can change frequently and significantly. We may become involved in a governmental investigation even if the Company has complied with these laws. If we fail to comply with applicable laws and regulation, we could be subject to investigations, sanctions and civil and criminal prosecution as well as fines and penalties, which could have a material adverse effect on our reputation and our business, financial condition, results of operations and cash flows. In addition, government disruptions could negatively impact our ability to conduct our business.

We are also required to comply with various complex U.S. and foreign tax laws, regulations and treaties. These laws, regulations and treaties can change frequently and significantly and it is reasonable to expect changes in the future. If we fail to comply with any of these tax laws, regulations or treaties, we could be subject to, among other things, civil and criminal prosecution, fines, penalties and confiscation of our assets, which could disrupt our ability to provide our products and services to our customers. Any of these events could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Further, in some instances, direct or indirect consumers of our products and services, entities providing financing for purchases of our products and services or members of the supply chain for our products and services may become involved in governmental investigations, internal investigations, political or other enforcement matters. In such circumstances, such investigations may adversely impact the ability of consumers of our products, entities providing financial support to such consumers or entities in the supply chain to timely perform their business plans or to timely perform under agreements with us. The Company could also become involved in investigations of consumers of our products at significant cost to the Company.

We could be adversely affected if we fail to comply with any of the numerous federal, state and local laws, regulations and policies that govern environmental protection, zoning and other matters applicable to our businesses.

Our businesses are subject to numerous federal, state and local laws, regulations and policies governing environmental protection, zoning and other matters. These laws and regulations have changed frequently in the past and it is reasonable to expect additional changes in the future. If existing regulatory requirements change, we may be required to make significant unanticipated capital and operating expenditures. We cannot assure you that our operations will continue to comply with future laws and regulations. Governmental authorities may seek to impose fines and penalties on us or to revoke or deny the issuance or renewal of operating permits for failure to comply with applicable laws and regulations. Under these circumstances, we might be required to reduce or cease operations or conduct site remediation or other corrective action which could adversely impact our operations and financial condition.

Our businesses expose us to potential environmental, product or personal injury liability.

Our businesses expose us to the risk that harmful substances may escape into the environment or a product could fail to perform or cause personal injury, which could result in:

- personal injury or loss of life;
- severe damage to or destruction of property; or,
- environmental damage and suspension of operations.

Our current and past activities, as well as the activities of our former divisions and subsidiaries, could result in our facing substantial environmental, regulatory and other litigation and liabilities. These could include the costs of cleanup of contaminated sites and site closure obligations. These liabilities could also be imposed on the basis of one or more of the following theories:

- negligence;
- strict liability;
- breach of contract with customers; or,
- as a result of our contractual agreement to indemnify our customers in the normal course of business, which is normally the case.

We may not have adequate insurance for potential environmental, product or personal injury liabilities.

While we maintain liability insurance, this insurance is subject to coverage limits. In addition, certain policies do not provide coverage for damages resulting from environmental contamination or may exclude coverage for other reasons. We face the following risks with respect to our insurance coverage:

- we may not be able to continue to obtain insurance on commercially reasonable terms;
- we may be faced with types of liabilities that will not be covered by our insurance;
- our insurance carriers may not be able to meet their obligations under the policies; or,
- the dollar amount of any liabilities may exceed our policy limits.

Even a partially uninsured claim, if successful and of significant size, could have a material adverse effect on our consolidated financial statements.

The adoption of climate change legislation, restrictions on emissions of greenhouse gases, or other environmental regulations could increase our operating costs or reduce demand for our products.

Environmental advocacy groups and regulatory agencies in the United States and other countries have been focusing considerable attention on the emissions of carbon dioxide, methane and other greenhouse gases and their potential role in climate change. The adoption of laws and regulations to implement controls of greenhouse gases, including the imposition of fees or taxes, could adversely impact our operations and financial condition. The U.S. Congress and other governments routinely consider legislation to control and reduce emissions of greenhouse gases and other climate change related legislation, which could require significant reductions in emissions from oil and gas related operations. Additionally, recent concerns regarding the potential impact of hydraulic stimulation, or "fracking", activities have resulted in government officials promulgating regulations to impose certain operational restrictions and disclosure requirements on oil and gas companies. Changes in the legal and regulatory environment could reduce oil and natural gas drilling activity and result in a corresponding decline in the demand for our products and services, which could adversely impact our operating results and financial condition.

Cybersecurity risks and threats could adversely affect our business.

We rely heavily on information systems to conduct our business. Any failure, interruption or breach in security of our information systems could result in failures or disruptions in our customer relationship management, general ledger systems and other systems. While we have policies and procedures designed to prevent or limit the effect of the failure, interruption or security breach of our information systems, there can be no assurance that any such failures, interruptions or security breaches will not occur or, if they do occur, that any breach or interruption will be sufficiently limited. The occurrence of any failures, interruptions or security breaches of our information systems could damage our reputation, result in a loss of our intellectual property or other proprietary information, including customer data, result in a loss of customer business, subject us to additional regulatory scrutiny, or expose us to civil litigation and possible financial liability, any of which could have a material adverse effect on our financial position or results of operations.

Local content requirements imposed in certain jurisdictions may increase the complexity of our operations and impact the demand for our services.

A growing number of nations are requiring equipment providers and contractors to meet local content requirements or other local standards. To meet many of these local content and other requirements, we are required to attract and retain qualified local personnel. If we are unable to do so because the supply of qualified local personnel is constrained for any reason, the growth and profitability of our business may be adversely affected. In addition, our ability to work in certain jurisdictions is sometimes subject to our ability to successfully negotiate and agree upon acceptable joint venture agreements. The failure to reach acceptable agreements could adversely impact the Company's operations in certain countries. Additionally, we may share control of joint ventures with unaffiliated third parties. Differences in views, and disagreements, among joint venture parties may result in delayed decision making and disputes on important issues. In some instances, we could suffer a material adverse effect to the results of our joint ventures and our consolidated results of operations.

Our ability to hire and retain qualified personnel at competitive cost could materially affect our operations and growth potential.

Many of the products we sell, and related services that we provide, are complex and technologically advanced, which enable them to perform in challenging conditions. Our ability to succeed is, in part, dependent on our success in attracting and retaining qualified personnel to provide service and to design, manufacture, use, install and commission our products. A significant increase in wages paid by competitors, both within and outside the energy industry, for such highly skilled personnel could result in insufficient availability of skilled labor or increase our labor costs, or both. If the supply of skilled labor is constrained or our costs increase, our margins could decrease and our growth potential could be impaired.

Severe weather conditions may adversely affect our operations.

Our business may be materially affected by severe weather conditions in areas where we operate. This may entail the evacuation of personnel and stoppage of services. In addition, if particularly severe weather affects platforms or structures, this may result in a suspension of activities. Any of these events could adversely affect our financial condition, results of operations and cash flows.

An impairment of goodwill or other indefinite lived intangible assets could reduce our earnings.

The Company has approximately $2.8 billion of goodwill and $0.3 billion of other intangible assets with indefinite lives as of December 31, 2019. Generally accepted accounting principles require the Company to test goodwill and other indefinite lived intangible assets for impairment on an annual basis or whenever events or circumstances indicate they might be impaired. Events or circumstances which could indicate a potential impairment include (but are not limited to) a significant sustained reduction in worldwide oil and gas prices or drilling; a significant sustained reduction in profitability or cash flow of oil and gas companies or drilling contractors; a significant sustained reduction in capital investment by other oilfield service companies; or a significant increase in worldwide inventories of oil or gas. The timing and magnitude of any goodwill impairment charge, which could be material, would depend on the timing and severity of the event or events triggering the charge and would require a high degree of management judgement. If we were to determine that any of our remaining balance of goodwill or other indefinite lived intangible assets was impaired, we would record an immediate charge to earnings with a corresponding reduction in stockholders' equity; resulting in a possible increase in balance sheet leverage as measured by debt to total capitalization.

See additional discussion on "Goodwill and Other Indefinite – Lived Intangible Assets" in Critical Accounting Estimates of Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations."

We have expanded and grown our businesses through acquisitions and continue to pursue a growth strategy but we cannot assure that attractive acquisitions will be available to us at reasonable prices or at all.

We cannot assure that we will successfully integrate the operations and assets of any acquired business with our own or that our management will be able to manage effectively any new lines of business. Any inability on the part of management to integrate and manage acquired businesses and their assumed liabilities could adversely affect our business and financial performance. In addition, we may need to incur substantial indebtedness to finance future acquisitions. We cannot assure that we will be able to obtain this financing on terms acceptable to us or at all. Future acquisitions may result in increased depreciation and amortization expense, increased interest expense, increased financial leverage or decreased operating income for the Company, any of which could cause our business to suffer.

GLOSSARY OF OILFIELD TERMS

	(Sources: Company management; "A Dictionary for the Petroleum Industry," The University of Texas at Austin, 2001.)
API	Abbr: American Petroleum Institute
Annular Blowout Preventer	A large valve, usually installed above the ram blowout preventers, that forms a seal in the annular space between the pipe and the wellbore or, if no pipe is present, in the wellbore itself.
Annulus	The open space around pipe in a wellbore through which fluids may pass.
Automatic Pipe Handling Systems (Automatic Pipe Racker)	A device used on a drilling rig to automatically remove and insert drill stem components from and into the hole. It replaces the need for a person to be in the derrick or mast when tripping pipe into or out of the hole.
Automatic Roughneck	A large, self-contained pipe-handling machine used by drilling crew members to make up and break out tubulars. The device combines a spinning wrench, torque wrench, and backup wrenches.
Beam pump	Surface pump that raise and lowers sucker rods continually, so as to operate a downhole pump.
Bit	The cutting or boring element used in drilling oil and gas wells. The bit consists of a cutting element and a circulating element. The cutting element is steel teeth, tungsten carbide buttons, industrial diamonds, or polycrystalline diamonds ("PDCs"). These teeth, buttons, or diamonds penetrate and gouge or scrape the formation to remove it. The circulating element permits the passage of drilling fluid and utilizes the hydraulic force of the fluid stream to improve drilling rates. In rotary drilling, several drill collars are joined to the bottom end of the drill pipe column, and the bit is attached to the end of the drill collars. Drill collars provide weight on the bit to keep it in firm contact with the bottom of the hole.
Blowout	An uncontrolled flow of gas, oil or other well fluids into the atmosphere. A blowout, or gusher, occurs when formation pressure exceeds the pressure applied to it by the column of drilling fluid. A kick warns of an impending blowout.
Blowout Preventer (BOP)	Series of valves installed at the wellhead while drilling to prevent the escape of pressurized fluids.
Blowout Preventer (BOP) Stack	The assembly of well-control equipment including preventers, spools, valves, and nipples connected to the top of the wellhead.
Borehole Enlargement ("BHE")	The process of opening up or enlarging the internal diameter of the wellbore. This is typically done with under-reamers, reamers, or hole openers.
Bottomhole Assembly ("BHA")	The lower portion of the drillstring including (if used): the bit, bit sub, mud motor, stabilizers, drillcollar, heavy-weight drillpipe, jarring devices, and crossovers for various thread forms.
Closed Loop Drilling Systems	A solids control system in which the drilling mud is reconditioned and recycled through the drilling process on the rig itself.

Coiled Tubing	A continuous string of flexible steel tubing, often hundreds or thousands of feet long, that is wound onto a reel, often dozens of feet in diameter. The reel is an integral part of the coiled tubing unit, which consists of several devices that ensure the tubing can be safely and efficiently inserted into the well from the surface. Because tubing can be lowered into a well without having to make up joints of tubing, running coiled tubing into the well is faster and less expensive than running conventional tubing. Rapid advances in the use of coiled tubing make it a popular way in which to run tubing into and out of a well. Also called reeled tubing.
Cuttings	Fragments of rock dislodged by the bit and brought to the surface in the drilling mud. Washed and dried cutting samples are analyzed by geologist to obtain information about the formations drilled.
Directional Well	Well drilled in an orientation other than vertical in order to access broader portions of the formation.
Drawworks	The hoisting mechanism on a drilling rig. It is essentially a large winch that spools off or takes in the drilling line and thus raises or lowers the drill stem and bit.
Drill Pipe Elevator (Elevator)	On conventional rotary rigs and top-drive rigs, hinged steel devices with manual operating handles that crew members latch onto a tool joint (or a sub). Since the elevators are directly connected to the traveling block, or to the integrated traveling block in the top drive, when the driller raises or lowers the block or the top-drive unit, the drill pipe is also raised or lowered.
Drilling jars	A percussion tool operated manually or hydraulically to deliver a heavy downward blow to free a stuck drill stem.
Drilling mud	A specially compounded liquid circulated through the wellbore during rotary drilling operations.
Drilling riser	A conduit used in offshore drilling through which the drill bit and other tools are passed from the rig on the water's surface to the sea floor.
Drill stem	All members in the assembly used for rotary drilling from the swivel to the bit, including the Kelly, the drill pipe and tool joints, the drill collars, the stabilizers, and various specialty items.
Fiberglass-reinforced spoolable pipe	A spoolable glass fiber-reinforced epoxy composite tubular product for onshore oil and gas gathering and injection systems, with superior corrosion resistant properties and lower installed cost than steel.
Flexible pipe	A dynamic riser that connects subsea production equipment to a topside facility allowing for the flow of oil, gas, and/or water. Also used on the seafloor to tie wells and subsea equipment together.
Formation	A bed or deposit composed throughout of substantially the same kind of rock; often a lithologic unit. Each formation is given a name, frequently as a result of the study of the formation outcrop at the surface and sometimes based on fossils found in the formation.
FPSO	A Floating Production, Storage and Offloading vessel used to receive hydrocarbons from subsea wells, and then produce and store the hydrocarbons until they can be offloaded to a tanker or pipeline.
Hardbanding	A special wear-resistant material often applied to tool joints to prevent abrasive wear to the area when the pipe is being rotated downhole.

Hydraulic Fracturing	The process of creating fractures in a formation by pumping fluids, at high pressures, into the reservoir, which allows or enhances the flow of hydrocarbons.
Iron Roughneck	A floor-mounted combination of a spinning wrench and a torque wrench. The Iron Roughneck moves into position hydraulically and eliminates the manual handling involved with suspended individual tools.
Jack-up rig	A mobile bottom-supported offshore drilling structure with columnar or open-truss legs that support the deck and hull. When positioned over the drilling site, the bottoms of the legs penetrate the seafloor.
Jar	A mechanical device placed near the top of the drill stem which allows the driller to strike a very heavy blow upward or downward on stuck pipe.
Joint	1. In drilling, a single length (from 16 feet to 45 feet, or 5 meters to 14.5 meters, depending on its range length) of drill pipe, drill collar, casing or tubing that has threaded connections at both ends. Several joints screwed together constitute a stand of pipe. 2. In pipelining, a single length (usually 40 feet-12 meters) of pipe. 3. In sucker rod pumping, a single length of sucker rod that has threaded connections at both ends.
Kelly	The heavy steel tubular device, four-or six-sided, suspended from the swivel through the rotary table and connected to the top joint of drill pipe to turn the drill stem as the rotary table turns. It has a bored passageway that permits fluid to be circulated into the drill stem and up the annulus, or vice versa. Kellys manufactured to API specifications are available only in four-or six-sided versions, are either 40 or 54 feet (12 or 16 meters) long, and have diameters as small as 2.5 inches (6 centimeters) and as large as 6 inches (15 centimeters).
Kelly bushing	A special device placed around the kelly that mates with the kelly flats and fits into the master bushing of the rotary table. The kelly bushing is designed so that the kelly is free to move up or down through it. The bottom of the bushing may be shaped to fit the opening in the master bushing or it may have pins that fit into the master bushing. In either case, when the kelly bushing is inserted into the master bushing and the master bushing is turned, the kelly bushing also turns. Since the kelly bushing fits onto the kelly, the kelly turns, and since the kelly is made up to the drill stem, the drill stem turns. Also called the drive bushing.
Kelly spinner	A pneumatically operated device mounted on top of the kelly that, when actuated, causes the kelly to turn or spin. It is useful when the kelly or a joint of pipe attached to it must be spun up, that is, rotated rapidly for being made up.
Kick	An entry of water, gas, oil, or other formation fluid into the wellbore during drilling. It occurs because the pressure exerted by the column of drilling fluid is not great enough to overcome the pressure exerted by the fluids in the formation drilled. If prompt action is not taken to control the kick, or kill the well, a blowout may occur.
Making-up	1. To assemble and join parts to form a complete unit (e.g., to make up a string of drill pipe). 2. To screw together two threaded pieces. 3. To mix or prepare (e.g., to make up a tank of mud). 4. To compensate for (e.g., to make up for lost time).
Manual tongs (Tongs)	The large wrenches used for turning when making up or breaking out drill pipe, casing, tubing, or other pipe; variously called casing tongs, pipe tongs, and so forth, according to the specific use. Power tongs or power wrenches are pneumatically or hydraulically operated tools that serve to spin the pipe up tight and, in some instances to apply the final makeup torque.

Master bushing	A device that fits into the rotary table to accommodate the slips and drive the kelly bushing so that the rotating motion of the rotary table can be transmitted to the kelly. Also called rotary bushing.
Mooring system	The method by which a vessel or buoy is fixed to a certain position, whether permanently or temporarily.
Motion compensation equipment	Any device (such as a bumper sub or heave compensator) that serves to maintain constant weight on the bit in spite of vertical motion of a floating offshore drilling rig.
Mud pump	A large, high-pressure reciprocating pump used to circulate the mud on a drilling rig.
Plug gauging	The mechanical process of ensuring that the inside threads on a piece of drill pipe comply with API standards.
Pressure control equipment	Equipment used in: 1. The act of preventing the entry of formation fluids into a wellbore. 2. The act of controlling high pressures encountered in a well.
Pressure pumping	Pumping fluids into a well by applying pressure at the surface.
Ram blowout preventer	A blowout preventer that uses rams to seal off pressure on a hole that is with or without pipe. Also called a ram preventer.
Ring gauging	The mechanical process of ensuring that the outside threads on a piece of drill pipe comply with API standards.
Riser pipe	The pipe and special fitting used on floating offshore drilling rigs to establish a seal between the top of the wellbore, which is on the ocean floor, and the drilling equipment located above the surface of the water. A riser pipe serves as a guide for the drill stem from the drilling vessel to the wellhead and as a conductor for drilling fluid from the well to the vessel. The riser consists of several sections of pipe and includes special devices to compensate for any movement of the drilling rig caused by waves. Also called marine riser pipe, riser joint.
Rotary table	The principal piece of equipment in the rotary table assembly; a turning device used to impart rotational power to the drill stem while permitting vertical movement of the pipe for rotary drilling. The master bushing fits inside the opening of the rotary table; it turns the kelly bushing, which permits vertical movement of the kelly while the stem is turning.
Rotating blowout preventer (Rotating Head)	A sealing device used to close off the annular space around the kelly in drilling with pressure at the surface, usually installed above the main blowout preventers. A rotating head makes it possible to drill ahead even when there is pressure in the annulus that the weight of the drilling fluid is not overcoming; the head prevents the well from blowing out. It is used mainly in the drilling of formations that have low permeability. The rate of penetration through such formations is usually rapid.
Safety clamps	A clamp placed very tightly around a drill collar that is suspended in the rotary table by drill collar slips. Should the slips fail, the clamp is too large to go through the opening in the rotary table and therefore prevents the drill collar string from falling into the hole. Also called drill collar clamp.
Shale shaker	A piece of drilling rig equipment that uses a vibrating screen to remove cuttings from the circulating fluid in rotary drilling operations. The size of the openings in the screen should be selected carefully to be the smallest size possible to allow 100 per cent flow of the fluid. Also called a shaker.

Slim-hole completions (Slim-hole Drilling)	Drilling in which the size of the hole is smaller than the conventional hole diameter for a given depth. This decrease in hole size enables the operator to run smaller casing, thereby lessening the cost of completion.
Slips	Wedge-shaped pieces of metal with serrated inserts (dies) or other gripping elements, such as serrated buttons, that suspend the drill pipe or drill collars in the master bushing of the rotary table when it is necessary to disconnect the drill stem from the kelly or from the top-drive unit's drive shaft. Rotary slips fit around the drill pipe and wedge against the master bushing to support the pipe. Drill collar slips fit around a drill collar and wedge against the master bushing to support the drill collar. Power slips are pneumatically or hydraulically actuated devices that allow the crew to dispense with the manual handling of slips when making a connection.
Solids	See "Cuttings"
Spinning wrench	Air-powered or hydraulically powered wrench used to spin drill pipe in making or breaking connections.
Spinning-in	The rapid turning of the drill stem when one length of pipe is being joined to another. "Spinning-out" refers to separating the pipe.
Stand	The connected joints of pipe racked in the derrick or mast when making a trip. On a rig, the usual stand is about 90 feet (about 27 meters) long (three lengths of drill pipe screwed together), or a treble.
Steerable Technologies	Tools that allow for steering the BHA towards a target while rotating from surface.
String	The entire length of casing, tubing, sucker rods, or drill pipe run into a hole.
Sucker rod	A special steel pumping rod. Several rods screwed together make up the link between the pumping unit on the surface and the pump at the bottom of the well.
Tensioner	A system of devices installed on a floating offshore drilling rig to maintain a constant tension on the riser pipe, despite any vertical motion made by the rig. The guidelines must also be tensioned, so a separate tensioner system is provided for them.
Thermal desorption	The process of removing drilling mud from cuttings by applying heat directly to drill cuttings.
Tiebacks (Subsea)	A series of flowlines and pipes that connect numerous subsea wellheads to a single collection point.
Top drive	A device similar to a power swivel that is used in place of the rotary table to turn the drill stem. It also includes power tongs. Modern top drives combine the elevator, the tongs, the swivel, and the hook. Even though the rotary table assembly is not used to rotate the drill stem and bit, the top-drive system retains it to provide a place to set the slips to suspend the drill stem when drilling stops.
Torque wrench	Spinning wrench with a gauge for measuring the amount of torque being applied to the connection.
Trouble cost	Costs incurred as a result of unanticipated complications while drilling a well. These costs are often referred to as contingency costs during the planning phase of a well.
Turret	Mechanical device that allows a floating vessel to rotate around stationary flowlines, umbilicals, and other associated risers.

Well completion	1. The activities and methods of preparing a well for the production of oil and gas or for other purposes, such as injection; the method by which one or more flow paths for hydrocarbons are established between the reservoir and the surface. 2. The system of tubulars, packers, and other tools installed beneath the wellhead in the production casing; that is, the tool assembly that provides the hydrocarbon flow path or paths.
Wellhead	The termination point of a wellbore at surface level or subsea, often incorporating various valves and control instruments.
Well stimulation	Any of several operations used to increase the production of a well, such as acidizing or fracturing.
Well workover	The performance of one or more of a variety of remedial operations on a producing oil well to try to increase production. Examples of workover jobs are deepening, plugging back, pulling and resetting liners, and squeeze cementing.
Wellbore	A borehole; the hole drilled by the bit. A wellbore may have casing in it or it may be open (uncased); or part of it may be cased, and part of it may be open. Also called a borehole or hole.
Wireline	A slender, rodlike or threadlike piece of metal usually small in diameter, that is used for lowering special tools (such as logging sondes, perforating guns, and so forth) into the well. Also called slick line.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The Company owned or leased approximately 646 facilities worldwide as of December 31, 2019, including the following principal manufacturing, service, distribution and administrative facilities:

Location	Description	Building Size (SqFt)	Property Size (Acres)	Owned / Leased	Lease Termination Date
Wellbore Technologies:					
Navasota, Texas	Manufacturing Facility & Administrative Offices	562,112	196	Owned	
Conroe, Texas	Manufacturing Facility of Drill Bits and Downhole Tools, Administrative & Sales Offices	410,623	35	Owned	
Houston, Texas	Sheldon Road Inspection Facility	319,365	192	Owned	
Veracruz, Mexico	Manufacturing Facility of Tool Joints, Warehouse & Administrative Offices	303,400	42	Owned	
Houston, Texas	Holmes Rd Complex: Manufacturing, Warehouse, Coating Manufacturing Plant & Corporate Office	300,000	50	Owned	
Cedar Park, Texas	Instrumentation Manufacturing Facility, Administrative & Sales Offices	215,778	34	Owned	
Dubai, UAE	Manufacturing Facility of Downhole Tools, Distribution Warehouse	184,492	8	Leased	1/29/2021
Conroe, Texas	Solids Control Manufacturing Facility, Warehouse, Administrative & Sales Offices, and Engineering Labs	153,750	42	Owned	
Houston, Texas	Manufacturing of plastic thread products	158,250	7	Owned	
Completion & Production Solutions:					
Senai, Malaysia	Manufacturing Facility of Fiber Glass Products	595,965	14	Owned*	10/31/2027
Kalundborg, Denmark	Flexibles Manufacturing, Warehouse, Shop & Administrative Offices	485,067	38	Owned	
Superporto du Acu, Brazil	Flexibles Manufacturing, Warehouse, Shop & Administrative Offices	464,885	30	Owned*	10/20/2031
Manchester, England	Manufacturing, Assembly & Testing of PC Pumps and Expendable Parts, Administrative & Sales Offices	464,000	28	Owned	
Houston, Texas	Manufacturing of Wireline and Pressure Performance Equipment, Warehouse and Administrative Offices	383,750	26	Leased	6/30/2041
Fort Worth, Texas	Coiled Tubing Manufacturing Facility, Warehouse, Administrative & Sales Offices	342,999	24	Owned	
Qingdau, Shandong, China	Manufacturing of fiber-reinforced tubular products	309,150	25	Leased	10/26/2036
Tulsa, Oklahoma	Manufacturing Facility of Pumps, Warehouse and Administrative & Sales Offices	222,625	10	Owned	
Houston, Texas	Manufacturing of fiber-reinforced tubular products & Administrative Offices	130,873	6	Leased	4/30/2021
Kintore, Aberdeenshire, Scotland, UK	Manufacturing & Servicing of Elmar, ASEP and Anson Equipment	210,000	13	Leased	9/3/2037
Dammam, Saudi Arabia	Manufacturing of fiberglass products	213,484	23	Leased	12/7/2036
Mt. Union, Pennsylvania	Manufacturing of fiberglass products	160,000	24	Owned	
Rig Technologies:					
Houston, Texas	Bammel Facility, Repairs, Service, Aftermarket Parts, Administrative & Sales Offices	602,110	33	Leased	6/30/2028
Houston, Texas	Manufacturing Plant of Drilling Equipment	511,964	36	Leased	4/30/2022
Houston, Texas	West Little York Manufacturing Facility, Repairs, Service, Administrative & Sales Offices	483,450	34	Owned	
Orange, California	Manufacturing & Office Facility	263,652	16	Owned*	1/31/2025
New Iberia, Louisiana	Repair, Services and Spares facility	189,000	17	Leased	10/1/2025
Singapore	Manufacturing, Repairs, Service, Field Service/Training, Administrative & Sales Offices	133,659	4	Leased	1/5/2024
Dubai, UAE	Repair & Overhaul of Drilling Equipment, Warehouse & Sales Office	39,433	2	Owned	
Corporate:					
Houston, Texas	Corporate and Shared Administrative Offices	337,019	14	Leased	5/31/2037
Houston, Texas	Corporate and Shared Administrative Offices	441,029	3	Leased	1/31/2041

*Building owned but land leased.

We own or lease approximately 278 repair and manufacturing facilities that refurbish and manufacture new equipment and parts, 253 service centers that provide inspection and equipment rental and 115 engineering, sales and administration facilities.

ITEM 3. LEGAL PROCEEDINGS

See Note 12 – Commitments and Contingencies (Part IV, Item 15 of this Form 10-K) for further discussion.

ITEM 4. MINE SAFETY DISCLOSURES

Information regarding mine safety and other regulatory actions at our mines is included in Exhibit 95 to this Form 10-K.

PART II

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

Market Information

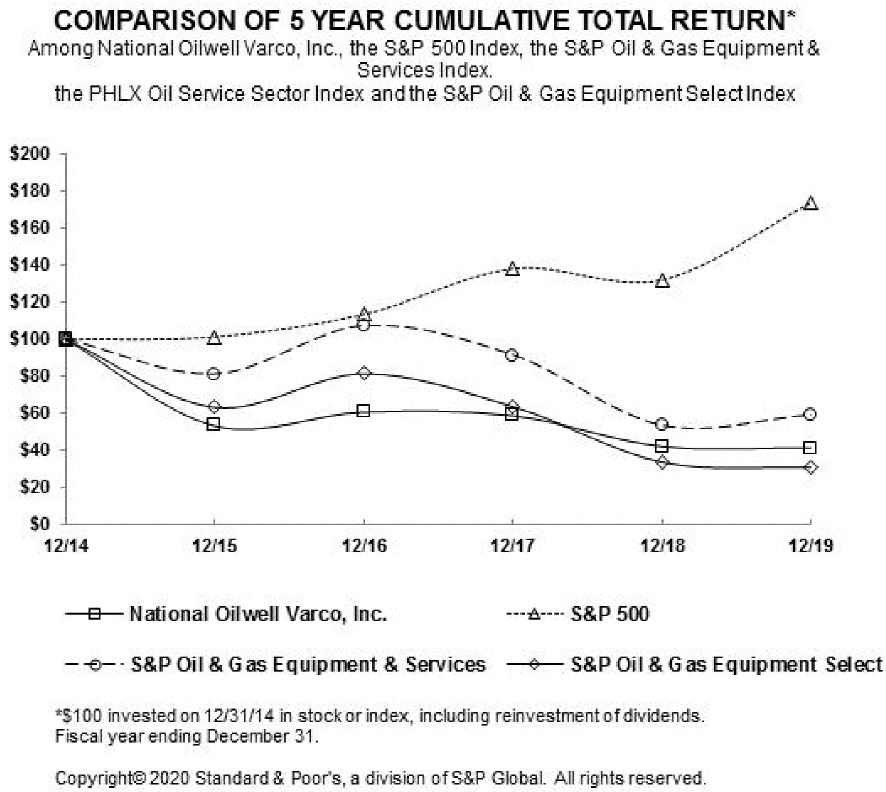
Our common stock is traded on the New York Stock Exchange (NYSE) under the symbol "NOV". As of February 7, 2020, there were 3,340 holders of record of our common stock. Many stockholders choose to own shares through brokerage accounts and other intermediaries rather than as holders of record (excluding individual participants in securities positions listing) so the actual number of stockholders is unknown but significantly higher.

Cash dividends declared were $0.05 per quarter, aggregating $77 million and $76 million for the years ended December 31, 2019 and 2018, respectively. The declaration and payment of future dividends is at the discretion of the Company's Board of Directors and will be dependent upon the Company's results of operations, financial condition, capital requirements, future outlook and other factors deemed relevant by the Company's Board of Directors.

The information relating to our equity compensation plans required by Item 5. "Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities" is incorporated by reference to such information as set forth in Item 12. "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" contained herein.

PERFORMANCE GRAPH

The graph below compares the cumulative total shareholder return on our common stock to the S&P 500 Index and the S&P Oil & Gas Equipment & Services Index. The total shareholder return assumes $100 invested on December 31, 2014 in National Oilwell Varco, Inc., the S&P Oil & Gas Equipment Select Index, the S&P 500 Index and the S&P Oil & Gas Equipment & Services Index. It also assumes reinvestment of all dividends. The peer group is weighted based on the market capitalization of each company. The results shown in the graph below are not necessarily indicative of future performance.



	12/14	12/15	12/16	12/17	12/18	12/19
National Oilwell Varco, Inc.	**100.00**	**53.33**	**60.75**	**58.79**	**42.17**	**41.46**
S&P 500	**100.00**	**101.38**	**113.51**	**138.29**	**132.23**	**173.86**
S&P Oil & Gas Equipment & Services	**100.00**	**81.25**	**107.19**	**91.45**	**53.53**	**59.17**
S&P Oil & Gas Equipment Select	**100.00**	**63.34**	**81.52**	**63.72**	**33.76**	**30.85**

This information shall not be deemed to be ‘‘soliciting material’’ or to be ‘‘filed’’ with the Commission or subject to Regulation 14A (17 CFR 240.14a-1-240.14a-104), other than as provided in Item 201(e) of Regulation S-K, or to the liabilities of section 18 of the Exchange Act (15 U.S.C. 78r).

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Period	Total number of shares purchased*	Average price paid per share	Total number of shares purchased as part of publicly announced plans or programs	Approximate dollar value of shares that may yet be purchased under the plans or programs*
January 1 through January 31, 2019	—	—	—	$ 500,000
February 1 through February 28, 2019	648	$ 28.29	—	500,000
March 1 through March 31, 2019	—	—	—	500,000
April 1 through April 30, 2019	—	—	—	500,000
May 1 through May 31, 2019	—	—	—	500,000
June 1 through June 30, 2019	—	—	—	500,000
July 1 through July 31, 2019	—	—	—	500,000
August 1 through August 31, 2019	—	—	—	500,000
September 1 through September 31, 2019	—	—	—	500,000
October 1 through October 31, 2019	—	—	—	500,000
November 1 through November 30, 2019	83	22.28	—	500,000
December 1 through December 31, 2019	—	—	—	500,000
Total (1)	731	$ 27.61	—	

**Amounts in thousands*

(1) The 731 thousand shares listed as "purchased" during 2019 were withheld from employee's vesting restricted stock grants, as required for income taxes, and retired. These shares were not part of a publicly announced program to purchase common stock.

As announced on November 6, 2018, management is authorized, until November 6, 2021, to repurchase up to $500 million of our common stock, beginning once gross debt is less than two times EBITDA for the previous quarter annualized. The Company achieved this metric, on an adjusted EBITDA basis, for the fourth quarter of 2019 (See Item 7 for a discussion of adjusted EBITDA and reconciliation to GAAP performance measures), but management does not expect to make purchases under the program until the target can be sustainably achieved on an unadjusted basis.

ITEM 6. SELECTED FINANCIAL DATA

	Years Ended December 31,				
	2019	2018	2017	2016	2015
	(in millions, except per share data)				
Operating Data:					
Revenue	$ 8,479	$ 8,453	$ 7,304	$ 7,251	$ 14,757
Operating profit (loss)	$ (6,279)	$ 211	$ (277)	$ (2,411)	$ (390)
Income (loss) before income taxes	$ (6,462)	$ 41	$ (392)	$ (2,623)	$ (589)
Income (loss) from continuing operations	$ (6,093)	$ (22)	$ (236)	$ (2,416)	$ (767)
Net income (loss) attributable to Company	$ (6,095)	$ (31)	$ (237)	$ (2,412)	$ (769)
Operating Cash Flow	$ 714	$ 521	$ 832	$ 960	$ 1,332
Per share data:					
Basic:					
Income (loss) from continuing operations	$ (15.96)	$ (0.08)	$ (0.63)	$ (6.41)	$ (1.99)
Net income (loss) attributable to Company	$ (15.96)	$ (0.08)	$ (0.63)	$ (6.41)	$ (1.99)
Diluted:					
Income (loss) from continuing operations	$ (15.96)	$ (0.08)	$ (0.63)	$ (6.41)	$ (1.99)
Net income (loss) attributable to Company	$ (15.96)	$ (0.08)	$ (0.63)	$ (6.41)	$ (1.99)
Cash dividends per share	$ 0.20	$ 0.20	$ 0.20	$ 0.61	$ 1.84
Other Data:					
Depreciation and amortization	$ 533	$ 690	$ 698	$ 703	$ 747
Capital expenditures	$ 233	$ 244	$ 192	$ 284	$ 453
Balance Sheet Data:					
Working capital	$ 3,866	$ 4,938	$ 4,863	$ 4,829	$ 7,552
Total assets	$ 13,149	$ 19,796	$ 20,206	$ 21,140	$ 26,725
Long-term debt, less current maturities	$ 1,989	$ 2,704	$ 2,706	$ 2,708	$ 3,928
Lease liabilities - operating[(1)]	$ 732	$ -	$ -	$ -	$ -
Lease liabilities - financing/capital[(1)]	$ 337	$ 229	$ 232	$ 238	$ 43
Total Company stockholders' equity	$ 7,778	$ 13,819	$ 14,094	$ 13,940	$ 16,383

(1) The Company adopted ASC 842, Leases, effective January 1, 2019 resulting in the addition of $590 million in assets and liabilities on the Company's consolidated balance sheet. See Note 8 – Leases (Part IV, Item 15 of this Form 10-K) for further discussion.

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

General Overview

The Company is a leading independent provider of equipment and technology to the upstream oil and gas industry. With operations in approximately 646 locations across six continents, NOV designs, manufactures and services a comprehensive line of drilling and well servicing equipment; sells and rents drilling motors, specialized downhole tools, and rig instrumentation; performs inspection and internal coating of oilfield tubular products; provides drill cuttings separation, management and disposal systems and services; and provides expendables and spare parts used in conjunction with the Company's large installed base of equipment. NOV also manufactures coiled tubing and high-pressure fiberglass and composite tubing, and sells and rents advanced in-line inspection equipment to makers of oil country tubular goods. The Company has a long tradition of pioneering innovations which improve the cost-effectiveness, efficiency, safety, and environmental impact of oil and gas operations.

NOV's revenue and operating results are directly related to the level of worldwide oil and gas drilling and production activities and the profitability and cash flow of oil and gas companies and drilling contractors, which in turn are affected by current and anticipated prices of oil and gas. Oil and gas prices have been and are likely to continue to be volatile. See Item 1A. "Risk Factors". The Company conducts its operations through three business segments: Wellbore Technologies, Completion & Production Solutions and Rig Technologies. See Item 1. "Business", for a discussion of each of these business segments.

Unless indicated otherwise, results of operations are presented in accordance with accounting principles generally accepted in the United States ("GAAP"). Certain reclassifications have been made to the prior year financial statements in order for them to conform with the 2019 presentation. The Company discloses Adjusted EBITDA (defined as Operating Profit excluding Depreciation, Amortization and Other Items) in its periodic earnings press releases and other public disclosures to provide investors additional information about the results of ongoing operations. See Non-GAAP Financial Measures and Reconciliations in Results of Operations for an explanation of our use of non-GAAP financial measures and reconciliations to their corresponding measures calculated in accordance with GAAP.

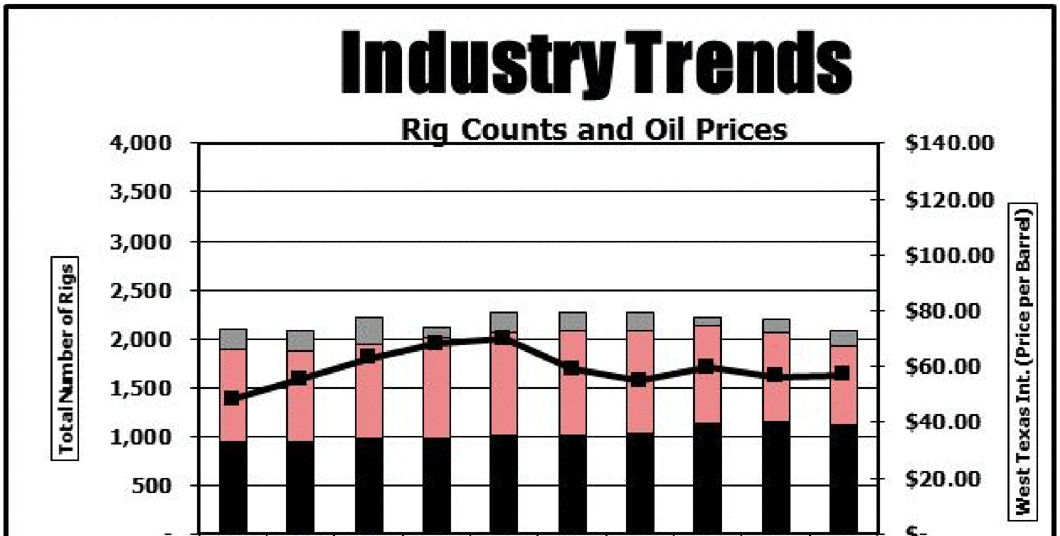
Operating Environment Overview

NOV's results are dependent on, among other things, the level of worldwide oil and gas drilling, well remediation activity, the price of crude oil and natural gas, capital spending by exploration and production companies and drilling contractors, and worldwide oil and gas inventory levels. Key industry indicators for the past three years include the following:

	2019*	2018*	2017*	% increase (decrease) 2019 v 2018	% increase (decrease) 2019 v 2017
Active Drilling Rigs:					
U.S.	944	1,031	875	(8.4%)	7.9%
Canada	135	191	207	(29.3%)	(34.8%)
International	1,106	988	947	11.9%	16.8%
Worldwide	2,185	2,210	2,029	(1.1%)	7.7%
West Texas Intermediate Crude Prices (per barrel)	$ 56.98	$ 64.94	$ 50.88	(12.3%)	12.0%
Natural Gas Prices ($/mmbtu)	$ 2.52	$ 3.13	$ 2.96	(19.5%)	(14.9%)

* Averages for the years indicated. See sources below.

The following table details the U.S., Canadian, and international rig activity and West Texas Intermediate Oil prices for the past nine quarters ended December 31, 2019 on a quarterly basis:



	3Q17	4Q17	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19
Total Rigs	2,102	2,074	2,208	2,110	2,262	2,260	2,260	2,210	2,197	2,071
Canada	208	205	273	105	208	177	185	83	132	139
US	947	921	965	1,037	1,051	1,072	1,046	989	920	821
International	947	948	970	968	1,003	1,011	1,029	1,138	1,145	1,111
W. TX Int. ($)	$48.15	$55.37	$62.88	$68.03	$69.76	$59.08	$54.83	$59.78	$56.37	$56.92

Source: Rig count: Baker Hughes, Inc. (www.bakerhughes.com); West Texas Intermediate Crude Price, Natural Gas Price: Department of Energy, Energy Information Administration (www.eia.doe.gov).

The average price per barrel of West Texas Intermediate Crude was $56.98 in 2019, a decrease of 12% over the average price for 2018 of $64.94 per barrel. The average natural gas price in 2019 was $2.52 per mmbtu, a decrease of 20% percent compared to the 2018 average of $3.13 per mmbtu. Average rig activity worldwide decreased one percent for the full year in 2019 compared to 2018. The average crude oil price for the fourth quarter of 2019 was $56.92 per barrel, and natural gas was $2.36 per mmbtu.

At February 7, 2020, there were 1,047 rigs actively drilling in North America, compared to the fourth quarter average of 960 rigs, an increase of nine percent. The price for West Texas Intermediate Crude Oil was $50.32 per barrel at February 7, 2020, a decrease of 12% from the fourth quarter of 2019 average. The price for natural gas was $1.86 per mmbtu at February 7, 2020, a decrease of 21% from the fourth quarter of 2019 average.

EXECUTIVE SUMMARY

National Oilwell Varco, Inc. generated revenue of $8.48 billion in 2019, which was flat from the prior year as lower revenue in North America resulting from declining drilling activity in the U.S. was offset by sales growth in international and offshore markets. Average 2019 worldwide rig count (as measured by Baker Hughes) decreased slightly when compared to 2018.

For the year ended December 31, 2019, the Company reported an operating loss of $6,279 million compared to an operating profit of $211 million in 2018, and a net loss attributable to the Company of $6,095 million, or $15.96 per share compared to a net loss of $31 million or $0.08 per share during 2018.

For the fourth quarter ended December 31, 2019, revenue was $2.28 billion, a $155 million or seven percent increase compared to the third quarter of 2019. The Company reported a net loss of $385 million, or $1.01 per fully diluted share, a decrease of $141 million, or $0.37 per fully diluted share, from the third quarter of 2019. Compared to the fourth quarter of 2018, revenue decreased $117 million or five percent, and net income decreased $397 million.

During the fourth quarter of 2019, third quarter of 2019, and fourth quarter of 2018, pre-tax other items: goodwill, intangible and long-lived asset impairment charges, inventory charges, severance accruals, and other charges and credits (collectively "Other Items"), were $537 million, $314 million, and $21 million, respectively. Excluding the Other Items from all periods, fourth quarter 2019 Adjusted EBITDA was $288 million, compared to $262 million in the third quarter of 2019 and $279 million in the fourth quarter of 2018.

Segment Performance

Wellbore Technologies

Wellbore Technologies generated revenues of $764 million in the fourth quarter of 2019, a decrease of four percent from the third quarter of 2019 and a decrease of 14 percent from the fourth quarter of 2018. The decline in revenue resulted from lower drilling activity levels in North America that more than offset improving conditions in international and offshore markets. Cost savings initiatives and a better product mix improved margins. Operating loss, which included $410 million in Other Items, was $317 million. Adjusted EBITDA increased eight percent sequentially and decreased eight percent from the prior year to $143 million, or 18.7 percent of sales.

Completion & Production Solutions

Completion & Production Solutions generated revenues of $799 million in the fourth quarter of 2019, an increase of 10 percent from the third quarter of 2019 and an increase of one percent from the fourth quarter of 2018. The third straight quarter of double-digit top-line improvement was driven by growing demand from offshore and international markets, partially offset by a rapidly contracting demand for completion and other equipment in U.S. land markets. Operating profit, which included $13 million in Other Items, was $57 million, or 7.1 percent of sales. Adjusted EBITDA increased 17 percent sequentially and decreased 14 percent from the prior year to $96 million, or 12.0 percent of sales.

New orders booked during the quarter were $502 million, representing a book-to-bill of 101 percent when compared to the $499 million of orders shipped from backlog. Backlog for capital equipment orders for Completion & Production Solutions at December 31, 2019 was $1.3 billion.

Rig Technologies

Rig Technologies generated revenues of $759 million in the fourth quarter of 2019, an increase of 17 percent from the third quarter of 2019 and a decrease of six percent from the fourth quarter of 2018. Increases in land rig deliveries and improved progress on offshore equipment projects drove the sequential improvement in results. Operating loss, which included $114 million in Other Items, was $23 million. Adjusted EBITDA increased seven percent sequentially and 10 percent from the prior year to $112 million, or 14.8 percent of sales.

New orders booked during the quarter totaled $211 million, representing a book-to-bill of 59 percent when compared to the $360 million of orders shipped from backlog. At December 31, 2019, backlog for capital equipment orders for Rig Technologies was $3.0 billion.

Oil & Gas Equipment and Services Market and Outlook

Following approximately two and a half years of steady improvements in oil prices and global drilling activity levels, commodity prices declined sharply during the fourth quarter of 2018 due to stronger than expected growth in U.S. oil production and concerns regarding the global economy. These developments, along with pressure from investors on North American exploration and production companies to reduce investments and generate free cash flow, led to a prolonged 2019 budgeting season that resulted in a sharp decline in demand for our products and services in the first quarter and ultimately led to reductions in the budgets of North American exploration and production companies.

As a result of reduced budgets, and despite a modest recovery in commodity prices, drilling activity levels in the U.S. declined throughout the year resulting in the first double digit percentage decrease in the average annual rig count since 2016. While the North American market deteriorated, the new-found capital austerity and fiscal discipline exhibited by U.S. operators along with declining production from underinvestment in overseas markets and rapidly growing demand for LNG inspired greater levels of confidence from international oil and gas companies, who must typically make longer-term investment decisions relative to the short-cycle nature of shale development projects in the U.S. As a result, the number of final investment decisions for international projects increased throughout 2019, driving higher levels of drilling activity and improved demand for our products and services in international and offshore markets.

In 2020, NOV anticipates that higher international and offshore activity levels and growing market share for certain of NOV's products and services will continue to partially offset the continuing effects of capital austerity in the North American land marketplace, where a meaningful recovery is not expected before 2021. Longer-term, the Company remains optimistic regarding improvements in market fundamentals as existing oil and gas fields continue to deplete and investments in major projects to replenish supply remain constrained while global demand continues to grow. Notwithstanding this optimism, the outlook is uncertain and NOV remains committed to streamlining its operations and improving organizational efficiencies while continuing to focus on the capital investment strategies of our customers to ensure our investments in innovative products and services, including environmentally friendly technologies, are responsive to their longer-term investment outlook. We believe this strategy will further advance the Company's competitive position, regardless of the market environment.

Results of Operations

The following table summarizes the Company's revenue and operating profit (loss) by operating segment (in millions):

	Years Ended December 31,			% Change	
	2019	2018	2017	2019 vs. 2018	2018 vs. 2017
Revenue:					
Wellbore Technologies	$ 3,214	$ 3,235	$ 2,577	(0.6%)	25.5%
Completion & Production Solutions	2,771	2,931	2,672	(5.5%)	9.7%
Rig Technologies	2,682	2,575	2,252	4.2%	14.3%
Eliminations	(188)	(288)	(197)	(34.7%)	46.2%
Total Revenue	$ 8,479	$ 8,453	$ 7,304	0.3%	15.7%
Operating Profit (Loss):					
Wellbore Technologies	$ (3,551)	$ 131	$ (102)	(2810.7%)	(228.4%)
Completion & Production Solutions	(1,934)	166	98	(1265.1%)	69.4%
Rig Technologies	(524)	213	(14)	(346.0%)	(1621.4%)
Eliminations and corporate costs	(270)	(299)	(259)	(9.7%)	15.4%
Total Operating Profit (Loss)	$ (6,279)	$ 211	$ (277)	(3075.8%)	(176.2%)
Operating Profit (Loss)%:					
Wellbore Technologies	(110.5%)	4.0%	(4.0%)		
Completion & Production Solutions	(69.8%)	5.7%	3.7%		
Rig Technologies	(19.5%)	8.3%	(0.6%)		
Total Operating Profit (Loss) %	(74.1%)	2.5%	(3.8%)		

Years Ended December 31, 2019 and December 31, 2018

Wellbore Technologies

Revenue from Wellbore Technologies for the year ended December 31, 2019 was $3,214 million, a decrease of $21 million (-1%) compared to the year ended December 31, 2018.

Operating loss from Wellbore Technologies was $3,551 million for the year ended December 31, 2019, a decrease of $3,682 million compared to the year ended December 31, 2018. Operating loss percentage for 2019 was (110.5%) compared to an operating profit of four percent in 2018.

Other Items included in operating profit (loss) for Wellbore Technologies were $3,794 million for the year ended December 31, 2019 and $21 million for the year ended December 31, 2018.

Completion & Production Solutions

Revenue from Completion & Production Solutions for the year ended December 31, 2019 was $2,771 million, a decrease of $(160) million (-5%) compared to the year ended December 31, 2018.

Operating loss from Completion & Production Solutions was $(1,934) million for the year ended December 31, 2019 compared to operating profit of $166 million for 2018, a decrease of $2,100 million. Operating profit percentage decreased to (69.8%) from 5.7% in 2018.

Included in operating profit are Other Items related to impairment charges, inventory charges, severance accruals and other charges and credits. Other items included in operating profit (loss) for Completion & Production Solutions was $2,042 million for the year ended December 31, 2019. There were no Other Items included in operating profit for Completion & Production Solutions for the year ended December 31, 2018.

The Completion & Production Solutions segment monitors its capital equipment backlog to plan its business. New orders are added to backlog only when the Company receives a firm written order for major completion and production components or a signed contract related to a construction project. The capital equipment backlog was $1.3 billion at December 31, 2019, an increase of $411 million, or 46 percent from backlog of $894 million at December 31, 2018. Numerous factors may affect the timing of revenue out of backlog. Considering these factors, the Company reasonably expects approximately $1.1 billion of revenue out of backlog in 2020 and approximately $157 million of revenue out of backlog in 2021 and thereafter. At December 31, 2019, approximately 65 percent of the capital equipment backlog was for offshore products and approximately 83 percent of the capital equipment backlog was destined for international markets.

Rig Technologies

Revenue from Rig Technologies for the year ended December 31, 2019 was $2,682 million, an increase of $107 million (4%) compared to the year ended December 31, 2018.

Operating loss from Rig Technologies was $(524) million for the year ended December 31, 2019, a decrease of $(737) million compared to 2018. Operating loss percentage for 2019 was (19.5%) compared to an operating profit percentage of 8.3% in 2018.

Included in operating profit are Other Items related to severance and facility closures, and asset write-downs. Other Items included in operating profit for Rig Technologies were $784 million for the year ended December 31, 2019 and $6 million for the year ended December 31, 2018.

The Rig Technologies segment monitors its capital equipment backlog to plan its business. New orders are added to backlog only when the Company receives a firm written order for major drilling rig components or a signed contract related to a construction project. The capital equipment backlog was $3.0 billion at December 31, 2019, a decrease of $123 million, or four percent, from backlog of $3.1 billion at December 31, 2018. Numerous factors may affect the timing of revenue out of backlog. Considering these factors, the Company reasonably expects approximately $0.6 billion of revenue out of backlog in 2020 and approximately $2.4 billion of revenue out of backlog in 2021 and thereafter. At December 31, 2019, approximately 28% of the capital equipment backlog was for offshore products and approximately 93% of the capital equipment backlog was destined for international markets.

Eliminations and corporate costs

Eliminations and corporate costs were $270 million for the year ended December 31, 2019 compared to $299 million for the year ended December 31, 2018This change is primarily due to a decrease in intersegment sales. Sales from one segment to another generally are priced at estimated equivalent commercial selling prices; however, segments originating an external sale are credited with the full profit to the Company. Eliminations and corporate costs include intercompany transactions conducted between the three reporting segments that are eliminated in consolidation, as well as corporate costs not allocated to the segments. Intercompany transactions within each reporting segment are eliminated within each reporting segment.

Other income (expense), net

Other income (expense), net were expenses of $90 million for the year ended December 31, 2019 compared to expenses of $99 million for the year ended December 31, 2018. The decrease in expense was primarily due to lower foreign exchange losses for 2019.

Provision for income taxes

The effective tax rate for the year ended December 31, 2019 was 5.7%, compared to 153.7% for 2018. For the year ended December 31, 2019, the effective tax rate was negatively impacted by the impairment of nondeductible goodwill and the establishment of additional valuation allowances partially offset by the reduction in uncertain tax positions due to settlements. For the year ended December 31, 2018, valuation allowances established on foreign tax credits generated during the year resulted in a higher effective tax rate than the U.S. statutory rate.

Refer to our 2018 Form 10-K for discussion of 2018 versus 2017.

Non-GAAP Financial Measures and Reconciliations

The Company discloses Adjusted EBITDA (defined as Operating Profit excluding Depreciation, Amortization and, when applicable, Other Items) in its periodic earnings press releases and other public disclosures to provide investors additional information about the results of ongoing operations. The Company uses Adjusted EBITDA internally to evaluate and manage the business. Adjusted EBITDA is not intended to replace GAAP financial measures, such as Net Income.

Other items consist of (in millions):

	Three Months Ended			Years Ended	
	December 31,		September 30,	December 31,	
	2019	2018	2019	2019	2018
Other items by category:					
Goodwill	$ 410	$ —	$ —	$ 3,509	$ —
Identified intangibles	16	—	—	2,004	—
Inventory charges	63	(6)	265	633	(6)
Long-lived assets	$ 10	$ —	$ 12	$ 309	$ —
Voluntary early retirement program	(3)	—	(2)	84	—
Severance, facility closures and other	41	27	39	92	15
Total other items	$ 537	$ 21	$ 314	$ 6,631	$ 9

The following tables set forth the reconciliation of Adjusted EBITDA to its most comparable GAAP financial measure (in millions):

	Three Months Ended			Years Ended	
	December 31,		September 30,	December 31,	
	2019	2018	2019	2019	2018
Operating profit (loss):					
Wellbore Technologies	$ (317)	$ 41	$ 42	$ (3,551)	$ 131
Completion & Production Solutions	57	64	(24)	(1,934)	166
Rig Technologies	(23)	75	(110)	(524)	213
Eliminations and corporate costs	(66)	(93)	(62)	(270)	(299)
Total operating profit (loss)	$ (349)	$ 87	$ (154)	$ (6,279)	$ 211
Other items:					
Wellbore Technologies	$ 410	$ 24	$ 41	$ 3,794	$ 21
Completion & Production Solutions	13	(3)	79	2,042	—
Rig Technologies	114	—	194	784	6
Corporate	—	—	—	11	(18)
Total other items	$ 537	$ 21	$ 314	$ 6,631	$ 9
Depreciation & amortization:					
Wellbore Technologies	$ 50	$ 90	$ 50	$ 284	$ 374
Completion & Production Solutions	26	51	27	150	212
Rig Technologies	21	27	21	87	90
Corporate	3	3	4	12	14
Total depreciation & amortization	$ 100	$ 171	$ 102	$ 533	$ 690
Adjusted EBITDA:					
Wellbore Technologies	$ 143	$ 155	$ 133	$ 527	$ 526
Completion & Production Solutions	96	112	82	258	378
Rig Technologies	112	102	105	347	309
Eliminations and corporate costs	(63)	(90)	(58)	(247)	(303)
Total Adjusted EBITDA	$ 288	$ 279	$ 262	$ 885	$ 910
Reconciliation of Adjusted EBITDA:					
GAAP net income (loss) attributable to Company	$ (385)	$ 12	$ (244)	$ (6,095)	$ (31)
Noncontrolling interests	—	3	(5)	2	9
Provision (benefit) for income taxes	(46)	26	60	(369)	63
Interest expense	25	22	25	100	93
Interest income	(4)	(7)	(4)	(20)	(25)
Equity loss in unconsolidated affiliate	7	2	4	13	3
Other (income) expense, net	54	29	10	90	99
Depreciation and amortization	100	171	102	533	690
Other items	537	21	314	6,631	9
Total Adjusted EBITDA	$ 288	$ 279	$ 262	$ 885	$ 910

Liquidity and Capital Resources

At December 31, 2019, the Company had cash and cash equivalents of $1,171 million, and total debt of $1,989 million. At December 31, 2018, cash and cash equivalents were $1,427 million and total debt was $2,482 million. As of December 31, 2019, approximately $795 million of the $1,171 million of cash and cash equivalents was held by our foreign subsidiaries and the earnings associated with this cash were subject to U.S. taxation. If opportunities to invest in the U.S. are greater than available cash balances that are not subject to income tax, rather than repatriating cash, the Company may choose to borrow against its revolving credit facility or utilize its commercial paper program.

The following table summarizes our net cash provided by operating activities, net cash used in investing activities and net cash used in financing activities for the periods presented (in millions):

	Years Ended December 31,		
	2019	2018	2017
Net cash provided by operating activities	$ 714	$ 521	$ 832
Net cash used in investing activities	(315)	(457)	(245)
Net cash used in financing activities	(647)	(30)	(595)

Significant sources and uses of cash during 2019

- Cash flows provided by operating activities was $714 million. This included changes in the primary components of our working capital (receivables, inventories and accounts payable), primarily related to strong collections on receivables and inventory turns.
- We sold accounts receivable of $327 million (cost of approximately $3 million), receiving cash proceeds totaling $324 million for the year ended December 31, 2019. For the three months ended December 31, 2019, we sold accounts receivable of $40.3 million (cost of approximately $0.3 million), receiving cash proceeds totaling $40 million.
- Business acquisitions, net of cash acquired, were $180 million.
- Capital expenditures were $233 million.
- We paid $77 million in dividends to our shareholders.

Effective October 30, 2019, the Company amended its five-year unsecured revolving credit facility, decreasing its borrowing availability to $2.0 billion and extended its maturity to October 30, 2024. The Company has the right to increase the aggregate commitments under this new agreement to an aggregate amount of up to $3.0 billion upon the consent of only those lenders holding any such increase. Interest under the new multicurrency facility is based upon LIBOR, NIBOR or CDOR plus 1.125% subject to a ratings-based grid or the U.S. prime rate. The new credit facility contains a financial covenant regarding maximum debt-to-capitalization ratio of 60%. As of December 31, 2019, the Company was in compliance with a debt-to-capitalization ratio of 22.4%.

On December 4, 2019, the Company repaid $1 billion of its 2.60% unsecured Senior Notes using available cash balances.

On November 4, 2019, the Company issued $500 million of 3.60% unsecured Senior Notes due 2029. The net proceeds were $493 million, after deducting $3 million in underwriting fees and a $4 million discount. Interest on each series of notes is due on June 1 and December 1 of each year, beginning on June 1, 2020. The Company may redeem some or all of the Senior Notes at any time at the applicable redemption price, plus accrued interest, if any, to the redemption date. At December 31, 2019, the Company was in compliance with the covenants under the indenture governing the Senior Notes.

The Company's outstanding debt at December 31, 2019 was $1,989 million and consisted of $399 million in 2.60% Senior Notes, $492 million in 3.60% Senior Notes, $1,088 million in 3.95% Senior Notes, no commercial paper borrowings, and other debt of $9 million. The Company was in compliance with all covenants at December 31, 2019.

At December 31, 2019, there were no commercial paper borrowings supported by the $2.0 billion credit facility and no outstanding letters of credit issued under the credit facility, resulting in $2.0 billion of funds available under this revolving credit facility.

The Company had $502 million of outstanding letters of credit at December 31, 2019 that are under various bilateral letter of credit facilities. Letters of credit are issued as bid bonds, advanced payment bonds and performance bonds.

Other

The effect of the change in exchange rates on cash was an increase (decrease) of ($8) million, ($44) million and $37 million for the years ended December 31, 2019, 2018 and 2017, respectively.

We believe that cash on hand, cash generated from operations and amounts available under our credit facilities and from other sources of debt will be sufficient to fund operations, working capital needs, capital expenditure requirements, dividends and financing obligations.

We intend to pursue additional acquisition candidates, but the timing, size or success of any acquisition effort and the related potential capital commitments cannot be predicted. We continue to expect to fund future cash acquisitions primarily with cash flow from operations and borrowings, including the unborrowed portion of the revolving credit facility or new debt issuances, but may also issue additional equity either directly or in connection with acquisitions. There can be no assurance that additional financing for acquisitions will be available at terms acceptable to us.

A summary of the Company's outstanding contractual obligations at December 31, 2019 is as follows (in millions):

		Payment Due by Period			
	Total	Less than 1 Year	1-3 Years	3-5 Years	After 5 Years
Contractual Obligations:					
Total debt	$ 1,989	$ -	$ 400	$ -	$ 1,589
Operating leases	732	126	194	119	293
Finance Leases	337	15	30	30	262
Total Contractual Obligations	$ 3,058	$ 141	$ 624	$ 149	$ 2,144
Commercial Commitments:					
Standby letters of credit	$ 502	$ 311	$ 160	$ 30	$ 1

As of December 31, 2019, the Company had $38 million of unrecognized tax benefits. This represents the tax benefits associated with various tax positions taken, or expected to be taken, on domestic and international tax returns that have not been recognized in our financial statements due to uncertainty regarding their resolution. Due to the uncertainty of the timing of future cash flows associated with these unrecognized tax benefits, we are unable to make reasonably reliable estimates of the period of cash settlement, if any, with the respective taxing authorities. Accordingly, unrecognized tax benefits have been excluded from the contractual obligations table above. For further information related to unrecognized tax benefits, see Note 15 to the Consolidated Financial Statements.

Critical Accounting Policies and Estimates

In preparing the financial statements, we make assumptions, estimates and judgements that affect the amounts reported. We periodically evaluate our estimates and judgements that are most critical in nature which are related to revenue recognition under long-term construction contracts; allowance for doubtful accounts; inventory reserves; impairments of long-lived assets (excluding goodwill and other indefinite-lived intangible assets); impairment of goodwill and other indefinite-lived intangible assets; purchase price allocation of acquisitions; service and product warranties and income taxes. Our estimates are based on historical experience and on our future expectations that we believe are reasonable. The combination of these factors forms the basis for making judgements about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results are likely to differ from our current estimates and those differences may be material.

Revenue Recognition

The majority of the Company's revenue streams record revenue at a point in time when a performance obligation has been satisfied by transferring control of promised goods or services to a customer. Products and services are sold or rented based upon a fixed or determinable price and do not generally include significant post-delivery obligations. Payment terms and conditions vary by contract type. We have elected to apply the practical expedient that does not require an adjustment for a financing component if, at contract inception, the period between when we transfer the promised goods or service to the customer and when the customer pays for the goods or service is one year or less. Shipping and handling costs are recognized when incurred and are treated as costs to fulfill the original performance obligation.

Revenue is often generated from contracts that include multiple performance obligations. Using significant judgement, the Company considers the degree of customization, integration and interdependency of the related products and services when assessing distinct performance obligations within one contract. Stand-alone selling price ("SSP") for each distinct performance obligation is generally determined using the price at which the products and services would be sold separately to the customer. Discounts, when provided, are allocated based on the relative SSP of the various products and services.

For revenue that is not recognized at a point in time, the Company follows accounting guidance for revenue recognized over time, as follows:

Revenue Recognition under Long-term Construction Contracts

Revenue is recognized over-time for certain long-term construction contracts in the Completion & Production Solutions and Rig Technologies segments. These contracts include custom designs for customer-specific applications that are unique and require significant engineering efforts. Revenue is recognized as work progresses on each contract. Right to payment is enforceable for performance completed to date, including a reasonable profit.

We generally use the cost-to-cost (input) measure of progress for our contracts because it best depicts the transfer of assets to the customer which occurs as we incur costs. Under the cost-to-cost measure of progress, progress towards completion of each contract is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including estimated fees or profits, are recorded proportionally as costs are incurred. These costs include labor, materials, subcontractors' costs, and other direct costs. Any expected losses on a project are recorded in full in the period in which the loss becomes probable.

These long-term construction contracts generally include a significant service of integrating a complex set of tasks and components into a single project or capability, so are accounted for as one performance obligation.

Estimating total revenue and cost at completion of long-term construction contracts is complex, subject to many variables and requires significant judgement. It is common for our long-term contracts to contain late delivery fees, work performance guarantees, and other provisions that can either increase or decrease the transaction price. We estimate variable consideration as the most likely amount we expect to receive. We include variable consideration in the estimated transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur, or when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on an assessment of our anticipated performance and historical, current and forecasted information that is reasonably available to us. Net revenue recognized from performance obligations satisfied in previous periods was $62 million for the year ended December 31, 2019 primarily due to change orders.

Service and Repair Work

For service and repair contracts, revenue is recognized over time. We generally use the output method to measure progress on service contracts due to the manner in which the customer receives and derives value from the services provided. For repair contracts, we generally use the cost-to-cost measure of progress because it best depicts the transfer of assets to the customer.

Remaining Performance Obligations

Remaining performance obligations represent the transaction price of firm orders for all revenue streams for which work has not been performed on contracts with an original expected duration of one year or more. We do not disclose the remaining performance obligations of royalty contracts, service contracts for which there is a right to invoice, and short-term contracts that are expected to have a duration of one year or less.

As of December 31, 2019, the aggregate amount of the transaction price allocated to remaining performance obligations was $4,286 million. The Company expects to recognize approximately $1,084 million in revenue for the remaining performance obligations in 2020 and $3,202 million in 2021 and thereafter.

Costs to Obtain and Fulfill a Contract

We recognize an asset for the incremental costs of obtaining a contract, such as sales commissions, with a customer when we expect the benefit of those costs to be longer than one year. Costs to fulfill a contract, such as set-up and mobilization costs, are also capitalized when we expect to recover those costs. These contract costs are deferred and amortized over the period of contract performance. Total capitalized costs to obtain and fulfill a contract and the related amortization were immaterial during the periods presented and are included in other current and long-term assets on our consolidated balance sheets. We apply the practical expedient to expense costs as incurred for costs to obtain a contract with a customer when the amortization period would have been one year or less.

Inventory Reserves

Inventory is carried at the lower of cost or estimated net realizable value. The Company reviews historical usage of inventory on-hand, assumptions about future demand and market conditions, current cost and estimates about potential alternative uses, which are limited, to estimate net realizable value. The Company's inventory consists of finished goods, spare parts, work in process, and raw materials to support ongoing manufacturing operations and the Company's large installed base of highly specialized oilfield equipment. The Company's estimated carrying value of inventory depends upon demand largely driven by levels of oil and gas well drilling and remediation activity, which depends in turn upon oil and gas prices, the general outlook for economic growth worldwide, available financing for the Company's customers, political stability and governmental regulation in major oil and gas producing areas, and the potential obsolescence of various types of equipment we sell, among other factors.

Based on an update of our assumptions at each point in time related to estimates of future demand, during 2019, 2018, and 2017 we recorded charges for additions to inventory reserves of $659 million, $49 million, and $114 million, respectively, consisting primarily of obsolete and surplus inventories. At December 31, 2019 and 2018, inventory reserves totaled $843 million and $644 million, or 27.7% and 17.7% of gross inventory, respectively.

Throughout the downturn the Company has continued to invest in developing and advancing products and technologies, contributing to the obsolescence of certain older products in a dramatically-shifted and more highly competitive recovering market, but also ensuring that the portfolio of products and services offered by the Company will meet customer needs in 2020 and beyond.

We will continue to assess our inventory levels and inventory offerings for our customers, which could require the Company to record additional allowances to reduce the value of its inventory. Such changes in our estimates or assumptions could be material under weaker market conditions or outlook.

Impairment of Long-Lived Assets (Excluding Goodwill and Other Indefinite-Lived Intangible Assets)

Long-lived assets, which include property, plant and equipment and identified intangible assets, comprise a significant amount of the Company's total assets. The Company makes judgements and estimates in conjunction with the carrying value of these assets, including amounts to be capitalized, depreciation and amortization methods and estimated useful lives.

The carrying values of these assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable. An impairment loss is recorded in the period in which it is determined that the carrying amount is not recoverable based on estimated future undiscounted cash flows. We estimate the fair value of these intangible and fixed assets using an income approach. This requires the Company to make long-term forecasts of its future revenues and costs related to the assets subject to review. These forecasts require assumptions about demand for the Company's products and services, future market conditions and technological developments. The forecasts are dependent upon assumptions regarding oil and gas prices, the general outlook for economic growth worldwide, available financing for the Company's customers, political stability in major oil and gas producing areas, and the potential obsolescence of various types of equipment we sell, among other factors. The financial and credit market volatility directly impacts our fair value measurement through our income forecast. Changes to these assumptions, including, but not limited to: sustained declines in worldwide rig counts below current analysts' forecasts, collapse of spot and futures prices for oil and gas, significant deterioration of external financing for our customers, higher risk premiums or higher cost of equity, or any other significant adverse economic news could require a provision for impairment in a future period.

For the year ended December 31, 2019, the Company recorded $2,209 million in impairment charges related to long-lived assets. See Note 6 – Asset Impairments (Part IV, Item 15 of this Form 10-K) for further discussion.

Goodwill and Other Indefinite-Lived Intangible Assets

The Company has approximately $2.8 billion of goodwill and $0.3 billion of other intangible assets with indefinite lives as of December 31, 2019. Generally accepted accounting principles require the Company to test goodwill and other indefinite-lived intangible assets for impairment at least annually or more frequently whenever events or circumstances occur indicating that goodwill or other indefinite-lived intangible assets might be impaired. Events or circumstances which could indicate a potential impairment include (but are not limited to) a significant sustained reduction in worldwide oil and gas prices or drilling; a significant sustained reduction in profitability or cash flow of oil and gas companies or drilling contractors; a sustained reduction in the market capitalization of the Company; a significant sustained reduction in capital investment by drilling companies and oil and gas companies; or a significant sustained increase in worldwide inventories of oil or gas.

The Company performs its goodwill and indefinite-lived intangible asset impairment test based on the Company's discounted cash flow analysis. The discounted cash flow is based on management's forecast of operating performance for each reporting unit. The two main assumptions used in measuring goodwill impairment, which bear the risk of change and could impact the Company's goodwill impairment analysis, include the cash flow from operations from each of the Company's individual Reporting Units and the weighted average cost of capital. The starting point for each of the reporting unit's cash flow from operations is the detailed annual plan or updated forecast. Cash flows beyond the specific operating plans were estimated using a terminal value calculation, which incorporated historical and forecasted financial cyclical trends for each reporting unit and considered long-term earnings growth rates. The financial and credit market volatility directly impacts our fair value measurement through our weighted average cost of capital that we use to determine our discount rate. During times of volatility, significant judgement must be applied to determine whether credit changes are a short-term or long-term trend.

While the Company primarily uses the discounted cash flow method to assess fair value, the Company uses the comparable companies and representative transaction methods to validate the discounted cash flow analysis and further support management's expectations, where possible. The valuation techniques used in the annual test were consistent with those used during previous testing. The inputs used in the annual test were updated for current market conditions and forecasts.

In 2017 and 2018, based on the Company's annual impairment test performed as of October 1, the calculated fair values for all the Company's Reporting Units were substantially in excess of the respective reporting unit's carrying value. Additionally, the fair value for all of the Company's intangible assets with indefinite lives were substantially in excess of the respective asset carrying values.

For the year ended December 31, 2019, the Company recorded a $3,509 million in impairment charges to goodwill and $103 million in charges to indefinite-lived intangible assets. See Note 6 – Asset Impairments (Part IV, Item 15 of this Form 10-K) for further discussion.

Income Taxes

The Company is U.S. registered and is subject to income taxes in the U.S. The Company operates through various subsidiaries in a number of countries throughout the world. Income taxes have been recorded based upon the tax laws and rates of the countries in which the Company operates and income is earned.

The Company's annual tax provision is based on taxable income, statutory rates and tax planning opportunities available in the various jurisdictions in which it operates. The determination and evaluation of the annual tax provision and tax positions involves the interpretation of the tax laws in the various jurisdictions in which the Company operates. It requires significant judgement and the use of estimates and assumptions regarding significant future events such as the amount, timing and character of income, deductions and tax credits. Changes in tax laws, regulations, and treaties, foreign currency exchange restrictions or the Company's level of operations or profitability in each jurisdiction could impact the tax liability in any given year. The Company also operates in many jurisdictions where the tax laws relating to the pricing of transactions between related parties are open to interpretation, which could potentially result in aggressive tax authorities asserting additional tax liabilities with no offsetting tax recovery in other countries.

The Company maintains liabilities for estimated tax exposures in jurisdictions of operation. The annual tax provision includes the impact of income tax provisions and benefits for changes to liabilities that the Company considers appropriate, as well as related interest. Tax exposure items primarily include potential challenges to intercompany pricing and certain operating expenses that may not be deductible in foreign jurisdictions. These exposures are resolved primarily through the settlement of audits within these tax jurisdictions or by judicial means. The Company is subject to audits by federal, state and foreign jurisdictions which may result in proposed assessments. The Company believes that an appropriate liability has been established for estimated exposures under the guidance in ASC Topic 740 "Income Taxes" ("ASC Topic 740"). However, actual results may differ materially from these estimates. The Company reviews these liabilities quarterly and to the extent audits or other events result in an adjustment to the liability accrued for a prior year, the effect will be recognized in the period of the event.

The Company currently has recorded valuation allowances that the Company intends to maintain until it is more likely than not the deferred tax assets will be realized. Income tax expense recorded in the future will be reduced to the extent of decreases in the Company's valuation allowances. The realization of remaining deferred tax assets is primarily dependent on future taxable income. Any reduction in future taxable income including but not limited to any future restructuring activities may require that the Company record an additional valuation allowance against deferred tax assets. An increase in the valuation allowance would result in additional income tax expense in such period and could have a significant impact on future earnings.

The Company has not provided for deferred taxes on the unremitted earnings of certain subsidiaries that are permanently reinvested. Should the Company make a distribution from the unremitted earnings of these subsidiaries, the Company may be required to record additional taxes. Unremitted earnings of these subsidiaries were $757 million at December 31, 2019. The Company makes a determination each period whether to permanently reinvest these earnings. If, as a result of these reassessments, the Company distributes these earnings in the future, additional tax liabilities would result.

Recently Issued and Recently Adopted Accounting Standards

See Note 2 – Summary of Significant Accounting Policies (Part IV, Item 15 of this Form 10-K) for further discussion.

Forward–Looking Statements

Some of the information in this document contains, or has incorporated by reference, forward-looking statements. Statements that are not historical facts, including statements about our beliefs and expectations, are forward-looking statements. Forward-looking statements typically are identified by use of terms such as "may," "will," "expect," "anticipate," "estimate," and similar words, although some forward-looking statements are expressed differently. All statements herein regarding expected merger synergies are forward looking statements. You should be aware that our actual results could differ materially from results anticipated in the forward-looking statements due to a number of factors, including but not limited to changes in oil and gas prices, customer demand for our products and worldwide economic activity. You should also consider carefully the statements under "Risk Factors" which address additional factors that could cause our actual results to differ from those set forth in the forward-looking statements. Given these uncertainties, current or prospective investors are cautioned not to place undue reliance on any such forward-looking statements. We undertake no obligation to update any such factors or forward-looking statements to reflect future events or developments.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to changes in foreign currency exchange rates and interest rates. Additional information concerning each of these matters follows:

Foreign Currency Exchange Rates

We have extensive operations in foreign countries. The net assets and liabilities of these operations are exposed to changes in foreign currency exchange rates, although such fluctuations generally do not affect income since their functional currency is typically the local currency. These operations also have net assets and liabilities not denominated in the functional currency, which exposes us to changes in foreign currency exchange rates that impact income. During the years ended December 31, 2019, 2018 and 2017, the Company reported foreign currency losses of $36 million, $52 million and $3 million, respectively. Gains and losses are primarily due to exchange rate fluctuations related to monetary asset balances denominated in currencies other than the functional currency and adjustments to our hedged positions as a result of changes in foreign currency exchange rates. Currency fluctuations may create losses in future periods to the extent we maintain net assets and liabilities not denominated in the functional currency of our subsidiaries using the local currency as their functional currency.

Some of our revenues in foreign countries are denominated in U.S. dollars, and therefore, changes in foreign currency exchange rates impact our earnings to the extent that costs associated with those U.S. dollar revenues are denominated in the local currency. Similarly, some of our revenues are denominated in foreign currencies, but have associated U.S. dollar costs, which also give rise to foreign currency exchange rate exposure. In order to mitigate that risk, we may utilize foreign currency forward contracts to better match the currency of our revenues and associated costs. We do not use foreign currency forward contracts for trading or speculative purposes.

The Company had other financial market risk sensitive instruments denominated in foreign currencies for transactional exposures totaling $85 million and translation exposures totaling $144 million as of December 31, 2019, excluding trade receivables and payables, which approximate fair value. These market risk sensitive instruments consisted of cash balances and overdraft facilities. The Company estimates that a hypothetical 10% movement of all applicable foreign currency exchange rates on the transactional exposures financial market risk sensitive instruments could affect net income by $7 million and the translational exposures financial market risk sensitive instruments could affect the future fair value by $14 million.

The counterparties to forward contracts are major financial institutions. The credit ratings and concentration of risk of these financial institutions are monitored on a continuing basis. In the event that the counterparties fail to meet the terms of a foreign currency contract, our exposure is limited to the foreign currency rate differential.

Interest Rate Risk

At December 31, 2019, long term borrowings consisted of $1,088 million in 3.95% Senior Notes, $492 million in 3.60% Senior Notes and $399 million in 2.60% Senior Notes, no commercial paper borrowings and no borrowings against our revolving credit facility. Occasionally a portion of borrowings under our credit facility could be denominated in multiple currencies which could expose us to market risk with exchange rate movements. These instruments carry interest at a pre-agreed upon percentage point spread from either LIBOR, NIBOR or CDOR, or at the U.S. prime rate. Under our credit facility, we may, at our option, fix the interest rate for certain borrowings based on a spread over LIBOR, NIBOR or CDOR for 30 days to six months. Our objective is to maintain a portion of our debt in variable rate borrowings for the flexibility obtained regarding early repayment without penalties and lower overall cost as compared with fixed-rate borrowings.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Attached hereto and a part of this report are financial statements and supplementary data listed in Item 15. "Exhibits and Financial Statement Schedules."

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

(i) Evaluation of disclosure controls and procedures

As required by SEC Rule 13a-15(b), we have evaluated, under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Our disclosure controls and procedures are designed to provide reasonable assurance that the information required to be disclosed by the Company in reports that it files under the Exchange Act is accumulated and communicated to the Company's management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure and is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. Our principal executive officer and principal financial officer have concluded that our current disclosure controls and procedures were effective as of December 31, 2019 at the reasonable assurance level.

Pursuant to section 302 of the Sarbanes-Oxley Act of 2002, our Chief Executive Officer and Chief Financial Officer have provided certain certifications to the Securities and Exchange Commission. These certifications are included herein as Exhibits 31.1 and 31.2.

(ii) Internal Control Over Financial Reporting

(a) Management's annual report on internal control over financial reporting.

The Company's management report on internal control over financial reporting is set forth in this annual report on Page 50 and is incorporated herein by reference.

(b) Changes in internal control

There were no changes in the Company's internal control over financial reporting that occurred during the Company's last fiscal quarter covered by this report that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Incorporated by reference to the definitive Proxy Statement for the 2020 Annual Meeting of Stockholders.

ITEM 11. EXECUTIVE COMPENSATION

Incorporated by reference to the definitive Proxy Statement for the 2020 Annual Meeting of Stockholders.

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

Incorporated by reference to the definitive Proxy Statement for the 2020 Annual Meeting of Stockholders.

Securities Authorized for Issuance Under Equity Compensation Plans.

The following table sets forth information as of our fiscal year ended December 31, 2019, with respect to compensation plans under which our common stock may be issued:

Plan Category	Number of securities to be issued upon exercise of warrants and rights (a)	Weighted-average exercise price of outstanding rights (b)	Number of securities remaining available for equity compensation plans (excluding securities reflected in column (a)) ('c') (1)
Equity compensation plans approved by security holders	21,310,099	$ 50.49	10,521,344
Equity compensation plans not approved by security holders	—	—	—
Total	21,310,099	$ 50.49	10,521,344

(1) Shares could be issued through equity instruments other than stock options, warrants or rights.

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

Incorporated by reference to the definitive Proxy Statement for the 2020 Annual Meeting of Stockholders.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Incorporated by reference to the definitive Proxy Statement for the 2020 Annual Meeting of Stockholders.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

Financial Statements and Exhibits

(1) Financial Statements

The following financial statements are presented in response to Part II, Item 8:

(2) Financial Statement Schedule

All schedules, other than Schedule II, are omitted because they are not applicable, not required or the information is included in the financial statements or notes thereto.

(3) Exhibits

3.1	Fifth Amended and Restated Certificate of Incorporation of National Oilwell Varco, Inc. (Exhibit 3.1) (1)
3.2	Amended and Restated By-laws of National Oilwell Varco, Inc. (Exhibit 3.1) (2)
4.1	Description of Securities
10.1	Credit Agreement, dated as of June 27, 2017, among National Oilwell Varco, Inc., the financial institutions signatory thereto, including Wells Fargo Bank, N.A., in its capacity, among others, as Administrative Agent, Co-Lead Arranger and Joint Book Runner (Exhibit 3.1)(3)
10.2	Amendment No. 1 to Credit Agreement, dated as of October 30, 2019 (4)
10.3	National Oilwell Varco, Inc. 2018 Long-Term Incentive Plan, as amended and restated. (5)*
10.4	Form of Employee Stock Option Agreement. (Exhibit 10.1) (6)
10.5	Form of Non-Employee Director Stock Option Agreement. (Exhibit 10.2) (6)
10.6	Form of Performance-Based Restricted Stock. (18 Month) Agreement (Exhibit 10.1) (7)
10.7	Form of Performance-Based Restricted Stock. (36 Month) Agreement (Exhibit 10.2) (7)
10.8	Form of Performance Award Agreement (Exhibit 10.1) (8)
10.9	Form of Executive Employment Agreement. (Exhibit 10.1) (9)
10.10	Form of Executive Severance Agreement. (Exhibit 10.2) (9)
10.11	Form of Employee Nonqualified Stock Option Grant Agreement (10)
10.12	Form of Restricted Stock Agreement (10)
10.13	Form of Performance Award Agreement (10)
10.14	Form of Employee Nonqualified Stock Option Grant Agreement (2019) (11)
10.15	Form on Restricted Stock Agreement (2019) (11)

10.16	Form of Performance Award Agreement (2019) (11)
21.1	Subsidiaries of the Registrant
23.1	Consent of Ernst & Young LLP.
24.1	Power of Attorney. (included on signature page hereto)
31.1	Certification pursuant to Rule 13a-14a and Rule 15d-14(a) of the Securities and Exchange Act, as amended.
31.2	Certification pursuant to Rule 13a-14a and Rule 15d-14(a) of the Securities and Exchange Act, as amended.
32.1	Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
95	Mine Safety Information pursuant to section 1503 of the Dodd-Frank Act.
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

* Compensatory plan or arrangement for management or others.

(1) Filed as an Exhibit to our Quarterly Report on Form 10-Q filed on August 5, 2011.

(2) Filed as an Exhibit to our Current Report on Form 8-K filed on November 14, 2019.

(3) Filed as an Exhibit to our Current Report on Form 8-K filed on June 28, 2017

(4) Filed as an Exhibit to our Current Report on Form 8-K filed on November 4, 2019.

(5) Filed as Appendix I to our Proxy Statement filed on March 30, 2018.

(6) Filed as an Exhibit to our Current Report on Form 8-K filed on February 23, 2006.

(7) Filed as an Exhibit to our Current Report on Form 8-K filed on March 27, 2007.

(8) Filed as an Exhibit to our Current Report on Form 8-K filed on March 27, 2013.

(9) Filed as an Exhibit to our Current Report on Form 8-K filed on November 21, 2017.

(10) Filed as an Exhibit to our Current Report on Form 8-K filed on February 26, 2016.

(11) As provided in Rule 406T of Regulation S-T, this information is furnished and not filed for purposes of Sections 11 and 12 of the Securities Act of 1933 and Section 18 of the Securities Exchange Act of 1934.

We hereby undertake, pursuant to Regulation S-K, Item 601(b), paragraph (4) (iii), to furnish to the U.S. Securities and Exchange Commission, upon request, all constituent instruments defining the rights of holders of our long-term debt not filed herewith.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

NATIONAL OILWELL VARCO, INC.

Dated: February 13, 2020

By: /s/ CLAY C. WILLIAMS
Clay C. Williams
Chairman, President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Each person whose signature appears below in so signing, constitutes and appoints Clay C. Williams and Jose A. Bayardo, and each of them acting alone, his/her true and lawful attorney-in-fact and agent, with full power of substitution, for him/her and in his/her name, place and stead, in any and all capacities, to execute and cause to be filed with the Securities and Exchange Commission any and all amendments to this report, and in each case to file the same, with all exhibits thereto and other documents in connection therewith, and hereby ratifies and confirms all that said attorney-in-fact or his/her substitute or substitutes may do or cause to be done by virtue hereof.

Signature	Title	Date
/s/ CLAY C. WILLIAMS Clay C. Williams	Chairman, President and Chief Executive Officer	February 13, 2020
/s/ JOSE A. BAYARDO Jose A. Bayardo	Senior Vice President and Chief Financial Officer	February 13, 2020
/s/ SCOTT K. DUFF Scott K. Duff	Vice President, Corporate Controller and Chief Accounting Officer	February 13, 2020
/s/ GREG L. ARMSTRONG Greg L. Armstrong	Director	February 13, 2020
/s/ MARCELA E. DONADIO Marcela E. Donadio	Director	February 13, 2020
/s/ BEN A. GUILL Ben A. Guill	Director	February 13, 2020
/s/ JAMES T. HACKETT James T. Hackett	Director	February 13, 2020
/s/ DAVID D. HARRISON David D. Harrison	Director	February 13, 2020
/s/ ERIC L. MATTSON Eric L. Mattson	Director	February 13, 2020
/s/ MELODY B. MEYER Melody B. Meyer	Director	February 13, 2020
/s/ WILLIAM R. THOMAS William R. Thomas	Director	February 13, 2020

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

National Oilwell Varco, Inc.'s management is responsible for establishing and maintaining adequate internal control over financial reporting. National Oilwell Varco, Inc.'s internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgement and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Management has used the 2013 framework set forth in the report entitled "Internal Control—Integrated Framework" published by the Committee of Sponsoring Organizations ("COSO") of the Treadway Commission to evaluate the effectiveness of the Company's internal control over financial reporting. Management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2019.

The effectiveness of our internal control over financial reporting as of December 31, 2019, has been audited by Ernst & Young LLP, the independent registered public accounting firm which also has audited the Company's Consolidated Financial Statements included in this Annual Report on Form 10-K.

/s/ Clay C. Williams

Clay C. Williams
Chairman, President and Chief Executive Officer

/s/ Jose A. Bayardo

Jose A. Bayardo
Senior Vice President and Chief Financial Officer

Houston, Texas
February 13, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of National Oilwell Varco, Inc.

Opinion on Internal Control over Financial Reporting

We have audited National Oilwell Varco, Inc.'s internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, National Oilwell Varco, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

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

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Ernst & Young LLP

Houston, Texas
February 13, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of National Oilwell Varco, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of National Oilwell Varco, Inc. (the Company) as of December 31, 2019 and 2018, and the related consolidated statements of income (loss), comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and financial statement schedule listed in the Index at Item 15(2) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2018, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

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

Basis of Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

Critical Audit Matters

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

Valuation of Goodwill and Indefinite lived intangibles

Description of the Matter	At December 31, 2019, the Company's goodwill was $2.8 billion and tradenames with indefinite lives was $0.3 million. As discussed in Note 6 to the consolidated financial statements, goodwill and indefinite lived intangibles are tested by the Company's management for impairment at least annually, in the fourth quarter, unless there are indications of impairment at other points throughout the year. Goodwill is tested for impairment at the reporting unit level. During 2019, the Company recorded $3,509 million of impairment charges to goodwill and $103 million of impairment charges to indefinite-lived intangible assets. Auditing management's impairment tests for goodwill and tradenames with indefinite lives is complex and highly judgemental and required the involvement of a valuation specialist due to the significant estimation required to determine the fair value of the reporting units and tradenames with indefinite lives. In particular, the fair value estimates of reporting units with fair values that do not significantly exceed their carrying values are sensitive to assumptions such as changes in projected cash flows, weighted average cost of capital, and terminal growth rates. The fair value estimates of tradenames with indefinite lives are sensitive to assumptions such as projected cash flows, discount rates and royalty rates. All of these assumptions are sensitive to and affected by expected future market or economic conditions, and industry and company-specific qualitative factors.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's goodwill and tradenames with indefinite lives impairment review process, including controls over management's review of the significant assumptions described above. This included evaluating controls over the Company's budgetary and forecasting process used to develop the estimated future cash flows. We also tested controls over management's review of the data used in their valuation models and review of the significant assumptions such as estimation of weighted average cost of capital, discount rates, and royalty rates, and terminal growth rates. To test the estimated fair value of the Company's reporting units and tradenames with indefinite lives, we performed audit procedures that included, among others, assessing methodologies and testing the significant assumptions discussed above and the underlying data used by the Company in its analysis. We compared the projected cash flows to the Company's historical cash flows and other available industry and market forecast information. We involved our valuation specialists to assist in reviewing the valuation methodology and testing the terminal growth rates, weighted average cost of capital, discount rates and royalty rates. We assessed the historical accuracy of management's estimates and performed sensitivity analyses of significant assumptions to evaluate the changes in the fair value of the reporting units and tradenames with indefinite lives that would result from changes in the assumptions. In addition, for goodwill we also tested management's reconciliation of the fair value of the reporting units to the market capitalization of the Company. For tradenames with indefinite lives, we also assessed whether the assumptions used were consistent with those used in the goodwill impairment review process.

Inventory Reserves

Description of the Matter	The Company's inventories totaled $3.0 billion, net of inventory reserves of $843 million, as of December 31, 2019. As explained in Note 2 to the consolidated financial statements, the Company assesses the value of all inventories including raw materials, work-in-process and finished goods in each reporting period. Obsolete inventory or inventory in excess of management's estimated usage requirement is written down to its estimated market value if those amounts are determined to be less than cost. Auditing management's estimates for obsolete and excess inventory involved subjective auditor judgement because the estimates rely on a number of factors that are affected by market and economic conditions outside the Company's control. In particular, the obsolete and excess inventory calculations are sensitive to future demand for the Company's products.

How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design, and tested the operating effectiveness of internal controls over the Company's obsolete and excess inventory reserve process. This included management's assessment of the assumptions and data underlying the obsolete and excess inventory valuation. Our audit procedures included, among others, evaluating the significant assumptions and the accuracy and completeness of the underlying data management used to value obsolete and excess inventory. We compared inventories on-hand to historical usage and customer demand forecasts obtained from entity-specific and available market information. We performed sensitivity analyses over the significant assumptions to evaluate the changes in the obsolete and excess inventory estimates that would result from changes in the underlying assumptions.

Revenue recognition under long-term construction contracts

Description of the Matter	As discussed in Note 2 to the consolidated financial statements, the Company recognizes revenue over time for certain long-term construction contracts using an input method described as the cost-to-cost approach to determine the extent of progress towards completion of performance obligations. Under the cost-to-cost approach, the determination of the progress towards completion requires management to prepare estimates of the costs to complete. For material fixed price contracts, estimates are subject to considerable judgement and could be impacted by such items as changes to the project schedule and the cost of labor and material. Auditing management’s estimate of the progress towards completion of its projects involved subjectivity as the costs to complete forecasts of fixed price contracts are subject to considerable judgement.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company’s process to recognize long-term contract revenue, including key controls related to monitoring projected project costs. Our audit procedures included, among others, evaluating the appropriate application of the cost-to-cost method to ensure it accurately depicts the Company’s performance in transferring control of the performance obligation; testing the significant assumptions discussed above to develop the estimated cost to complete; and testing the completeness and accuracy of the underlying data. To assess management’s estimated costs, we performed audit procedures that included, among others, agreeing the estimates to supporting documentation; conducting interviews with project personnel; attending selected project review meetings; performing observations of select projects to observe progress; and performing lookback analyses to historical actual costs to assess management’s ability to estimate.

Measurement of Long-lived Assets

Description of the Matter	As more fully described in Note 6 to the consolidated financial statements, during 2019, the Company identified a triggering event, which resulted in the Company evaluating its asset groups for recoverability and determined that certain long-lived assets, including finite-lived intangibles, plant, property and equipment, and right-of-use assets, were not recoverable. As a result, the Company recognized $2,209 million of impairment charges. Auditing management’s impairment analysis involved subjectivity as estimates underlying the determination of the asset groups’ fair value were based on assumptions that are sensitive to and affected by expected future market or economic conditions, and industry and company-specific qualitative factors. Significant assumptions used in the Company’s fair value estimate included projected cash flows, discount rates and terminal values.

How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's processes to determine the fair value of the asset groups. This included evaluating controls over the Company’s budgetary and forecasting process used to develop the estimated future cash flows. We also tested controls over management’s review of the data used in their impairment analysis and review of the significant assumptions such as estimation of discount rates and terminal values. To test the estimated fair value of the Company’s asset groups, we performed audit procedures that included, among others, assessing methodologies and testing the significant assumptions discussed above and the underlying data used by the Company in its analysis. We compared the projected cash flows to the Company’s historical cash flows and other available industry and market forecast information. We involved our valuation specialists to assist in reviewing the valuation methodology and testing the discount rates and terminal values. We assessed the historical accuracy of management’s estimates and where appropriate, assessed whether the assumptions used were consistent with those used in the goodwill impairment analysis.

/s/ Ernst & Young LLP

We have served as the Company’s auditor since at least 1995, but we are unable to determine the specific year.

Houston, Texas

February 13, 2020

NATIONAL OILWELL VARCO, INC.
CONSOLIDATED BALANCE SHEETS
(In millions, except share data)

	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,171	$ 1,427
Receivables, net	1,855	2,101
Inventories, net	2,197	2,986
Contract assets	643	565
Prepaid and other current assets	247	200
Total current assets	6,113	7,279
Property, plant and equipment, net	2,354	2,797
Lease right-of-use assets, operating	444	—
Lease right-of-use assets, financing	230	—
Deferred income taxes	—	11
Goodwill	2,807	6,264
Intangibles, net	852	3,020
Investment in unconsolidated affiliates	282	301
Other assets	67	124
Total assets	$ 13,149	$ 19,796
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 715	$ 722
Accrued liabilities	949	1,088
Contract liabilities	427	458
Current portion of lease liabilities	114	7
Accrued income taxes	42	66
Total current liabilities	2,247	2,341
Long-term debt	1,989	2,482
Lease liabilities	674	222
Deferred income taxes	140	564
Other liabilities	253	298
Total liabilities	5,303	5,907
Commitments and contingencies		
Stockholders’ equity:		
Common stock - par value $.01; 1 billion shares authorized; 385,886,682 and 383,426,654 shares issued and outstanding at December 31, 2019 and December 31, 2018	4	4
Additional paid-in capital	8,507	8,390
Accumulated other comprehensive loss	(1,423)	(1,437)
Retained earnings	690	6,862
Total Company stockholders' equity	7,778	13,819
Noncontrolling interests	68	70
Total stockholders’ equity	7,846	13,889
Total liabilities and stockholders’ equity	$ 13,149	$ 19,796

The accompanying notes are an integral part of these statements.

NATIONAL OILWELL VARCO, INC.
CONSOLIDATED STATEMENTS OF INCOME (LOSS)
(In millions, except per share data)

	Years Ended December 31, 2019	2018	2017
Revenue			
Sales	$ 5,862	$ 5,699	$ 4,948
Services	1,517	1,612	1,472
Rental	1,100	1,142	884
Total	8,479	8,453	7,304
Cost of revenue			
Sales	5,696	4,883	4,499
Services	1,188	1,257	1,127
Rental	750	869	786
Total	7,634	7,009	6,412
Gross profit (loss)	845	1,444	892
Selling, general and administrative	1,303	1,233	1,169
Goodwill and indefinite-lived intangible asset impairment	3,612	—	—
Long-lived asset impairment	2,209	—	—
Operating profit (loss)	(6,279)	211	(277)
Interest and financial costs	(100)	(93)	(102)
Interest income	20	25	25
Equity loss in unconsolidated affiliates	(13)	(3)	(5)
Other income (expense), net	(90)	(99)	(33)
Income (loss) before income taxes	(6,462)	41	(392)
Provision (benefit) for income taxes	(369)	63	(156)
Net loss	(6,093)	(22)	(236)
Net income (loss) attributable to noncontrolling interests	2	9	1
Net loss attributable to Company	$ (6,095)	$ (31)	$ (237)
Net loss attributable to Company per share:			
Basic	$ (15.96)	$ (0.08)	$ (0.63)
Diluted	$ (15.96)	$ (0.08)	$ (0.63)
Cash dividends per share	$ 0.20	$ 0.20	$ 0.20
Weighted average shares outstanding:			
Basic	382	378	377
Diluted	382	378	377

The accompanying notes are an integral part of these statements.

NATIONAL OILWELL VARCO, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In millions)

	Years Ended December 31,		
	2019	**2018**	**2017**
Net loss	$ (6,093)	$ (22)	$ (236)
Other comprehensive income (loss):			
Currency translation adjustments	(7)	(292)	272
Derivative financial instruments, net of tax	10	(21)	46
Change in defined benefit plans, net of tax	11	(14)	24
Comprehensive income (loss)	(6,079)	(349)	106
Net income (loss) attributable to noncontrolling interests	2	9	1
Comprehensive income (loss) attributable to Company	$ (6,081)	$ (358)	$ 105

The accompanying notes are an integral part of these statements.

NATIONAL OILWELL VARCO, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Years Ended December 31, 2019	2018	2017
Cash flows from operating activities:			
Net loss	$ (6,093)	$ (22)	$ (236)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	533	690	698
Deferred income taxes	(426)	(63)	(341)
Stock-based compensation	130	110	124
Loss on extinguishment of debt	26	—	—
Equity (income) loss in unconsolidated affiliates	13	3	5
Goodwill and indefinite-lived intangible asset impairment	3,612	—	—
Long-lived asset impairment	2,209	—	—
Provision for inventory losses	659	49	114
Other, net	16	(7)	20
Change in operating assets and liabilities, net of acquisitions:			
Receivables	275	(72)	72
Inventories	104	(7)	229
Contract assets	(70)	(68)	170
Prepaid and other current assets	(45)	67	130
Accounts payable	(19)	196	86
Accrued liabilities	(194)	(186)	(130)
Contract liabilities	(34)	(62)	(160)
Income taxes payable	(25)	(15)	(44)
Other assets/liabilities, net	43	(92)	95
Net cash provided by operating activities	714	521	832
Cash flows from investing activities:			
Purchases of property, plant and equipment	(233)	(244)	(192)
Business acquisitions, net of cash acquired	(180)	(280)	(86)
Other, net	98	67	33
Net cash used in investing activities	(315)	(457)	(245)
Cash flows from financing activities:			
Borrowings against lines of credit and other debt	511	—	—
Payments against lines of credit and other debt	(1,000)	—	(500)
Financing leases	(32)	(8)	(6)
Cash dividends paid	(77)	(76)	(76)
Debt issuance and extinguishment costs	(36)	—	—
Other	(13)	54	(13)
Net cash used in financing activities	(647)	(30)	(595)
Effect of exchange rates on cash	(8)	(44)	37
Increase (decrease) in cash and cash equivalents	(256)	(10)	29
Cash and cash equivalents, beginning of period	1,427	1,437	1,408
Cash and cash equivalents, end of period	$ 1,171	$ 1,427	$ 1,437
Supplemental disclosures of cash flow information:			
Cash payments during the period for:			
Interest	$ 85	$ 90	$ 97
Income taxes	$ 144	$ 64	$ 50

The accompanying notes are an integral part of these statements.

NATIONAL OILWELL VARCO, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In millions)

	Shares Outstanding	Common Stock	Additional Paid in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Loss)	Total Company Stockholders' Equity	Noncontrolling Interests	Total Stockholders' Equity
Balance at December 31, 2016	379	$ 4	$ 8,103	$ (1,452)	$ 7,285	$ 13,940	$ 63	$ 14,003
Net income (loss)	—	—	—	—	(237)	(237)	1	(236)
Other comprehensive income (loss), net	—	—	—	342	—	342	—	342
Cash dividends, $0.20 per common share	—	—	—	—	(76)	(76)	—	(76)
Noncontrolling interest	—	—	—	—	—	—	2	2
Adoption of new accounting standards	—	—	1	—	(6)	(5)	—	(5)
Stock-based compensation on tender offer	—	—	20	—	—	20	—	20
Stock-based compensation	—	—	105	—	—	105	—	105
Common stock issued	1	—	13	—	—	13	—	13
Withholding taxes	—	—	(8)	—	—	(8)	—	(8)
Balance at December 31, 2017	380	$ 4	$ 8,234	$ (1,110)	$ 6,966	$ 14,094	$ 66	$ 14,160
Net income (loss)	—	—	—	—	(31)	(31)	9	(22)
Other comprehensive income (loss), net	—	—	—	(327)	—	(327)	—	(327)
Cash dividends, $0.20 per common share	—	—	—	—	(76)	(76)	—	(76)
Adoption of new accounting standards	—	—	—	—	3	3	—	3
Noncontrolling interest	—	—	—	—	—	—	(5)	(5)
Stock-based compensation	—	—	110	—	—	110	—	110
Common stock issued	3	—	54	—	—	54	—	54
Withholding taxes	—	—	(8)	—	—	(8)	—	(8)
Balance at December 31, 2018	383	$ 4	$ 8,390	$ (1,437)	$ 6,862	$ 13,819	$ 70	$ 13,889
Net loss	—	—	—	—	(6,095)	(6,095)	2	(6,093)
Other comprehensive loss, net	—	—	—	14	—	14	—	14
Cash dividends, $0.20 per common share	—	—	—	—	(77)	(77)	—	(77)
Noncontrolling interest	—	—	—	—	—	—	(4)	(4)
Stock-based compensation	—	—	130	—	—	130	—	130
Common stock issued	3	—	7	—	—	7	—	7
Withholding taxes	—	—	(20)	—	—	(20)	—	(20)
Balance at December 31, 2019	386	$ 4	$ 8,507	$ (1,423)	$ 690	$ 7,778	$ 68	$ 7,846

The accompanying notes are an integral part of these statements.

1. Organization and Basis of Presentation

Nature of Business

We design, construct, manufacture and sell comprehensive systems, components, and products used in oil and gas drilling and production, provide oilfield services and supplies, and distribute products and provide supply chain integration services to the upstream oil and gas industry. Our revenues and operating results are directly related to the level of worldwide oil and gas drilling and production activities and the profitability and cash flow of oil and gas companies, drilling contractors and oilfield service companies, which in turn are affected by current and anticipated prices of oil and gas. Oil and gas prices have been, and are likely to continue to be, volatile.

Basis of Consolidation

The accompanying Consolidated Financial Statements include the accounts of National Oilwell Varco, Inc. and its consolidated subsidiaries.Certain reclassifications have been made to the prior year financial statements in order for them to conform with the 2019 presentation. All significant intercompany transactions and balances have been eliminated in consolidation. Investments that are not wholly-owned, but where we exercise control, are fully consolidated with the equity held by minority owners and their portion of net income (loss) reflected as noncontrolling interests in the accompanying consolidated financial statements. Investments in unconsolidated affiliates, over which we exercise significant influence, but not control, are accounted for by the equity method.

2. Summary of Significant Accounting Policies

Fair Value of Financial Instruments

The carrying amounts of financial instruments including cash and cash equivalents, receivables, and payables approximated fair value because of the relatively short maturity of these instruments. Cash equivalents include only those investments having a maturity date of three months or less at the time of purchase.

Derivative Financial Instruments

The Company records all derivative financial instruments at their fair value in its Consolidated Balance Sheet. Except for certain non-designated hedges discussed below, all derivative financial instruments that the Company holds are designated as cash flow hedges and are highly effective in offsetting movements in the underlying risks. Such arrangements typically have terms between two and 24 months, but may have longer terms depending on the underlying cash flows being hedged, typically related to the projects in our backlog.

Inventories

Inventories are stated at the lower of cost or estimated net realizable value using the first-in, first-out or average cost methods. Inventories consist of raw materials and supplies, work-in-process and finished goods and purchased products. The Company reviews historical usage of inventory on-hand, assumptions about future demand and market conditions, and estimates about potential alternative uses, which are limited, to estimate net realizable value. The Company evaluates inventory quarterly using the best information available at the time to inform our assumptions and estimates about future demand and resulting sales volumes, and recognizes reserves as necessary to properly state inventory.

Based on an update of our assumptions at each point in time related to estimates of future demand, we recorded charges for additions to inventory reserves of $659 million, $49 million, and $114 million for the years ended December 31, 2019, 2018, and 2017, respectively, consisting primarily of obsolete and surplus inventories. At December 31, 2019 and 2018, inventory reserves totaled $843 million and $644 million, or 27.7% and 17.7% of gross inventory, respectively.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Expenditures for major improvements that extend the lives of property and equipment are capitalized while minor replacements, maintenance and repairs are charged to operations as incurred. Disposals are removed at cost less accumulated depreciation with any resulting gain or loss reflected in operations. Depreciation is provided using the straight-line method over the estimated useful lives of individual items. Depreciation expense was $355 million, $349 million and $359 million for the years ended December 31, 2019, 2018 and 2017, respectively. The estimated useful lives of the major classes of property, plant and equipment are included in Note 5 to the consolidated financial statements.

We record impairment losses on long-lived assets used in operations when events and circumstances indicate that the assets are impaired and the undiscounted cash flows estimated to be generated by those assets are less than the carrying amount of those assets. The carrying value of assets used in operations that are not recoverable is reduced to fair value if lower than carrying value. In determining the fair market value of the assets, we consider market trends and recent transactions involving sales of similar assets, or when not available, discounted cash flow analysis. Impairments of plant, property and equipment were $252 million, $21 million and $10 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Lease Right-of-Use Assets

The Company leases certain facilities and equipment to support its operations around the world. These leases generally require the Company to pay maintenance, insurance, taxes and other operating costs in addition to rent. Renewal options are common in longer term leases; however, it is rare that the Company intends to exercise a lease option at inception due to the cyclical nature of the Company's business. Residual value guarantees are not typically part of the Company's leases. Occasionally, the Company sub-leases excess facility space, generally at terms similar to the source lease. The Company reviews new agreements to determine if they include a lease and, when they do, uses its incremental borrowing rate to determine the present value of the future lease payments as most do not include implicit interest rates. The Company recorded impairment charges of $56 million for the year ended December 31, 2019 andno charges for the years ended December 31, 2018 and 2017.

Acquisitions and Investments

Acquisitions of businesses are accounted for using the acquisition method of accounting, and the financial statements include the results of the acquired operations from the respective dates of acquisition.

The purchase price of the acquired entities is preliminarily allocated to the net assets acquired and liabilities assumed based on the estimated fair value at the dates of acquisition, with any excess of cost over the fair value of net assets acquired, including intangibles, recognized as goodwill. Subsequent changes to preliminary amounts are made prospectively.

The Company paid cash of $180 million, $280 million and $86 million for acquisitions for the years ended December 31, 2019, 2018 and 2017, respectively. These acquisitions did not have a material effect on the Company's operating results, cash flows or financial position

Foreign Currency

The functional currency for most of our foreign operations is the local currency. However, certain foreign operations, including our operations in Norway, use the U.S. dollar as the functional currency. The cumulative effects of translating the balance sheet accounts from the functional currency into the U.S. dollar at current exchange rates are included in accumulated other comprehensive income (loss). Revenues and expenses are translated at average exchange rates in effect during the period. Accordingly, financial statements of these foreign subsidiaries are remeasured to U.S. dollars for consolidation purposes using current rates of exchange for monetary assets and liabilities and historical rates of exchange for nonmonetary assets and related elements of expense. Revenue and expense elements are remeasured at rates that approximate the rates in effect on the transaction dates. For all operations, gains or losses from remeasuring foreign currency transactions into the functional currency are included in income. Net foreign currency transaction losses were $36 million, $52 million and $3 million for the years ending December 31, 2019, 2018 and 2017, respectively, and are included in other income (expense) in the accompanying statement of income (loss).

Revenue Recognition

The majority of the Company's revenue streams record revenue at a point in time when a performance obligation has been satisfied by transferring control of promised goods or services to a customer. Products are sold or rented and services are provided based upon a fixed or determinable price and do not generally include right of return or other significant post-delivery obligations. Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities. Payment terms and conditions vary by contract type. We have elected to apply the practical expedient that does not require an adjustment for a financing component if, at contract inception, the period between when we transfer the promised goods or service to the customer and when the customer pays for the goods or service is one year or less. Shipping and handling costs are recognized when incurred and are treated as costs to fulfill the original performance obligation instead of as a separate performance obligation.

Revenue is generated from contracts that may include multiple performance obligations. Using significant judgement, the Company considers the degree of customization, integration and interdependency of the related products and services when assessing distinct performance obligations within one contract. Stand-alone selling price ("SSP") for each distinct performance obligation is generally determined using the price at which the products and services would be sold separately to the customer. Discounts, when provided, are allocated based on the relative SSP of the various products and services.

For revenue that is not recognized at a point in time, the Company follows accounting guidance for revenue recognized over time, as follows:

Revenue Recognition under Long-term Construction Contracts

Revenue is recognized over-time for certain long-term construction contracts in the Completion & Production Solutions and Rig Technologies segments. These contracts include custom designs for customer-specific applications that are unique and require significant engineering efforts. Revenue is recognized as work progresses on each contract. Right to payment is enforceable for performance completed to date, including a reasonable profit.

Because of control transferring over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. We generally use the cost-to-cost (input) measure of progress for our contracts because it best depicts the transfer of assets to the customer which occurs as we incur costs. Under the cost-to-cost measure of progress, progress towards completion of each contract is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including estimated fees or profits, are recorded proportionally as costs are incurred. These costs include labor, materials, subcontractors' costs, and other direct costs. Any expected losses on a project are recorded in full in the period in which the loss becomes probable.

These long-term construction contracts generally include a significant service of integrating a complex set of tasks and components into a single project or capability, so are accounted for as one performance obligation.

Estimating total revenue and cost at completion of long-term construction contracts is complex, subject to many variables and requires significant judgement. It is common for our long-term contracts to contain late delivery fees, work performance guarantees, and other provisions that can either increase or decrease the transaction price. We estimate variable consideration as the most likely amount we expect to receive. We include variable consideration in the estimated transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur, or when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on an assessment of our anticipated performance and historical, current and forecasted information that is reasonably available to us. Net revenue recognized from performance obligations satisfied in previous periods was $62 million and $65 million for the years ended December 31, 2019 and 2018, respectively, primarily due to change orders.

Service and Repair Work

For service and repair contracts, revenue is recognized over time. We generally use the output method to measure progress on service contracts due to the manner in which the customer receives and derives value from the services provided. For repair contracts, we generally use the cost-to-cost measure of progress because it best depicts the transfer of assets to the customer.

Remaining Performance Obligations

Remaining performance obligations represent the transaction price of firm orders for all revenue streams for which work has not been performed on contracts with an original expected duration of one year or more. We do not disclose the remaining performance obligations of royalty contracts, service contracts for which there is a right to invoice, and short-term contracts that are expected to have a duration of one year or less.

As of December 31, 2019, the aggregate amount of the transaction price allocated to remaining performance obligations was $4,286 million. The Company expects to recognize approximately $1,084 million in revenue for the remaining performance obligations in 2020 and $3,202 million in 2021 and thereafter.

Costs to Obtain and Fulfill a Contract

We recognize an asset for the incremental costs of obtaining a contract, such as sales commissions, with a customer when we expect the benefit of those costs to be longer than one year. Costs to fulfill a contract, such as set-up and mobilization costs, are also capitalized when we expect to recover those costs. These contract costs are deferred and amortized over the period of contract performance. Total capitalized costs to obtain and fulfill a contract and the related amortization were immaterial during the periods presented and are included in other current and long-term assets on our consolidated balance sheets. We apply the practical expedient to expense costs as incurred for costs to obtain a contract with a customer when the amortization period would have been one year or less.

Service and Product Warranties

The Company provides service and warranty policies on certain of its products. The Company accrues liabilities under service and warranty policies based upon specific claims and a review of historical warranty and service claim experience. Adjustments are made to accruals as claim data and historical experience change. In addition, the Company incurs discretionary costs to service its products in connection with product performance issues and accrues for them when they are encountered. The Company monitors the actual cost of performing these discretionary services and adjusts the accrual based on the most current information available.

The changes in the carrying amount of service and product warranties are as follows (in millions):

Balance at December 31, 2017	$ 135
Net provisions for warranties issued during the year	38
Amounts incurred	(67)
Currency translation adjustments	(1)
Balance at December 31, 2018	$ 105
Net provisions for warranties issued during the year	41
Amounts incurred	(56)
Currency translation adjustments	—
Balance at December 31, 2019	$ 90

Income Taxes

The liability method is used to account for income taxes. Deferred tax assets and liabilities are determined based on differences between the financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates that will be in effect when the differences are expected to reverse. Valuation allowances are established when necessary to reduce deferred tax assets to amounts which are more likely than not to be realized.

Concentration of Credit Risk

We grant credit to our customers, which operate primarily in the oil and gas industry. Concentrations of credit risk are limited because we have a large number of geographically diverse customers, thus spreading trade credit risk. We control credit risk through credit evaluations, credit limits and monitoring procedures. We perform periodic credit evaluations of our customers' financial condition and generally do not require collateral, but may require letters of credit for certain international sales. Credit losses are provided for in the financial statements. Allowances for doubtful accounts are determined based on a continuous process of assessing the Company's portfolio on an individual customer basis taking into account current market conditions and trends. This process consists of a thorough review of historical collection experience, current aging status of the customer accounts, and financial condition of the Company's customers. Based on a review of these factors, the Company will establish or adjust allowances for specific customers. Accounts receivable are net of allowances for doubtful accounts of approximately $132 million and $161 million at December 31, 2019 and 2018, respectively.

Stock-Based Compensation

Compensation expense for the Company's stock-based compensation plans is measured using the fair value method. The fair value of stock option grants and restricted stock is amortized to expense using the straight-line method over the shorter of the vesting period or the remaining employee service period.

The Company provides compensation benefits to employees and non-employee directors under share-based payment arrangements, including various employee stock option plans.

Environmental Liabilities

When environmental assessments or remediations are probable and the costs can be reasonably estimated, remediation liabilities are recorded on an undiscounted basis and are adjusted as further information develops or circumstances change.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect reported and contingent amounts of assets and liabilities as of the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Such estimates include but are not limited to, estimated losses on accounts receivable, estimated costs and related margins of projects accounted for over time, estimated realizable value on excess and obsolete inventory, contingencies, estimated liabilities for litigation exposures and liquidated damages, estimated warranty costs, estimates related to pension accounting, estimates related to the fair value of Reporting Units for purposes of assessing goodwill and other indefinite-lived intangible assets for impairment and estimates related to deferred tax assets and liabilities, including valuation allowances on deferred tax assets. Actual results could differ from those estimates.

Contingencies

The Company accrues for costs relating to litigation claims and other contingent matters, including liquidated damage liabilities, when such liabilities become probable and reasonably estimable. In circumstances where the most likely outcome of a contingency can be reasonably estimated, we accrue a liability for that amount. Where the most likely outcome cannot be estimated, a range of potential losses is established and if no one amount in that range is more likely than others, the low end of the range is accrued. Such estimates may be based on advice from third parties or on management's judgement, as appropriate. Revisions to contingent liabilities are reflected in income in the period in which different facts or information become known or circumstances change that affect the Company's previous judgements with respect to the likelihood or amount of loss. Amounts paid upon the ultimate resolution of contingent liabilities may be materially different from previous estimates and could require adjustments to the estimated reserves to be recognized in the period such new information becomes known.

Net Loss Attributable to Company Per Share

The following table sets forth the computation of weighted average basic and diluted shares outstanding (in millions, except per share data):

	Years Ended December 31,		
	2019	2018	2017
Numerator:			
Net loss attributable to Company	$ (6,095)	$ (31)	$ (237)
Denominator:			
Basic—weighted average common shares outstanding	382	378	377
Dilutive effect of employee stock options and other unvested stock awards	—	—	—
Diluted outstanding shares	382	378	377
Basic loss attributable to Company per share	$ (15.96)	$ (0.08)	$ (0.63)
Diluted loss attributable to Company per share	$ (15.96)	$ (0.08)	$ (0.63)
Cash dividends per share	$ 0.20	$ 0.20	$ 0.20

Net loss attributable to Company allocated to participating securities was immaterial for the years ended December 31, 2019, 2018 and 2017 and therefore not excluded from net loss attributable to Company per share calculation. The Company had stock options outstanding that were anti-dilutive totaling 20 million, 20 million, and 12 million at December 31, 2019, 2018 and 2017, respectively.

Recently Adopted Accounting Standards

In August 2017, the FASB issued Accounting Standard Update No. 2017-12 "Derivatives and Hedging – Targeted Improvements to Accounting for Hedging Activities" (ASU 2017-12). This update improves the financial reporting of hedging relationships and simplifies the application of the hedge accounting guidance. ASU 2017-12 is effective for fiscal periods beginning after December 15, 2018, and for interim periods within those fiscal years. The Company adopted this update on January 1, 2019, with no material impact.

In March 2016, the FASB issued ASC Topic 842, "Leases" (ASC Topic 842), which supersedes the lease requirements in ASC Topic No. 840 "Leases" and most industry-specific guidance. This update increases transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. ASC Topic 842 is effective for fiscal years beginning after December 15, 2018, and for interim periods within those fiscal years. The Company adopted ASU Topic 842 on January 1, 2019. Refer to Note 7, Leases, for the impact of this adoption on the Company's financial statements.

In February 2018, the FASB issued ASU 2018-02, Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income, which allows for a reclassification from accumulated other comprehensive income (AOCI) to retained earnings for stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act (the "Tax Act"). The Company adopted ASU Topic 2018-02 on January 1, 2019 and elected not to reclassify stranded tax effects caused by tax reform from AOCI to retained earnings.

Recently Issued Accounting Standards

In June 2016, the FASB issued ASU 2016-13, Financial Instruments – Credit Losses (ASC Topic 326): Measurement of Credit Losses on Financial Instruments. This update improves financial reporting by requiring earlier recognition of credit losses on financing receivables and other financial assets in scope. ASU 2016-13 is effective for fiscal periods beginning after December 15, 2019, including interim periods within those fiscal years. The Company is currently evaluating the effect of adopting this standard but does not expect it to be material.

In December 2019, the FASB issued ASU 2019-12, "Simplifying the Accounting for Income Taxes." This ASU eliminates certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. It also clarifies and simplifies other aspects of accounting for income taxes. ASU 2019-12 is effective for interim and annual reporting periods beginning after December 15, 2020, with early adoption permitted. Management is currently assessing the impact of adopting ASU 2019-12 on the company's financial position, results of operations and cash flows.

3. Derivative Financial Instruments

The Company uses derivative financial instruments to manage its foreign currency exchange rate risk. Forward currency contracts are executed to manage the foreign currency exchange rate risk on forecasted revenues and expenses denominated in currencies other than the functional currency of the operating unit (cash flow hedge). The Company also executes forward currency contracts to manage the foreign currency exchange rate risk on recognized nonfunctional currency monetary accounts (non-designated hedge).

Forward currency contracts consist of (in millions):

	Currency Denomination			
Currency	**December 31, 2019**		**December 31, 2018**	
South Korean Won	KRW	17,600	KRW	—
Norwegian Krone	NOK	5,377	NOK	5,229
Russian Ruble	RUB	1,012	RUB	—
U.S. Dollar	USD	686	USD	631
Euro	EUR	188	EUR	172
South African Rand	ZAR	124	ZAR	124
Mexican Peso	MXN	115	MXN	204
Singapore Dollar	SGD	42	SGD	—
Japanese Yen	JPY	36	JPY	121
Danish Krone	DKK	21	DKK	35
British Pound Sterling	GBP	20	GBP	12
Canadian Dollar	CAD	3	CAD	—

Cash Flow Hedging Strategy

To protect against the volatility of forecasted foreign currency cash flows resulting from forecasted revenues and expenses, the Company maintains a cash flow hedging program. For derivative instruments that are designated and qualify as a cash flow hedge, the gain or loss on the derivative instrument is recorded in accumulated other comprehensive income (loss) and reclassified into earnings in the same line item associated with the forecasted transaction and in the same period or periods during which the hedged transaction affects earnings (e.g., in “revenues” when the hedged transactions are cash flows associated with forecasted revenues). The Company includes time value in hedge relationships.

The Company expects accumulated other comprehensive income (loss) of $7 million will be reclassified into earnings within the next twelve months.

Non-designated Hedging Strategy

The Company enters into forward exchange contracts to hedge certain nonfunctional currency monetary accounts. The gain or loss on the derivative instrument is recognized in earnings in other income (expense), together with the changes in the hedged nonfunctional monetary accounts.

The amount of gain (loss) recognized in other income (expense), net was ($12) million, $2 million and ($11) million for the years ended 2019, 2018 and 2017, respectively.

The Company has the following fair values of its derivative instruments and their balance sheet classifications (in millions):

Fair Values of Derivative Instruments (In millions)

	Asset Derivatives			Liability Derivatives		
	Balance Sheet Location	Fair Value December 31, 2019	Fair Value December 31, 2018	Balance Sheet Location	Fair Value December 31, 2019	Fair Value December 31, 2018
Derivatives designated as hedging instruments under ASC Topic 815						
Foreign exchange contracts	Prepaid and other current assets	$ 5	$ 2	Accrued liabilities	$ 18	$ 17
Foreign exchange contracts	Other Assets	4	—	Other Liabilities	2	11
Total derivatives designated as hedging instruments under ASC Topic 815		$ 9	$ 2		$ 20	$ 28
Derivatives not designated as hedging instruments under ASC Topic 815						
Foreign exchange contracts	Prepaid and other current assets	$ 8	$ 4	Accrued liabilities	$ 6	$ 6
Foreign exchange contracts	Other Assets	1	—	Other Liabilities	—	2
Total derivatives not designated as hedging instruments under ASC Topic 815		$ 9	$ 4		$ 6	$ 8
Total derivatives		$ 18	$ 6		$ 26	$ 36

4. Inventories, net

Inventories consist of (in millions):

	December 31, 2019	December 31, 2018
Raw materials and supplies	$ 577	$ 614
Work in process	364	501
Finished goods and purchased products	2,099	2,515
	3,040	3,630
Less: Inventory reserve	(843)	(644)
Total	$ 2,197	$ 2,986

5. Property, Plant and Equipment, net

Property, plant and equipment consist of (in millions):

	Estimated Useful Lives	December 31, 2019	December 31, 2018
Land		$ 231	$ 227
Buildings and improvements	5-35 Years	1,309	1,271
Operating equipment	2-20 Years	2,946	3,140
Rental equipment	2-15 Years	851	597
Capital leases		—	249
		5,337	5,484
Less: Accumulated Depreciation		(2,983)	(2,687)
		$ 2,354	$ 2,797

6. Asset Impairments

Impairment of Goodwill and Other Indefinite-Lived Intangible Assets

The Company tests intangible assets for impairment annually, or more frequently if events or circumstances indicate they could be impaired. Potential impairment indicators include (but are not limited to) a sustained increase in worldwide inventories of oil or gas or sustained reductions in: worldwide oil and gas prices or drilling activity; the profitability or cash flow of oil and gas companies or drilling contractors; available financing or other capital investment for oil and gas companies or drilling contractors; the market capitalization of the Company or its customers; or capital investments by drilling companies and oil and gas companies.

The global oil and gas market downturn that began in 2014 has repeatedly exhibited signs of recovery that subsequently faded. During the second quarter of 2019, several market indicators hit new decade-lows, consistent with a more prolonged downturn for the industry and diminished probability of a stronger near-term recovery. The Company's stock price reached a fourteen-year low during the quarter and its market capitalization was below its carrying value. Also, during the quarter, the Oil Services Index (OSX), an indicator of the health and the cost of capital of the oil and gas services industry (and of the Company's primary customer base), hit a low not seen since 2004. The OSX traded down approximately 14 percent from the first quarter to the second quarter of 2019, reflecting a policy of capital discipline adopted by oil and gas producers during the quarter, diminished access to capital, and a higher cost of capital to oilfield services firms. Management reduced its outlook accordingly. In the Company's view, falling rig count levels in the second quarter provided tangible proof to the equity markets that oil and gas producers were committed to reduced levels of capital investment in drilling, which will lead to reduced levels of demand for oilfield services, and to reduced levels of demand for the capital equipment that the Company sells to its oilfield services customers. Additionally, the second quarter saw the number of oilfield services firms declaring bankruptcy increase, including one of the Company's large-cap peers and substantial customers. In management's judgement the facts and circumstances including those described above constituted a triggering event in the second quarter which indicated the Company's goodwill and other long-lived assets may be impaired. The Company performed a detailed Step 1 analysis under ASC 350, incorporating this refined outlook, which determined that the fair values were less than the respective carrying values for the following reporting units: Rig Equipment, Marine Construction, Downhole, ReedHycalog, IntelliServ, Grant Prideco, Tuboscope, Wellsite Services, Intervention & Stimulation Equipment, Floating Production Systems, XL Systems, Subsea Production Systems, Fiberglass Systems and Process & Flow Technologies ("Reporting Units").

The Company primarily uses the discounted cash flow method to estimate the fair value of its Reporting Units when conducting the impairment test, but also considers the comparable companies and representative transaction methods to validate the test result and management's forecast and other expectations, where possible. The valuation techniques used in the test were consistent with those used during previous testing. Fair value of the Reporting Unit is determined using significant unobservable inputs, or level 3 in the fair value hierarchy. These inputs are based on internal management estimates, forecasts and judgements, using discounted cash flow. The inputs used in the test were updated to reflect management's judgement, current market conditions and forecasts.

The discounted cash flow was based on management's forecast of operating performance for each Reporting Unit. The two main assumptions used, which bear the risk of change and could impact the test result, include the forecast cash flow from operations from each of the Company's Reporting Units and their respective weighted average cost of capital. The starting point for each of the Reporting Unit's cash flow from operations was the detailed mid-year plan, modified to incorporate our revised outlook, as appropriate. The Reporting Unit carrying values were adjusted based on the long-lived asset impairment assessment noted below. Cash flows beyond the plan or forecast were estimated using a terminal value calculation which incorporated historical and forecasted financial cyclical trends for each Reporting Unit and considered long-term earnings growth rates. Financial and credit market volatility directly impacts our fair value measurement through the weighted average cost of capital used to determine a discount rate. During times of volatility, significant judgement must be applied to determine whether credit changes are a short-term or long-term trend.

For the second quarter of 2019, the Company recorded $3,099 million in impairment charges to goodwill and $87 million in charges to indefinite-lived intangible assets.

During the third quarter, the Company combined two Reporting Units within the Completion & Production Solutions segment, Floating Production and Process & Flow Technologies. The restructuring better aligns operations with the current and anticipated market environments and reduces administrative burden. The Company tested the two Reporting Units for goodwill impairment prior to, and after, combining them and concluded no impairment charges were necessary.

Also, during the third quarter, the Company's Wellbore Technologies segment reorganized two of its Reporting Units. The Company performed a goodwill impairment analysis prior and subsequent to the restructuring and concluded no impairment charges were necessary. The restructuring did not affect Wellbore Technologies' consolidated financial position and results of operations.

The Company conducted its annual impairment test during the fourth quarter of 2019, as of October 1, 2019, using the same process described above for the second quarter test. During the fourth quarter, drilling activity further declined in North America as U.S. rig count experienced its first double digit sequential decline since 2016. This and other market condition deteriorations during the fourth quarter reduced management's near-term market and recovery path expectations, and the forecasts used in the impairment test. Based on the assessment, the Company recorded $410 million in impairment charges to goodwill and $16 million in charges to indefinite-lived intangibles. Following the impairment charges, several Reporting Units did not have a fair value substantially in excess of their book value. Further deterioration of market conditions, in management's judgement, beyond those incorporated into the extended forecast by management, will likely result in additional impairment charges. The remaining goodwill balance for these Reporting Units at December 31, 2019 is as follows: Marine Construction ($57 million), Downhole ($124 million), ReedHycalog ($358 million), Grant Prideco ($125 million), M/D Totco ($63 million), PFT ($407 million), and Completion Tools ($20 million).

The Company has approximately $2.8 billion of goodwill, by segment as follows (in millions):

	Wellbore Technologies	Completion & Production Solutions	Rig Technologies	Total
Balance at December 31, 2017	$ 2,956	$ 2,122	$ 1,149	$ 6,227
Goodwill acquired and adjusted during period	64	(33)	71	102
Currency translation adjustments	(9)	(48)	(8)	(65)
Balance at December 31, 2018	3,011	2,041	1,212	6,264
Goodwill acquired and adjusted during period	9	40	13	62
Impairment	(2,178)	(1,019)	(312)	(3,509)
Currency translation adjustments	1	(8)	(3)	(10)
Balance at December 31, 2019 (1)	$ 843	$ 1,054	$ 910	$ 2,807

(1) Accumulated goodwill impairment was $ 5,966 million as of December 31, 2019.

Impairment of Long-Lived Assets (Excluding Goodwill and Other Indefinite-Lived Intangible Assets)

Long-lived assets, which include property, plant and equipment, right of use, and finite-lived intangible assets, comprise a significant amount of the Company's total assets. The Company makes judgements and estimates in conjunction with the carrying value of these assets, including amounts to be capitalized, depreciation and amortization methods and estimated useful lives.

The Company identified its Reporting Units as individual asset groups. The carrying values of these asset groups are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable. An impairment loss is recorded in the period in which it is determined that the carrying amount of the asset is not recoverable based on estimated future undiscounted cash flows. We estimate the fair value of these intangible and fixed assets using an income approach that requires the Company to make long-term forecasts of its future revenues and costs related to the assets subject to review. These forecasts require assumptions about demand for the Company's products and services, future market conditions and technological developments. The forecasts are dependent upon assumptions including those regarding oil and gas prices, the general outlook for the global oil and gas industry, available financing for the Company's customers, political stability in major oil and gas producing areas, and the potential obsolescence of various types of equipment we sell, among other factors. Financial and credit market volatility directly impacts our fair value measurement through our income forecast. Changes to these assumptions, including, but not limited to: sustained declines in worldwide rig counts below current analysts' forecasts; collapse of spot and futures prices for oil and gas; significant deterioration of external financing for our customers; higher risk premiums or higher cost of equity; or any other significant adverse economic news could require a provision for impairment.

During the second quarter of 2019, the results of the Company's test for impairment of goodwill and indefinite-lived intangible assets, and the other negative market indicators described above, were a triggering event that indicated that its long-lived tangible assets and finite-lived intangible assets were impaired.

Impairment testing performed in the second quarter resulted in the determination that certain long-lived assets associated with most of the Company's asset groups were not recoverable. The estimated fair value of these asset groups was below the carrying value and as a result, during the second quarter of 2019, the Company recorded impairment charges of $1,901 million to customer relationships, patents, trademarks, tradenames, and other finite-lived intangible assets, $230 million to property, plant and equipment, and $56 million for right-of-use assets. During the second half of 2019, the Company recorded $22 million impairment charges to property, plant and equipment ($5 million in the Wellbore Technologies segment, $7 million in the Completion & Production Solutions segment, and $10 million in the Rig Technologies segment).

Remaining identified intangible assets with determinable lives consist primarily of customer relationships, trademarks, trade names, patents, and technical drawings acquired in acquisitions, and are being amortized in a manner consistent with the underlying cash flows over the estimated useful lives of 2-30 years. Amortization expense of identified intangibles is expected to be approximately $61 million, $57 million, $55 million, $48 million, and $43 million for the next five years.

The Company has approximately $852 million of identified intangible assets, by segment as follows (in millions):

	Wellbore Technologies	Completion & Production Solutions	Rig Technologies	Total
Balance at December 31, 2017	$ 1,883	$ 1,160	$ 258	$ 3,301
Additions to intangible assets	41	3	55	99
Amortization	(201)	(111)	(29)	(341)
Currency translation adjustments	12	(47)	(4)	(39)
Balance at December 31, 2018	$ 1,735	$ 1,005	$ 280	$ 3,020
Impairment	(1,314)	(690)	—	(2,004)
Additions to intangible assets	6	11	—	17
Amortization	(94)	(56)	(28)	(178)
Currency translation adjustments	(7)	5	(1)	(3)
Balance at December 31, 2019	$ 326	$ 275	$ 251	$ 852

Identified intangible assets by major classification consist of the following (in millions):

	Gross	Accumulated Amortization	Net Book Value
December 31, 2018:			
Customer relationships	$ 4,078	$ (2,352)	$ 1,726
Trademarks	891	(341)	550
Patents	661	(414)	247
Indefinite-lived trade names	383	—	383
Other	491	(377)	114
Total identified intangibles	$ 6,504	$ (3,484)	$ 3,020
December 31, 2019:			
Customer relationships	$ 598	$ (305)	$ 293
Trademarks	190	(123)	67
Patents	121	(47)	74
Indefinite-lived trade names	280	—	280
Other	283	(145)	138
Total identified intangibles	$ 1,472	$ (620)	$ 852

7. Accrued Liabilities

Accrued liabilities consist of (in millions):

	December 31, 2019	December 31, 2018
Vendor costs	$ 121	$ 127
Compensation	270	331
Taxes (non income)	112	124
Warranty	90	105
Insurance	57	55
Fair value of derivatives	24	23
Commissions	31	34
Interest	8	7
Other	236	282
Total	$ 949	$ 1,088

8. Leases

Effective January 1, 2019 the Company adopted the new US GAAP accounting rules in ASC Topic 842, Leases (ASC 842), using the modified retrospective method. The Company elected to follow the package of practical expedients provided under the transition guidance within ASC 842, the practical expedient to account for lease and non-lease components as a single lease, and to not include leases with an initial term of less than 12 months in lease assets and liabilities.

At adoption of ASC 842, the Company had lease right-of-use assets of $786 million ($537 million operating and $249 million financing) and lease liabilities of $839 million ($554 million operating and $285 million financing). The adoption had no material effect on retained earnings.

The Company leases certain facilities and equipment to support its operations around the world. These leases generally require the Company to pay maintenance, insurance, taxes and other operating costs in addition to rent. Renewal options are common in longer term leases; however, it is rare that the Company intends to exercise a lease option at inception due to the cyclical nature of the Company’s business. Residual value guarantees are not typically part of the Company’s leases. Occasionally, the Company sub-leases excess facility space, generally at terms similar to the source lease. The Company reviews new agreements to determine if they include a lease and, when they do, uses its incremental borrowing rate to determine the present value of the future lease payments as most do not include implicit interest rates.

At adoption of ASC 842, for those existing leases that included a periodic rent adjustment based on an index (or a similar variable rate), the asset and liability balances were updated with the January 1, 2019 index. Going forward, new such leases are initially valued at the index rate in effect on the lease commencement date. For all continuing such leases, subsequent changes in variable rates will be recorded to expense.

Components of leases are as follows (in millions):

	December 31, 2019	December 31, 2018
Current portion of lease liabilities:		
Operating	$ 84	$ —
Financing	30	7
Total	$ 114	$ 7

	December 31, 2019	December 31, 2018
Long-term portion of lease liability:		
Operating	$ 424	$ —
Financing	250	222
Total	$ 674	$ 222

Components of lease expense were as follows (in millions):

	Years Ended December 31, 2019
Lease cost	
Finance lease cost	
Amortization of right-of-use assets	$ 32
Interest on lease liabilities	13
Operating lease cost	115
Short-term lease cost	68
Sub-lease income	(11)
Total	$ 217

Supplemental information related to the Company's leases is as follows (in millions):

	Year Ended December 31, 2019
Other information:	
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows - finance leases	$ 13
Operating cash flows - operating leases	115
Financing cash flows - finance leases	32
Right-of-use assets obtained in exchange for new:	
Operating lease liabilities	53
Finance lease liabilities	$ 12
Weighted average remaining lease term at December 31, 2019:	
Operating leases	10 years
Finance leases	16 years
Weighted average discount rate at December 31, 2019:	
Operating leases	4.48%
Finance leases	4.58%

Future minimum lease commitments for leases with initial or remaining terms of one year or more at December 31, 2019, are payable as follows (in millions):

	Operating	Finance
2020	$ 98	$ 38
2021	81	33
2022	64	25
2023	49	18
2024	40	15
Thereafter	228	210
Total lease payments	560	339
Less: Interest	(52)	(59)
Present value of lease liabilities	$ 508	$ 280

9. Debt

Debt consists of (in millions):

	December 31, 2019	December 31, 2018
$1.1 billion in Senior Notes, interest at 3.95% payable semiannually, principal due on December 1, 2042	1,088	1,088
$0.5 billion in Senior Notes, interest at 3.60% payable semiannually, principal due on December 1, 2029	493	—
$0.4 billion in Senior Notes, interest at 2.60% payable semiannually, principal due on December 1, 2022	399	1,394
Other debt	9	—
Long-term debt	$ 1,989	$ 2,482

Principal payments of debt for years subsequent to 2019 are as follows (in millions):

2020	—
2021	—
2022	400
2023	—
2024	—
Thereafter	1,589
	$ 1,989

Amended Revolving Credit Facility

Effective October 30, 2019, the Company amended its five-year unsecured revolving credit facility, decreasing its borrowing availability to $2 billion and extended its maturity to October 30, 2024. The Company has the right to increase the aggregate commitments under this new agreement to an aggregate amount of up to $3.0 billion upon the consent of only those lenders holding any such increase. Interest under the new multicurrency facility is based upon LIBOR, NIBOR or CDOR plus 1.125% subject to a ratings-based grid or the U.S. prime rate. The new credit facility contains a financial covenant regarding maximum debt-to-capitalization ratio of 60%. As of December 31, 2019, the Company was in compliance with a debt-to-capitalization ratio of 22.4%.

The Company has a commercial paper program under which borrowings are classified as long-term since the program is supported by the $2.0 billion, five-year credit facility. At December 31, 2019, there were no commercial paper borrowings, and there were no outstanding letters of credit issued under the credit facility, resulting in $2.0 billion of funds available under this credit facility.

Issuance of unsecured Senior Notes Due 2029

On November 4, 2019, the Company issued $500 million of 3.60% unsecured Senior Notes due 2029. The net proceeds were $493 million, after deducting $3 million in underwriting fees and a $4 million discount. Interest on each series of notes is due on June 1 and December 1 of each year, beginning on June 1, 2020. The Company may redeem some or all of the Senior Notes at any time at the applicable redemption price, plus accrued interest, if any, to the redemption date. At December 31, 2020, the Company was in compliance with the covenants under the indenture governing the Senior Notes.

Redemption of unsecured Senior Notes Due 2022

On December 4, 2019, the Company repaid $1 billion of its 2.60% unsecured Senior Notes using available cash balances. Upon redemption, the Company paid $1,023 million, which included a redemption premium of $23.1 million as well as accrued and unpaid interest of $0.2 million. As a result of the redemption, the Company recorded a loss on extinguishment of debt of $26 million, which included the make whole premium of $23 million and non-cash charges of $3 million attributable to the write-off of unamortized discount and debt issuance costs.

The Company had $502 million of outstanding letters of credit at December 31, 2019, primarily in the U.S. and Norway, that are under various bilateral letter of credit facilities. Letters of credit are issued as bid bonds, advanced payment bonds and performance bonds.

At December 31, 2019 and 2018, the fair value of the Company's unsecured Senior Notes approximated $1,947 million and $2,211 million, respectively. The fair value of the Company's debt is estimated using Level 2 inputs in the fair value hierarchy and is based on quoted prices for those or similar instruments. At December 31, 2019 and 2018, the carrying value of the Company's unsecured Senior Notes approximated $1,980 million and $2,482 million, respectively.

10. Employee Benefit Plans

We have benefit plans covering substantially all of our employees. Defined-contribution benefit plans cover most of the U.S. and Canadian employees, and benefits are based on years of service, a percentage of current earnings and matching of employee contributions. We also have defined contribution plans in Norway and the United Kingdom. For the years ended December 31, 2019, 2018 and 2017, expenses for defined-contribution plans were $70 million, $68 million, and $64 million, respectively, and all funding is current.

Certain retired or terminated employees of predecessor or acquired companies participate in a defined benefit plan in the United States. Approximately24 employees represented by certain collective bargaining agreements continue to accrue benefits under the plan. In addition, approximately 1,912 U.S. retirees and spouses participate in defined benefit health care plans of predecessor or acquired companies that provide postretirement medical and life insurance benefits. Except for two locations represented by certain collective bargaining agreements, active employees are ineligible to participate in any of these U.S. defined benefit plans. Active employees based in the United Kingdom are ineligible to participate in any defined benefit plans.

Net periodic benefit income (cost) for our defined benefit plans aggregated $2 million, $3 million and $(1) million for the years ended December 31, 2019, 2018 and 2017, respectively.

The change in benefit obligation, plan assets and the funded status of the defined benefit pension plans in the United States, United Kingdom, Norway, Germany and the Netherlands and defined postretirement plans in the United States, using a measurement date of December 31, 2019 and 2018, is as follows (in millions):

	Pension benefits		Postretirement benefits	
At year end	**2019**	**2018**	**2019**	**2018**
Benefit obligation at beginning of year	$ 575	$ 633	$ 45	$ 62
Service cost	1	1	—	—
Interest cost	18	18	2	2
Actuarial loss (gain)	42	(24)	(15)	(8)
Benefits paid	(29)	(40)	(11)	(13)
Participants contributions	—	—	2	2
Exchange rate loss (gain)	5	(15)	—	—
Special events	—	—	30	—
Plan amendments	—	4	—	—
Settlements	(12)	(2)	—	—
Benefit obligation at end of year	$ 600	$ 575	$ 53	$ 45
Fair value of plan assets at beginning of year	$ 517	$ 588	$ —	$ —
Actual return	80	(21)	—	—
Benefits paid	(29)	(40)	(11)	(13)
Company contributions	5	5	9	11
Participants contributions	—	—	2	2
Exchange rate gain (loss)	6	(13)	—	—
Settlements	(11)	(2)	—	—
Fair value of plan assets at end of year	$ 568	$ 517	$ —	$ —
Funded status	$ (32)	$ (58)	$ (53)	$ (45)
Accumulated benefit obligation at end of year	$ 597	$ 572		

Liabilities associated with the funded status of the defined benefit pension plans are included in the balances of accrued liabilities and other liabilities in the Consolidated Balance Sheet.

Defined Benefit Pension Plans

Assumed long-term rates of return on plan assets, discount rates and rates of compensation increases vary for the different plans according to the local economic conditions. The assumption rates used for benefit obligations are as follows:

	Years Ended December 31,	
	2019	**2018**
Discount rate:		
United States plan	2.50% - 3.20%	3.90% - 4.20%
International plans	0.90% - 2.30%	1.80% - 2.90%
Salary increase:		
United States plan	N/A	N/A
International plans	1.80% - 3.10%	1.80% - 3.40%

The assumption rates used for net periodic benefit costs are as follows:

	Years Ended December 31,		
	2019	2018	2017
Discount rate:			
United States plan	3.90% - 4.20%	3.00% - 3.60%	3.10% - 4.00%
International plans	1.80% - 2.90%	1.80% - 2.40%	1.80% - 2.80%
Salary increase:			
United States plan	N/A	N/A	N/A
International plans	1.80% - 3.40%	1.80% - 3.30%	1.80% - 3.50%
Expected return on assets:			
United States plan	5.70%	5.60%	5.60%
International plans	1.90% - 4.30%	1.80% - 4.00%	1.80% - 3.00%

In determining the overall expected long-term rate of return for plan assets, the Company takes into consideration the historical experience as well as future expectations of the asset mix involved. As different investments yield different returns, each asset category is reviewed individually and then weighted for significance in relation to the total portfolio.

The majority of our plans have projected benefit obligations in excess of plan assets.

The Company expects to pay future benefit amounts on its defined benefit plans of approximately $32 million for each of the next five years and aggregate payments of $317 million.

Plan Assets

The Company and its investment advisers collaboratively reviewed market opportunities using historic and statistical data, as well as the actuarial valuation reports for the plans, to ensure that the levels of acceptable return and risk are well-defined and monitored. Currently, the Company's management believes that there are no significant concentrations of risk associated with plan assets. Our pension investment strategy worldwide prohibits a direct investment in our own stock.

The following table sets forth by level, within the fair value hierarchy, the Plan's assets carried at fair value (in millions):

	Fair Value Measurements			
	Total	Level 1	Level 2	Level 3
December 31, 2018:				
Equity securities	$ 140	$ —	$ 140	$ —
Bonds	209	—	209	—
Other (insurance contracts)	168	—	113	55
Total Fair Value Measurements	$ 517	$ —	$ 462	$ 55
December 31, 2019:				
Equity securities	$ 157	$ —	$ 157	$ —
Bonds	227	—	227	—
Other (insurance contracts)	184	—	121	63
Total Fair Value Measurements	$ 568	$ —	$ 505	$ 63

Level 3 inputs are unobservable (i.e., supported by little or no market activity). Level 3 inputs include management's own judgement about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk). The following table sets forth a summary of changes in the fair value of the Plan's Level 3 assets (in millions):

	Level 3 Plan Assets
Balance at December 31, 2017	$ 61
Actual return on plan assets still held at reporting date	(1)
Purchases, sales and settlements	(2)
Currency translation adjustments	(3)
Balance at December 31, 2018	$ 55
Actual return on plan assets still held at reporting date	10
Purchases, sales and settlements	(1)
Currency translation adjustments	(1)
Balance at December 31, 2019	$ 63

11. Accumulated Other Comprehensive Income (Loss)

The components of accumulated other comprehensive income (loss) are as follows (in millions):

	Currency Translation Adjustments	Derivative Financial Instruments, Net of Tax	Defined Benefit Plans, Net of Tax	Total
Balance at December 31, 2016	$ (1,376)	$ (39)	$ (37)	$ (1,452)
Accumulated other comprehensive income (loss) before reclassifications	272	41	25	338
Amounts reclassified from accumulated other comprehensive income (loss)	—	5	(1)	4
Balance at December 31, 2017	$ (1,104)	$ 7	$ (13)	$ (1,110)
Accumulated other comprehensive income (loss) before reclassifications	(298)	(19)	(13)	(330)
Amounts reclassified from accumulated other comprehensive income (loss)	6	(2)	(1)	3
Balance at December 31, 2018	$ (1,396)	$ (14)	$ (27)	$ (1,437)
Accumulated other comprehensive income (loss) before reclassifications	(7)	(2)	12	3
Amounts reclassified from accumulated other comprehensive income (loss)	—	12	(1)	11
Balance at December 31, 2019	$ (1,403)	$ (4)	$ (16)	$ (1,423)

The components of amounts reclassified from accumulated other comprehensive income (loss) are as follows (in millions):

	Years Ended December 31,											
	2019				2018				2017			
	Currency Translation Adjustments	Derivative Financial Instruments	Defined Benefit Plans	Total	Currency Translation Adjustments	Derivative Financial Instruments	Defined Benefit Plans	Total	Currency Translation Adjustments	Derivative Financial Instruments	Defined Benefit Plans	Total
Revenue	$ —	$ 1	$ —	$ 1	$ —	$ 2	$ —	2	$ —	$ (8)	$ —	$ (8)
Cost of revenue	—	14	—	14	—	(6)	—	(6)	—	12	—	12
Selling, general, and administrative	—	—	(1)	(1)	—	—	(1)	(1)	—	—	(1)	(1)
Other income (expense), net	—	—	—	-	6	—	—	6	—	—	—	—
Tax effect	—	(3)	—	(3)	—	2	—	2	—	1	-	1
	$ —	$ 12	$ (1)	$ 11	$ 6	$ (2)	$ (1)	$ 3	$ —	$ 5	$ (1)	$ 4

The Company's reporting currency is the U.S. dollar. A majority of the Company's international entities in which there is a substantial investment have the local currency as their functional currency. As a result, currency translation adjustments resulting from the process of translating the entities' financial statements into the reporting currency are reported in other comprehensive income or (loss). The Company recorded other comprehensive income (loss) of ($7) million, $(292) million and $272 million for the years ended December 31, 2019, 2018 and 2017, respectively.

The effect of changes in the fair values of derivatives designated as cash flow hedges are accumulated in other comprehensive income (loss), net of tax, until the underlying transactions are realized. The movement in other comprehensive income (loss) from period to period will be the result of the combination of changes in fair value of open derivatives and the outflow of other comprehensive income (loss) related to cumulative changes in the fair value of derivatives that have settled in the current period. The accumulated effect was other comprehensive loss of $10 million (net of $4 million tax), $21 million (net of $2 million tax) and $46 million (net of $13 million tax) for the years ended December 31, 2019, 2018 and 2017.

12. Commitments and Contingencies

Our business is governed by laws and regulations promulgated by U.S. federal and state governments and regulatory agencies, as well as international governmental authorities in the many countries in which we conduct business, including those related to the oilfield service industry. In the United States these governmental authorities include: the U.S. Department of Labor, the Occupational Safety and Health Administration ("OSHA"), the Environmental Protection Agency, the Bureau of Land Management, the Department of Treasury, Office of Foreign Asset Controls, state and international environmental agencies and many others. We are unaware of any material unreserved liabilities in connection with our compliance with such laws. New laws, regulations and enforcement policies may result in additional, presently unquantifiable or unknown, costs or liabilities.

The Company is involved in various claims, regulatory agency audits and pending or threatened legal actions involving a variety of matters. The Company maintains insurance that covers many of the claims arising from risks associated with the business activities of the Company, including claims for premises liability, product liability and other such claims. The Company carries substantial insurance to cover such risks above a self-insured retention. The Company believes, and the Company's experience has been, that such insurance has been sufficient to cover such risks. See Item 1A. Risk Factors.

The Company is also a party to claims, threatened and actual litigation, private arbitration, internal investigations of potential regulatory and compliance matters arising from ordinary day-to-day business activities in which parties, including government authorities, assert claims against the Company for a broad spectrum of potential claims and theories of liability, including: individual employment law claims, collective actions or class actions under employment laws, intellectual property claims, (such as alleged patent infringement, and/or misappropriation of trade secrets), premises liability claims, environmental, product liability claims, warranty claims, personal injury claims arising from allegedly defective products, negligence or other theories of liability, alleged regulatory violations, alleged violations of anti-corruption and anti-bribery laws and other commercial claims seeking recovery for alleged actual or exemplary damages or fines and penalties. For some contingent claims, the Company's insurance coverage is inapplicable or an exclusion to coverage may apply. In such instances, settlement or other resolution of such contingent claims could have a material financial or reputational impact on the Company.

The Company is exposed to customs and regulatory risk in the countries in which we do business or to which we transport goods. For example, the effects of the United Kingdom's withdrawal from the European Union, known as Brexit, may have a negative impact on our results from operations. Uncertainty concerning the legal and regulatory risks of Brexit, include: (i) supply chain risks resulting from lack of trade agreements, potential changes in customs administrations or tariffs; (ii) revenue risk, loss of customers or increased costs; (iii) delays in delivery of materials to the Company or delay in delivery by the Company; and (iv) the need for renegotiation of agreements; and other business disruptions. In addition, trade regulations and laws may adversely impact our ability to do business in certain countries, e.g.: Iran, Syria, Russia and Venezuela. Such trade regulations can be complex and present compliance challenges which could result in future liabilities.

As of December 31, 2019, the Company recorded reserves in an amount believed to be sufficient, given the range of potential outcomes, for contingent liabilities representing all contingencies believed to be probable. These reserves include all costs expected for reclamation of a closed barite mine and costs arising out of personal injury claims arising from a well blow out in McAlester, Oklahoma for which the Company supplied the mud engineer, as well as other circumstances involving material claims.

The Company has assessed the potential for additional losses above the amounts accrued as well as potential losses for matters that are not probable but are reasonably possible. The litigation process as well as the final outcome of regulatory oversight is inherently uncertain, and our best judgement concerning the probable outcome of litigation or regulatory enforcement matters may prove to be incorrect in some instances. The total potential loss on these matters cannot be determined; however, in our opinion, any ultimate liability, to the extent not otherwise provided for, will not materially affect our financial position, cash flow or results of operations. These estimated liabilities are based on the Company's assessment of the nature of these matters, their progress toward resolution, the advice of legal counsel and outside experts as well as management's experience. Of course, because of uncertainty and risk inherent to litigation and arbitration, the actual liabilities incurred may exceed our estimated liabilities and reserves, which could have a material financial or reputational impact on the Company. In many instances, the Company's products and services embody or incorporate trade secrets or patented inventions. From time to time, we are engaged in disputes concerning protection of trade secrets and confidential information, patents and other intellectual property rights. Such disputes frequently involve complex, factual, technical and/or legal issues which result in high costs to adjudicate our rights and difficulty in predicting the ultimate outcome. Because of the importance of the Company's intellectual property to the Company's performance, an adverse result in such disputes could materially and adversely impact our financial performance.

Further, in some instances, direct or indirect consumers of our products and services, entities providing financing for purchases of our products and services or members of the supply chain for our products and services have become involved in governmental investigations, internal investigations, political or other enforcement matters. In such circumstances, such investigations may adversely impact the ability of consumers of our products, entities providing financial support to such consumers or entities in the supply chain to timely perform their business plans or to timely perform under agreements with us. We may, from time to time, become involved in these investigations, at substantial cost to the Company. We also are subject to trade regulations and other regulatory compliance in which the laws and regulations of different jurisdictions conflict or trade regulations may conflict with contractual terms. In such circumstances, our compliance with U.S. laws and regulations may subject us to risk of fines, penalties or contractual liability in other jurisdictions. Our efforts to actively manage such risks may not always be successful which could lead to negative impacts on revenue or earnings.

13. Common Stock

National Oilwell Varco has authorized 1 billion shares of $0.01 par value common stock. The Company also has authorized10 million shares of $0.01 par value preferred stock, none of which is issued or outstanding.

Cash dividends aggregated $77 million and $76 million for the years ended December 31, 2019 and 2018, respectively. The declaration and payment of future dividends is at the discretion of the Company's Board of Directors and will be dependent upon the Company's results of operations, financial condition, capital requirements and other factors deemed relevant by the Company's Board of Directors.

Total compensation cost that has been charged against income for all share-based compensation arrangements was $130 million, $110 million and $124 million for 2019, 2018 and 2017, respectively. The total income tax benefit recognized in the consolidated statements of income for all share-based compensation arrangements was $14 million, $16 million and $24 million for 2019, 2018 and 2017, respectively.

The Company's stock-based compensation plan, known as the National Oilwell Varco, Inc. 2018 Long-Term Incentive Plan (the "2018 Plan"), was approved by shareholders on May 11, 2018. The 2018 Plan provides for the granting of stock options, restricted stock, restricted stock units, performance awards, phantom shares, stock appreciation rights, stock payments and substitute awards. The number of shares authorized under the 2018 Plan is 20.2 million. The 2018 Plan is also subject to a fungible ratio concept, such that the issuance of stock options and stock appreciation rights reduces the number of available shares under the 2015 Plan on a 1-for-1 basis, and the issuance of other awards reduces the number of available shares under the 2018 Plan on a 2.5-for-1 basis. At December 31, 2019, approximately 10.5 million shares were available for future grants.

The Company also has outstanding awards under its other stock-based compensation plan known as the National Oilwell Varco, Inc. Long-Term Incentive Plan (the "Plan"), however the Company is no longer granting awards under the Plan. The Plan provides for the granting of stock options, performance-based share awards, restricted stock, phantom shares, stock payments and stock appreciation rights ("SARs"). The number of shares authorized under the Plan is 69.4 million. The Plan is subject to a fungible ratio concept, such that the issuance of stock options and SARs reduces the number of available shares under the Plan on a 1-for-1 basis, and the issuance of other awards reduces the number of available shares under the Plan on a 3-for-1 basis.

Stock Options

Options granted under our stock-based compensation plans generally vest over a three-year period starting one year from the date of grant and expire ten years from the date of grant. The purchase price of options granted may not be less than the closing market price of National Oilwell Varco common stock on the date of grant.

We converted the outstanding stock options under this plan to options to acquire our common stock and no further options are being issued under the plans. Stock option information summarized below includes amounts for the National Oilwell Varco Long-Term Incentive Plans and stock plans of acquired companies. Options outstanding at December 31, 2019 under the stock option plans have exercise prices between $28.24 and $77.99 per share, and expire at various dates from February 17, 2020 to February 28, 2029.

The following summarizes options activity:

	Years Ended December 31,					
	2019		2018		2017	
	Number of Shares	Average Exercise Price	Number of Shares	Average Exercise Price	Number of Shares	Average Exercise Price
Shares under option at beginning of year	21,009,508	$ 48.88	22,472,047	$ 48.99	17,439,060	$ 54.08
Granted	1,493,576	28.72	1,610,599	35.09	6,961,041	36.51
Forfeited	(944,917)	50.57	(1,318,380)	57.56	(1,482,531)	55.22
Exercised	(248,068)	29.70	(1,754,758)	44.12	(445,523)	29.83
Shares under option at end of year	21,310,099	$ 47.68	21,009,508	$ 48.88	22,472,047	$ 48.99
Exercisable at end of year	17,796,607	$ 50.49	15,223,029	$ 54.13	14,309,944	$ 55.00

The following summarizes information about stock options outstanding at December 31, 2019:

Range of Exercise Price	Weighted-Avg Remaining Contractual Life	Options Outstanding: Shares	Options Outstanding: Weighted-Avg Exercise Price	Options Exercisable: Shares	Options Exercisable: Weighted-Avg Exercise Price
$28.24 - $55.00	6.21	15,776,394	$ 39.77	12,262,902	$ 41.58
$55.01 - $70.00	3.65	3,480,067	66.82	3,480,067	66.82
$70.01 - $77.99	1.68	2,053,638	75.96	2,053,638	75.96
Total	5.36	21,310,099	$ 47.68	17,796,607	$ 50.49

The weighted-average fair value of options granted during 2019, 2018 and 2017, was approximately $9.06, $10.01 and $9.68 per share, respectively, as determined using the Black-Scholes option-pricing model. The total intrinsic value of options exercised during 2019 and 2018 was $6 million and $54 million, respectively.

The determination of fair value of share-based payment awards on the date of grant using an option-pricing model is affected by our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to, the expected stock price volatility over the term of the awards, and actual and projected employee stock option exercise activity. The use of the Black Scholes model requires the use of actual employee exercise activity data and the use of a number of complex assumptions including expected volatility, risk-free interest rate, expected dividends and expected term.

	Years Ended December 31,		
Valuation Assumptions:	**2019**	**2018**	**2017**
Expected volatility	35.9%	31.8%	36.1%
Risk-free interest rate	2.5%	2.7%	2.2%
Expected dividend yield	0.7%	0.6%	0.6%
Expected term (in years)	4.5	4.3	3.0

The Company used the actual volatility for traded options for the past 10 years prior to option date as the expected volatility assumption required in the Black Scholes model.

The risk-free interest rate assumption is based upon observed interest rates appropriate for the term of our employee stock options. The dividend yield assumption is based on the history and expectation of dividend payouts. The estimated expected term is based on actual employee exercise activity for the past ten years. Forfeitures are accounted for as they occur.

The following summary presents information regarding outstanding options at December 31, 2019 and changes during 2019 with regard to options under all stock option plans:

	Shares	Weighted-Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Outstanding at December 31, 2018	21,009,508	$ 48.88	6.01	$ 458,576
Granted	1,493,576	$ 28.72		
Forfeited	(944,917)	$ 50.57		
Exercised	(248,068)	$ 29.70		
Outstanding at December 31, 2019	21,310,099	$ 47.68	5.36	$ —
Exercisable at December 31, 2019	17,796,607	$ 50.49	4.44	$ —

At December 31, 2019, total unrecognized compensation cost related to nonvested stock options was $17 million. This cost is expected to be recognized over a weighted-average period of three years. The total fair value of stock options vested in 2019, 2018 and 2017 was approximately $12 million, $26 million and $70 million, respectively. Cash received from option exercises for 2019, 2018 and 2017 was $7 million, $54 million and $13 million, respectively. The actual tax benefit (expense) realized for the tax deductions from option exercises totaled $(2) million, $2 million, and $(2) million for 2019, 2018 and 2017, respectively.

Stock Appreciation Rights

On December 20, 2017, the Company made a tender offer to exchange SARs issued to certain employees on February 24, 2016 ("2016 SARs") for cash, amended SARs, and new stock options. The transaction was structured to provide the employees an equal long-term incentive compensation value, while alleviating volatility in the Company's earnings caused by required mark-to-market accounting on outstanding SARS. Of the outstanding 2016 SARs, 94.75% were exchanged resulting in a total cash payment of $14 million and granting of 3,613,707 new stock options on the exchange date with an exercise price of $34.32 and a fair value of $8.47, with vesting matched to the exchanged 2016 SARs.

The following summary presents information regarding outstanding SARs:

	Year Ended December 31,			
	2019		2018	
	Number of Shares	Average Exercise Price	Number of Shares	Average Exercise Price
Shares under SARs at beginning of year	1,399,302	$ 28.49	1,493,689	$ 28.41
Granted	7,088	28.72	14,228	35.09
Forfeited	(76,133)	29.18	(83,124)	28.32
Exercised	—	—	(25,491)	42.61
Shares under SARs at end of year	1,330,257	$ 28.45	1,399,302	$ 28.49
Exercisable at end of year	1,315,701	$ 28.40	165,755	$ 28.57

The Company recognized no expense in 2019 and 2018, compared to $8 million in 2017. There was no liability for cash-settled SARs at December 31, 2019.

Restricted Shares

The Company issues restricted stock awards and restricted stock units to officers and key employees in addition to stock options. On February 27, 2019, the Company granted 2,895,086 shares of restricted stock and restricted stock units with a fair value of $28.72 per share; and performance share awards to senior management employees with potential payouts varying from zero to 665,740 shares. The restricted stock and restricted stock units vest in three equal annual installments commencing on the first anniversary of the date of grant. The performance share awards can be earned based on performance against established goals over a three-year performance period. The 2017 and 2018 performance share awards are based entirely on a TSR (total shareholder return) goal. Performance against the TSR goal is determined by comparing the performance of the Company's TSR with the TSR performance of the members of the OSX (Oil Service Sector) index for the three-year performance period. The 2019 performance share awards are divided into two independent parts that are subject to two separate performance metrics: 85% with a TSR (total shareholder return) goal and 15% with an internal National Oilwell Varco Value Added ("NVA") (return on capital metric) goal. Performance against the TSR goal is determined by comparing the performance of the Company's TSR with the TSR performance of the members of the OSX index for the three-year performance period. The NVA goal is based on the Company's improvement in NVA from the beginning of the performance period until the end of the performance period. NVA shall be calculated as an amount equal to the Company's (a) gross cash earnings less (b) average gross operating assets times an amount equal to a required return on assets.

On May 28, 2019, the Company granted 65,752 restricted stock awards with a fair value of $21.90 per share. The awards were granted to non-employee members of the board of directors and vest on the first anniversary of the grant date.

The following summary presents information regarding outstanding restricted shares:

	Years Ended December 31,					
	2019		2018		2017	
	Number of Units	Weighted-Average Grant Date Fair Value	Number of Units	Weighted-Average Grant Date Fair Value	Number of Units	Weighted-Average Grant Date Fair Value
Nonvested at beginning of year	5,914,860	$ 34.41	4,889,678	$ 37.04	4,563,983	$ 41.10
Granted	3,335,315	$ 28.52	2,657,115	$ 35.17	1,738,589	$ 38.74
Vested	(2,901,945)	$ 25.67	(1,242,682)	$ 34.86	(1,018,206)	$ 34.84
Forfeited	(73,922)	$ 50.57	(389,251)	$ 57.56	(394,688)	$ 55.22
Nonvested at end of year	6,274,308	$ 33.10	5,914,860	$ 34.41	4,889,678	$ 37.04

At December 31, 2019, there was approximately $102 million of unrecognized compensation cost related to nonvested restricted stock awards and restricted stock units, which is expected to be recognized over a weighted-average period of two years.

14. Revenue

Disaggregation of Revenue

The following tables disaggregate our revenue by destinations, as we believe it best depicts how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors. In the tables below, North America includes only the U.S. and Canada (in millions):

	Year Ended December 31, 2019				
	Wellbore Technologies	Completion & Production Solutions	Rig Technologies	Eliminations	Total
North America	$ 1,710	$ 1,122	$ 529	$ —	$ 3,361
International	1,441	1,590	2,087	—	5,118
Eliminations	63	59	66	(188)	—
	$ 3,214	$ 2,771	$ 2,682	$ (188)	$ 8,479
Land	$ 2,531	$ 1,808	$ 758	$ —	$ 5,097
Offshore	620	904	1,858	—	3,382
Eliminations	63	59	66	(188)	—
	$ 3,214	$ 2,771	$ 2,682	$ (188)	$ 8,479

	Year Ended December 31, 2018				
	Wellbore Technologies	Completion & Production Solutions	Rig Technologies	Eliminations	Total
North America	$ 1,817	$ 1,302	$ 663	$ —	$ 3,782
International	1,345	1,543	1,783	—	4,671
Eliminations	73	86	129	(288)	—
	$ 3,235	$ 2,931	$ 2,575	$ (288)	$ 8,453
Land	$ 2,683	$ 1,985	$ 854	$ —	$ 5,522
Offshore	479	860	1,592	—	2,931
Eliminations	73	86	129	(288)	—
	$ 3,235	$ 2,931	$ 2,575	$ (288)	$ 8,453

	Year Ended December 31, 2017				
	Wellbore Technologies	Completion & Production Solutions	Rig Technologies	Eliminations	Total
North America	$ 1,408	$ 1,093	$ 545	$ —	$ 3,046
International	1,116	1,528	1,614	—	4,258
Eliminations	53	51	93	(197)	—
	$ 2,577	$ 2,672	$ 2,252	$ (197)	$ 7,304
Land	$ 2,047	$ 1,752	$ 740	$ —	$ 4,539
Offshore	477	869	1,419	—	2,765
Eliminations	53	51	93	(197)	—
	$ 2,577	$ 2,672	$ 2,252	$ (197)	$ 7,304

The Company did not have any customers with revenues greater than 10% of total revenue for the years ended December 31, 2019, 2018, or 2017.

Contract Assets and Liabilities

Contract assets include unbilled amounts resulting from sales under long-term contracts when the cost-to-cost method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer, and right to payment is not only subject to the passage of time. There were no impairment losses recorded on contract assets for the years ending December 31, 2019, 2018 and 2017.

Contract liabilities consist of advance payments, billings in excess of revenue recognized and deferred revenue.

The changes in the carrying amount of contract assets and contract liabilities are as follows (in millions):

Contract Assets	
Balance at December 31, 2018	$ 565
Additions and Milestone Billings	(1,018)
Revenue Recognized	1,131
Currency translation adjustments and other	(35)
Balance at December 31, 2019	$ 643
Contract Liabilities	
Balance at December 31, 2018	$ 458
Additions and Milestone Billings	809
Revenue Recognized	(782)
Currency translation adjustments and other	(58)
Balance at December 31, 2019	$ 427

15. Income Taxes

The domestic and foreign components of income (loss) before income taxes were as follows (in millions):

	Years Ended December 31,		
	2019	2018	2017
Domestic	$ (4,501)	$ (168)	$ (470)
Foreign	(1,961)	209	78
	$ (6,462)	$ 41	$ (392)

The components of the provision for income taxes consisted of (in millions):

	Years Ended December 31,		
	2019	2018	2017
Current:			
Federal	$ (7)	$ (5)	$ 23
State	4	(3)	1
Foreign	60	134	161
Total current income tax provision	57	126	185
Deferred:			
Federal	(344)	11	(332)
State	(18)	-	(2)
Foreign	(64)	(74)	(7)
Total deferred income tax provision	(426)	(63)	(341)
Total income tax provision	$ (369)	$ 63	$ (156)

The difference between the effective tax rate reflected in the provision for income taxes and the U.S. federal statutory rate was as follows (in millions):

	Years Ended December 31,		
	2019	2018	2017
Federal income tax at U.S. statutory rate	$ (1,357)	$ 9	$ (137)
Foreign income tax rate differential	(40)	(3)	(21)
Goodwill impairment	666	—	—
Nondeductible expenses	61	20	38
Foreign dividends, net of foreign tax credits	163	27	(132)
Tax rate change on timing differences	1	(7)	(245)
Change in uncertain tax positions	(60)	(5)	81
Prior years taxes	3	(13)	(26)
Tax impact on foreign exchange	(2)	(3)	5
Change in deferred tax valuation allowance	218	49	280
State income taxes - net of federal benefit	(16)	(3)	(1)
Tax exempt income	(6)	(5)	—
Income tax credits	—	(3)	(4)
Other	—	—	6
Total income tax provision	$ (369)	$ 63	$ (156)

The effective tax rate for the year ended December 31, 2019 was5.7%, compared to 153.7% for 2018. For the year ended December 31, 2019, the effective tax rate was negatively impacted by the impairment of nondeductible goodwill and the establishment of additional valuation allowance partially offset by the reduction in uncertain tax positions due to settlements. For the year ended December 31, 2018, valuation allowances established on foreign tax credits generated during the year resulted in a higher effective tax rate than the U.S. statutory rate.

Significant components of our deferred tax assets and liabilities were as follows (in millions):

	December 31, 2019	December 31, 2018
Deferred tax assets:		
Allowances and operating liabilities	$ 395	$ 293
Net operating loss carryforwards	270	182
Stock Compensation	69	66
Tax credit carryforwards	702	768
Other	60	59
Valuation allowance	(1,175)	(955)
Total deferred tax assets	321	413
Deferred tax liabilities:		
Tax over book depreciation	115	139
Capital leases	86	-
Intangible assets	110	688
Deferred income	65	70
Accrued tax on unremitted earnings	33	17
Other	52	52
Total deferred tax liabilities	461	966
Net deferred tax liability	$ 140	$ 553

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in millions):

	2019	2018	2017
Unrecognized tax benefit at beginning of year	$ 98	$ 132	$ 78
Gross increase for current period tax positions	—	15	10
Gross increase for tax positions in prior years	10	31	64
Gross decrease for tax positions in prior years	(60)	(10)	(14)
Cash Settlements	(3)	(69)	—
Lapse of statute of limitations	(7)	(1)	(6)
Unrecognized tax benefit at end of year	$ 38	$ 98	$ 132

The balance of unrecognized tax benefits at December 31, 2019, 2018 and 2017 was $38 million, $98 million and $132 million, respectively. Resolutions of foreign jurisdiction audits resulted in a $60 million and $74 million decrease in uncertain tax provisions for the years ended December 31, 2019 and 2018, respectively. Accruals related to foreign jurisdiction audits of prior years resulted in uncertain tax position increases of $64 million in 2017.

Substantially all of the unrecognized tax benefits, if ultimately realized, would be recorded as a benefit to the effective tax rate. The Company anticipates that it is reasonably possible that the amount of unrecognized tax benefits may decrease by up to $21 million in the next twelve months due to settlements and conclusions of tax examinations. To the extent penalties and interest would be assessed on any underpayment of income tax, such accrued amounts have been classified as a component of income tax expense in the financial statements consistent with the Company's policy. For the years ended December 31, 2019, 2018 and 2017, we recorded income tax expense of nil, nil and $17 million, respectively, for interest and penalty related to unrecognized tax benefits. As of December 31, 2019 and 2018, the Company had accrued $11 million and $12 million, respectively, of interest and penalty relating to unrecognized tax benefits.

The Company is subject to taxation in the United States as well as various states and foreign jurisdictions. The Company has significant operations in the United States, Norway, Canada, the United Kingdom, the Netherlands, France and Denmark. Tax years that remain subject to examination by major tax jurisdictions vary by legal entity, but are generally open in the U.S. for tax years ending after 2013 and outside the U.S. for tax years ending after 2014.

Net operating loss carryforwards by jurisdiction and expiration as of December 31, 2019 were as follows (in millions):

	Federal	State	Foreign	Total
2020 - 2024 Expiration	$ 6	$ 4	$ 73	$ 83
2025 - 2039 Expiration	30	150	346	526
Unlimited Expiration	198	—	406	604
Total Net Operating Loss (NOL)	$ 234	$ 154	$ 825	$ 1,213
Tax Effected NOL	$ 49	$ 9	$ 212	270
Valuation Allowance (VA)	(49)	(9)	(211)	(269)
Tax Effected NOL Net of VA	$ —	$ —	$ 1	$ 1

The Company has $702 million of excess foreign tax credits in the United States as of December 31, 2019, of which $11 million, $141 million, $285 million, $142 million, $88 million and $35 million will expire in 2020, 2022, 2026, 2027, 2028 and 2029, respectively. As of December 31, 2018, the Company has remaining tax-deductible goodwill of $194 million, resulting from acquisitions. The amortization of this goodwill is deductible over various periods ranging up to 12 years.

Undistributed earnings of certain of the Company's foreign subsidiaries amounted to $757 million at December 31, 2019. These earnings are considered to be indefinitely reinvested and no provision for U.S. federal and state income taxes has been made. Distribution of these earnings in the form of dividends or otherwise could result in incremental U.S. federal and state taxes at statutory rates and withholding taxes payable in various foreign countries.

16. Business Segments. and Geographic Areas

The Company's operations are organized into three operating segments: Wellbore Technologies, Completion & Production Solutions and Rig Technologies.

Wellbore Technologies

The Company's Wellbore Technologies segment designs, manufactures, rents, and sells a variety of equipment and technologies used to perform drilling operations, and offers services that optimize their performance, including: solids control and waste management equipment and services; portable power generation; drill pipe; wired pipe; drilling optimization and automation services; tubular inspection, repair and coating services; instrumentation; measuring and monitoring; downhole and fishing tools; steerable technologies; and drill bits.

Wellbore Technologies focuses on oil and gas companies and supports drilling contractors, oilfield service companies, and oilfield equipment rental companies. Demand for the segment's products and services depends on the level of oilfield drilling activity by oil and gas companies, drilling contractors, and oilfield service companies.

Completion & Production Solutions

The Company's Completion & Production Solutions segment integrates technologies for well completions and oil and gas production. The segment designs, manufactures, and sells equipment and technologies needed for hydraulic fracture stimulation, including pressure pumping trucks, blenders, sanders, hydration units, injection units, flowline, and manifolds; well intervention, including coiled tubing units, coiled tubing, and wireline units, BOPs, and tools; onshore production, including fluid processing systems, composite pipe, surface transfer and progressive cavity pumps, and artificial lift systems; and, offshore production, including fluid processing systems, floating production systems, subsea production technologies, and connectors for conductor pipe.

Completion & Production Solutions supports service companies and oil and gas companies. Demand for the segment's products depends on the level of oilfield completions and workover activity by oilfield service companies and drilling contractors, and capital spending plans by oil and gas companies and oilfield service companies.

Rig Technologies

The Company's Rig Technologies segment makes and supports the capital equipment and integrated systems needed to drill oil and gas wells on land and offshore as well as other marine-based markets, including offshore wind vessels. The segment designs, manufactures and sells land rigs, offshore drilling equipment packages, including installation and commissioning services, and drilling rig components that mechanize and automate the drilling process and rig functionality. Equipment and technologies in Rig Technologies include: substructures, derricks, and masts; cranes; jacking systems; pipe lifting, racking, rotating, and assembly systems; fluid transfer technologies, such as mud pumps; pressure control equipment, including blowout preventers; power transmission systems, including drives and generators; rig instrumentation and control systems; mooring, anchor, and deck handling machinery; major equipment components for offshore wind construction vessels; and pipelay and construction systems. The segment also provides spare parts, repair, and rentals as well as comprehensive remote equipment monitoring, technical support, field service, and customer training through an extensive network of aftermarket service and repair facilities strategically located in major areas of drilling operations around the world.

Rig Technologies supports land and offshore drillers. Demand for the segment's products depends on drilling contractors' and oil and gas companies' capital spending plans, specifically capital expenditures on rig construction and refurbishment; and secondarily on the overall level of oilfield drilling activity, which drives demand for spare parts, service, and repair for the segment's large installed base of equipment.

Geographic Areas:

The following table presents consolidated revenues by country based on sales destination of the products or services (in millions):

	Years Ended December 31,		
	2019	**2018**	**2017**
United States	$ 3,112	$ 3,480	$ 2,760
Norway	512	368	295
Singapore	473	321	188
Saudi Arabia	436	444	310
United Kingdom	333	309	279
China	285	231	298
Brazil	269	415	498
Canada	247	302	286
United Arab Emirates	224	248	223
South Korea	69	169	261
Other Countries	2,519	2,166	1,906
Total	$ 8,479	$ 8,453	$ 7,304

The following table presents plant, property and equipment by country based on the location (in millions):

	December 31, 2019	December 31, 2018
United States	$ 1,257	$ 1,603
Brazil	194	217
United Kingdom	112	125
Denmark	111	119
South Korea	77	91
Canada	77	79
United Arab Emirates	52	60
Mexico	43	48
Singapore	28	47
Russia	16	69
Other Countries	387	339
Total	$ 2,354	$ 2,797

Business Segments:

The following table presents selected financial data by business segment (in millions):

	Wellbore Technologies	Completion & Production Solutions	Rig Technologies	Eliminations and corporate costs (1)	Total
December 31, 2019					
Revenue	$ 3,214	$ 2,771	$ 2,682	$ (188)	$ 8,479
Operating profit (loss)(2)	(3,551)	(1,934)	(524)	(270)	(6,279)
Capital expenditures	123	64	31	15	233
Depreciation and amortization	284	150	87	12	533
Goodwill	843	1,054	910	—	2,807
Total assets	4,078	3,826	3,758	1,487	13,149
December 31, 2018					
Revenue	$ 3,235	$ 2,931	$ 2,575	$ (288)	$ 8,453
Operating profit (loss)(2)	131	166	213	(299)	211
Capital expenditures	135	87	17	5	244
Depreciation and amortization	374	212	90	14	690
Goodwill	3,011	2,041	1,212	—	6,264
Total assets	7,929	6,233	3,906	1,728	19,796
December 31, 2017					
Revenue	$ 2,577	$ 2,672	$ 2,252	$ (197)	$ 7,304
Operating profit (loss)(2)	(102)	98	(14)	(259)	(277)
Capital expenditures	99	69	16	8	192
Depreciation and amortization	379	215	88	16	698
Goodwill	2,956	2,122	1,149	—	6,227
Total assets	7,848	5,782	4,625	1,951	20,206

(1) Sales from one segment to another generally are priced at estimated equivalent commercial selling prices; however, segments originating an external sale are credited with the full profit to the Company. Eliminations and corporate costs include intercompany transactions conducted between the three reporting segments that are eliminated in consolidation, as well as corporate costs not allocated to the segments. Intercompany transactions within each reporting segment are eliminated within each reporting segment. Also included in the eliminations and corporate costs column are capital expenditures and total assets related to corporate. Corporate assets consist primarily of cash and fixed assets.

(2) Segment operating loss for 2019 includes charges for: goodwill, other intangible asset and other long lived asset impairments (Wellbore Technologies $3,565 million; Completion and Production Solutions $1,865 million; and, Rig Technologies $389 million); inventory write-downs (Wellbore Technologies $130 million; Completion and Production Solutions $148 million; and, Rig Technologies $355 million); and a voluntary early retirement program (VERP), other severance and facility closure costs (Wellbore Technologies $64 million; Completion and Production Solutions $30 million; and, Rig Technologies $37 million). Segment operating profit for 2018 includes charges for facility closure (Wellbore Technologies $28 million) and non-operational credits (elimination and corporate costs ($18) million). Segment operating profit or loss for 2017 includes charges for: inventory write-downs (Wellbore Technologies $4 million; Completion and Production Solutions ($6) million; and Rig Technologies $110 million); and severance and facility closure costs (Wellbore Technologies $18 million; Completion and Production Solutions $32 million; and Rig Technologies $20 million).

17. Quarterly Financial Data (Unaudited)

Summarized quarterly results, were as follows (in millions, except per share data):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Year ended December 31, 2019				
Revenue	$ 1,940	$ 2,132	$ 2,126	$ 2,281
Gross profit	256	62	151	376
Net profit (loss) attributable to Company	(77)	(5,389)	(244)	(385)
Net profit (loss) attributable to Company per basic share	(0.20)	(14.11)	(0.64)	(1.01)
Net profit (loss) attributable to Company per diluted share	(0.20)	(14.11)	(0.64)	(1.01)
Cash dividends per share	0.05	0.05	0.05	0.05
Year ended December 31, 2018				
Revenue	$ 1,795	$ 2,106	$ 2,154	$ 2,398
Gross profit (loss)	287	355	393	409
Net profit (loss) attributable to Company	(68)	24	1	12
Net profit (loss) attributable to Company per basic share	(0.18)	0.06	0.00	0.03
Net profit (loss) attributable to Company per diluted share	(0.18)	0.06	0.00	0.03
Cash dividends per share	0.05	0.05	0.05	0.05

SCHEDULE II
NATIONAL OILWELL VARCO, INC.
VALUATION AND QUALIFYING ACCOUNTS
Years Ended December 31, 2019, 2018 and 2017
(in millions)

	Balance beginning of year	Additions (Deductions) charged to costs and expenses	Charge off's and other	Balance end of year
Allowance for doubtful accounts:				
2019	$ 161	$ 21	$ (50)	$ 132
2018	187	17	(43)	161
2017	209	6	(28)	187
Reserve for excess and obsolete inventories:				
2019	$ 644	$ 659	$ (460)	$ 843
2018	800	49	(205)	644
2017	1,017	114	(331)	800
Valuation allowance for deferred tax assets:				
2019	$ 955	$ 218	$ 2	$ 1,175
2018	1,202	49	(296)	955
2017	544	280	378	1,202
Environmental accruals				
2019	$ 66	$ 57	$ (19)	$ 104
2018	38	37	(9)	66
2017	43	2	(7)	38
Warranty reserve:				
2019	$ 105	$ 41	$ (56)	$ 90
2018	135	38	(68)	105
2017	172	46	(83)	135

EXHIBIT 4.1

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

The following description sets forth certain material terms and provisions of the securities of National Oilwell Varco, Inc. (the "Company") that are registered under Section 12 of the Securities Exchange Act of 1934, as amended. This description also summarizes relevant provisions of Delaware law. The following summary does not purport to be complete and is subject to, and is qualified in its entirety by reference to, the applicable provisions of Delaware law and our fifth amended and restated certificate of incorporation and our amended and restated bylaws, copies of which are incorporated by reference as an exhibit to the Annual Report on Form 10-K of which this Exhibit 4.1 is a part. We encourage you to read our certificate of incorporation, our bylaws and the applicable provisions of Delaware law for additional information.

Our certificate of incorporation authorizes us to issue up to 1,000,000,000 shares of common stock, par value $0.01 per share, and 10,000,000 shares of preferred stock, par value $0.01 per share, in one or more series.

Holders of our common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. Subject to the preferences that may be applicable to any outstanding shares of preferred stock, common stockholders are entitled to receive ratably such dividends, if any, as may be declared from time to time by our board of directors out of funds legally available for that purpose. In the event of our liquidation, dissolution or winding up, the common stockholders are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior distribution rights of any shares of preferred stock then outstanding. Common stockholders have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. The common stock currently outstanding is fully paid and non-assessable.

The transfer agent and registrar for the common stock is American Stock Transfer.

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

Our board of directors is authorized, without any action by the stockholders, subject to any limitations prescribed by law, to designate and issue preferred stock in one or more series and to designate the powers, preferences and rights of each series, which may be greater than the rights of the common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of the common stock until our board of directors determines the specific rights of the holders of such preferred stock. However, the effects might include, among other things:

- impairing the dividend rights of the common stock;
- diluting the voting power of the common stock;
- impairing the liquidation rights of the common stock; and
- delaying, deferring or preventing a change in control.

Anti-Takeover Provisions

Certain provisions of Delaware law and our certificate of incorporation and bylaws could make the following more difficult:

- our acquisition by means of a tender offer;
- acquisition of control by means of a proxy contest or otherwise; and
- removal of our incumbent officers and directors.

These provisions, summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids, and are designed to encourage persons seeking to acquire control of the Company to negotiate with the board of directors. The Company believes that the benefits of increased protection against an unfriendly or unsolicited proposal to acquire or restructure the Company outweigh the disadvantages of discouraging such proposals. Among other things, negotiation of such proposals could result in an improvement of their terms.

Delaware Anti-Takeover Law. Delaware corporations may elect not to be governed by Section 203 of the General Corporation Law of Delaware (the "DGCL"), *i.e*., Delaware's anti-takeover law. The Company has not made this election. Delaware's anti-takeover law provides that an "interested stockholder," defined as a person who owns 15% or more of the outstanding voting stock of a corporation or a person who is an associate or affiliate of the corporation and, within the preceding three-year period, owned 15% or more of the outstanding voting stock, may not engage in specified business combinations with the corporation for a period of three years after the date on which the person became an interested stockholder. The law defines the term "business combination" to encompass a wide variety of transactions with or caused by an interested stockholder, including mergers, asset sales and transactions in which the interested stockholder receives or could receive a benefit on other than a pro rata basis with other stockholders. With the affirmative vote of the holders of a majority of the voting power of all then-outstanding shares of our capital stock entitled to vote in the election of directors, voting together as a single class, we may amend the certificate of incorporation in the future to no longer be governed by the anti-takeover law. This amendment would have the effect of allowing any person who owns at least 15% of our outstanding voting stock to pursue a takeover transaction that was not approved by our board of directors. However, because the Company has not elected to opt-out of this provision, for transactions not approved in advance by our board of directors, the provision might discourage takeover attempts that might result in a premium over the market price for shares of our common stock.

Limitations of Director Liability and Indemnification. Our certificate of incorporation provides that directors shall not be personally liable to the corporation or to its stockholders for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under the DGCL. Delaware law currently provides that this waiver may not apply to liability:

- for any breach of the director's duty of loyalty to us or our stockholders;

- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- under Section 174 of the DGCL (governing distributions to stockholders); or
- for any transaction from which the director derived any improper personal benefit.

In the event the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of our directors will be eliminated or limited to the fullest extent permitted by the DGCL, as so amended. Our bylaws further provide that we will indemnify each of our directors and officers, trustees, fiduciaries, employees and agents to the fullest extent permitted by Delaware law.

Special Stockholder Meetings. Under our certificate of incorporation, only our chairman of the board, president or board of directors may call a special meeting of stockholders pursuant to a resolution adopted by at least a majority of the members of the board of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals. Our certificate of incorporation and bylaws contain advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors.

Elimination of Stockholder Action by Written Consent. Our certificate of incorporation eliminates the right of stockholders to act by written consent without a meeting. This provision will make it more difficult for stockholders to take action opposed by the board of directors.

No Cumulative Voting. Our certificate of incorporation does not provide for cumulative voting in the election of directors, which, under Delaware law, precludes stockholders from cumulating their votes in the election of directors, frustrating the ability of minority stockholders to obtain representation on the board of directors.

Undesignated Preferred Stock. The authorization of undesignated preferred stock makes it possible for the board of directors, without stockholder approval, to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to obtain control of the Company. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in the control or management of the Company.

Amendment of Provisions in the Certificate of Incorporation. Our certificate of incorporation requires the affirmative vote of the holders of at least 80% of the outstanding voting power of our stock to amend or repeal any provision of the certificate of incorporation concerning certain matters, including, but not limited to the absence of the authority of stockholders to act by written consent, the authority to call a special meeting of stockholders, the number of directors and structure of the board of directors, and the removal of directors and the filling of vacancies on the board of directors.

Exhibit 21.1

SUBSIDIARIES OF THE REGISTRANT

Name	State or Country of Incorporation
Ackerman Holdings C.V.	Netherlands
Ackerman Holdings GP LLC	United States
Ackerman International Holland B.V.	Netherlands
Advanced Wirecloth, LLC	United States
AG Holding UK	United Kingdom
Aggregate Plant Products Co.	United States
American Pipe and Construction International	United States
Ameron B.V.	Netherlands
Ameron Holdings Pte. Ltd.	Singapore
Ameron International Corporation	United States
Ameron Pole Products LLC	United States
Ameron Polyplaster Industria E Comercio de Tubos Ltda.	Brazil
Ameron Singapore Holding, LLC	United States
Ameron Singapore Poly Holdings Pte. Ltd.	Singapore
Ameron Trading Holdings Pte. Ltd.	Singapore
Andergauge Limited	United Kingdom
Andergauge Redback, LLC	United States
Andergauge USA, Inc.	United States
APL do Brasil Ltda.	Brazil
APL France SAS	France
APL Management Pte Ltd	Singapore
APL Norway AS	Norway
Arabian Rig Manufacturing Company	Saudi Arabia
ASEP Group Holding B.V.	Netherlands
ASEP Otomotiv Sanayi Ticaret Ltd.	Turkey
Axiom Process Limited	United Kingdom
Belco Manufacturing Company, Inc.	United States
Big Red Tubulars Limited	Virgin Islands, British
Bondstrand Ltd.	Saudi Arabia
Bowen Downhole LLC	United States
Bowen Downhole, Inc.	United States
Brandt Interests, Inc.	United States
Brandt Oilfield Services (M) Sdn. Bhd.	Malaysia
C.M.A. Canavera S.R.L.	Italy
Camco Drilling Group Limited	United Kingdom
Chemineer, Inc.	United States
CJSC Fidmash	Belarus
CJSC Novmash	Belarus
Coil Services Middle East LLC	United Arab Emirates
Containment Solutions Services, Inc.	United States
Containment Solutions, Inc.	United States
Coöperatie Intelliserv Holding U.A.	Netherlands
Coöperatie NOV NL U.A.	Netherlands
CSI Inspection, LLC	United States
Danco AS	Norway
Denali Incorporated	United States

Denali Management, Inc.	United States
Devin International, Inc.	United States
Dreco Canada L.P.	Canada
Dreco DHT, Inc.	United States
Dreco Eastern Europe ULC	Canada
Dreco Energy Services ULC	Canada
Dreco International Holdings ULC	Canada
Dreco LLC	United States
E.C. Motors, Inc.	United States
Elmar Far East Pty Ltd	Australia
Enerpro de Mexico, S.A. de C.V.	Mexico
Environmental Procedures LLC	United States
Ershigs, Inc.	United States
Fabricated Plastics Acquisitions Limited	Canada
Fabricated Plastics Limited	Canada
Fiber Glass Systems (Qingdao) Composite Piping Co., Ltd.	China
Fiber Glass Systems Holdings, LLC	United States
Fiber Glass Systems Oman L.L.C.	Oman
Fiber Glass Systems, L.P.	United States
Fiber Glass Trading (Shanghai) Co. Ltd.	China
Fiberspar Australia Pty. Ltd.	Australia
Fiberspar Corporation	United States
Fiberspar Linepipe Canada Ltd.	Canada
Fibra Ingenieria y Construccion S.A.	Chile
FidService, LLC	Russian Federation
Fjords Processing (Shanghai) Co., Ltd.	China
Fjords Processing 1 AS	Norway
Fjords Processing Australia Pty Ltd	Australia
Fjords Processing France SAS	France
Fjords Processing Korea Co. Ltd.	Korea, Republic of
Fjords Processing Limited	United Kingdom
Fjords Processing Middle East DMCC	United Arab Emirates
Fjords Processing UK Ltd.	United Kingdom
Fryma S.a.r.l.	France
German Oil Tools (Middle East) FZE	United Arab Emirates
GOT German Oil Tools GmbH	Germany
GP USA Holding, LLC	United States
GPEX, L.P.	United States
Grant Prideco (Jiangsu) Drilling Products Co., Ltd	China
Grant Prideco (Singapore) Pte Ltd	Singapore
Grant Prideco AB TCA Holding LLC	United States
Grant Prideco de Venezuela, S.A.	Venezuela, Bolivarian Republic of
Grant Prideco European Holding, LLC	United States
Grant Prideco Holding, LLC	United States
Grant Prideco III C. V.	Netherlands
Grant Prideco Jersey Limited	Jersey Island
Grant Prideco Mauritius Limited	Mauritius
Grant Prideco Netherlands B.V.	Netherlands
Grant Prideco PC Composites Holdings, LLC	United States
Grant Prideco USA, LLC	United States
Grant Prideco, Inc.	United States
Grant Prideco, L.P.	United States

Grant Prideco, S. de R.L. de C.V.	Mexico
Greystone Technologies Pty. Ltd.	Australia
GustoMSC B.V.	Netherlands
GustoMSC U.S., Inc.	United States
Hebei Huayouyiji Tuboscope Coating Co., Ltd.	China
Hitec AS	Norway
Hydralift AmClyde, Inc.	United States
Hydralift France SAS	France
Hydralift Holdings UK Limited	United Kingdom
Inspecciones y Pruebas No Destructivas, S. de R.L. de C.V.	Mexico
Intelliserv GP Holdings LLC	United States
Intelliserv International Holding, Ltd	Cayman Islands
IntelliServ Norway AS	Norway
Intelliserv, Inc.	United States
Intelliserv, LLC	United States
Interval LLC	Russian Federation
JiangYin Tuboscope Tubular Development Co., Ltd	China
Merpro Group Limited	United Kingdom
Merpro Products Limited	United Kingdom
Merpro Tortek Limited	United Kingdom
Midsund Bruk AS	Norway
Mono Group Pension Trustees Limited	United Kingdom
Mono Pumps New Zealand Company	New Zealand
Monoflo NOV S.A.I.C.	Argentina
Moyno de Mexico, S.A. de C.V.	Mexico
Moyno, Inc.	United States
MSI Pipe Protection Technologies Canada Limited	Canada
MSI Pipe Protection Technologies UK Limited	United Kingdom
National Oilwell (U.K.) Limited	United Kingdom
National Oilwell Algerie	Algeria
National Oilwell de Venezuela, C.A.	Venezuela, Bolivarian Republic of
National Oilwell DHT, L.P.	United States
National Oilwell Middle East Company	Canada
National Oilwell Services de Mexico, S.A. de C.V.	Mexico
National Oilwell Varco (Beijing) Investment Management Co. Ltd.	China
National Oilwell Varco (Thailand) Ltd.	Thailand
National Oilwell Varco Algeria	Algeria
National Oilwell Varco Almansoori Services	United Arab Emirates
National Oilwell Varco Bahrain WLL	Bahrain
National Oilwell Varco Belgium SA	Belgium
National Oilwell Varco de Bolivia S.R.L.	Bolivia
National Oilwell Varco de Chile - Servicios Limitada	Chile
National Oilwell Varco Denmark I/S	Denmark
National Oilwell Varco do Brasil Ltda.	Brazil
National Oilwell Varco Egypt LLC	Egypt
National Oilwell Varco Eurasia, LLC	Russian Federation
National Oilwell Varco Guatemala, Limitada	Guatemala
National Oilwell Varco Guyana Inc.	Guyana
National Oilwell Varco Hungary Limited Liability Company	Hungary
National Oilwell Varco Korea Co., Ltd.	Korea, Republic of
National Oilwell Varco Mexico, S.A de C.V.	Mexico
National Oilwell Varco MSW S.A.	Argentina

National Oilwell Varco Muscat L.L.C.	Oman
National Oilwell Varco Norway AS	Norway
National Oilwell Varco Peru S.R.L.	Peru
National Oilwell Varco Petroleum Equipment (Shanghai) Co., Ltd.	China
National Oilwell Varco Poland Sp.z.o.o.	Poland
National Oilwell Varco Pte. Ltd.	Singapore
National Oilwell Varco Rig Equipment Trading (Shanghai) Co., Ltd.	China
National Oilwell Varco Romania S.R.L.	Romania
National Oilwell Varco Solutions, S.A. de C.V.	Mexico
National Oilwell Varco UK Limited	United Kingdom
National Oilwell Varco Ukraine LLC	Ukraine
National Oilwell Varco, Inc.	United States
National Oilwell Varco, L.P.	United States
National-Oilwell Pte. Ltd.	Singapore
National-Oilwell Pty. Ltd.	Australia
NOV - Oil Services Angola, LDA.	Angola
NOV (Asia), Inc.	Mauritius
NOV (Barbados) Holding SRL	Barbados
NOV (Barbados) SRL	Barbados
NOV (Caymans), Ltd.	Cayman Islands
NOV (Malaysia) Sdn. Bhd.	Malaysia
NOV Africa Pty Ltd	South Africa
NOV APL Limited	Cyprus
NOV ASEP Elmar Mexico, S.de R.L. de C.V.	Mexico
NOV Australia Pty Ltd	Australia
NOV Azerbaijan LLC	United States
NOV Brandt Europe France	France
NOV Brandt Oilfield Services Middle East LLC	United Arab Emirates
NOV Completion and Production Solutions Korea Ltd.	Korea, Republic of
NOV Completion Tools AS	Norway
NOV Completion Tools LLC	Russian Federation
NOV CV1 GP LLC	United States
NOV CV2 GP LLC	United States
NOV Denmark Coöperatief U.A.	Netherlands
NOV DH de Mexico, S. de R.L. de C.V.	Mexico
NOV DHT Canada Holding ULC	Canada
NOV Downhole Argentina, LLC	United States
NOV Downhole Bolivia S.R.L.	Bolivia
NOV Downhole Colombia, LLC	United States
NOV Downhole Comercialização de Equipamentos para Petroleo Ltda.	Brazil
NOV Downhole Congo, LLC	United States
NOV Downhole Eurasia Limited	United Kingdom
NOV Downhole Europe B.V.	Netherlands
NOV Downhole Germany GmbH	Germany
NOV Downhole Italia S.R.L.	Italy
NOV Downhole Kazakhstan, LLC	United States
NOV Downhole Malaysia Sdn. Bhd.	Malaysia
NOV Downhole Pty Ltd	Australia
NOV Downhole Thailand, LLC	United States
NOV Dreco GP LLC	United States
NOV Elmar (Middle East) Limited	United Kingdom
NOV Elmar NL B.V.	Netherlands

NOV Elmar Pte. Ltd.	Singapore
NOV Enerflow ULC	Canada
NOV EU Acquisition SNC	France
NOV Eurasia Holding LLC	United States
NOV European Holding LLC	United States
NOV Expatriate Services, Inc.	United States
NOV FGS Malaysia Sdn Bhd	Malaysia
NOV FGS Singapore (Pte.) Ltd	Singapore
NOV Fiber Glass Systems Fabricacao De Tubos E Conexoes Ltda	Brazil
NOV Flexibles Equipamentos E Servicos Ltda.	Brazil
NOV Flexibles Holding ApS	Denmark
NOV Floating Production AS	Norway
NOV Fluid Control B.V.	Netherlands
NOV Gabon SARL	Gabon
NOV GEO GP LLC	United States
NOV GEO LP1 C.V.	Netherlands
NOV GEO LP2 C.V.	Netherlands
NOV Germany Holding GmbH	Germany
NOV Ghana Limited	Ghana
NOV GP Holding, L.P.	United States
NOV GP1 Holding LLC	United States
NOV Grant Prideco Drilling Equipment Manufacturing LLC	United Arab Emirates
NOV Grant Prideco Drilling Products Middle East FZE	United Arab Emirates
NOV Grant Prideco L.L.C.	United Arab Emirates
NOV Holding Danmark ApS	Denmark
NOV Holding Germany GmbH & Co KG	Germany
NOV Holding Germany Management GmbH	Germany
NOV Holdings B.V.	Netherlands
NOV Hydra Rig Pte. Ltd	Singapore
NOV India Private Limited	India
NOV Intelliserv UK Limited	United Kingdom
NOV International Holdings C.V.	Netherlands
NOV International Holdings GP LLC	United States
NOV Intervention & Stimulation Equipment US, LLC	United States
NOV Intervention and Stimulation Equipment – Aftermarket Comércio de Equipamentos e Serviços Ltda.	Brazil
NOV Kenya Limited	Kenya
NOV Kostroma LLC	Russian Federation
NOV Kuwait Light & Heavy Equipment Repairing & Maintenance Co.	Kuwait
NOV LP (Trading), LLC	United States
NOV Mexico Holding LLC	United States
NOV Middle East FZCO	United Arab Emirates
NOV Mission Products UK Limited	United Kingdom
NOV Mozambique Limitada	Mozambique
NOV MSI Pipe Protection Technologies Inc.	United States
NOV MSI Pipe Protection Technologies Mexico, S. de R.L. de C.V.	Mexico
NOV Netherlands Finance Holding C.V.	Netherlands
NOV Netherlands Finance Holding LLC	United States
NOV NL Mexico Holding B.V.	Netherlands
NOV North America I/P, LLC	United States
NOV Oil & Gas Services Egypt (S.A.E)	Egypt
NOV Oil & Gas Services Uganda Limited	Uganda, Republic of

NOV Oil and Gas Services Ghana Limited	Ghana
NOV Oil and Gas Services Namibia (Proprietary) Limited	Namibia
NOV Oil and Gas Services Nigeria Limited	Nigeria
NOV Oil and Gas Services South Africa (Pty) Limited	South Africa
NOV Oilfield Services Tanzania Limited	Tanzania, United Republic of
NOV Oilfield Services Vostok LLC	Russian Federation
NOV Oilfield Solutions Ltd.	Nigeria
NOV Park II B.V.	Netherlands
NOV Process & Flow Technologies AS	Norway
NOV Process & Flow Technologies Malaysia Sdn. Bhd.	Malaysia
NOV Process & Flow Technologies Pte. Ltd.	Singapore
NOV Process & Flow Technologies UK Limited	United Kingdom
NOV Process & Flow Technologies US, Inc.	United States
NOV Rig Solutions Pte. Ltd.	Singapore
NOV Romania, LLC	United States
NOV Saudi Arabia Co. Ltd.	Saudi Arabia
NOV Saudi Arabia Trading Co.	Saudi Arabia
NOV Services Ltd.	Cayman Islands
NOV Servicios de Personal Mexico, S. de R.L. de C.V.	Mexico
NOV Subsea Products AS	Norway
NOV Tanajib Kuwait for Services and Maintenance of Oil Rigs, Refineries and Petrochemicals, W.L.L.	Kuwait
NOV Tuboscope Italia S.R.L.	Italy
NOV Tuboscope Middle East LLC	United Arab Emirates
NOV Tuboscope NL B.V.	Netherlands
NOV Tubulars and Connectors Ltd.	Nigeria
NOV TV2 LLC	United States
NOV TVI LLC	United States
NOV UK (Angola Acquisitions) Limited	United Kingdom
NOV UK Finance Limited	United Kingdom
NOV UK Holdings Limited	United Kingdom
NOV UK Korea LP	United Kingdom
NOV Wellbore Technologies do Brasil Equipamentos E Serviços Ltda.	Brazil
NOV Wellbore Technologies Norway LLC	United States
NOV Wellsite Services Germany GmbH	Germany
NOV Worldwide C.V.	Netherlands
NOV-BLM SAS	France
NOVM Holding LLC	United States
NOW Downhole Tools, Inc.	United States
NOW International LLC	United States
NOW Nova Scotia Holdings LLC	United States
NOW Oilfield Services, LLC	United States
NQL Holland B.V.	Netherlands
Pesaka Inspection Services SDN.BHD.	Malaysia
Pipex Limited	United Kingdom
Pipex PX Limited	United Kingdom
Pipex Structural Composites Limited	United Kingdom
Pridecomex Holding, S. de R.L. de C.V.	Mexico
Pridecomex TA Industries, LLC	United States
Procon Engineering Ltd.	United Kingdom
Profab Engineering Pte. Ltd.	Singapore
Profab Services Pte Ltd	Singapore

PT Fjords Processing Indonesia	Indonesia
PT H-Tech Oilfield Equipment	Indonesia
PT National Oilwell Varco	Indonesia
PT NOV Oilfield Services	Indonesia
PT PROFAB INDONESIA	Indonesia
Quality Tubing FSC	Virgin Islands, British
R&M C.V.	Netherlands
R&M Canada Coöperatief U.A.	Netherlands
R&M Energy Systems Australia Pty Ltd.	Australia
R&M Energy Systems de Argentina S.A.	Argentina
R&M Energy Systems de Venezuela, C.A.	Venezuela, Bolivarian Republic of
R&M Environmental Strategies, Inc.	United States
R&M Singapore Holding LLC	United States
R&M UK Holding LLC	United States
RE.MAC.UT. S.r.l.	Italy
ReedHycalog International Holding, LLC	United States
ReedHycalog UK Limited	United Kingdom
ReedHycalog, L.P.	United States
ReedHycalog, LLC	United States
RHI Holding LLC	United States
Robannic Overseas Finance A.V.V.	Aruba
Robbins & Myers (Suzhou) Process Equipment Company Limited	China
Robbins & Myers B.V.	Netherlands
Robbins & Myers Foundation	United States
Robbins & Myers GP LLC	United States
Robbins & Myers Holdings UK Limited	United Kingdom
Robbins & Myers Holdings, LLC	United States
Robbins & Myers Italia S.R.L.	Italy
Robbins & Myers N.V.	Curacao
Robbins & Myers, Inc.	United States
Rodic, S.A. de C.V.	Mexico
Romaco S.a.r.l.	France
Screen Manufacturing Company Unlimited	Trinidad and Tobago
Seabox AS	Norway
Slip Clutch Systems Limited	United Kingdom
Smart Drilling GmbH	Germany
Soil Recovery A/S	Denmark
STAR Sudamtex Tubulares S.A.	Venezuela, Bolivarian Republic of
STBH2O TUNISIE	Tunisia
Subseaflex Holding ApS	Denmark
T-3 Energy Preferred Industries Mexico, S. de R.L. de C.V.	Mexico
T-3 Energy Services Cayman Holdings, Ltd.	Cayman Islands
T-3 Energy Services Cayman, Ltd.	Cayman Islands
T-3 Energy Services India Private Limited	India
T-3 Energy Services Mexico, S. de R.L. de C.V.	Mexico
T-3 Energy Services, LLC	United States
T-3 Investment Corporation IV	United States
T-3 Mexican Holdings, Inc.	United States
Telluride Insurance Limited	Bermuda
Tianjin Grant TPCO Drilling Tools Company Limited	China
Tube-Kote, Inc.	United States
Tubo-FGS, L.L.C.	United States

Tuboscope & Co. LLC	Oman
Tuboscope (Holding U.S.) LLC	United States
Tuboscope Brandt de Venezuela, S.A.	Venezuela, Bolivarian Republic of
Tuboscope Machining Services AS	Norway
Tuboscope Norge AS	Norway
Tuboscope Pipeline Services Inc.	United States
Tuboscope Services, L.L.C.	United States
Tuboscope Vetco (Deutschland) GmbH	Germany
Tuboscope Vetco (France) SAS	France
Tuboscope Vetco (Österreich) GmbH	Austria
Tuboscope Vetco Canada ULC	Canada
Tuboscope Vetco Capital Limited	United Kingdom
Tuboscope Vetco de Argentina S.A.	Argentina
Tuboscope Vetco Moscow CJSC	Russian Federation
Tubular Coatings Solutions Ltd.	Saudi Arabia
Tucom Composites Polyester Sanayi Ticaret Ltd.	Turkey
TVI Holdings, L.L.C.	United States
Varco BJ B.V.	Netherlands
Varco Canada ULC	Canada
Varco CIS, LLC	Russian Federation
Varco I/P, Inc.	United States
Varco International de Venezuela, C.A.	Venezuela, Bolivarian Republic of
Varco US Holdings LLC	United States
Varco, L.P.	United States
Vetco Coating GmbH	Germany
Vetco Enterprise GmbH	Switzerland
Vetco Saudi Arabia Ltd.	Saudi Arabia
Visible Assets, Inc.	United States
voestalpine Middle East Free Zone Establishment	United Arab Emirates
voestalpine Tubulars Corporation	United States
voestalpine Tubulars GmbH	Austria
voestalpine Tubulars GmbH & Co KG	Austria
Woolley, Inc.	United States
XL Systems Antilles, N.V.	Curacao
XL Systems Europe B.V.	Netherlands
XL Systems International, Inc.	United States
XL Systems, L.P.	United States

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements of National Oilwell Varco, Inc. and in each related Prospectus:

Form	Description
S-8	National-Oilwell, Inc. Stock Award and Long Term Incentive Plan, Value Appreciation and Incentive Plan A and Value Appreciation and Incentive Plan B (No. 333-15859)
S-8	National-Oilwell Retirement and Thrift Plan (No. 333-36359)
S-8	National Oilwell Varco, Inc. Long-Term Incentive Plan (No. 333-123310)
S-8	National Oilwell Varco, Inc. Employee Stock Purchase Plan (No. 333-123301)
S-8	Varco International Inc. 2003 Equity Participation Plan; Stock Option Plan for Non-Employee Directors, as amended; Varco International, Inc. 1990 Stock Option Plan; 1994 Directors' Stock Option Plan; Varco International, Inc. 401(k)/Profit Sharing Plan (No. 333-123287)
S-8	Varco International, Inc. Deferred Compensation Plan (No. 333-123286)
S-8	National-Oilwell, Inc. Amended and Restated Stock Award and Long-Term Incentive Stock Plan (No. 333-118721)
S-8	National Oilwell Varco, Inc. Long-Term Incentive Plan (No. 333-159333)
S-8	National Oilwell Varco, Inc. Long-Term Incentive Plan (No. 333-188818)
S-8	National Oilwell Varco, Inc. Long-Term Incentive Plan (No. 333-211537)
S-8	National Oilwell Varco, Inc. 2018 Long-Term Incentive Plan (No. 333-224892)
S-8	National Oilwell Varco, Inc. 2018 Long-Term Incentive Plan (No. 333-231779)
S-3	Registration Statement on Form S-3 for the registration of debt securities (No. 333-234373)

of our reports dated February 13, 2020, with respect to the consolidated financial statements and schedule of National Oilwell Varco, Inc., and the effectiveness of internal control over financial reporting of National Oilwell Varco, Inc., included in this Annual Report (Form 10-K) of National Oilwell Varco, Inc. for the year ended December 31, 2018.

/s/ ERNST & YOUNG LLP

Houston, Texas

February 13, 2020

Exhibit 31.1

CERTIFICATION

I, Clay C. Williams, certify that:

1. I have reviewed this annual report on Form 10-K of National Oilwell Varco, Inc. for the fiscal year ended December 31, 2019;

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

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

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

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

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

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

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

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

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

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

Date: February 13, 2020

By: */s/ Clay C. Williams*
Clay C. Williams
Chairman, President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Jose A. Bayardo, certify that:

1. I have reviewed this annual report on Form 10-K of National Oilwell Varco, Inc. for the fiscal year ended December 31, 2019;

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

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

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

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

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

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

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

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

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

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

Date: February 13, 2020

By: */s/ Jose A. Bayardo*
Jose A. Bayardo
Senior Vice President and Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the Annual Report of National Oilwell Varco, Inc. (the "Company") on Form 10-K for the year ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Clay C. Williams, Chairman, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

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

Date: February 13, 2020

By: */s/ Clay C. Williams*

Clay C. Williams

Chairman, President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the Annual Report of National Oilwell Varco, Inc. (the "Company") on Form 10-K for the year ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jose A. Bayardo, Senior Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

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

Date: February 13, 2020

By: */s/ Jose A. Bayardo*

Jose A. Bayardo

Senior Vice President and Chief Financial Officer

Exhibit 95

Mine Safety Disclosures

Our mines are operated subject to the regulation of the Federal Mine Safety and Health Administration ("MSHA"), under the Federal Mine Safety and Health Act of 1977 (the "Mine Act"). The following mine safety data is provided pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act").

As required by the reporting requirements of the Dodd-Frank Act, as amended, the table below presents the following information for the year ended December 31, 2019. (in whole dollars) (Unaudited)

Mine	Section 104 S&S Citations	Section 104(b) Orders	Section 104(d) Citations and Orders	Section 110(b)(2) Violations	Section 107(a) Orders	Total Dollar Value of MSHA Assessments Proposed	Total Number of Mining Related Fatalities	Received Notice of Pattern of Violations Under Section 104(e)	Received Notice of Potential to have Patterns Under Section 104(e)	Legal Actions Pending as of Last Day of Period	Legal Actions Initiated During Period	Legal Actions Resolved During Period
Dry Creek (26-02646)	—	—	—	—	—	$ —	—	no	no	—	—	—
Osino Barite Mill (26-02724)	—	—	—	—	—	$ 242	—	no	no	—	—	—