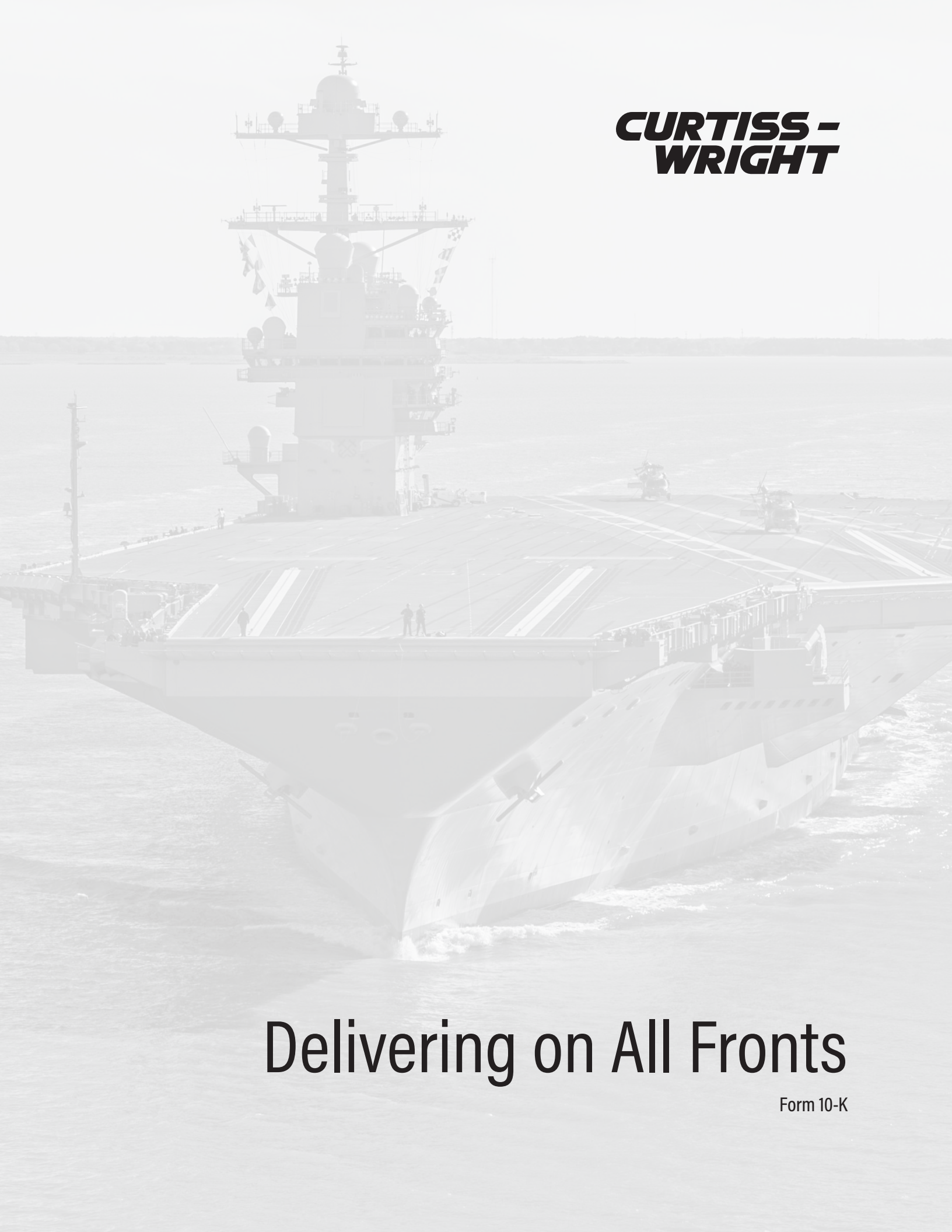


CURTISS-WRIGHT

Delivering on All Fronts

Form 10-K

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

FORM 10-K

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

For the fiscal year ended December 31, 2018

or

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

For the transition period from _____ to _____
Commission File Number 1-134

CURTISS-WRIGHT CORPORATION
(Exact name of Registrant as specified in its charter)

Delaware	**13-0612970**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
130 Harbour Place Drive, Suite 300, Davidson, North Carolina	**28036**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (704) 869-4600

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

Title of each class	Name of each exchange on which registered
Common stock, par value $1 per share	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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

Large accelerated filer ☒ Accelerated filer ☐

Non-accelerated filer ☐ (Do not check if a smaller reporting company) Smaller reporting company ☐ Emerging growth company ☐

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

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

The aggregate market value of the voting and non-voting Common stock held by non-affiliates of the Registrant as of June 30, 2018 was approximately $4.5 billion.

The number of shares outstanding of the Registrant's Common stock as of January 31, 2019:

Class	Number of shares
Common stock, par value $1 per share	42,789,265

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement of the Registrant with respect to the 2019 Annual Meeting of Stockholders to be held on May 9, 2019 are incorporated by reference into Part III of this Form 10-K.

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PART I

FORWARD-LOOKING STATEMENTS

Except for historical information, this Annual Report on Form 10-K may be deemed to contain "forward-looking statements" within the meaning of the Private Litigation Reform Act of 1995. Examples of forward-looking statements include, but are not limited to: (a) projections of or statements regarding return on investment, future earnings, interest income, sales, volume, other income, earnings or loss per share, growth prospects, capital structure, liquidity requirements, and other financial terms, (b) statements of plans and objectives of management, (c) statements of future economic performance, (d) the effect of laws, rules, regulations, new accounting pronouncements, and outstanding litigation on our business and future performance, and (e) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking statements can be identified by the use of forward-looking terminology such as "anticipates," "believes," "continue," "could," "estimate," "expects," "intend," "may," "might," "outlook," "potential," "predict," "should," "will," as well as the negative of any of the foregoing or variations of such terms or comparable terminology, or by discussion of strategy. No assurance may be given that the future results described by the forward-looking statements will be achieved. While we believe these forward-looking statements are reasonable, they are only predictions and are subject to known and unknown risks, uncertainties, and other factors, many of which are beyond our control, which could cause actual results, performance or achievement to differ materially from anticipated future results, performance or achievement expressed or implied by such forward-looking statements. In addition, other risks, uncertainties, assumptions, and factors that could affect our results and prospects are described in this report, including under the heading "Item 1A. Risk Factors" and elsewhere, and may further be described in our prior and future filings with the Securities and Exchange Commission and other written and oral statements made or released by us. Such forward-looking statements in this Annual Report on Form 10-K include, without limitation, those contained in Item 1. Business, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, and Item 8. Financial Statements and Supplementary Data, including, without limitation, the Notes to Consolidated Financial Statements.

Given these risks and uncertainties, you are cautioned not to place undue reliance on such forward-looking statements. These forward-looking statements speak only as of the date they were made, and we assume no obligation to update forward-looking statements to reflect actual results or changes in or additions to the factors affecting such forward-looking statements.

Item 1. Business.

BUSINESS DESCRIPTION

Curtiss-Wright Corporation and its subsidiaries (we, the Corporation, or the Company) is a global, diversified manufacturing and service company that designs, manufactures, and overhauls precision components and provides highly engineered products and services to the aerospace, defense, general industrial, and power generation markets. We were formed in 1929 by the merger of companies founded by the Wright brothers and Glenn Curtiss, who were aviation pioneers. We are incorporated under the laws of the State of Delaware and headquartered in Davidson, North Carolina. We list our common stock on the New York Stock Exchange (NYSE) and trade under the symbol CW.

We expect that the diversification and breadth of our portfolio should mitigate the impact of business cycle volatility and allow us to drive growth in new products and markets. We seek to leverage and build upon our critical mass to expand our global manufacturing capabilities, sales channels, and customer relationships. We strive for consistent organic sales growth, operating margin expansion, and free cash flow generation, while maintaining a disciplined capital deployment strategy in order to drive long-term shareholder value.

We are well positioned on high-performance platforms and critical applications that require our technical sophistication and benefit from decades of engineering expertise. Our technologies are relied upon to improve safety, operating efficiency, and reliability, while meeting demanding performance requirements. Our ability to provide these advanced technologies on a cost-effective basis is fundamental to our strategy to drive increased value to our customers. We compete globally, primarily based on technology and pricing.

Business Segments

We manage and evaluate our operations based on the products and services we offer and the different markets we serve. Based on this approach, we operate through three segments: Commercial/Industrial, Defense, and Power.

Our principal domestic manufacturing facilities are located in Arizona, New York, North Carolina, Ohio, and Pennsylvania, and internationally in Canada, Mexico, and the United Kingdom.

Commercial / Industrial

Sales in the Commercial/Industrial segment are primarily to the general industrial and commercial aerospace markets and, to a lesser extent, the defense and power generation markets. The businesses in this segment provide a diversified offering of highly engineered products and services including: industrial vehicle products such as electronic throttle control devices, joysticks and transmission shifters; sensors, controls and electro-mechanical actuation components and utility systems used on commercial aircraft; valves to both the industrial and naval defense markets; and surface technology services such as shot peening, laser peening, coatings, and advanced analytical testing. The industrial businesses within our Commercial/Industrial segment are impacted primarily by general economic conditions which may include consumer consumption or commercial construction rates, as the nature of their products and services primarily support global industrial, oil and gas, commercial vehicles, medical, and transportation industries. The commercial aerospace business, in particular, is impacted by OEM production rates of new aircraft, while the defense business is impacted by government funding and spending on shipbuilding programs, primarily driven by the U.S. Government. As commercial industrial businesses, production and service processes rest primarily within material modification, machining, assembly, and testing and inspection at commercial grade specifications. The businesses distribute products through commercial sales and marketing channels.

Defense

Sales in the Defense segment are primarily to the defense markets and, to a lesser extent, to the commercial aerospace market. The businesses in this segment provide a diversified offering of products including: Commercial Off-the-Shelf (COTS) embedded computing board-level modules, data acquisition and flight test instrumentation equipment, integrated subsystems, instrumentation and control systems,

turret aiming and stabilization products, and weapons handling systems. The businesses within our Defense segment are impacted primarily by government funding and spending, driven primarily by the U.S. Government. Our products typically support government entities in the aerospace defense, ground defense, and naval defense industries. As a result, we have varying degrees of content on most fighter jets, unmanned aerial vehicles (UAVs), helicopters, ground vehicle platforms, and naval vessels. Additionally, we provide avionics and electronics, flight test equipment, and aircraft data management solutions to the commercial aerospace market. Our defense businesses supporting government contractors typically utilize more advanced and ruggedized production and service processes compared to our commercial businesses and have more stringent specifications and performance requirements. The businesses in this segment typically market and distribute products through regulated government contracting channels.

Power

Sales in the Power segment are primarily to the commercial nuclear power generation and naval defense markets. For the commercial markets, we provide a diversified offering of products for commercial nuclear power plants and nuclear equipment manufacturers, including hardware, pumps, valves, fastening systems, specialized containment doors, airlock hatches, and spent fuel management products. We also provide Reactor Coolant Pumps (RCPs) and control rod drive mechanisms for commercial nuclear power plants, most notably to support the Westinghouse AP1000 reactor design. The businesses are dependent upon the need for ongoing maintenance, repair and overhaul of existing operating power plants, typically to U.S. customers, as well as the construction of new power plants globally. The businesses distribute products through commercial sales and marketing channels and are impacted by pricing and demand for various forms of energy (e.g. coal, natural gas, oil, and nuclear) and also subject to changes in regulation which may impact demand, consumption, and underlying supply. For the defense markets, our products principally support the naval defense market, where we specifically provide naval propulsion and auxiliary equipment, including main coolant pumps, power-dense compact motors, generators, steam turbines, valves and secondary propulsion systems, primarily to the U.S. Navy. We also provide ship repair and maintenance for the U.S. Navy's Atlantic and Pacific fleets through three service centers. The defense businesses in this segment are impacted by government funding and spending on shipbuilding programs, primarily driven by the U.S. Government.

OTHER INFORMATION

Certain Financial Information

For information regarding sales by geographic region, see Note 18 to the Consolidated Financial Statements contained in Part II, Item 8, of this Annual Report on Form 10-K.

In 2018, 2017, and 2016, our foreign operations as a percentage of pre-tax earnings were 39%, 40%, and 42%, respectively.

Government Sales

Our sales to the U.S. Government and foreign government end use represented 40%, 39%, and 38% of total net sales during 2018, 2017, and 2016, respectively.

In accordance with normal U.S. Government business practices, contracts and orders are subject to partial or complete termination at any time at the option of the customer. In the event of a termination for convenience by the government, there generally are provisions for recovery of our allowable incurred costs and a proportionate share of the profit or fee on the work completed, consistent with regulations of the U.S. Government. Fixed-price redeterminable contracts usually provide that we absorb the majority of any cost overrun. In the event that there is a cost underrun, the customer recoups a portion of the underrun based upon a formula in which the customer's portion increases as the underrun exceeds certain established levels.

Generally, long-term contracts with the U.S. Government require us to invest in and carry significant levels of inventory. However, where allowable, we utilize progress payments and other interim billing practices on nearly all of these contracts, thus reducing working capital requirements. It is our policy to seek customary

progress payments on certain contracts. Where we obtain such payments under U.S. Government prime contracts or subcontracts, the U.S. Government generally has control of the materials and work in process allocable or chargeable to the respective contracts. (See Notes 1, 5, and 6 to the Consolidated Financial Statements, contained in Part II, Item 8, of this Annual Report on Form 10-K).

Customers

We have hundreds of customers in the various industries we serve. No commercial customer accounted for more than 10% of our total sales during 2018, 2017, or 2016.

Approximately 34% of our total net sales for 2018, 33% for 2017, and 32% for 2016 were derived from contracts with agencies of, and prime contractors to, the U.S. Government. Information on our sales to the U.S. Government, including both direct sales as a prime contractor and indirect sales as a subcontractor, is as follows:

	Year Ended December 31,		
(In thousands)	**2018**	**2017**	**2016**
Commercial/Industrial	$191,036	$178,202	$187,498
Defense	362,776	369,977	305,459
Power	261,188	191,733	181,851
Total U.S. Government sales	$815,000	$739,912	$674,808

Patents

We own and license a number of United States and foreign patents and patent applications, which have been obtained or filed over a period of years. We also license intellectual property to and from third parties. Specifically, the U.S. Government receives licenses to our patents that are developed in performance of government contracts, and it may use or authorize others to use the technology covered by such patents for government purposes. Additionally, trade secrets, unpatented research and development, and engineering, some of which have been acquired by the company through business acquisitions, make an important contribution to our business. While our intellectual property rights in the aggregate are important to the operation of our business, we do not consider the success of our business or business segments to be materially dependent upon the timing of expiration or protection of any one or group of patents, patent applications, or patent license agreements under which we now operate.

Research and Development

Company-sponsored research and development costs are expensed when incurred. Total research and development expenses amounted to $65 million, $61 million, and $59 million in 2018, 2017, and 2016, respectively.

Executive Officers

Name	Current Position	Business Experience	Age	Executive Officer Since
David C. Adams	Chairman and Chief Executive Officer	Chairman and Chief Executive Officer of the Corporation since January 2015. Prior to this, he served as President and Chief Executive Officer of the Corporation from August 2013. He also served as President and Chief Operating Officer of the Corporation from October 2012 and as Co-Chief Operating Officer of the Corporation from November 2008. He has been a Director of the Corporation since August 2013.	64	2005
Thomas P. Quinly	Vice President and Chief Operating Officer	Vice President of the Corporation since November 2010 and Chief Operating Officer of the Corporation since October 2013. He also served as President of Curtiss-Wright Controls, Inc. from November 2008.	60	2010
Glenn E. Tynan	Vice President and Chief Financial Officer	Vice President and Chief Financial Officer of the Corporation since June 2002.	60	2000
Paul J. Ferdenzi	Vice President, General Counsel, and Corporate Secretary	Vice President, General Counsel, and Corporate Secretary of the Corporation since March 2014. Prior to this, he served as Vice President-Human Resources of the Corporation from November 2011 and also served as Associate General Counsel and Assistant Secretary of the Corporation from June 1999 and May 2001, respectively.	51	2011
K. Christopher Farkas	Vice President of Finance and Corporate Controller	Vice President of Finance since December 2017. Prior to this, he served as Vice President and Corporate Controller of the Corporation from September 2014 and also served as Assistant Corporate Controller from May 2009.	50	2014
Harry S. Jakubowitz	Vice President and Treasurer	Vice President of the Corporation since May 2007 and Treasurer of the Corporation since September 2005.	66	2007

Employees

At the end of 2018, we had approximately 9,000 employees, 7% of which are represented by labor unions and covered by collective bargaining agreements.

Available information

We file annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and proxy statements for our annual stockholders' meetings, as well as any amendments to those reports, with the Securities and Exchange Commission (SEC). The public may read and copy any of our materials filed with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet site at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including our filings. These reports are also available free of charge through the Investor Relations section of our web site at *www.curtisswright.com* as soon as reasonably practicable after we electronically file.

Item 1A. Risk Factors.

We have summarized the known, material risks to our business below. Our business, financial condition, and results of operations and cash flows could be materially and adversely impacted if any of these risks materialize. Additional risk factors not currently known to us or that we believe are immaterial may also impair our business, financial condition, and results of operations and cash flows. The risk factors below should be considered together with information included elsewhere in this Annual Report on Form 10-K as well as other required filings by us to the Securities Exchange Commission, such as our Form 10-Q's, Form 8-K's, proxy statements for our annual shareholder meetings, and subsequent amendments, if any.

Intrusion on our systems could damage our business.

We store sensitive data, including intellectual property, proprietary business information, and confidential employee information on our servers and databases. Despite our implementation of firewalls, switchgear, and other network security measures, our servers, databases, and other systems may be vulnerable to computer hackers, physical or electronic break-ins, sabotage, computer viruses, worms, and similar disruptions from unauthorized tampering with our computer systems. We continue to review and enhance our computer systems as well as provide training to our employees in an attempt to prevent unauthorized and unlawful intrusions, but in the future it is possible that we may not be able to prevent all intrusions. Such intrusions could result in our network security or computer systems being compromised and possibly result in the misappropriation or corruption of sensitive information or cause disruptions in our services. We might be required to expend significant capital and resources to protect against, remediate, or alleviate problems caused by such intrusions. Any such intrusion could cause us to be non-compliant with applicable laws or regulations, subject us to legal claims or proceedings, disrupt our operations, damage our reputation, and cause a loss of confidence in our products and services, any of which could have a material adverse effect on our business, financial condition, and results of operations.

A substantial portion of our revenues and earnings depends upon the continued willingness of the U.S. Government and other customers in the defense industry to buy our products and services.

In 2018, approximately 34% of our total net sales were derived from or related to U.S. defense programs. U.S. defense spending has historically been cyclical, and defense budgets tend to rise when perceived threats to national security increase the level of concern over the country's safety. At other times, spending by the military can decrease. In August 2011, Congress enacted the Budget Control Act of 2011 (BCA), which imposed spending caps and certain reductions in defense spending over a ten-year period through 2021. These spending caps and reductions, referred to as sequestration, went into effect in March 2013. Through a series of bipartisan agreements, Congress has been able to temporarily lift discretionary spending limits every year through 2019. However, unless a new agreement is enacted, the BCA will again become effective beginning in 2020. As a result of this uncertainty, a decrease in U.S. Government defense spending or changes in spending allocation could result in one or more of our programs being reduced, delayed, or terminated. In the event one or more of our programs are reduced, delayed, or terminated for which we provide products and services and are not offset by revenues from foreign sales,

new programs, or products or services that we currently manufacture or provide, we may experience a reduction in our revenues and earnings and a material adverse effect on our business, financial condition, and results of operations and cash flows.

As a U.S. Government contractor, we are subject to a number of procurement rules and regulations.

We must comply with and are affected by laws and regulations relating to the award, administration, and performance of U.S. Government contracts. Government contract laws and regulations affect how we do business with our customers and, in some instances, impose added costs on our business. A violation of specific laws and regulations could result in the imposition of fines and penalties, the termination of our contracts, or debarment from bidding on contracts. These fines and penalties could be imposed for failing to follow procurement integrity and bidding rules, employing improper billing practices or otherwise failing to follow cost accounting standards, receiving or paying kickbacks, or filing false claims. We have been, and expect to continue to be, subjected to audits and investigations by government agencies. The failure to comply with the terms of our government contracts could harm our business reputation. It could also result in our progress payments being withheld. In some instances, these laws and regulations impose terms or rights that are more favorable to the government than those typically available to commercial parties in negotiated transactions. For example, the U.S. Government may terminate any of our government contracts and, in general, subcontracts, at its convenience as well as for default based on performance. Upon termination for convenience of a fixed-price type contract, we normally are entitled to receive the purchase price for delivered items, reimbursement for allowable costs for work-in-process, and an allowance for profit on work actually completed on the contract or adjustment for loss if completion of performance would have resulted in a loss. Upon termination for convenience of a cost reimbursement contract, we normally are entitled to reimbursement of allowable costs plus a portion of the fee. Such allowable costs would normally include our cost to terminate agreements with our suppliers and subcontractors. The amount of the fee recovered, if any, is related to the portion of the work accomplished prior to termination and is determined by negotiation.

A termination arising out of our default could have a material adverse effect on our ability to compete for future contracts and orders. In addition, on those contracts for which we are teamed with others and are not the prime contractor, the U.S. Government could terminate a prime contract under which we are a subcontractor, irrespective of the quality of our services as a subcontractor.

Our U.S. Government contracts typically span one or more base years and multiple option years. The U.S. Government generally has the right to not exercise option periods and may not exercise an option period if the agency is not satisfied with our performance on the contract or does not receive funding to continue the program. U.S. Government procurement may adversely affect our cash flow or program profitability.

Furthermore, we are subject to other risks in connection with government contracts, including without limitation:

- the frequent need to bid on programs prior to completing the necessary design, which may result in unforeseen technological difficulties and/or cost overruns;
- the difficulty in forecasting long-term costs and schedules and the potential obsolescence of products related to long-term, fixed price contracts;
- contracts with varying fixed terms that may not be renewed or followed by follow-on contracts upon expiration;
- cancellation of the follow-on production phase of contracts if program requirements are not met in the development phase; and
- the fact that government contract wins can be contested by other contractors.

Our operations are subject to numerous domestic and international laws, regulations, and restrictions. Noncompliance with these laws, regulations, and restrictions could expose us to fines, penalties, suspension, or debarment, which could have a material adverse effect on our profitability and overall financial condition.

We have contracts and operations in many parts of the world subject to United States and foreign laws and regulations, including the False Claims Act, regulations relating to import-export control (including the International Traffic in Arms Regulation promulgated under the Arms Export Control Act), technology transfer restrictions, repatriation of earnings, exchange controls, the Foreign Corrupt Practices Act, the

U.K. Anti-Bribery Act, and the anti-boycott provisions of the U.S. Export Administration Act. Although we have implemented policies and procedures and provided training that we believe are sufficient to address these risks, we cannot guarantee that our operations will always comply with these laws and regulations. From time to time, we may file voluntary disclosure reports with the U.S. Department of State, the Department of Energy, and the Department of Commerce regarding certain violations of U.S. export control laws and regulations discovered by us in the course of our business activities, employee training, or internal reviews and audits. To date, our voluntary disclosures have not resulted in a fine, penalty, or export privilege denial or restriction that has had a material adverse impact on our financial condition or ability to export. Our failure, or failure by our sales representatives or consultants to comply with these laws and regulations could result in administrative, civil, or criminal liabilities and could, in the extreme case, result in suspension or debarment from government contracts or suspension of our export privileges, which could have a material adverse effect on our business.

Our business, financial condition, and results of operations could be materially adversely affected if the United States were to withdraw from or materially modify certain international trade agreements, or if tariffs or other restrictions on the foreign-sourced goods that we sell were to increase.

A significant portion of our business activities are conducted in foreign countries, including Mexico and Canada. Our business benefits from free trade agreements such as the North American Free Trade Agreement (NAFTA) and we also rely on various U.S. corporate tax provisions related to international commerce as we build, market, and sell our products globally. On November 30, 2018, President Trump signed the United States-Mexico-Canada Agreement (USMCA) to replace NAFTA. The USMCA maintains duty-free access for most products and leaves most key provisions of the NAFTA agreement largely intact. The USMCA still requires approval by the U.S. Congress, Mexico's National Assembly, and Canada's Parliament before it enters into force. Additionally, President Trump recently announced his intention for the United States to withdraw from NAFTA. The outcome of the Congressional approval process is uncertain, but it is possible that withdrawal or revisions to NATFA or failure to secure Congressional approval of the USMCA could cause an increase in customs duties which in turn could adversely affect intercompany transactions among our operating subsidiaries in Canada, Mexico, and the U.S., as well as increase transaction costs with third party suppliers and customers. Furthermore, the current administration has threatened tougher trade terms with China and other countries, leading to the imposition of substantially higher U.S. tariffs on $250 billion of imports from China as well as higher Chinese tariffs on a large amount of U.S. exports to China. All of this could lead to increased costs and diminished sales opportunities in the U.S. and Chinese markets. Media and political reactions in the affected countries could potentially exacerbate the impact on our operations in those countries. The U.S. Administration's assertive trade policies could result in further conflicts with U.S. trading partners, affecting our supply chains, sourcing, and markets. Foreign countries may impose additional burdens on us through the use of local regulations, tariffs or other requirements, which could increase our operating costs in those foreign jurisdictions. At this time, it remains unclear what actions, if any, President Trump will take with respect to other international trade agreements and U.S. tax provisions related to international commerce. If Congress does not pass the USMCA and if the United States were to withdraw from or materially modify NAFTA or other international trade agreements to which it is a party, or change corporate tax policy related to international commerce, or if tariffs were raised on the foreign-sourced goods that we sell, such goods may no longer be available at a commercially attractive price or at all. This in turn could have a material adverse effect on our business, financial condition, and results of operations.

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

Our business operates in many locations under government jurisdictions that impose income taxes. Changes in domestic or foreign income tax laws and regulations, or their interpretation, could result in higher or lower income tax rates assessed or changes in the taxability of certain revenues or the deductibility of certain expenses, thereby affecting our income tax expense and profitability. In addition, the amount of income taxes paid by us is subject to ongoing audits by U.S. federal, state, and local tax authorities and by non-U.S. tax authorities. If these audits result in assessments different from amounts reserved, future financial results may include unfavorable adjustments to our tax liabilities, which could have a material adverse effect on our results of operations.

Global economic conditions may adversely affect our business, operating results and financial condition.

Although we currently generate significant operating cash flows, which combined with access to the credit markets provides us with significant discretionary funding capacity, global economic and financial disruptions and tightening of the credit markets could affect our ability to fund our operations. In addition, certain of our customers and suppliers could be affected directly by an economic downturn and could face credit issues or cash flow problems that could give rise to payment delays, increased credit risk, bankruptcies, and other financial hardships, which could impact customer demand for our products as well as our ability to manage normal commercial relationships with our customers and suppliers. Depending on their severity and duration, the effects and consequences of a global economic downturn could have an adverse impact on our results of operations and financial condition.

Political and economic changes in foreign countries and markets, including foreign currency fluctuations, may have a material effect on our operating results.

During 2018, approximately 33% of our total net sales were to customers outside of the United States. Additionally, we also have operating facilities located in foreign countries. Doing business in foreign countries is subject to numerous risks, including without limitation: political and economic instability, the uncertainty of the ability of non-U.S. customers to finance purchases, restrictive trade policies, changes in the local labor-relations climate, economic conditions in local markets, health concerns, and complying with foreign regulatory and tax requirements that are subject to change. While these factors or the impact of these factors are difficult to predict, any one or more of these factors could adversely affect our operations. To the extent that foreign sales are transacted in foreign currencies and we do not enter into currency hedge transactions, we are exposed to risk of losses due to fluctuations in foreign currency exchange rates, particularly for the British Pound, Euro, and Canadian dollar. Significant fluctuations in the value of the currencies of the countries in which we do business could have an adverse effect on our results of operations.

We operate in highly competitive markets.

Many of our products and services are sold in highly competitive markets and are affected by varying degrees of competition. We compete against companies that often have higher sales volumes and greater financial, technological, research and development, human, and marketing resources than we have. As a result, they may be better able to withstand the effects of periodic economic downturns. In addition, some of our largest customers could develop the capability to manufacture products or provide services similar to products that we manufacture or services that we provide. This would result in these customers supplying their own products or services and competing directly with us for sales of these products or services, all of which could significantly reduce our revenues. Furthermore, we are facing increased international competition and cross-border consolidation of competition. Our management believes that the principal points of competition in our markets are technology, product quality, product performance, price, technical expertise, timeliness of delivery, superior customer service and support, and continued certification under customer quality requirements and assurance programs. If we are unable to compete successfully with existing or new competitors in these areas, we may experience a material adverse effect on our business, financial condition, and results of operations.

Potential product liability risks exist from the products that we sell.

We may be exposed to liabilities for personal injury, death, or property damage due to the failure of a product that we have sold. We typically agree to indemnify our customers against certain liabilities resulting from the products we sell, and any third-party indemnification we seek from our suppliers and our liability insurance may not fully cover our indemnification obligations to customers. We may also not be able to maintain insurance coverage in the future at an acceptable cost. Any liability for which third-party indemnification is not available that is not covered by insurance could have a material adverse effect on our business, financial condition, and results of operations.

In addition, an accident caused by one of our products could damage our reputation for selling quality products. We believe that our customers consider safety and reliability as key criteria in selecting our products and believe that our reputation for quality assurance is a significant competitive strength. If an accident were to be caused by one of our products, or if we were to otherwise fail to maintain a satisfactory record of safety and reliability, our ability to retain and attract customers may be materially adversely affected.

We are subject to liability under warranty obligations.

The majority of our contracts contain provisions which expose us to potential liability for warranty claims made by customers or third parties with respect to products that have been designed, manufactured, or serviced by us or our suppliers. Material product warranty obligations could have a material adverse effect on our business, financial condition, and results of operations. Further, our reputation may be adversely affected by such defective product claims, whether or not successful, including potential negative publicity about our products.

A downturn in the aircraft market could adversely affect our business.

Our sales to large commercial aircraft manufacturers are cyclical in nature and can be adversely affected by a number of factors, including current and future traffic levels, increasing fuel and labor costs, intense price competition, the retirement of older aircraft, regulatory changes, outbreak of infectious disease, terrorist attacks, general economic conditions, worldwide airline profits, and backlog levels, all of which can be unpredictable and are outside our control. Any decrease in demand resulting from a downturn in the aerospace market could adversely affect our business, financial condition, and results of operations.

The airline industry is heavily regulated, and if we fail to comply with applicable requirements, our results of operations could suffer.

Governmental agencies throughout the world, including the U.S. Federal Aviation Administration (FAA) and the European Aviation Safety Agency, prescribe standards and qualification requirements for aircraft components, including virtually all commercial airline and general aviation products. Specific regulations vary from country to country, although compliance with FAA requirements generally satisfies regulatory requirements in other countries. We include documentation with our products sold to aircraft manufacturing customers certifying that each part complies with applicable regulatory requirements and meets applicable standards of airworthiness established by the FAA or the equivalent regulatory agencies in other countries. In order to sell our products, the Corporation as well as the products we manufacture must also be certified by our individual original equipment manufacturers (OEM) customers. If any of the material authorizations or approvals qualifying us to supply our products is revoked or suspended, then the sale of such product would be prohibited by law, which would have an adverse effect on our business, financial condition, and results of operations.

From time to time, the FAA or equivalent regulatory agencies in other countries propose new regulations or changes to existing regulations, which are usually more stringent than existing regulations. If these proposed regulations are adopted and enacted, we may incur significant additional costs to achieve compliance, which could have a material adverse effect on our business, financial condition, and results of operations.

If we fail to satisfy our contractual obligations, our contracts may be terminated and we may incur significant costs or liabilities, including liquidated damages and penalties.

In general, our contracts may be terminated for our failure to satisfy our contractual obligations. In addition, some of our contracts contain substantial liquidated damages provisions and financial penalties related to our failure to satisfy our contractual obligations. For example, the terms of the Electro-Mechanical Division's AP1000 China and AP1000 U.S. contracts with Westinghouse Electric Company (WEC) include liquidated damage penalty provisions for failure to meet contractual delivery dates if we caused the delay and the delay was not excusable. On October 10, 2013, we received a letter from WEC stating entitlements to the maximum amount of liquidated damages allowable under the AP1000 China contract of approximately $25 million. To date, we have not met certain contractual delivery dates under the AP 1000 China and U.S. contracts; however there are significant uncertainties as to which parties are responsible for the delays, and we believe we have adequate legal defenses. Consequently, as a result of the above matters, we may incur significant costs or liabilities, including penalties, which could have a material adverse effect on our financial position, results of operations, or cash flows. As of December 31, 2018, the range of possible loss for liquidated damages on the WEC U.S. and China contracts is $0 to $55.5 million.

We are subject to liability under environmental laws.

Our business and facilities are subject to numerous federal, state, local, and foreign laws and regulations relating to the use, manufacture, storage, handling, and disposal of hazardous materials and other waste products. Environmental laws generally impose liability for investigation, remediation, and removal of hazardous materials and other waste products on property owners and those who dispose of materials at waste sites, whether or not the waste was disposed of legally at the time in question. We are currently addressing environmental remediation at certain current and former facilities, and we have been named as a potentially responsible party along with other organizations in a number of environmental clean-up sites and may be named in connection with future sites. We are required to contribute to the costs of the investigation and remediation and to establish reserves in our financial statements for future costs deemed probable and estimable. Although we have estimated and reserved for future environmental remediation costs, the final resolution of these liabilities may significantly vary from our estimates and could potentially have an adverse effect on our results of operations and financial position.

Our future growth and continued success is dependent upon our key personnel.

Our success is dependent upon the efforts of our senior management personnel and our ability to attract and retain other highly qualified management and technical personnel. We face competition for management and qualified technical personnel from other companies and organizations. Therefore, we may not be able to retain our existing management and technical personnel or fill new management or technical positions or vacancies created by expansion or turnover at our existing compensation levels. Although we have entered into change of control agreements with some members of senior management, we do not have employment contracts with our key executives. As some of our key executives approach retirement age, we have made a concerted effort to reduce the effect of the loss of our senior management personnel through management succession planning. However, we may be required to devote significant time and resources to identify and integrate key new personnel should key management losses occur earlier than anticipated. The loss of members of our senior management and qualified technical personnel could have a material adverse effect on our business.

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

Long-term contract accounting requires judgment relative to assessing risks, estimating contract revenues and costs, and making assumptions for schedule and technical issues. Due to the size and nature of many of our contracts, the estimation of total revenues and costs at completion is complicated and subject to many variables. For example, assumptions have to be made regarding the length of time to complete the contract as costs also include expected increases in wages and prices for materials. Similarly, assumptions have to be made regarding the future impact of efficiency initiatives and cost reduction efforts. Incentives, awards, price escalations, liquidated damages, or penalties related to performance on contracts are considered in estimating revenue and profit rates and are recorded when there is sufficient information to assess anticipated performance. It is possible that materially different amounts could be obtained, because of the significance of the judgments and estimation processes described above, if different assumptions were used or if the underlying circumstances were to change. Changes in underlying assumptions, circumstances, or estimates may have a material adverse effect upon future period financial reporting and performance. See “Critical Accounting Estimates and Policies” in Part II, Item 7 of this Form 10-K.

Our backlog is subject to reduction and cancellation, which could negatively impact our revenues and results of operations.

Backlog represents products or services that our customers have contractually committed to purchase from us. Total backlog includes both funded (unfilled orders for which funding is authorized, appropriated, and contractually obligated by the customer) and unfunded backlog (firm orders for which funding has not been appropriated and/or contractually obligated by the customer). We are a subcontractor to prime contractors for the vast majority of our government business; as such, substantially all amounts in backlog are funded. Backlog excludes unexercised contract options and potential orders under ordering type contracts (e.g. Indefinite Delivery / Indefinite Quantity). Backlog is adjusted for changes in foreign exchange rates and is reduced for contract cancellations and terminations in the period in which they

occur. Backlog as of December 31, 2018 was $2.0 billion. Backlog is subject to fluctuations and is not necessarily indicative of future sales. The U.S. Government may unilaterally modify or cancel its contracts. In addition, under certain of our commercial contracts, our customers may unilaterally modify or terminate their orders at any time for their convenience. Accordingly, certain portions of our backlog can be cancelled or reduced at the option of the U.S. Government and commercial customers. Our failure to replace cancelled or reduced backlog could negatively impact our revenues and results of operations.

We may be unable to protect the value of our intellectual property.

Obtaining, maintaining, and enforcing our intellectual property rights and avoiding infringing on the intellectual property rights of others are important factors to the operation of our business. While we take precautionary steps to protect our technological advantages and intellectual property and rely in part on patent, trademark, trade secret, and copyright laws, we cannot assure that the precautionary steps we have taken will completely protect our intellectual property rights. Because patent applications in the United States are maintained in secrecy until either the patent application is published or a patent is issued, we may not be aware of third-party patents, patent applications, and other intellectual property relevant to our products that may block our use of our intellectual property or may be used in third-party products that compete with our products and processes. When others infringe on our intellectual property rights, the value of our products is diminished, and we may incur substantial litigation costs to enforce our rights. Similarly, we may incur substantial litigation costs and the obligation to pay royalties if others claim we infringed on their intellectual property rights. When we develop intellectual property and technologies with funding from U.S. Government contracts, the government has the royalty-free right to use that property.

In addition to our patent rights, we also rely on unpatented technology, trade secrets, and confidential information. Others may independently develop substantially equivalent information and techniques or otherwise gain access to or disclose our technology. We may not be able to protect our rights in unpatented technology, trade secrets, and confidential information effectively. We require each of our employees and consultants to execute a confidentiality agreement at the commencement of an employment or consulting relationship with us. There is no guarantee that we will succeed in obtaining and retaining executed agreements from all employees or consultants. Moreover, these agreements may not provide effective protection of our information or, in the event of unauthorized use or disclosure, they may not provide adequate remedies.

Our future financial results could be adversely impacted by asset impairment charges.

As of December 31, 2018, we had goodwill and other intangible assets, net of accumulated amortization, of approximately $1,518 million, which represented approximately 47% of our total assets. Our goodwill is subject to an impairment test on an annual basis and is also tested whenever events and circumstances indicate that goodwill may be impaired. Intangible assets (other than goodwill) are generally amortized over the useful life of such assets. In addition, from time to time, we may acquire or make an investment in a business that will require us to record goodwill based on the purchase price and the value of the acquired assets. We may subsequently experience unforeseen issues with such business that adversely affect the anticipated returns of the business or value of the intangible assets and trigger an evaluation of the recoverability of the recorded goodwill and intangible assets for such business. Future determinations of significant write-offs of goodwill or intangible assets as a result of an impairment test or any accelerated amortization of other intangible assets could have a material adverse impact on our financial condition and results of operations.

Our current debt, and debt we may incur in the future, could adversely affect our business and financial position.

As of December 31, 2018, we had $763 million of debt outstanding. Our level of debt could have significant consequences for our business including: requiring us to use our cash flow to pay the principal and interest on our debt, reducing funds available for acquisitions and other investments in our business, making us vulnerable to economic downturns and increases in interest rates, limiting us from obtaining additional debt, and impacting our ability to pay dividends.

A percentage of our workforce is employed under collective bargaining agreements.

Approximately 7% of our workforce is employed under collective bargaining agreements, which from time to time are subject to renewal and negotiation. We cannot ensure that we will be successful in negotiating new collective bargaining agreements, that such negotiations will not result in significant increases in the cost of labor, or that a breakdown in such negotiations will not result in the disruption of our operations. Although we have generally enjoyed good relations with both our unionized and non-unionized employees, we may experience an adverse impact on our operating results if we are subject to labor actions.

Our earnings and margins depend in part on subcontractor performance, as well as raw material and component availability and pricing.

Our businesses depend on suppliers and subcontractors for raw materials and components. At times subcontractors perform services that we provide to our customers. We depend on these subcontractors and vendors to meet their contractual obligations in full compliance with customer requirements. Nonperformance or underperformance by subcontractors and vendors could materially impact our ability to perform obligations to our customers, which could result in a customer terminating our contract for default, expose us to liability, and substantially impair our ability to compete for future contracts and orders. Generally, raw materials and purchased components are available from a number of different suppliers, though several suppliers are our sole source of certain components. If a sole-source supplier should cease or otherwise be unable to deliver such components, our operating results could be adversely impacted. In addition, our supply networks can sometimes experience price fluctuations. Our ability to perform our obligations as a prime contractor may be adversely affected if one or more of these suppliers are unable to provide the agreed-upon supplies or perform the agreed-upon services in a timely and cost-effective manner. While we have attempted to mitigate the effects of increased costs through price increases, there are no assurances that higher prices can effectively be passed through to our customers or that we will be able to fully offset the effects of higher raw materials costs through price increases on a timely basis.

Our business involves risks associated with complex manufacturing processes.

Our manufacturing processes depend on certain sophisticated and high-value equipment. Unexpected failures of this equipment may result in production delays, revenue loss, and significant repair costs. In addition, equipment failures could result in injuries to our employees. Moreover, the competitive nature of our businesses requires us to continuously implement process changes intended to achieve product improvements and manufacturing efficiencies. These process changes may at times result in production delays, quality concerns, and increased costs. Any disruption of operations at our facilities due to equipment failures or process interruptions could have a material adverse effect on our business.

Our future success will depend, in part, on our ability to develop new technologies.

Virtually all of the products produced and sold by us are highly engineered and require sophisticated manufacturing and system-integration techniques and capabilities. The commercial and government markets in which we operate are characterized by rapidly changing technologies. The product and program needs of our government and commercial customers change and evolve regularly. Accordingly, our future performance depends in part on our ability to: identify emerging technological trends in our current and target markets, develop and manufacture competitive products, systems, and services, enhance our offerings by adding technological innovations that differentiate our products, systems, and services from those of our competitors, and develop, manufacture, and bring those products, systems, and service to market quickly at cost-effective prices.

We self-insure health benefits and may be adversely impacted by unfavorable claims experience.

We are self-insured for our health benefits. If the number or severity of claims increases, or we are required to accrue or pay additional amounts because the claims prove to be more severe than our original assessment, our operating results would be adversely affected. Our future claims expense might exceed historical levels, which could reduce our earnings. We expect to periodically assess our self-insurance strategy. We are required to periodically evaluate and adjust our claims reserves to reflect our experience.

However, ultimate results may differ from our estimates, which could result in losses over our reserved amounts. In addition, because we do not carry “stop loss” insurance, a significant increase in the number of claims that we must cover under our self-insurance retainage could adversely affect our profitability.

Increasing costs of certain employee and retiree benefits could adversely affect our financial position, results of operations, or cash flows.

Our earnings may be positively or negatively impacted by the amount of income or expense we record for our pension and other postretirement benefit plans. U.S. GAAP requires that we calculate income or expense for the plans using actuarial valuations. These valuations reflect assumptions relating to financial markets and other economic conditions. Changes in key economic indicators can change the assumptions. The most significant year-end assumptions used to estimate pension or other postretirement benefit expense for the following year are the discount rate, the expected long-term rate of return on plan assets, expected future medical cost inflation, and expected compensation increases. In addition, we are required to make an annual measurement of plan assets and liabilities, which may result in a significant change to equity through a reduction or increase to other comprehensive income. For a discussion regarding how our financial statements can be affected by pension and other postretirement benefit plans accounting policies, see “Management’s Discussion and Analysis—Critical Accounting Estimates and Policies—Pension and Other Postretirement Benefits” in Part II, Item 7 of this Form 10-K. Although U.S. GAAP expense and pension or other postretirement contributions are not directly related, the key economic factors that affect U.S. GAAP expense would also likely affect the amount of cash we would contribute to the pension or other postretirement plans. Potential pension contributions include both mandatory amounts required under federal law, Employee Retirement Income Security Act, and discretionary contributions to improve the plans’ funded status. An obligation to make contributions to pension plans could reduce the cash available for working capital and other corporate uses.

Implementing our acquisition strategy involves risks, and our failure to successfully implement this strategy could have a material adverse effect on our business.

As part of our capital allocation strategy, we aim to grow our business by selectively pursuing acquisitions to supplement our organic growth. We are continuing to actively pursue additional acquisition opportunities, some of which may be material to our business and financial performance. Although we have been successful with this strategy in the past, we may not be able to grow our business in the future through acquisitions for a number of reasons, including:

- Encountering difficulties identifying and executing acquisitions;
- Increased competition for targets, which may increase acquisition costs;
- Consolidation in our industry, reducing the number of acquisition targets;
- Competition laws and regulations preventing us from making certain acquisitions; and
- Acquisition financing not being available on acceptable terms or at all.

In addition, there are potential risks associated with growing our business through acquisitions, including the failure to successfully integrate and realize the expected benefits of an acquisition. For example, with any past or future acquisition, there is the possibility that:

- The business culture of the acquired business may not match well with our culture;
- Technological and product synergies, economies of scale, or cost reductions may not occur as expected;
- Management may be distracted from overseeing existing operations by the need to integrate acquired businesses;
- We may acquire or assume unexpected liabilities;
- We may experience unforeseen difficulties in integrating operations and systems;
- We may fail to retain or assimilate employees of the acquired business;
- We may experience problems in retaining customers or integrating customer bases; and
- We may encounter difficulties in entering new markets in which we may have little or no experience.

Failure to successfully implement our acquisition strategy, including successfully integrating acquired businesses, could have a material adverse effect on our business, financial condition, and results of operations.

Future terror attacks, war, natural disasters, or other events beyond our control could adversely impact our businesses.

Despite our concerted effort to minimize risk to our production capabilities and corporate information systems and to reduce the effect of unforeseen interruptions through business continuity planning and disaster recovery plans, we could be adversely impacted by terror attacks, war, natural disasters such as hurricanes, floods, tornadoes, pandemic diseases, or other events such as strikes by the workforce of a significant customer or supplier. These risks could negatively impact demand for or supply of our products and could also cause disruption to our facilities or systems, which could also interrupt operational processes and adversely impact our ability to manufacture our products and provide services and support to our customers. We operate facilities in areas of the world that are exposed to natural disasters. Financial difficulties of our customers, delays by our customers in production of their products, high fuel prices, the concern of another major terrorist attack, and the overall decreased demand for our products could adversely affect our operating results and financial condition.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our corporate headquarters is located at a leased facility in Davidson, North Carolina. As of December 31, 2018, we had 169 facilities worldwide, including five corporate and shared-services facilities. Approximately 85% of our facilities operate as manufacturing and engineering, metal treatment, or aerospace overhaul plants, while the remaining 15% operate as selling and administrative office facilities. The number and type of facilities utilized by each of our reportable segments are summarized below:

Owned Facilities Location	Commercial/ Industrial	Defense	Power	Total
North America	15	1	3	19
Europe	11	—	—	11
Total	26	1	3	30

Leased Facilities Location	Commercial/ Industrial	Defense	Power	Total
North America	50	12	25	87
Europe	25	5	—	30
Asia	16	—	1	17
Total	91	17	26	134

The buildings on the properties referred to in this Item are well maintained, in good condition, and are suitable and adequate for current needs. Management believes that the productive capacity of our properties is adequate to meet our anticipated volume for the foreseeable future.

Item 3. Legal Proceedings.

In the ordinary course of business, the Corporation and its subsidiaries are subject to various pending claims, lawsuits, and contingent liabilities. We do not believe that the disposition of any of these matters, individually or in the aggregate, will have a material adverse effect on our consolidated financial condition, results of operations, and cash flows.

In December 2013, the Corporation, along with other unaffiliated parties, received a claim from Canadian Natural Resources Limited (CNRL), which was filed in the Court of Queen's Bench of Alberta, Judicial District of Calgary. The claim pertains to a January 2011 fire and explosion at a delayed coker unit at its Fort McMurray refinery that resulted in the injury of five CNRL employees, damage to property and

equipment, and various forms of consequential loss such as loss of profit, lost opportunities, and business interruption. The fire and explosion occurred when a CNRL employee bypassed certain safety controls and opened an operating coker unit. The total quantum of alleged damages arising from the incident has not been finalized, but is estimated to meet or exceed $1 billion. We maintain various forms of commercial, property and casualty, product liability, and other forms of insurance; however, such insurance may not be adequate to cover the costs associated with a judgment against us. All parties have agreed in principle to participate in a formal mediation in 2019 with the intention of settling this claim. In an effort to induce the parties to participate in the formal mediation, CNRL agreed to reduce its claim to approximately $400 million, which reflects the monetary amount of property damage incurred as result of the fire and explosion. We are currently unable to estimate an amount, or range of potential losses, if any, from this matter. We believe that we have adequate legal defenses and intend to defend this matter vigorously. Our financial condition, results of operations, and cash flows could be materially affected during a future fiscal quarter or fiscal year by unfavorable developments or outcome regarding this claim.

We have been named in pending lawsuits that allege injury from exposure to asbestos. To date, we have not been found liable or paid any material sum of money in settlement in any case. We believe that the minimal use of asbestos in our past operations and the relatively non-friable condition of asbestos in our products make it unlikely that we will face material liability in any asbestos litigation, whether individually or in the aggregate. We maintain insurance coverage for these potential liabilities and we believe adequate coverage exists to cover any unanticipated asbestos liability.

On March 29, 2017, WEC filed for Chapter 11 bankruptcy protection in the United States Bankruptcy Court for the Southern District of New York, Case No. 17-10751. The Bankruptcy Court overseeing the Bankruptcy Case approved, on an interim basis, an $800 million Debtor-in-Possession Financing Facility to help WEC finance its business operations during the reorganization process. On January 4, 2018, WEC announced that it had agreed to be acquired by Brookfield Business Partners L.P (Brookfield) for approximately $4.6 billion. The acquisition, which was completed on August 1, 2018, is not expected to have a material impact on our financial condition or results of operations as WEC plans to continue operating in the ordinary course of business under existing senior management.

On January 18, 2019, we executed an agreement to settle substantially all of our general unsecured claims with WEC, including pre-petition billings. As it relates to post-petition work, we will continue to honor our executory contracts and expect to collect all amounts due. We will continue to monitor and evaluate the status of the WEC bankruptcy for potential impacts on our business.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

MARKET INFORMATION

Our common stock is listed and traded on the New York Stock Exchange (NYSE) under the symbol CW.

Stock Price Range	2018		2017	
	High	Low	High	Low
Common Stock				
First Quarter	$140.07	$115.06	$100.74	$ 89.00
Second Quarter	143.38	115.08	95.21	82.77
Third Quarter	141.29	117.53	106.63	91.18
Fourth Quarter	138.90	95.23	125.00	104.12

As of January 1, 2019, we had approximately 3,220 registered shareholders of our common stock, $1.00 par value.

DIVIDENDS

During 2018 and 2017, the Company paid quarterly dividends as follows:

	2018	2017
Common Stock		
First Quarter	$0.15	$0.13
Second Quarter	0.15	0.13
Third Quarter	0.15	0.15
Fourth Quarter	0.15	0.15

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table sets forth information regarding our equity compensation plans as of December 31, 2018, the end of our most recently completed fiscal year:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants, and rights	Weighted average exercise price of outstanding options, warrants, and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)
Equity compensation plans approved by security holders	518,986(a)	$65.73	1,834,153(b)
Equity compensation plans not approved by security holders	None	Not applicable	Not applicable

(a) Consists of 467,055 shares issuable upon exercise of outstanding options and vesting of performance share units, restricted shares, restricted stock units, and shares to non-employee directors under the 2005 and 2014 Omnibus Incentive Plan, and 51,931 shares issuable under the Employee Stock Purchase Plans.

(b) Consists of 1,663,542 shares available for future option grants under the 2014 Omnibus Incentive Plan, and 170,611 shares remaining available for issuance under the Employee Stock Purchase Plan.

Issuer Purchases of Equity Securities

The following table provides information about our repurchases of equity securities that are registered by us pursuant to Section 12 of the Securities Exchange Act of 1934, as amended, during the quarter ended December 31, 2018.

	Total Number of shares purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of a Publicly Announced Program	Maximum Dollar amount of shares that may yet be Purchased Under the Program
October 1 – October 31	96,562	$123.95	705,013	$58,524,603
November 1 – November 30	256,384	108.22	961,397	30,778,525
December 1 – December 31	764,775	104.58	1,726,172	50,798,843
For the quarter ended December 31	1,117,721	$107.09	1,726,172	$50,798,843

On December 12, 2018, the Corporation authorized $100 million of share repurchases through a 10b5-1 program. Of this authorization, the Company used $50 million for additional opportunistic share repurchases in December 2018. Beginning in January 2019, the Company expects to repurchase $50 million of additional shares via a 10b5-1 program.

The following performance graph does not constitute soliciting material and should not be deemed filed or incorporated by reference into any of our other filings under the Securities Act or the Securities Exchange Act of 1934, except to the extent we specifically incorporate this information by reference therein.

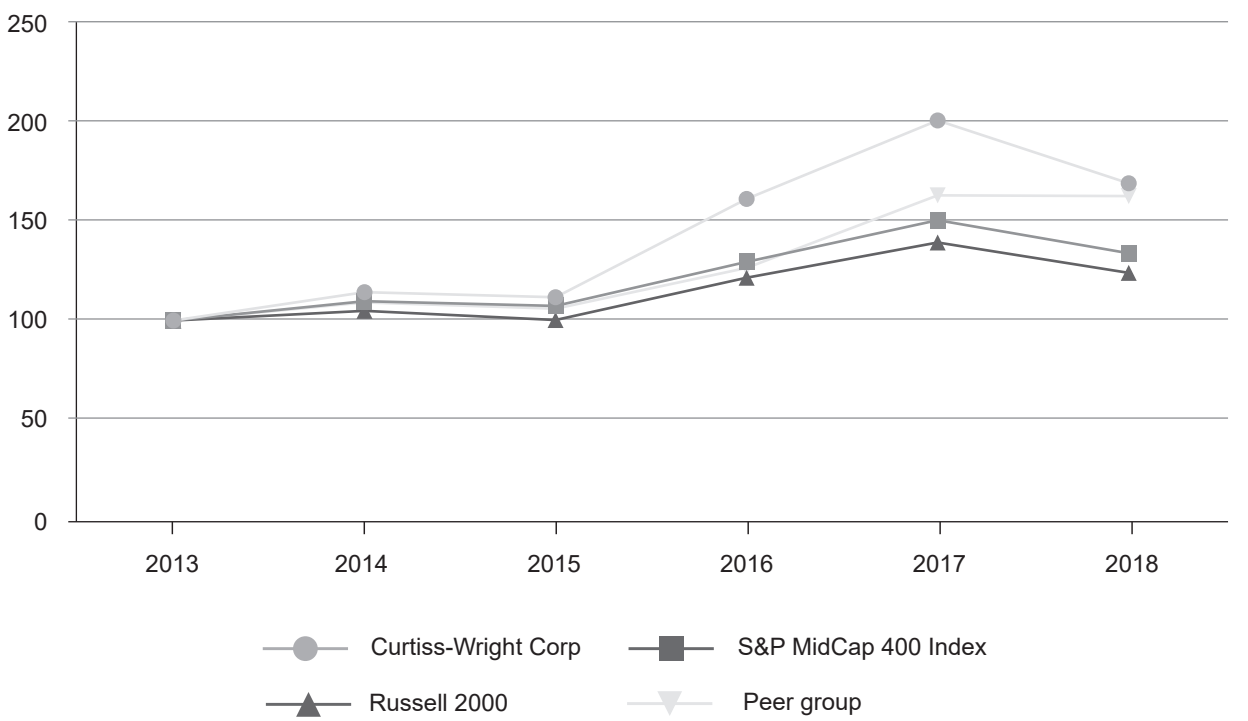
PERFORMANCE GRAPH

The following graph compares the annual change in the cumulative total return on our common stock during the last five fiscal years with the annual change in the cumulative total return of the Russell 2000 Index, the S&P MidCap 400 Index, and our self-constructed proxy peer group. The proxy peer group companies are as follows:

AAR Corp	Kaman Corp
Crane Co.	Moog Inc.
Cubic Corp	Spirit Aerosystems Holdings Inc.
EnPro Industries Inc.	Teledyne Technologies Inc.
Esterline Technologies Corp	TransDigm Group Inc.
Hexcel Corp	Triumph Group Inc.
IDEX Corporation	Woodward Inc.
ITT Inc.	

The graph assumes an investment of $100 on December 31, 2013 and the reinvestment of all dividends paid during the following five fiscal years.

COMPARISON OF CUMULATIVE FIVE YEAR TOTAL RETURN



Company / Index	2013	2014	2015	2016	2017	2018
Curtiss-Wright Corp	**100**	114.33	111.77	161.45	201.11	169.36
S&P MidCap 400 Index	**100**	109.77	107.38	129.65	150.71	134.01
Russell 2000	**100**	104.89	100.26	121.63	139.44	124.09
Peer group	**100**	109.16	105.99	126.59	163.26	162.90

Item 6. Selected Financial Data.

The following table presents our selected financial data from continuing operations. The table should be read in conjunction with Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations*, and Item 8, *Financial Statements and Supplementary Data*, of this Annual Report on Form 10-K.

Five-Year Financial Highlights

	CONSOLIDATED SELECTED FINANCIAL DATA				
(In thousands, except per share data)	**2018**	**2017**	**2016**	**2015**	**2014**
Net sales	$ 2,411,835	$2,271,026	$ 2,108,931	$2,205,683	$ 2,243,126
Earnings from continuing operations	275,749	214,891	189,382	192,248	169,949
Total assets	3,255,385	3,236,321	3,037,781	2,989,611	3,382,448
Total debt, net	762,556	814,139	966,298	953,205	954,348
Earnings per share from continuing operations:					
Basic	$ 6.28	$ 4.86	$ 4.27	$ 4.12	$ 3.54
Diluted	$ 6.22	$ 4.80	$ 4.20	$ 4.04	$ 3.46
Cash dividends per share	$ 0.60	$ 0.56	$ 0.52	$ 0.52	$ 0.52

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Our Management's Discussion and Analysis of Financial Condition and Results of Operations begins with an overview of our company, followed by economic and industry-wide factors impacting our company and the markets we serve, a discussion of the overall results of continuing operations, and finally a more detailed discussion of those results within each of our reportable operating segments.

COMPANY ORGANIZATION

Curtiss-Wright Corporation and its subsidiaries is a global, diversified, industrial provider of highly engineered, technologically advanced, products and services to a broad range of industries which are reported through our Commercial/Industrial, Defense, and Power segments. We are positioned as a market leader across a diversified array of niche markets through engineering and technological leadership, precision manufacturing, and strong relationships with our customers. We provide products and services to a number of global markets, including the commercial aerospace, defense, general industrial, and power generation markets. Our overall strategy is to be a balanced and diversified company, less vulnerable to cycles or downturns in any one market, with a focus on establishing and expanding strong technological breadth, market positions, and financial performance.

Impacts of inflation, pricing, and volume

We have not historically been and do not expect to be significantly impacted by inflation. Increases in payroll costs and any increases in raw material costs that we have encountered are generally offset through lean manufacturing activities. We have consistently made annual investments in capital that deliver efficiencies and cost savings. The benefits of these efforts generally offset the margin impact of competitive pricing conditions in all of the markets we serve.

Analytical Definitions

Throughout management's discussion and analysis of financial condition and results of operations, the terms "incremental" and "organic" are used to explain changes from period to period. The term "incremental" is used to highlight the impact acquisitions had on the current year results for which there was no comparable prior-year period. Therefore, the results of operations for acquisitions are incremental for the first twelve months from the date of acquisition. The remaining businesses are referred to as the "organic". The definition of "organic" excludes the effect of foreign currency translation.

Market Analysis and Economic Factors

Economic Factors Impacting Our Markets

Curtiss-Wright Corporation is a global, diversified manufacturing and service company that designs, manufactures, and overhauls precision components and provides highly engineered products and services to the aerospace, defense, general industrial, and power generation markets. Many of Curtiss-Wright's industrial businesses are driven in large part by global economic growth, primarily led by operations in the U.S., Canada, Europe, and China.

The U.S. economy, as measured by real gross domestic product (GDP), has slowly improved since 2009, aided by decreased levels of unemployment, improvements in the housing market, and a low interest rate environment. In 2018, U.S. GDP is expected to show solid growth of 3.0%, according to the most recent estimate, led by tax cuts and corporate spending increases which drove an acceleration in growth through mid-2018, ahead of GDP growth of 2.2% in 2017 and 1.6% in 2016. Looking ahead to 2019, economists have mixed views on the broader U.S. economy, with current estimates for U.S. real GDP growth indicating a rate of growth between 2% and 3%, despite the administration's goal to raise the pace of expansion to 4% per year through increased fiscal stimulus.

Meanwhile, the global environment's rebound in economic activity that began in mid-2016 is expected to moderate somewhat from recent peak levels, influenced by international trade tensions, tightening financial conditions, and rising geopolitical uncertainty. As a result, 2019 GDP growth in world economies is expected to grow by approximately 3.5%, below the 2018 growth rate of 3.7%, according to the International Monetary Fund. This outlook is expected to be driven by a moderation in U.S. and European

economic growth rates, as well as a flattening of growth in emerging market and developing economies. Looking ahead to the next few years, we remain cautiously optimistic that our economically-sensitive commercial and industrial markets will improve based on normalized global conditions.

Defense

We have a well-diversified portfolio of products and services that supply all branches of the U.S. military, with content on many high performance programs and platforms, as well as a growing international defense business. A significant portion of our defense business operations is attributed to the United States market, and characterized by long-term programs and contracts driven primarily by the Department of Defense (DoD) budgets and funding levels.

The U.S. Defense budget serves as a leading indicator of our growth in the defense market. Following across-the-board sequestration mandated by the BCA, defense spending and related supplemental budgets bottomed in 2015. However, growth has stabilized in recent years, and in early 2018, Congress signed a bill to provide relief against the spending caps associated with the BCA. Further, a two-year budget agreement, signed in 2018, paved the way for lawmakers to fund defense at $700 billion in Fiscal Year 2018 and $716 billion in Fiscal Year 2019, both significant increases from the Fiscal Year 2017 budget. These growth rates are expected to provide the DoD with additional stability and flexibility to enter into multi-year contracts without the impact of sequestration. In addition, the Fiscal Year 2019 Defense Appropriations Bill, signed by the President in September 2018, was the first to be signed into law on time in over a decade. Looking ahead, the Fiscal Year 2020 budget is expected to range from $700 to $750 billion, with most reports indicating the likelihood of a $733 billion budget and continued growth in defense.

We derive revenue from the naval defense, aerospace defense, and ground defense markets. In the naval defense market, we expect continued solid funding for the U.S. shipbuilding program, particularly as it relates to production on the Ford class aircraft carrier, as well as the Columbia class and Virginia class submarine programs. We have a long legacy of providing products that support nuclear propulsion systems on naval vessels. In addition, through our service centers, we are a critical provider of ship repair and maintenance for the U.S. Navy's Atlantic and Pacific fleets. In the aerospace defense market, we expect to benefit from increased funding levels on Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR), electronic warfare, unmanned systems, and communications programs. As a leading supplier of COTS and COTS+ solutions, we continue to demonstrate that electronics technology will enhance our ability to design and develop future generations of advanced systems and products for high performance applications, while also meeting the military's Size, Weight, and Power considerations. We are also a leading designer and manufacturer of high-technology data acquisition and comprehensive flight test instrumentation systems. In the ground defense market, the modernization of the existing U.S. ground vehicle fleet is expected to recover slowly, while international demand should remain solid, particularly for our turret drive stabilization systems (TDSS).

While we monitor the budget process as it relates to programs in which we participate, we cannot predict the ultimate impact of future DoD budgets, which tend to fluctuate year-by-year and program-by-program.

Commercial Aerospace

Curtiss-Wright derives revenue from the global commercial aerospace market, principally to the commercial jet market, and to a lesser extent the regional jet and commercial helicopter markets. Our primary focus in this market is OEM products and services for commercial jets, which is highly dependent on new aircraft production from our primary customers - Boeing and Airbus. We provide a combination of flight control and utility actuation systems, sensors, and other sophisticated electronics, as well as shot and laser peening services utilized on highly stressed components of turbine engine fan blades, landing gear, and aircraft structures.

Steady growth in airline travel, along with the demand for and delivery of new aircraft to replace an aging fleet, continue to be key drivers in the commercial aerospace market. Fiscal 2011 marked the beginning of a multi-year production up-cycle for the commercial aerospace market. This up-cycle is expected to continue based on planned increases in production by Boeing and Airbus on both legacy and new aircraft, particularly narrow-body aircraft, and is further supported by their strong backlogs. Additionally, the steady decline in oil prices during the past few years has been a key contributor to increased passenger growth, as declining fuel prices have led to cheaper airfares for consumers. According to the International Air Transport Association, air travel continues to be strong and is likely to display passenger growth of approximately 6.0% in 2019, which is growing faster than the 20-year trend. Industry data supports a continued, steady increase in commercial aircraft deliveries to meet this growing demand.

While we closely monitor these industry metrics, our success and future growth in the commercial aerospace market is primarily tied to the growth in aircraft production rates, the timing of our order placement, and continued partnering with aerospace original equipment manufacturers.

Power Generation

We derive revenue from the commercial nuclear power generation market, where we supply a variety of highly engineered products and services, including reactor coolant pumps, control rod drive mechanisms, valves, motors, spent fuel management, containment doors, bolting solutions, enterprise resource planning, plant process controls, and coating services. We provide equipment and services to both the aftermarket and new build markets and have content on every reactor operating in the U.S. today.

According to the Nuclear Regulatory Commission (NRC), nuclear power comprises approximately 20% of all the electric power produced in the United States, with 98 reactors operating across 59 nuclear power plants in 30 states. Our growth opportunities for aftermarket products and services are driven by plant aging, plant closures, requirements for planned outages, plant life extensions (from the end of their original 40-year operating lives to 60-year and now 80-year lives), the levying of regulatory requirements, suppliers abandoning the commercial nuclear market, and plants seeking technology and innovation advances.

One of the industry's most significant challenges is electricity market competitiveness, primarily driven by sustained low natural gas prices. As a result, the industry has been tasked with reassessing operating practices, improving efficiency, and reducing costs to help keep nuclear power competitive in a changing electricity market, which are collectively referred to as "Delivering the Nuclear Promise." Additionally, U.S. reactor operators were faced with increased security and post-Fukushima regulatory requirements over the past few years. All of these factors contributed to plant operators diverting and deferring their typical plant capital expenditure budgets significantly away from planned maintenance. However, in late 2017, as those necessary requirements abated and plant operators resumed a more normalized maintenance schedule, the industry began to turn the corner. As a result, we expect increased opportunities for our vast portfolio of advanced nuclear technologies moving forward.

Longer term, there are several factors that are expected to drive global commercial nuclear power demand. The Energy Information Administration forecasts that worldwide total energy consumption is expected to increase at an average annual rate of 1.0% through 2050. Continued growth in global demand for electricity, especially in developing countries with limited supply such as China and India, will require increased capacity. In addition, the continued supply constraints and environmental concerns attributed to the current dependence on fossil fuels have led to a greater appreciation of the value of nuclear technology as the most efficient and environmentally friendly source of energy available today. As a result, we expect growth opportunities in this market both domestically and internationally, although the timing of orders remains uncertain.

We also play an important role in the new build market for the Westinghouse AP1000 reactor design, for which we are a supplier of RCPs and also expect to supply a variety of ancillary plant products and services. Domestically, two new build reactors remain under construction in Georgia utilizing the AP1000 design. On a global basis, nuclear plant construction is active. Currently, there are approximately 57 new reactors under construction across 17 countries, with approximately 132 planned and 376 proposed over the next several decades. In particular, China intends to expand its nuclear power capabilities significantly through the construction of new nuclear power plants over the next few decades, led by the successful

start-up and operation of the first two AP1000 plants (four reactors) in late 2018 and early 2019, which are the first Generation III+ reactors in operation worldwide. We continue to expect to play a role in new build nuclear plant construction with our largest opportunities in China and India.

Our future success in this industry will be led by new order activity for our vast array of nuclear technologies due to ongoing maintenance and upgrade requirements on operating nuclear plants, a renewed interest in products to aid safety and extend the reliability of existing reactors, and the continued emphasis on global nuclear power construction.

General Industrial

Revenue derived from our widely diversified offering to the general industrial market consists of industrial sensors and control systems, critical-function valves and valve systems, as well as surface treatment services. We supply our products and services to OEMs and aftermarket industrial customers, including the transportation, commercial trucking, off-road equipment, agriculture, construction, automotive, chemical, and oil and gas industries. Our performance in these markets is typically sensitive to the performance of the U.S. and global economies, with changes in global GDP rates and industrial production driving our sales, particularly for our surface treatment services.

One of the key drivers within our general industrial market is our sensors and controls systems products, most notably for electronic throttle controls, shift controls, joysticks, power management systems, traction control systems, serving on-and-off highway, medical mobility and specialty vehicles markets. Increased industry demand for electronic control systems and sensors has been driven by the need for improved operational efficiency, safety, repeatability, reduced emissions, enhanced functionality, and greater fuel efficiencies to customers worldwide. Key to our future growth is expanding the human-machine interface technology portfolio and providing a complete system solution to our customers. Existing and emerging trends in commercial vehicle safety, emissions control, and improved driver efficiency are propelling commercial vehicle OEMs toward higher performance subsystems. These trends are accelerating the evolution from discrete human machine interface components towards a more integrated vehicle interface architecture. Meanwhile, our surface treatment services, including shot and laser peening, engineered coatings, and analytical testing services, which are used to increase the safety, reliability, and longevity of components, are primarily driven by demand from general industrial customers.

We also service the oil and gas, chemical, and petrochemical industries through numerous industrial valve products, where nearly all of our industrial valve sales are to the downstream markets. We maintain a global maintenance, repair, and overhaul (MRO) business for our pressure-relief valve technologies as refineries opportunistically service or upgrade equipment that has been operating at or near full capacity. We also produce severe service, operation-critical valves for the power and process industries. Earlier in the decade through mid-2014, the industry had experienced solid performance driven by new exploration and expansion of sub-segments, including offshore drilling and shale gas, which boosted end-user demand. As a result of these market initiatives and reduced global economic growth, the industry experienced an excess of oil supply globally, driving a steady decline in crude oil prices throughout 2014 and 2015, as well as reducing capital expenditures. Though oil prices rebounded in late 2016 and throughout the past two years, they remain well below the recent 2014 peak. Despite the challenges in the oil and gas market, we have seen an industrial renaissance in the U.S. chemical industry due to plentiful, affordable natural gas, which has led to further adoption of severe service valve technology. Over the long run, we believe improved economic conditions and continued global expansion will be key drivers for future growth of our severe service and operation-critical valves serving the process industry.

RESULTS OF OPERATIONS

(In thousands, except percentages)	Year Ended December 31, 2018	2017	2016	Percent changes 2018 vs. 2017	2017 vs. 2016
Sales:					
Commercial/Industrial	$1,209,178	$1,162,689	$1,118,768	4%	4%
Defense	554,374	555,479	466,654	—%	19%
Power	648,283	552,858	523,509	17%	6%
Total sales	$2,411,835	$2,271,026	$2,108,931	6%	8%
Operating income:					
Commercial/Industrial	$ 182,669	$ 168,146	$ 156,084	9%	8%
Defense	128,446	109,338	98,182	17%	11%
Power	98,858	81,119	74,360	22%	9%
Corporate and eliminations	(36,347)	(33,483)	(32,107)	(9%)	(4%)
Total operating income	$ 373,626	$ 325,120	$ 296,519	15%	10%
Interest expense	33,983	41,471	41,248	(18%)	1%
Other income, net	16,596	15,970	12,690	4%	26%
Earnings before income taxes	356,239	299,619	267,961	19%	12%
Provision for income taxes	(80,490)	(84,728)	(78,579)	(5%)	8%
Earnings from continuing operations	$ 275,749	$ 214,891	$ 189,382	28%	13%
New orders	$2,426,682	$2,290,155	$2,149,191		
Backlog	$2,032,451	$2,011,092	$1,950,750		

Components of sales and operating income growth (decrease):

	2018 vs. 2017		2017 vs. 2016	
	Sales	Operating Income	Sales	Operating Income
Organic	3%	14%	5%	7%
Acquisitions	3%	—%	3%	3%
Foreign currency	—%	1%	—%	—%
Total	6%	15%	8%	10%

Year ended December 31, 2018 compared to year ended December 31, 2017

Sales for the year increased $141 million, or 6%, to $2,412 million, compared with the prior year period. On a segment basis, sales from the Commercial/Industrial and Power segments increased $46 million and $95 million, respectively, with sales from the Defense segment essentially flat. Changes in sales by segment are discussed in further detail in the “Results by Business Segment” section below.

Operating income for the year increased $49 million, or 15%, to $374 million, and operating margin increased 120 basis points compared with 2017. In the Commercial/Industrial segment, operating income and operating margin increased primarily due to higher sales volumes and favorable overhead absorption for industrial vehicle and industrial valve products. Operating income and operating margin in the Defense segment benefited from higher sales and favorable overhead absorption, improved profitability due to the absence of first year purchase accounting costs from our acquisition of Teletronics Technology Corporation (TTC), and favorable contract adjustments. In the Power segment, operating income and operating margin increased primarily due to higher profitability on the AP1000 China Direct program, partially offset by first year purchase accounting costs from our Dresser-Rand Government Business (DRG) acquisition. Additionally, the benefits of our ongoing margin improvement initiatives were recognized across all segments.

Non-segment operating expense for the year increased $3 million, or 9%, to $36 million, primarily due to higher environmental costs.

Interest expense for the year decreased $7 million, or 18%, to $34 million, primarily due to maturation of the $150 million 5.51% Senior Notes, which were repaid in full on December 1, 2017.

The effective tax rates from continuing operations for 2018 and 2017 were 22.6% and 28.3%, respectively. The decrease in the effective tax rate in 2018, as compared to 2017, was primarily due to the U.S. corporate income tax rate reduction under the 2017 Tax Cuts and Jobs Act (the Tax Act) as well as a deduction for foreign derived intangible income (FDII) recognized during the current period. This decrease was partially offset by additional tax expense associated with the Tax Act for foreign withholding taxes as well as the elimination of the Section 199 manufacturers' deduction. Refer to Note 12 to the Consolidated Financial Statements for more information.

New orders increased $137 million, or 6%, from the prior year period to $2,427 million, primarily due to the DRG acquisition and the timing of customer funding in the Power segment, which contributed higher new orders of $121 million and $49 million, respectively. This increase was partially offset by a decrease of $9 million in the Commercial/Industrial segment as higher demand for aerospace defense products and surface treatment services was more than offset by the timing of commercial aerospace and naval defense orders. New orders in the Defense segment decreased $16 million primarily due to the timing of naval defense orders. Changes in new orders by segment are discussed in further detail in the "Results by Business Segment" section below.

Comprehensive income (loss)

Pension and postretirement adjustments within comprehensive income during the year ended December 31, 2018 were a $19 million loss, compared with a $3 million loss for the prior year period. The loss during the current period was primarily due to lower asset returns, partially offset by a discount rate gain. The loss in the prior period was primarily due to a discount rate loss, partially offset by higher asset returns.

Foreign currency translation adjustments during the year ended December 31, 2018 resulted in a $52 million loss, compared to a foreign currency translation gain of $78 million in the comparable prior period. The comprehensive loss during the current period was primarily attributed to decreases in the British Pound and Canadian dollar with the prior period comprehensive gain primarily impacted by increases in the British Pound, Canadian dollar, and Euro.

Year ended December 31, 2017 compared to year ended December 31, 2016

Sales for the year increased $162 million, or 8%, to $2,271 million, compared with the prior year period. On a segment basis, sales from the Commercial/Industrial, Defense, and Power segments increased $44 million, $89 million, and $29 million, respectively. Changes in sales by segment are discussed in further detail in the "Results by Business Segment" section below.

Operating income for the year increased $29 million, or 10%, to $325 million, and operating margin increased 20 basis points compared with 2016. Increases in operating income and operating margin were primarily attributable to higher production levels on the AP1000 China Direct program in our Power segment, higher volume on industrial vehicle products in the Commercial/Industrial segment, and the benefits of our ongoing margin improvement initiatives. These increases in operating income and operating margin were partially offset by first year purchase accounting costs from our TTC acquisition and an unfavorable shift in mix within our defense electronic products in the Defense segment.

Non-segment operating expense of $33 million and **interest expense** of $41 million were essentially flat compared to the respective prior year period.

The effective tax rates from continuing operations for 2017 and 2016 were 28.3% and 29.3%, respectively. The decrease in the effective tax rate in 2017, as compared to 2016, was primarily due to the recognition of excess tax benefits on stock-based compensation and higher research and development credits. This decrease was partially offset by the impact of the Tax Act, which increased the current year provision for income taxes by approximately $10 million. Refer to Note 12 to the Consolidated Financial Statements for more information.

New orders increased $141 million from the prior year period to $2,290 million, primarily due to the TTC acquisition in the Defense segment, which contributed $70 million of new orders, and higher demand of $56 million for our industrial vehicle products in the Commercial/Industrial segment. New orders in the Defense segment also benefited from higher demand for our defense electronics products and naval defense products of $18 million and $13 million, respectively. Growth in both our actuation and sensors and controls products to the aerospace defense and naval defense markets increased new orders $30 million in the Commercial/Industrial segment. These increases were partially offset by a decrease in new orders of $44 million in the Power segment and a decrease in naval new orders of $37 million in the Commercial/Industrial segment due to the timing of funding. Changes in new orders by segment are discussed in further detail in the "Results by Business Segment" section below.

Comprehensive income (loss)

Pension and postretirement adjustments within comprehensive income during the year ended December 31, 2017, were a $3 million loss compared with a $1 million loss for the prior year period. The changes were primarily due to a higher discount rate loss in 2017 compared to the prior period. The discount rate loss was partially offset by higher asset returns in the current period versus the prior period, and higher loss amortization in 2017 compared to the prior period.

Foreign currency translation adjustments during the year ended December 31, 2017 resulted in a $78 million gain, compared to a foreign currency translation loss of $65 million in the comparable prior period. The comprehensive gain during the current period was primarily attributed to increases in the British Pound, Canadian dollar, and Euro with the prior period comprehensive loss primarily impacted by a decrease in the British Pound.

RESULTS BY BUSINESS SEGMENT

Commercial/Industrial

Sales in the Commercial/Industrial segment are primarily generated from the general industrial and commercial aerospace markets and, to a lesser extent, the defense and power generation markets.

The following tables summarize sales, operating income and margin, and new orders within the Commercial/Industrial segment.

	Year Ended December 31,			Percent Changes	
(In thousands, except percentages)	2018	2017	2016	2018 vs 2017	2017 vs 2016
Sales	$1,209,178	$1,162,689	$1,118,768	4%	4%
Operating income	182,669	168,146	156,084	9%	8%
Operating margin	15.1%	14.5%	14.0%	60bps	50bps
New orders	$1,225,407	$1,234,698	$1,173,563	(1%)	5%
Backlog	$ 596,468	$ 585,556	$ 504,482	2%	16%

Components of sales and operating income growth (decrease):

	2018 vs 2017		2017 vs 2016	
	Sales	Operating Income	Sales	Operating Income
Organic	3%	7%	4%	7%
Acquisitions	—%	—%	—%	—%
Foreign currency	1%	2%	—%	1%
Total	4%	9%	4%	8%

Year ended December 31, 2018 compared to year ended December 31, 2017

Sales increased $46 million, or 4%, to $1,209 million, from the comparable prior year period. In the general industrial market, we experienced higher sales of $25 million, primarily due to increased demand for our industrial vehicle, industrial controls, and industrial valve products. Sales in the naval defense market increased $9 million, primarily due to higher valve production on the CVN-80 aircraft carrier

program. Aerospace defense sales increased $6 million, primarily due to higher sales of actuation systems on fighter jets. Sales in the commercial aerospace market increased as higher sales of surface treatment services and sensors and controls products were partially offset by the timing of FAA directive revenues. Favorable foreign currency translation benefited sales $9 million.

Operating income increased $15 million, or 9%, to $183 million, and operating margin increased 60 basis points to 15.1%. The increases in operating income and operating margin were primarily due to higher sales volumes and favorable overhead absorption for industrial vehicle and industrial valve products as well as the benefits of our ongoing margin improvement initiatives.

New orders decreased $9 million as compared to the prior year, as higher demand for aerospace defense products and surface treatment services of $26 million and $18 million, respectively, was more than offset by the timing of commercial aerospace and naval defense orders of $33 million and $20 million, respectively.

Year ended December 31, 2017 compared to year ended December 31, 2016

Sales increased $44 million, or 4%, to $1,163 million, from the comparable prior year period. In the general industrial market, we experienced higher sales of $50 million, primarily due to increased demand for our industrial vehicle products. The commercial aerospace market benefited from higher sales of surface treatment services and actuation system products. These increases were partially offset by lower sales of $15 million in the naval defense market, primarily due to the timing of production on the Virginia-class submarine program.

Operating income increased $12 million, or 8%, to $168 million, and operating margin increased 50 basis points to 14.5%. The increases in operating income and operating margin were primarily driven by ongoing margin improvement initiatives and higher sales volumes of our industrial vehicle products and surface treatment services.

New orders increased $61 million as compared to the prior year, primarily due to growth in our industrial vehicle products of $56 million and higher demand of $30 million for both our actuation and sensors and controls products to the aerospace defense and naval defense markets. This increase was partially offset by a decline in naval valve new orders of $37 million due to the timing of funding.

Defense

Sales in the Defense segment are primarily to the defense markets and, to a lesser extent, the commercial aerospace and the general industrial markets.

The following tables summarize sales, operating income and margin, and new orders, within the Defense segment.

	Year Ended December 31,			Percent Changes	
(In thousands, except percentages)	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Sales	$554,374	$555,479	$466,654	—%	19%
Operating income	128,446	109,338	98,182	17%	11%
Operating margin	23.2%	19.7%	21.0%	350bps	(130bps)
New orders	$553,384	$569,360	$445,230	(3%)	28%
Backlog	$522,994	$547,273	$499,993	(4%)	9%

Components of sales and operating income growth (decrease):

	2018 vs. 2017		2017 vs. 2016	
	Sales	Operating Income	Sales	Operating Income
Organic	(1%)	17%	5%	4%
Acquisitions	—%	—%	14%	8%
Foreign currency	1%	—%	—%	(1%)
Total	—%	17%	19%	11%

Year ended December 31, 2018 compared to year ended December 31, 2017

Sales decreased $1 million, or less than 1%, to $554 million, from the comparable prior year period, as higher sales in the aerospace defense market were more than offset by declines in the naval defense market. In the aerospace defense market, we experienced higher demand for embedded computing products and data acquisition and flight test equipment on fighter jet programs, partially offset by lower sales of embedded computing products supporting various UAV programs. Sales in the naval defense market decreased primarily due to lower submarine sales, while sales in the ground defense and commercial aerospace markets were essentially flat.

Operating income increased $19 million, or 17%, to $128 million, compared with the same period in 2017, while operating margin increased 350 basis points to 23.2%. The increases in operating income and operating margin were primarily due to improved profitability as we moved beyond first year purchase accounting costs from our TTC acquisition, favorable contract adjustments within our naval defense business, and the benefits of our ongoing margin improvement initiatives.

New orders decreased $16 million as compared to the prior year, primarily due to the timing of naval defense orders.

Year ended December 31, 2017 compared to year ended December 31, 2016

Sales increased $89 million, or 19%, to $555 million, from the comparable prior year period, primarily due to the incremental impact of our TTC acquisition, which contributed $65 million in sales. Excluding the impact of TTC, sales to the aerospace defense, ground defense, and naval defense markets increased $9 million, $6 million, and $9 million, respectively, while sales to the commercial aerospace market were essentially flat. The increase in sales to the aerospace defense market was primarily due to increased UAV production and higher foreign military sales, partially offset by declines in helicopter production. The ground defense market benefited primarily from higher TDSS demand on international ground defense platforms. Sales to the naval defense market increased primarily due to higher submarine production.

Operating income increased $11 million, or 11%, to $109 million, compared with the same period in 2016, while operating margin decreased 130 basis points to 19.7%. The increase in operating income was driven primarily by the incremental impact of our TTC acquisition, which contributed operating income of $7 million. Operating income also benefited from improved profitability in our avionics business, higher sales volumes in our defense electronics business, and ongoing margin improvement initiatives. Both operating income and operating margin were negatively impacted by first year purchase accounting costs from our TTC acquisition and an unfavorable shift in mix within our defense electronic products.

New orders increased $124 million as compared to the prior year, primarily due to the acquisition of TTC, which contributed $70 million in new orders. New orders also benefited from higher demand for our defense electronics products and naval defense products of $18 million and $13 million, respectively.

Power

Sales in the Power segment are primarily to the power generation and naval defense markets.

The following tables summarize sales, operating income and margin, and new orders, within the Power segment.

	Year Ended December 31,			Percent Changes	
(In thousands, except percentages)	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Sales	$648,283	$552,858	$523,509	17%	6%
Operating income	98,858	81,119	74,360	22%	9%
Operating margin	15.2%	14.7%	14.2%	50bps	50bps
New orders	$647,891	$486,097	$530,398	33%	(8%)
Backlog	$912,989	$878,263	$946,275	4%	(7%)

Components of sales and operating income growth (decrease):

	2018 vs. 2017		2017 vs. 2016	
	Sales	Operating Income	Sales	Operating Income
Organic	6%	21%	6%	9%
Acquisitions	11%	1%	—%	—%
Foreign currency	—%	—%	—%	—%
Total	17%	22%	6%	9%

Year ended December 31, 2018 compared to year ended December 31, 2017

Sales increased $95 million, or 17%, to $648 million, from the comparable prior year period, primarily due to the incremental impact from our DRG acquisition which contributed $64 million in sales. Excluding the impact of DRG, sales in the naval defense market increased $18 million primarily due to higher pump production on the CVN-80 aircraft carrier program. Within the power generation market, sales increased as higher revenues on the AP1000 China Direct program were partially offset by lower sales on the AP1000 U.S. program. Sales in the general industrial market increased $13 million, primarily due to higher sales supporting the subsea oil and gas market.

Operating income increased $18 million, or 22%, to $99 million and operating margin increased 50 basis points to 15.2%. The increases in operating income and operating margin were primarily due to higher profitability on the AP1000 China Direct program and the benefits of our ongoing margin improvement initiatives. Both operating income and operating margin were negatively impacted by first year purchase accounting costs from our DRG acquisition.

New orders increased $162 million as compared to the prior year, primarily due to the acquisition of DRG, which contributed $121 million in new orders. Excluding the impact of DRG, new orders increased $49 million in the naval defense market due to the timing of customer funding. These increases were partially offset by the lower commercial orders in the power generation market.

Year ended December 31, 2017 compared to year ended December 31, 2016

Sales increased $29 million, or 6%, to $553 million, from the comparable prior year period, primarily due to higher production revenues of $52 million on the AP1000 China Direct program. This increase was partially offset by lower aftermarket sales of $20 million supporting domestic nuclear operating reactors and lower total production revenues of $13 million on the AP1000 U.S. and China programs. Within the naval defense market, sales increased $12 million primarily due to higher production levels on CVN-80 pumps and increased development on the Columbia class submarine program.

Operating income increased $7 million, or 9%, to $81 million and operating margin increased 50 basis points to 14.7%. The increases in operating income and operating margin were primarily driven by higher production levels on the AP1000 China Direct program and the benefits of our ongoing margin improvement initiatives.

New orders decreased $44 million as compared to the prior year, as new orders to the commercial and defense markets decreased $34 million and $10 million, respectively. These decreases were primarily due to the timing of commercial orders received as well as the timing of customer funding.

SUPPLEMENTARY INFORMATION

The table below depicts sales by end market. End market sales help provide an enhanced understanding of our businesses and the markets in which we operate. The table has been included to supplement the discussion of our consolidated operating results.

Net Sales by End Market

	Year Ended December 31,			Percent changes	
(In thousands, except percentages)	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Defense markets:					
Aerospace	$ 376,951	$ 372,678	$ 303,430	1%	23%
Ground	97,131	96,042	86,139	1%	11%
Naval	486,476	408,221	403,343	19%	1%
Total Defense	$ 960,558	$ 876,941	$ 792,912	10%	11%
Commercial markets:					
Aerospace	$ 414,422	$ 409,384	$ 397,327	1%	3%
Power Generation	431,793	423,747	409,201	2%	4%
General Industrial	605,062	560,954	509,491	8%	10%
Total Commercial	$1,451,277	$1,394,085	$1,316,019	4%	6%
Total Curtiss-Wright	$2,411,835	$2,271,026	$2,108,931	6%	8%

Year ended December 31, 2018 compared to year ended December 31, 2017

Defense sales increased $84 million, or 10%, to $961 million, as compared to the prior year period, primarily due to higher sales in the naval and aerospace defense markets. Higher sales in the naval defense market were primarily due to the incremental impact from our DRG acquisition, which contributed $58 million in sales. Excluding the impact of DRG, naval defense sales also benefited from higher aircraft carrier program revenues of $22 million, partially offset by lower Columbia class submarine development revenues. The sales increase in the aerospace defense market was primarily due to higher demand for embedded computing products and data acquisition and flight test equipment on fighter jet programs, partially offset by lower sales of embedded computing products supporting various UAV programs.

Commercial sales increased $57 million, or 4%, to $1,451 million, as compared to the prior year period, primarily due to higher demand for our industrial vehicle, industrial controls, and industrial valve products in the general industrial market. Within the power generation market, higher revenues of $23 million on the AP1000 China Direct program and higher aftermarket sales of $12 million supporting international nuclear operating reactors were partially offset by lower production revenues of $22 million on the AP1000 U.S. program.

Year ended December 31, 2017 compared to year ended December 31, 2016

Defense sales increased $84 million, or 11%, to $877 million, as compared to the prior year period, primarily due to higher sales in the aerospace defense and ground defense markets. The sales increase in the aerospace defense market was primarily due to the incremental impact of our TTC acquisition, which contributed $54 million of sales. The aerospace defense market also benefited from increased demand of $7 million for UAVs and higher production of $8 million on the F-16 program, partially offset by declines in helicopter sales of $5 million. Sales in the ground defense market increased primarily due to higher demand of $8 million for our TDSS products on international ground defense platforms.

Commercial sales increased $78 million, or 6%, to $1,394 million, as compared to the prior year period, due to higher sales across all markets. In the commercial aerospace market, our TTC acquisition contributed $8 million of incremental sales. Sales also benefited from increased demand for both our actuation and sensors and controls products. Within the power generation market, we generated higher production revenues of $52 million on the AP1000 China Direct program, partially offset by lower aftermarket sales of $25 million supporting domestic nuclear operating reactors and lower total production revenues of $13 million on the AP1000 U.S. and China programs. In the general industrial market, we experienced higher demand for our industrial vehicle products which resulted in a sales increase of $52 million.

Liquidity and Capital Resources

Sources and Uses of Cash

We derive the majority of our operating cash inflow from receipts on the sale of goods and services and cash outflow for the procurement of materials and labor; cash flow is therefore subject to market fluctuations and conditions. Most of our long-term contracts allow for several billing points (progress or milestone) that provide us with cash receipts as costs are incurred throughout the project rather than upon contract completion, thereby reducing working capital requirements.

Consolidated Statement of Cash Flows

	December 31,		
(In thousands)	**2018**	**2017**	**2016**
Net cash provided by (used in):			
Operating activities	$ 336,273	$388,712	$423,197
Investing activities	(255,516)	(272,328)	(42,934)
Financing activities	(263,639)	(213,898)	(96,141)
Effect of exchange rates	(16,172)	18,786	(18,971)
Net increase (decrease) in cash and cash equivalents	$(199,054)	$ (78,728)	$265,151

Year ended December 31, 2018 compared to year ended December 31, 2017

Operating Activities

Cash provided by operating activities decreased $52 million to $336 million during the year ended December 31, 2018, as compared to the prior year period. The decrease in cash provided by operating activities was primarily due to a voluntary pension contribution of $50 million during the current period.

Investing Activities

Capital Expenditures

Our capital expenditures were $53 million for both 2018 and 2017. For 2019, we anticipate capital expenditures of approximately $75 million to $85 million.

Divestitures

No material divestitures took place during 2018 or 2017.

Acquisitions

In 2018, we acquired one business for a total purchase price of $210 million. In 2017, we acquired two businesses for a total purchase price of $233 million.

Future acquisitions will depend, in part, on the availability of financial resources at a cost of capital that meet our stringent criteria. As such, future acquisitions, if any, may be funded through the use of our cash and cash equivalents, through additional financing available under the credit agreement, or through new financing alternatives.

Financing Activities

Debt Issuances

There were no debt issuances in 2018 or 2017. In 2018, we made a discretionary $50 million prepayment on our 2013 Notes. In 2017, we fully repaid the $150 million 2005 Senior Notes that had matured.

Revolving Credit Agreement

As of December 31, 2018, the Corporation had no borrowings outstanding under the Revolving Credit Agreement (the Credit Agreement or credit facility) and $22 million in letters of credit supported by the credit facility. The unused credit available under the Credit Agreement as of December 31, 2018 was $478 million, which could be borrowed in full without violating any of our debt covenants.

Repurchase of Common Stock

During 2018, the Company repurchased approximately 1,700,000 shares of its common stock for $199 million. In 2017, the Company repurchased approximately 526,000 shares of its common stock for $52 million.

Dividends

During 2018 and 2017, the Company made dividend payments of approximately $26 million and $25 million, respectively.

Year ended December 31, 2017 compared to year ended December 31, 2016

Operating Activities

Cash provided by operating activities decreased $34 million to $389 million during the year ended December 31, 2017, as compared to the prior year period. The decrease in cash provided by operating activities was primarily due to prior year collections related to the AP1000 China Direct program of $102 million and a one-time $20 million benefit in the prior year as a result of the interest rate swap termination. This was partially offset by the timing of advanced collections of $48 million and higher cash earnings of $36 million during the current period.

Investing Activities

Capital Expenditures

Our capital expenditures were $53 million in 2017 as compared to $47 million in 2016. This increase was primarily due to increased capital investment in our Defense and Power segments.

Divestitures

No material divestitures took place during 2017 or 2016.

Acquisitions

In 2017, we acquired two businesses for a total purchase price of $233 million. No material acquisitions took place in 2016.

Financing Activities

Debt Issuances

There were no debt issuances in 2017 or 2016. In 2017, we fully repaid the $150 million 2005 Senior Notes that had matured. No principal payments on outstanding notes took place in 2016.

Revolving Credit Agreement

As of December 31, 2017, the Corporation had no borrowings outstanding under the Credit Agreement and $21 million in letters of credit supported by the credit facility. The unused credit available under the Credit Agreement as of December 31, 2017 was $479 million, which could be borrowed in full without violating any of our debt covenants.

Repurchase of Common Stock

During 2017, the Company repurchased approximately 526,000 shares of its common stock for $52 million. In 2016, the Company repurchased approximately 1,300,000 shares of its common stock for $105 million.

Dividends

During 2017 and 2016, the Company made dividend payments of approximately $25 million and $23 million, respectively.

Capital Resources

Cash in Foreign Jurisdictions

Cash and cash equivalents as of December 31, 2018 and December 31, 2017 were $276 million and $475 million, respectively, of which $148 million and $293 million were held by foreign subsidiaries, respectively. As of December 31, 2018, our European, Canadian, and British subsidiaries held a substantial portion of the Company's cash and cash equivalents, totaling approximately $44 million, $36 million, and $30 million, respectively, As of December 31, 2017, our British subsidiaries held a substantial portion of the Company's cash and cash equivalents, totaling approximately $122 million. The decrease in cash held by U.S. subsidiaries during 2018 as compared to 2017 was primarily due to the acquisition of DRG as well as a voluntary pension contribution during the current period. The decrease in cash held by foreign subsidiaries during 2018 as compared to 2017 was primarily due to cash repatriation of $226 million. There are no legal or economic restrictions on the ability of any of our subsidiaries to transfer funds, absent certain regulatory approvals in China, where approximately $22 million of our foreign cash resides. Refer to Note 12 to the Consolidated Financial Statements for impacts on our foreign undistributed earnings due to the Tax Act.

Cash Utilization

Management continually evaluates cash utilization alternatives, including share repurchases, acquisitions, and increased dividends to determine the most beneficial use of available capital resources. We believe that our cash and cash equivalents, cash flow from operations, available borrowings under the credit facility, and ability to raise additional capital through the credit markets are sufficient to meet both the short-term and long-term capital needs of the organization, including the return of capital to shareholders through dividends and share repurchases and growing our business through acquisitions.

Debt Compliance

As of December 31, 2018, we were in compliance with all debt agreements and credit facility covenants, including our most restrictive covenant, which is our debt to capitalization ratio limit of 60%. As of December 31, 2018, we had the ability to incur total additional indebtedness of $1.4 billion without violating our debt to capitalization covenant.

Future Commitments

Cash generated from operations should be adequate to meet our planned capital expenditures of approximately $75 million to $85 million and expected dividend payments of approximately $26 million in 2019. There can be no assurance, however, that we will continue to generate cash from operations at the current level, or that these projections will remain constant throughout 2019. If cash generated from operations is not sufficient to support these operating requirements and investing activities, we may be required to reduce capital expenditures, borrow from our existing credit line, refinance a portion of our existing debt, or obtain additional financing. While all companies are subject to economic risk, we believe that our cash and cash equivalents, cash flow from operations, and available borrowings are sufficient to meet both the short-term and long-term capital needs of the organization.

In February 2018, we made a discretionary pension contribution of $50 million to the Curtiss-Wright Pension Plan. For more information on our pension and other postretirement benefits plans, see Note 16 to the Consolidated Financial Statements.

The following table quantifies our significant future contractual obligations and commercial commitments as of December 31, 2018:

(In thousands)	Total	2019	2020	2021	2022	2023	Thereafter
Debt Principal Repayments	$ 750,243	$ 243	$ —	$100,000	$ —	$202,500	$447,500
Interest Payments on Fixed Rate Debt	198,531	29,710	29,710	29,465	25,870	23,248	60,528
Operating Leases	216,325	29,562	28,514	24,501	19,996	19,778	93,974
Tax Act - Transition Tax Payments[1]	8,992	—	—	—	—	—	8,992
Build-to-suit Lease	15,773	1,309	1,342	1,375	1,410	1,445	8,892
Total	$1,189,864	$60,824	$59,566	$155,341	$47,276	$246,971	$619,886

[1] Refer to Note 12 to the Consolidated Financial Statements for more information.

We do not have material purchase obligations. Most of our raw material purchase commitments are made directly pursuant to specific contract requirements.

We enter into standby letters of credit agreements and guarantees with financial institutions and customers primarily relating to future performance on certain contracts to provide products and services and to secure advance payments we have received from certain international customers. As of December 31, 2018, we had contingent liabilities on outstanding letters of credit due as follows:

(In thousands)	Total	2019	2020	2021	2022	2023	Thereafter[1]
Letters of Credit	$21,727	$11,383	$7,276	$1,273	$551	$286	$958

[1] Amounts indicated as Thereafter are letters of credit that expire during the revolving credit agreement term but will automatically renew on the date of expiration. In addition, amounts exclude bank guarantees of approximately $11.7 million.

Critical Accounting Estimates and Policies

Our consolidated financial statements and accompanying notes are prepared in accordance with accounting principles generally accepted in the United States of America. Preparing consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses. These estimates and assumptions are affected by the application of our accounting policies. Critical accounting policies are those that require application of management's most difficult, subjective, or complex judgments, often as a result of the need to make estimates about the effects of matters that are inherently uncertain and may change in subsequent periods. We believe that the following are some of the more critical judgment areas in the application of our accounting policies that affect our financial condition and results of operations:

Revenue Recognition

We account for revenues in accordance with ASC 606, *Revenue from Contracts with Customers*, which was adopted as of January 1, 2018 on a modified retrospective basis. Under ASC 606, revenue is recognized when control of a promised good and/or service is transferred to a customer at a transaction price that reflects the consideration that we expect to be entitled to in exchange for that good and/or service. The unit of account is a performance obligation whereby a contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when the respective performance obligation is satisfied. In certain instances, the transaction price may include estimated amounts of variable consideration including but not limited to incentives, awards, price escalations, liquidated damages, and penalties, only to the extent that it is probable that a significant reversal of cumulative revenue recognized to date around such variable consideration will not occur. We estimate variable consideration to be included in the transaction price using either the expected value method or most likely amount method, contingent upon the facts and circumstances of the specific arrangement. Variable consideration associated with our respective arrangements is not typically constrained.

Performance obligations are satisfied either at a point-in-time or on an over-time basis. Contracts that qualify for over-time revenue recognition are generally associated with the design, development, and manufacture of highly engineered industrial products used in commercial and defense applications and generally span between 2-5 years in duration. Revenue recognized on an over-time basis for the year ended December 31, 2018 accounted for approximately 46% of total net sales. Typically, over-time revenue recognition is based on the utilization of an input measure used to measure progress, such as costs incurred to date relative to total estimated costs. Application of an over-time revenue recognition method requires the use of reasonable and dependable estimates of future material, labor, and overhead costs that will be incurred as well as a disciplined cost estimating system in which all functions of the business are integrally involved. These estimates are determined based on industry knowledge and experience of our engineers, project managers, and financial staff. Changes in total estimated costs are recognized using the cumulative catch-up method of accounting which recognizes the cumulative effect of the changes on current and prior periods in the current period. During the twelve months ended December 31, 2018, 2017, and 2016, there were no significant changes in estimated contract costs.

If a performance obligation does not qualify for over-time revenue recognition, revenue is then recognized at the point-in-time in which control of the distinct good or service is transferred to the customer, typically based upon the terms of delivery. Revenue recognized at a point-in-time for the year ended December 31, 2018 accounted for approximately 54% of total net sales.

Timing of revenue recognition and cash collection may result in billed receivables, unbilled receivables (contract assets), and deferred revenue (contract liabilities) on the Consolidated Balance Sheet. Contract assets primarily relate to our right to consideration for work completed but not billed as of the reporting date. Contract assets are transferred to billed receivables when the rights to consideration become unconditional. Contract liabilities primarily consist of customer advances received prior to revenue being earned. Contract assets and contract liabilities are reported in the “Receivables, net” and “Deferred revenue” lines, respectively, within the Consolidated Balance Sheet.

As we adopted ASC 606 using a modified retrospective method, our Consolidated Financial Statements for the years ended December 31, 2017 and 2016 were not retrospectively adjusted. For the years ended December 31, 2017 and 2016, revenue was recognized when the earnings process was considered substantially complete with all of the following criteria met: 1) persuasive evidence of an arrangement existed; 2) delivery occurred or services were rendered; 3) our price to the customer was fixed or determinable; and 4) collectability was reasonably assured. We determined the appropriate revenue recognition method by analyzing the terms and conditions of each contract. Revenue was recognized on product sales as production units were shipped and title and risk of loss was transferred. Revenue was recognized on service-type contracts as services were rendered. The significant estimates made in recognizing revenue were primarily for long-term contracts, which were generally accounted for using the cost-to-cost method of percentage of completion accounting. Under the cost-to-cost percentage of completion accounting, profits were recorded pro-rata, based upon estimates of direct and indirect costs to complete such contracts. Any changes in estimates of contract sales, costs, or profits were recognized using the cumulative catch-up method of accounting.

Inventory

Inventory costs include materials, direct labor, purchasing, and manufacturing overhead costs, which are stated at the lower of cost or market, where market is limited to the net realizable value. We estimate the net realizable value of our inventories and establish reserves to reduce the carrying amount of these inventories to net realizable value, as necessary. We continually evaluate the adequacy of the inventory reserves by reviewing historical scrap rates, on-hand quantities as compared with historical and projected usage levels, and other anticipated contractual requirements. We generally hold reserved inventory for extended periods before scrapping and disposing of the reserved inventory, which contributes to a higher level of reserved inventory relative to the level of annual inventory write-offs.

We purchase materials for the manufacture of components for sale. The decision to purchase a set quantity of a particular item is influenced by several factors including: current and projected price, future estimated availability, existing and projected contracts to produce certain items, and the estimated needs for our businesses.

Pension and Other Postretirement Benefits

In consultation with our actuaries, we determine the appropriate assumptions for use in determining the liability for future pension and other postretirement benefits. The most significant of these assumptions include the discount rates used to determine plan obligations, the expected return on plan assets, and the number of employees who will receive benefits, their tenure, their salary levels, and their projected mortality. Changes in these assumptions, if significant in future years, may have an effect on our pension and postretirement expense, associated pension and postretirement assets and liabilities, and our annual cash requirements to fund these plans.

The discount rate used to determine the plan benefit obligations as of December 31, 2018, and the annual periodic costs for 2019, was increased from 3.63% to 4.28% for the Curtiss-Wright Pension Plan, and from 3.55% to 4.19% for the nonqualified benefit plan, to reflect current economic conditions. The rates reflect the hypothetical rates at which the projected benefit obligations could be effectively settled or paid out to participants on that date. We determine our discount rates for past service liabilities and service cost utilizing a select bond yield curve developed by our actuaries, by using the rates of return on high-quality, fixed-income corporate bonds available at the measurement date with maturities that match the plan's expected cash outflows for benefit payments. Interest cost is determined by applying the spot rate from the full yield curve to each anticipated benefit payment. The discount rate changes contributed to a decrease in the benefit obligation of $55 million in the CW plans.

The rate of compensation increase for base pay in the pension plans was unchanged at a weighted average of 3.5% based upon a graded scale of 4.9% to 2.9% that decrements as pay increases, which reflects the experience over past years and the Company's expectation of future salary increases. We also utilized the RP-2014 mortality tables published by the Society of Actuaries, and updated the projected mortality scale to MP-2018, which reflects a slower rate of future mortality improvements than the previous MP-2017 table utilized. This change contributed to a decrease in the benefit obligation of $2 million in all U.S. plans.

The overall expected return on assets assumption is based primarily on the expectations of future performance. Expected future performance is determined by weighting the expected returns for each asset class by the plan's asset allocation. The expected returns are based on long-term capital market assumptions provided by our investment consultants. Based on a review of market trends, actual returns on plan assets, and other factors, the Company's expected long-term rate of return on plan assets remained at 8.00% as of December 31, 2018, which will be utilized for determining 2019 pension cost. Expected long-term rates of return of 8.00%, 8.00%, and 8.25% were used for determining 2018, 2017 and 2016 pension expense, respectively.

The timing and amount of future pension income or expense to be recognized each year is dependent on the demographics and expected compensation of the plan participants, the expected interest rates in effect in future years, inflation, and the actual and expected investment returns of the assets in the pension trust.

The funded status of the Curtiss-Wright Pension Plan increased by $19 million in 2018, primarily driven by an increase in market interest rates as of December 31, 2018. This was partially offset by unfavorable asset experience due to weaker market performance in 2018.

The following table reflects the impact of changes in selected assumptions used to determine the funded status of the Company's U.S. qualified and nonqualified pension plans as of December 31, 2018 (in thousands, except for percentage point change):

Assumption	Percentage Point Change	Increase in Benefit Obligation	Increase in Expense
Discount rate	(0.25)%	$21,000	$2,500
Rate of compensation increase	0.25%	$ 2,000	$ 500
Expected return on assets	(0.25)%	—	$1,700

See Note 16 to the Consolidated Financial Statements for further information on our pension and postretirement plans.

Purchase Accounting

We apply the purchase method of accounting to our acquisitions. Under this method, we allocate the cost of business acquisitions to the assets acquired and liabilities assumed based on their estimated fair values at the date of acquisition, commonly referred to as the purchase price allocation. As part of the purchase price allocations for our business acquisitions, identifiable intangible assets are recognized as assets apart from goodwill if they arise from contractual or other legal rights, or if they are capable of being separated or divided from the acquired business and sold, transferred, licensed, rented, or exchanged. The purchase price is allocated to the underlying tangible and intangible assets acquired and liabilities assumed based on their respective fair market values, with any excess recorded as goodwill. We determine the fair values of such assets and liabilities, generally in consultation with third-party valuation advisors. Such fair value assessments require significant judgments and estimates such as projected cash flows, discount rates, royalty rates, and remaining useful lives that can differ materially from actual results. The analysis, while substantially complete, is finalized no later than twelve months from the date of acquisition.

Goodwill

We have $1.1 billion in goodwill as of December 31, 2018. Generally, the largest separately identifiable asset from the businesses that we acquire is the value of their assembled workforces, which includes the additional benefit received from management, administrative, marketing, business development, engineering, and technical employees of the acquired businesses. The success of our acquisitions, including the ability to retain existing business and to successfully compete for and win new business, is based on the additional benefit received from management, administrative, marketing, and business development, scientific, engineering, and technical skills and knowledge of our employees rather than on productive capital (plant and equipment, technology, and intellectual property). Therefore, since intangible assets for assembled workforces are part of goodwill, the substantial majority of the intangible assets for our acquired business acquisitions are recognized as goodwill.

We test for goodwill impairment annually, at the reporting unit level, in the fourth quarter, which coincides with the preparation of our strategic operating plan. Additionally, goodwill is tested for impairment when an event occurs or if circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount.

We perform either a quantitative or qualitative assessment to assess if the fair value of the respective reporting unit exceeds its carrying value. The qualitative goodwill impairment assessment requires evaluating factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. As part of our goodwill qualitative assessment process for each reporting unit, when utilized, we evaluate various factors that are specific to the reporting unit as well as industry and macroeconomic factors in order to determine whether it is reasonably likely to have a material impact on the fair value of our reporting units. Examples of the factors that are considered include the results of the most recent impairment test, current and long-range forecasts, and changes in the strategic outlook or organizational structure of the reporting units. The long-range financial forecasts of the reporting units are compared to the forecasts used in the prior year analysis to determine if management expectations for the business have changed.

Actual results may differ from those estimates. When performing the quantitative assessment to calculate the fair value of a reporting unit, we consider both comparative market multiples as well as estimated discounted cash flows for the reporting unit. The significant estimates and assumptions include, but are not limited to, revenue growth rates, operating margins, and future economic and market conditions. The discount rates are based upon the reporting unit's weighted average cost of capital. As a supplement, we conduct additional sensitivity analysis to assess the risk for potential impairment based upon changes in the key assumptions such as the discount rate, expected long-term growth rate, and cash flow projections. Based upon the completion of our annual test, which included qualitative assessments, we determined that there was no impairment of goodwill and that all reporting units' estimated fair values were substantially in excess of their carrying amounts.

Other Intangible Assets

Other intangible assets are generally the result of acquisitions and consist primarily of purchased technology, customer related intangibles, and trademarks. Intangible assets are recorded at their fair values as determined through purchase accounting, based on estimates and judgments regarding expectations for the estimated future after-tax earnings and cash flows arising from follow-on sales. Definite-lived intangible assets are amortized on a straight-line basis over their estimated useful lives, which generally range from 1 to 20 years. Customer-related intangibles primarily consist of customer relationships, which reflect the value of the benefit derived from the incremental revenue and related cash flows as a direct result of the customer relationship. We review the recoverability of all intangible assets, including the related useful lives, whenever events or changes in circumstances indicate that the carrying amount might not be recoverable. We would record any impairment in the reporting period in which it has been identified.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

We are exposed to certain market risks from changes in interest rates and foreign currency exchange rates as a result of our global operating and financing activities. We seek to minimize any material risks from foreign currency exchange rate fluctuations through our normal operating and financing activities and, when deemed appropriate, through the use of derivative financial instruments. We used forward foreign currency contracts to manage our currency rate exposures during the year ended December 31, 2018, and, in order to manage our interest rate risk, we may, from time to time, enter into interest rate swaps to balance the ratio of fixed to floating rate debt. We do not use such instruments for trading or other speculative purposes. Information regarding our accounting policy on financial instruments is contained in Note 1 to the Consolidated Financial Statements.

Interest Rates

The market risk for a change in interest rates relates primarily to our debt obligations. Our fixed rate interest exposure was 100% as of December 31, 2018 and December 31, 2017. As of December 31, 2018, a change in interest rates of 1% would not have a material impact on consolidated interest expense. Information regarding our Senior Notes and Revolving Credit Agreement is contained in Note 13 to the Consolidated Financial Statements.

Foreign Currency Exchange Rates

Although the majority of our business is transacted in U.S. dollars, we do have market risk exposure to changes in foreign currency exchange rates, primarily as it relates to the value of the U.S. dollar versus the British Pound, Canadian dollar, and Euro. Any significant change against the U.S. dollar in the value of the currencies of those countries in which we do business could have an effect on our business, financial condition, and results of operations. If foreign exchange rates were to collectively weaken or strengthen against the U.S. dollar by 10%, net earnings would have decreased or increased, respectively, by approximately $7 million as it relates exclusively to foreign currency exchange rate exposures.

Financial instruments expose us to counter-party credit risk for non-performance and to market risk for changes in interest and foreign currency rates. We manage exposure to counter-party credit risk through specific minimum credit standards, diversification of counter-parties, and procedures to monitor concentrations of credit risk. We monitor the impact of market risk on the fair value and cash flows of our investments by investing primarily in investment grade interest-bearing securities, which have short-term maturities. We attempt to minimize possible changes in interest and currency exchange rates to amounts that are not material to our consolidated results of operations and cash flows.

Item 8. Financial Statements and Supplementary Data.

CONSOLIDATED STATEMENTS OF EARNINGS

	For the years ended December 31,		
(In thousands, except per share data)	**2018**	**2017**	**2016**
Net sales			
Product sales	$1,993,249	$1,854,216	$1,714,358
Service sales	418,586	416,810	394,573
Total net sales	2,411,835	2,271,026	2,108,931
Cost of sales			
Cost of product sales	1,272,599	1,198,881	1,113,078
Cost of service sales	267,975	271,360	261,162
Total cost of sales	1,540,574	1,470,241	1,374,240
Gross profit	871,261	800,785	734,691
Research and development expenses	64,525	61,393	59,424
Selling expenses	126,641	121,873	113,164
General and administrative expenses	306,469	292,399	265,584
Operating income	373,626	325,120	296,519
Interest expense	33,983	41,471	41,248
Other income, net	16,596	15,970	12,690
Earnings before income taxes	356,239	299,619	267,961
Provision for income taxes	(80,490)	(84,728)	(78,579)
Earnings from continuing operations	275,749	214,891	189,382
Loss from discontinued operations, net of taxes	—	—	(2,053)
Net earnings	$ 275,749	$ 214,891	$ 187,329
Basic earnings per share:			
Earnings from continuing operations	$ 6.28	$ 4.86	$ 4.27
Loss from discontinued operations	—	—	(0.05)
Total	$ 6.28	$ 4.86	$ 4.22
Diluted earnings per share:			
Earnings from continuing operations	$ 6.22	$ 4.80	$ 4.20
Loss from discontinued operations	—	—	(0.05)
Total	$ 6.22	$ 4.80	$ 4.15
Dividends per share	$ 0.60	$ 0.56	$ 0.52
Weighted average shares outstanding:			
Basic	43,892	44,182	44,389
Diluted	44,316	44,761	45,045

See notes to consolidated financial statements

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	For the years ended December 31,		
(In thousands)	**2018**	**2017**	**2016**
Net earnings	$275,749	$214,891	$187,329
Other comprehensive income			
Foreign currency translation, net of tax[1]	(52,440)	77,942	(64,840)
Pension and postretirement adjustments, net of tax[2]	(19,167)	(3,026)	(988)
Other comprehensive income (loss), net of tax	(71,607)	74,916	(65,828)
Comprehensive income	$204,142	$289,807	$121,501

[1] The tax benefit (expense) included in other comprehensive income for foreign currency translation adjustments for 2018, 2017, and 2016 were $0.8 million, ($1.9) million, and $1.7 million, respectively.

[2] The tax benefit (expense) included in other comprehensive income for pension and postretirement adjustments for 2018, 2017, and 2016 were $7.0 million, $2.8 million, and ($1.7) million, respectively.

See notes to consolidated financial statements

CONSOLIDATED BALANCE SHEETS

(In thousands, except share data)	As of December 31, 2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 276,066	$ 475,120
Receivables, net	593,755	494,923
Inventories, net	423,426	378,866
Other current assets	50,719	52,951
Total current assets	1,343,966	1,401,860
Property, plant, and equipment, net	374,660	390,235
Goodwill	1,088,032	1,096,329
Other intangible assets, net	429,567	329,668
Other assets	19,160	18,229
Total assets	$3,255,385	$3,236,321
LIABILITIES		
Current liabilities:		
Current portion of long-term and short-term debt	$ 243	$ 150
Accounts payable	232,983	185,176
Accrued expenses	166,954	150,406
Income taxes payable	5,811	4,564
Deferred revenue	236,508	214,891
Other current liabilities	44,829	35,810
Total current liabilities	687,328	590,997
Long-term debt	762,313	813,989
Deferred tax liabilities, net	47,121	49,360
Accrued pension and other postretirement benefit costs	101,227	121,043
Long-term portion of environmental reserves	15,777	14,546
Other liabilities	110,838	118,586
Total liabilities	1,724,604	1,708,521
Contingencies and Commitments (Notes 13, 17 and 19)		
STOCKHOLDERS' EQUITY		
Common stock, $1 par value, 100,000,000 shares authorized as of December 31, 2018 and December 31, 2017; 49,187,378 shares issued as of December 31, 2018 and December 31, 2017; outstanding shares were 42,772,417 as of December 31, 2018 and 44,123,519 as of December 31, 2017	49,187	49,187
Additional paid in capital	118,234	120,609
Retained earnings	2,191,471	1,944,324
Accumulated other comprehensive loss	(288,447)	(216,840)
Common treasury stock, at cost (6,414,961 shares as of December 31, 2018 and 5,063,859 shares as of December 31, 2017)	(539,664)	(369,480)
Total stockholders' equity	1,530,781	1,527,800
Total liabilities and stockholders' equity	$3,255,385	$3,236,321

See notes to consolidated financial statements

CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the years ended December 31,		
(In thousands)	**2018**	**2017**	**2016**
Cash flows from operating activities:			
Net earnings	$ 275,749	$ 214,891	$ 187,329
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization	102,949	99,995	96,008
(Gain) loss on sale of businesses	(1,735)	(875)	(845)
(Gain) loss on fixed asset disposals	(1,120)	29	(2,069)
Deferred income taxes	8,562	(5,782)	1,224
Share-based compensation	14,094	11,572	9,478
Changes in operating assets and liabilities, net of businesses acquired and disposed of:			
Receivables, net	(57,492)	(16,388)	91,692
Inventories, net	(41,197)	19,711	4,391
Progress payments	(11,121)	(774)	2,583
Accounts payable and accrued expenses	48,930	4,323	4,125
Deferred revenue	23,082	36,898	(11,084)
Income taxes	(8,847)	(5,479)	11,797
Net pension and postretirement liabilities	(43,759)	3,481	3,405
Termination of interest rate swap	—	—	20,405
Other liabilities	23,357	25,686	11,474
Other	4,821	1,424	(6,716)
Net cash provided by operating activities	336,273	388,712	423,197
Cash flows from investing activities:			
Proceeds from sales and disposals of long-lived assets	9,117	6,769	3,674
Proceeds from divestitures	958	6,973	1,027
Acquisition of intangible assets	(1,547)	—	—
Additions to property, plant, and equipment	(53,417)	(52,705)	(46,776)
Acquisition of businesses, net of cash acquired	(210,167)	(232,630)	(295)
Additional consideration paid on prior year acquisitions	(460)	(735)	(564)
Net cash used for investing activities	(255,516)	(272,328)	(42,934)
Cash flows from financing activities:			
Borrowings under revolving credit facilities	372,980	7,658	7,839
Payment of revolving credit facilities	(372,887)	(8,176)	(8,430)
Principal payments on debt	(50,000)	(150,000)	—
Repurchases of company stock	(198,592)	(52,127)	(105,249)
Proceeds from share-based compensation plans	11,940	14,179	22,300
Dividends paid	(26,328)	(24,740)	(23,067)
Other	(752)	(692)	(635)
Excess tax benefits from share-based compensation	—	—	11,101
Net cash used for financing activities	(263,639)	(213,898)	(96,141)
Effect of exchange-rate changes on cash	(16,172)	18,786	(18,971)
Net increase (decrease) in cash and cash equivalents	(199,054)	(78,728)	265,151
Cash and cash equivalents at beginning of year	475,120	553,848	288,697
Cash and cash equivalents at end of year	$ 276,066	$ 475,120	$ 553,848
Supplemental disclosure of non-cash activities:			
Capital expenditures incurred but not yet paid	2,193	976	2,512

See notes to consolidated financial statements

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(In thousands)

	Common Stock	Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock
January 1, 2016	$49,190	$144,923	$1,590,645	$(225,928)	$(303,407)
Net earnings	—	—	187,329	—	—
Other comprehensive loss, net of tax	—	—	—	(65,828)	—
Dividends paid	—	—	(23,067)	—	—
Restricted stock	—	(12,086)	—	—	17,275
Stock options exercised	—	(11,271)	—	—	39,483
Other	(3)	(1,104)	—	—	811
Share-based compensation	—	9,021	—	—	457
Repurchase of common stock	—	—	—	—	(105,249)
December 31, 2016	$49,187	$129,483	$1,754,907	$(291,756)	$(350,630)
Net earnings	—	—	214,891	—	—
Other comprehensive income, net of tax	—	—	—	74,916	—
Dividends paid	—	—	(24,740)	—	—
Restricted stock	—	(12,104)	—	—	12,105
Stock options exercised	—	(5,724)	—	—	19,902
Other	—	(2,237)	(734)	—	889
Share-based compensation	—	11,191	—	—	381
Repurchase of common stock	—	—	—	—	(52,127)
December 31, 2017	$49,187	$120,609	$1,944,324	$(216,840)	$(369,480)
Cumulative effect from adoption of ASC 606	—	—	(2,274)	—	—
Net earnings	—	—	275,749	—	—
Other comprehensive loss, net of tax	—	—	—	(71,607)	—
Dividends paid	—	—	(26,328)	—	—
Restricted stock	—	(13,134)	—	—	13,134
Stock options exercised	—	(2,355)	—	—	14,294
Other	—	(752)	—	—	752
Share-based compensation	—	13,866	—	—	228
Repurchase of common stock	—	—	—	—	(198,592)
December 31, 2018	$49,187	$118,234	$2,191,471	$(288,447)	$(539,664)

See notes to consolidated financial statements

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations

Curtiss-Wright Corporation and its subsidiaries (the Corporation or the Company) is a global, diversified manufacturing and service company that designs, manufactures, and overhauls precision components and provides highly engineered products and services to the aerospace, defense, general industrial, and power generation markets.

Principles of Consolidation

The consolidated financial statements include the accounts of the Corporation and its majority-owned subsidiaries. All intercompany transactions and accounts have been eliminated.

Use of Estimates

The financial statements of the Corporation have been prepared in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP), which requires management to make estimates and judgments that affect the reported amount of assets, liabilities, revenue, and expenses and disclosure of contingent assets and liabilities in the accompanying financial statements. The most significant of these estimates includes the estimate of costs to complete long-term contracts, the estimate of useful lives for property, plant, and equipment, cash flow estimates used for testing the recoverability of assets, pension plan and postretirement obligation assumptions, estimates for inventory obsolescence, estimates for the valuation and useful lives of intangible assets and legal reserves. Actual results may differ from these estimates.

Cash and Cash Equivalents

Cash equivalents consist of money market funds and commercial paper that are readily convertible into cash, all with original maturity dates of three months or less.

Inventory

Inventories are stated at lower of cost or net realizable value. Production costs are comprised of direct material and labor and applicable manufacturing overhead.

Progress Payments

Certain long-term contracts provide for interim billings as costs are incurred on the respective contracts. Pursuant to contract provisions, agencies of the U.S. Government and other customers obtain control of promised goods or services to the extent that progress payments are received. Accordingly, these receipts have been reported as a reduction of unbilled receivables as presented in Note 5 to the Consolidated Financial Statements. In the event that progress payments received exceed revenue recognized to date on a specific contract, a contract liability has been established with such amount reported in the “Deferred revenue” line within the Consolidated Balance Sheet.

The Corporation also receives progress payments on development contracts related to certain aerospace and defense programs. Progress payments received on partially funded development contracts have been reported as a reduction of inventories, as presented in Note 6 to the Consolidated Financial Statements.

Property, Plant, and Equipment

Property, plant, and equipment are carried at cost less accumulated depreciation. Major renewals and betterments are capitalized, while maintenance and repairs that do not improve or extend the life of the asset are expensed in the period that they are incurred. Depreciation is computed using the straight-line method based over the estimated useful lives of the respective assets.

Average useful lives for property, plant, and equipment are as follows:

Buildings and improvements	5 to 40 years
Machinery, equipment, and other	3 to 15 years

Intangible Assets

Intangible assets are generally the result of acquisitions and consist primarily of purchased technology, customer related intangibles, trademarks, and technology licenses. Intangible assets are amortized on a straight-line basis over their estimated useful lives, which range from 1 to 20 years. See Note 9 to the Consolidated Financial Statements for further information on other intangible assets.

Impairment of Long-Lived Assets

The Corporation reviews the recoverability of all long-lived assets, including the related useful lives, whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset might not be recoverable. If required, the Corporation compares the estimated fair value determined by either the undiscounted future net cash flows or appraised value to the related asset's carrying value to determine whether there has been an impairment. If an asset is considered impaired, the asset is written down to fair value in the period in which the impairment becomes known. The Corporation recognized no significant impairment charges on assets held in use during the years ended December 31, 2018, 2017, and 2016.

Goodwill

Goodwill results from business acquisitions. The Corporation accounts for business acquisitions by allocating the purchase price to the tangible and intangible assets acquired and liabilities assumed. Assets acquired and liabilities assumed are recorded at their fair values, and the excess of the purchase price over the amounts allocated is recorded as goodwill. The recoverability of goodwill is subject to an annual impairment test or whenever an event occurs or circumstances change that would more likely than not result in an impairment. The impairment test is based on the estimated fair value of the underlying businesses. The Corporation's goodwill impairment test is performed annually in the fourth quarter of each year. See Note 8 to the Consolidated Financial Statements for further information on goodwill.

Fair Value of Financial Instruments

Accounting guidance requires certain disclosures regarding the fair value of financial instruments. Due to the short maturities of cash and cash equivalents, accounts receivable, accounts payable, and accrued expenses, the net book value of these financial instruments is deemed to approximate fair value. See Notes 10 and 13 to the Consolidated Financial Statements for further information on the Corporation's financial instruments.

Research and Development

The Corporation funds research and development programs for commercial products and independent research and development and bid and proposal work related to government contracts. Development costs include engineering and field support for new customer requirements. Corporation-sponsored research and development costs are expensed as incurred.

Research and development costs associated with customer-sponsored programs are capitalized to inventory and are recorded in cost of sales when products are delivered or services performed. Funds received under shared development contracts are a reduction of the total development expenditures under the shared contract and are shown net as research and development costs.

Accounting for Share-Based Payments

The Corporation follows the fair value based method of accounting for share-based employee compensation, which requires the Corporation to expense all share-based employee compensation. Share-based employee compensation is a non-cash expense since the Corporation settles these obligations by issuing the shares of Curtiss-Wright Corporation instead of settling such obligations with cash payments.

Compensation expense for non-qualified share options, performance shares, and time-based restricted stock is recognized over the requisite service period for the entire award based on the grant date fair value.

Income Taxes

The Corporation accounts for income taxes using the asset and liability method. Under the asset and liability method, deferred tax assets and liabilities are recognized for future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. The effect on deferred tax assets and liabilities of a change in tax laws is recognized in the results of operations in the period the new laws are enacted. A valuation allowance is recorded to reduce the carrying amounts of deferred tax assets unless it is more likely than not that such assets will be realized.

The Corporation records amounts related to uncertain income tax positions by 1) prescribing a minimum recognition threshold a tax position is required to meet before being recognized in the financial statements and 2) the measurement of the income tax benefits recognized from such positions. The Corporation's accounting policy is to classify uncertain income tax positions that are not expected to be resolved in one year as a non-current income tax liability and to classify interest and penalties as a component of Interest expense and General and administrative expenses, respectively. See Note 12 to the Consolidated Financial Statements for further information.

Foreign Currency

For operations outside the United States of America that prepare financial statements in currencies other than the U.S. dollar, the Corporation translates assets and liabilities at period-end exchange rates and income statement amounts using weighted-average exchange rates for the period. The cumulative effect of translation adjustments is presented as a component of accumulated other comprehensive income (loss) within stockholders' equity. This balance is affected by foreign currency exchange rate fluctuations and by the acquisition of foreign entities. (Gains) and losses from foreign currency transactions are included in General and administrative expenses in the Consolidated Statement of Earnings, which amounted to ($4.5) million, $5.4 million, and ($8.9) million for the years ended December 31, 2018, 2017, and 2016, respectively.

Derivatives

Forward Foreign Exchange and Currency Option Contracts

The Corporation uses financial instruments, such as forward exchange and currency option contracts, to hedge a portion of existing and anticipated foreign currency denominated transactions. The purpose of the Corporation's foreign currency risk management program is to reduce volatility in earnings caused by exchange rate fluctuations. All of the derivative financial instruments are recorded at fair value based upon quoted market prices for comparable instruments, with the gain or loss on these transactions recorded into earnings in the period in which they occur. These (gains) and losses are classified as General and administrative expenses in the Consolidated Statement of Earnings and amounted to $6.6 million, ($0.3) million, and $11.5 million for the years ended December 31, 2018, 2017, and 2016, respectively. The Corporation does not use derivative financial instruments for trading or speculative purposes.

Interest Rate Risks and Related Strategies

The Corporation's primary interest rate exposure results from changes in U.S. dollar interest rates. The Corporation's policy is to manage interest cost using a mix of fixed and variable rate debt. The Corporation periodically uses interest rate swaps to manage such exposures. Under these interest rate swaps, the Corporation exchanges, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount.

For interest rate swaps designated as fair value hedges (i.e., hedges against the exposure to changes in the fair value of an asset or a liability or an identified portion thereof that is attributable to a particular risk), changes in the fair value of the interest rate swaps offset changes in the fair value of the fixed rate debt due to changes in market interest rates.

Recently Issued Accounting Standards

Recent accounting standards adopted

ASU 2014-09 - Revenue from Contracts with Customers - On January 1, 2018, the Corporation adopted ASC 606, *Revenue from Contracts with Customers,* and the related amendments ("new revenue standard") using the modified retrospective method. The Corporation recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the retained earnings balance as of January 1, 2018. Comparative information for prior periods has not been restated and continues to be reported under the accounting standard in effect for those respective periods.

The cumulative effect from the adoption of the new revenue standard as of January 1, 2018 was as follows:

Balance Sheet *(In thousands)*	**As of December 31, 2017**	**Adjustments due to ASU 2014-09**	**As of January 1, 2018**
Receivables, net	$ 494,923	$ 18,363	$ 513,286
Inventories, net	378,866	(23,555)	355,311
Other assets	18,229	878	19,107
Deferred revenue	214,891	(2,040)	212,851
Retained earnings	1,944,324	(2,274)	1,942,050

The impact of adoption on the Corporation's Consolidated Statement of Earnings and Consolidated Balance Sheet was as follows:

	Year Ended December 31, 2018		
Statement of Earnings *(In thousands)*	**As Reported**	**Adjustments Increase/(Decrease)**	**Balances Without Adoption of ASC 606**
Product sales	$1,993,249	$(5,668)	$1,987,581
Cost of product sales	1,272,599	(383)	1,272,216
Provision for income taxes	(80,490)	1,313	(79,177)
Net earnings	$ 275,749	$(3,972)	$ 271,777

	As of December 31, 2018		
Balance Sheet *(In thousands)*	**As Reported**	**Adjustments Increase/(Decrease)**	**Balances Without Adoption of ASC 606**
Receivables, net	$ 593,755	$(22,378)	$ 571,377
Inventories, net	423,426	24,235	447,661
Other assets	19,160	(879)	18,281
Income taxes payable	5,811	(1,296)	4,515
Deferred revenue	236,508	3,972	240,480
Retained earnings	2,191,471	(1,698)	2,189,773

ASU 2017-07, Retirement Benefits - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost - On January 1, 2018, the Corporation adopted the amendments to ASC 715 that improve the presentation of net periodic pension and postretirement benefit costs. The Corporation retrospectively adopted the presentation of service cost separate from the other components of net periodic costs and included it as a component of employee compensation cost in operating income. The interest cost, expected return on assets, amortization of prior service costs, and net actuarial gain/loss components of net periodic benefit costs have been reclassified from operating income to other income, net. Additionally, the Corporation elected to apply the practical expedient which allows it to reclassify amounts previously disclosed in Note 15 of the Corporation's 2017 Annual Report on Form 10-K as the basis for applying retrospective presentation for comparative periods.

The effect of the retrospective change on the Corporation's Consolidated Statement of Earnings for the year ended December 31, 2017 and 2016 was as follows:

	Year Ended December 31, 2017		
Statement of Earnings *(In thousands)*	**Previously Reported**	**Adjustments Increase/(Decrease)**	**As Revised**
Cost of product sales	$1,184,358	$14,523	$1,198,881
Cost of service sales	268,073	3,287	271,360
Research and development expenses	60,308	1,085	61,393
Selling expenses	120,002	1,871	121,873
General and administrative expenses	298,542	(6,143)	292,399
Other income, net	1,347	14,623	15,970

	Year Ended December 31, 2016		
Statement of Earnings *(In thousands)*	**Previously Reported**	**Adjustments Increase/(Decrease)**	**As Revised**
Cost of product sales	$1,100,287	$12,791	$1,113,078
Cost of service sales	258,161	3,001	261,162
Research and development expenses	58,592	832	59,424
Selling expenses	111,228	1,936	113,164
General and administrative expenses	272,565	(6,981)	265,584
Other income, net	1,111	11,579	12,690

ASU 2017-01, Business Combinations - Clarifying the Definition of a Business. On January 1, 2018, the Corporation adopted the amendments to ASC 805 which clarifies the definition of a business. The standard introduces a screen for determining when assets acquired are not a business and clarifies that a business must include, at a minimum, an input and a substantive process that contribute to an output. The adoption of this standard did not have a financial impact on the Consolidated Financial Statements.

Recent accounting standards to be adopted

Standard	Description	Effect on the consolidated financial statements
ASU 2016-02 Leases Date of adoption: January 1, 2019	In February 2016, the FASB issued final guidance that will require lessees to record both right-of-use assets and lease liabilities for most leases on their balance sheets but recognize expenses on their income statements in a manner similar to today's accounting.	The Corporation will apply the optional transition method of adoption as of January 1, 2019, which permits the entity to continue presenting all periods prior to January 1, 2019 under previous lease accounting guidance. In conjunction with adoption, the Corporation plans to elect the package of practical expedients which permits the entity to forgo reassessment of conclusions reached regarding lease existence and lease classification under previous guidance, as well as the practical expedient to not separate non-lease components. Further, the Corporation will make an accounting policy election to account for short-term leases in a manner consistent with the methodology applied under previous guidance. The adoption of this standard is expected to result in an increase of approximately $175 million to $185 million in total assets and total liabilities in the Corporation's Consolidated Balance Sheet as of January 1, 2019. However, the standard is not expected to have a material impact on the Corporation's cash flows or statement of earnings.
ASU 2018-02 Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income Date of adoption: January 1, 2019	In February 2018, the FASB issued ASU 2018-02, *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*. This ASU permits the reclassification of tax effects stranded in accumulated other comprehensive income to retained earnings as a result of the 2017 Tax Cuts and Jobs Act. The standard will be effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with early adoption permitted.	The adoption is expected to result in a reclassification of approximately $25 million from accumulated other comprehensive loss to retained earnings in the Corporation's Consolidated Balance Sheet as of January 1, 2019.

Standard	Description	Effect on the consolidated financial statements
ASU 2018-07 Improvements to Nonemployee Share-Based Payment Accounting	In June 2018, the FASB issued ASU 2018-07, *Improvements to Nonemployee Share-Based Payment Accounting*. The ASU simplifies the accounting for share-based payments to nonemployees by aligning it with the accounting for share-based payments to employees, with certain exceptions. The standard will be effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with early adoption permitted.	The Corporation does not expect the adoption of this standard to have a material impact on its Consolidated Financial Statements.
Date of adoption: January 1, 2019		

2. REVENUE

The Corporation accounts for revenues in accordance with ASC 606, *Revenue from Contracts with Customers*, which was adopted as of January 1, 2018 on a modified retrospective basis. Under ASC 606, revenue is recognized when control of a promised good and/or service is transferred to a customer at a transaction price that reflects the consideration that the Corporation expects to be entitled to in exchange for that good and/or service.

Performance Obligations

The Corporation identifies a performance obligation for each promise in a contract to transfer a distinct good or service to the customer. As part of its assessment, the Corporation considers all goods and/or services promised in the contract, regardless of whether they are explicitly stated or implied by customary business practices. The Corporation's contracts may contain either a single performance obligation, including the promise to transfer individual goods or services that are not separately distinct within the context of the respective contracts, or multiple performance obligations. For contracts with multiple performance obligations, the Corporation allocates the overall transaction price to each performance obligation using standalone selling prices, where available, or utilizes estimates for each distinct good or service in the contract where standalone prices are not available. In certain instances, the transaction price may include estimated amounts of variable consideration including but not limited to incentives, awards, price escalations, liquidated damages, and penalties, only to the extent that it is probable that a significant reversal of cumulative revenue recognized to date around such variable consideration will not occur. The Corporation estimates variable consideration to be included in the transaction price using either the expected value method or most likely amount method, contingent upon the facts and circumstances of the specific arrangement. Variable consideration associated with the Corporation's respective arrangements is not typically constrained.

The Corporation's performance obligations are satisfied either at a point-in-time or on an over-time basis. Revenue recognized on an over-time basis for the year ended December 31, 2018 accounted for approximately 46% of total net sales. Typically, over-time revenue recognition is based on the utilization of an input measure used to measure progress, such as costs incurred to date relative to total estimated costs. Changes in total estimated costs are recognized using the cumulative catch-up method of accounting which recognizes the cumulative effect of the changes on current and prior periods in the current period. Accordingly, the effect of the changes on future periods of contract performance is recognized as if the revised estimate had been the original estimate. A significant change in an estimate on more or more contracts could have a material effect on the Corporation's consolidated financial position, results or operations, or cash flows. However, there were no significant changes in estimated contract costs during 2018, 2017, or 2016.

If a performance obligation does not qualify for over-time revenue recognition, revenue is then recognized at the point-in-time in which control of the distinct good or service is transferred to the customer, typically based upon the terms of delivery. Revenue recognized at a point-in-time for the year ended December 31, 2018 accounted for approximately 54% of total net sales.

Contract backlog represents the remaining performance obligations that have not yet been recognized as revenue. Backlog includes deferred revenue and amounts that will be invoiced and recognized as revenue in future periods. Total backlog was approximately $2.0 billion as of December 31, 2018, of which the Corporation expects to recognize approximately 94% as net sales over the next 12 -36 months. The remainder will be recognized thereafter.

Disaggregation of Revenue

The following table presents the Corporation's total net sales disaggregated by end market and customer type:

Total Net Sales by End Market and Customer Type	Year Ended December 31,		
(In thousands)	2018	2017	2016
Defense			
Aerospace	$ 376,951	$ 372,678	$ 303,430
Ground	97,131	96,042	86,139
Naval	486,476	408,221	403,343
Total Defense Customers	$ 960,558	$ 876,941	$ 792,912
Commercial			
Aerospace	$ 414,422	$ 409,384	$ 397,327
Power Generation	431,793	423,747	409,201
General Industrial	605,062	560,954	509,491
Total Commercial Customers	$1,451,277	$1,394,085	$1,316,019
Total	$2,411,835	$2,271,026	$2,108,931

Contract Balances

Timing of revenue recognition and cash collection may result in billed receivables, unbilled receivables (contract assets), and deferred revenue (contract liabilities) on the Consolidated Balance Sheet. The Corporation's contract assets primarily relate to its rights to consideration for work completed but not billed as of the reporting date. Contract assets are transferred to billed receivables when the rights to consideration become unconditional. This is typical in situations where amounts are billed as work progresses in accordance with agreed-upon contractual terms or upon achievement of contractual milestones. The Corporation's contract liabilities primarily consist of customer advances received prior to revenue being earned. Revenue recognized for the year ended December 31, 2018 included in the contract liabilities balance at the beginning of the year was approximately $164 million. Changes in contract assets and contract liabilities as of December 31, 2018, were not materially impacted by any other factors. Contract assets and contract liabilities are reported in the "Receivables, net" and "Deferred revenue" lines, respectively, within the Consolidated Balance Sheet.

Pre-adoption of ASC 606

As the Corporation adopted ASC 606 using the modified retrospective method, the Consolidated Financial Statements for the years ended December 31, 2017 and 2016 were not retrospectively adjusted. For the years ended December 31, 2017 and 2016, revenue was recognized when the earnings process was considered substantially complete with all of the following criteria met: 1) persuasive evidence of an arrangement existed; 2) delivery occurred or services were rendered; 3) the Corporation's price to its customer was fixed or determinable; and 4) collectability was reasonably assured. The Corporation determined the appropriate revenue recognition method by analyzing the terms and conditions of each contract. Revenue was recognized on product sales as production units were shipped and title and risk of loss was transferred. Revenue was recognized on service-type contracts as services were rendered. The significant estimates made in recognizing revenue were primarily for long-term contracts, which were

generally accounted for using the cost-to-cost method of percentage of completion accounting. Under the cost-to-cost percentage of completion accounting, profits were recorded pro-rata, based upon estimates of direct and indirect costs to complete such contracts. Any changes in estimates of contract sales, costs, or profits were recognized using the cumulative catch-up method of accounting.

3. DISCONTINUED OPERATIONS AND ASSETS HELD FOR SALE

As part of a strategic portfolio review conducted in 2014, the Corporation identified certain businesses it considered non-core. The Corporation considers businesses non-core when their products or services do not complement existing businesses and where the long-term growth and profitability prospects are below the Corporation's expectations. As part of this initiative, the Corporation divested all five businesses during 2015 that were classified as held for sale as of December 31, 2014. The results of operations of these businesses are reported as discontinued operations within our Consolidated Statement of Earnings.

The aggregate financial results of all discontinued operations for the years ended December 31 were as follows:

(In thousands)	2018	2017	2016
Net sales	$—	$—	$ —
Loss from discontinued operations before income taxes	—	—	—
Income tax benefit / (expense)	—	—	(2,053)[1]
Loss on sale of businesses	—	—	—
Loss from discontinued operations	$—	$—	$(2,053)

[1] Amount represents finalization of the income tax provision related to discontinued operations for the year ended December 31, 2015.

4. ACQUISITIONS

The Corporation continually evaluates potential acquisitions that either strategically fit within the Corporation's existing portfolio or expand the Corporation's portfolio into new product lines or adjacent markets. The Corporation has completed a number of acquisitions that have been accounted for as business combinations and have resulted in the recognition of goodwill in the Corporation's financial statements. This goodwill arises because the purchase prices for these businesses reflect the future earnings and cash flow potential in excess of the earnings and cash flows attributable to the current product and customer set at the time of acquisition. Thus, goodwill inherently includes the know-how of the assembled workforce, the ability of the workforce to further improve the technology and product offerings, and the expected cash flows resulting from these efforts. Goodwill may also include expected synergies resulting from the complementary strategic fit these businesses bring to existing operations.

The Corporation allocates the purchase price at the date of acquisition based upon its understanding of the fair value of the acquired assets and assumed liabilities. In the months after closing, as the Corporation obtains additional information about these assets and liabilities, including through tangible and intangible asset appraisals, and as the Corporation learns more about the newly acquired business, it is able to refine the estimates of fair value and more accurately allocate the purchase price. Only items identified as of the acquisition date are considered for subsequent adjustment. The Corporation will make appropriate adjustments to the purchase price allocation prior to completion of the measurement period, as required.

During the twelve months ended December 31, 2018, the Corporation acquired one business for an aggregate purchase price of $210 million. During the twelve months ended December 31, 2017, the Corporation acquired two businesses for an aggregate purchase price of $233 million, net of cash acquired. These acquisitions are described in more detail below.

For the year ended December 31, 2018 and 2017, included within the Consolidated Statement of Earnings, the Corporation's acquisitions contributed $64 million and $71 million of total net sales, respectively, and $1 million and $5 million of net earnings, respectively.

The following table summarizes the estimated fair values of the assets acquired and liabilities assumed at the date of acquisition for all acquisitions consummated during 2018 and 2017:

(In thousands)	2018	2017
Accounts receivable	$ 24,385	$ 4,994
Inventory	31,875	22,702
Property, plant, and equipment	3,206	4,598
Intangible assets	146,100	88,900
Other current and non-current assets	47	2,816
Current and non-current liabilities	(5,374)	(6,730)
Due to seller	—	(804)
Net tangible and intangible assets	200,239	116,476
Purchase price	210,167	232,630
Goodwill	$ 9,928	$ 116,154
Goodwill deductible for tax purposes	$ 9,928	$ 115,532

2018 Acquisitions

Dresser-Rand Government Business (DRG)

On April 2, 2018, the Corporation acquired certain assets and assumed certain liabilities of DRG for $210.2 million in cash. The Asset Purchase Agreement contains a purchase price adjustment mechanism and representations and warranties customary for a transaction of this type. DRG is a designer and manufacturer of mission-critical, high-speed rotating equipment solutions and also acts as the sole supplier of steam turbines and main engine guard valves on all aircraft carrier programs. The acquired business operates within the Power segment.

2017 Acquisitions

Teletronics Technology Corporation (TTC)

On January 3, 2017, the Corporation acquired 100% of the issued and outstanding capital stock of TTC for $226.0 million, net of cash acquired. The Share Purchase Agreement contains a purchase price adjustment mechanism and representations and warranties customary for a transaction of this type, including a portion of the purchase price deposited in escrow as security for potential indemnification claims against the seller. TTC is a designer and manufacturer of high-technology data acquisition and comprehensive flight test instrumentation systems for critical aerospace and defense applications. The acquired business operates within the Defense segment.

Para Tech Coating, Inc. (Para Tech)

On February 8, 2017, the Corporation acquired certain assets and assumed certain liabilities of Para Tech for $6.6 million in cash. The Asset Purchase Agreement contains a purchase price adjustment mechanism and representations and warranties customary for a transaction of this type, including a portion of the purchase price held back as security for potential indemnification claims against the seller. Para Tech is a provider of parylene conformal coating services for aerospace & defense electronic components as well as critical medical devices. The acquired business operates within the Commercial/Industrial segment.

5. RECEIVABLES

Receivables include current notes, amounts billed to customers, claims, other receivables, and unbilled revenue on long-term contracts, which consists of amounts recognized as sales but not billed. Substantially all amounts of unbilled receivables are expected to be billed and collected in the subsequent year. An immaterial amount of unbilled receivables are subject to retainage provisions. The amount of claims and unapproved change orders within our receivables balances are immaterial.

Credit risk is diversified due to the large number of entities comprising the Corporation's customer base and their geographic dispersion. The Corporation is either a prime contractor or subcontractor to various agencies of the U.S. Government. Revenues derived directly and indirectly from government sources (primarily the U.S. Government) were 40% and 39% of total net sales in 2018 and 2017, respectively. Total receivables due primarily from the U.S Government were $329.1 million and $208.4 million as of December 31, 2018 and 2017, respectively. Government (primarily the U.S. Government) unbilled receivables, net of progress payments, were $180.0 million and $89.3 million as of December 31, 2018 and 2017, respectively.

The composition of receivables as of December 31 is as follows:

(In thousands)	2018	2017
Billed receivables:		
Trade and other receivables	$390,306	$363,234
Less: Allowance for doubtful accounts	(7,436)	(7,486)
Net billed receivables	382,870	355,748
Unbilled receivables:		
Recoverable costs and estimated earnings not billed	225,810	160,727
Less: Progress payments applied	(14,925)	(21,552)
Net unbilled receivables	210,885	139,175
Receivables, net	$593,755	$494,923

6. INVENTORIES

Inventoried costs contain amounts relating to long-term contracts and programs with long production cycles, a portion of which will not be realized within one year. Long term contract inventory includes an immaterial amount of claims or other similar items subject to uncertainty concerning their determination or realization. Inventories are valued at the lower of cost or market.

The composition of inventories as of December 31 is as follows:

(In thousands)	2018	2017
Raw material	$214,442	$191,855
Work-in-process	74,536	73,937
Finished goods	143,016	114,307
Inventoried costs related to U.S. Government and other long-term contracts	54,195	65,150
Gross inventories	486,189	445,249
Less: Inventory reserves	(55,776)	(54,638)
Progress payments applied	(6,987)	(11,745)
Inventories, net	$423,426	$378,866

As of December 31, 2018 and 2017, inventory also includes capitalized development costs of $44.4 million and $35.0 million, respectively, related to certain aerospace and defense programs. These capitalized costs will be liquidated as units are produced under contract. As of December 31, 2018 and 2017, $18.7 million and $5.4 million, respectively, are scheduled to be liquidated under existing firm orders.

7. PROPERTY, PLANT, AND EQUIPMENT

The composition of property, plant, and equipment as of December 31 is as follows:

(In thousands)	2018	2017
Land	$ 18,548	$ 19,947
Buildings and improvements	226,743	234,539
Machinery, equipment, and other	801,169	783,430
Property, plant, and equipment, at cost	1,046,460	1,037,916
Less: Accumulated depreciation	(671,800)	(647,681)
Property, plant, and equipment, net	$ 374,660	$ 390,235

Depreciation expense from continuing operations for the years ended December 31, 2018, 2017, and 2016 was $59.4 million, $61.6 million, and $62.6 million, respectively.

8. GOODWILL

The changes in the carrying amount of goodwill for 2018 and 2017 are as follows:

(In thousands)	Commercial/ Industrial	Defense	Power	Consolidated
December 31, 2016	$436,141	$327,655	$187,261	$ 951,057
Acquisitions	2,677	113,477	—	116,154
Divestitures	(1,168)	(647)	—	(1,815)
Foreign currency translation adjustment	10,881	19,847	205	30,933
December 31, 2017	$448,531	$460,332	$187,466	$1,096,329
Acquisitions	—	—	9,928	9,928
Divestitures	(111)	(1,594)	—	(1,705)
Foreign currency translation adjustment	(6,405)	(9,867)	(248)	(16,520)
December 31, 2018	$442,015	$448,871	$197,146	$1,088,032

The purchase price allocations relating to the businesses acquired are initially based on estimates. The Corporation adjusts these estimates based upon final analysis, including input from third party appraisals when deemed appropriate. The determination of fair value is finalized no later than twelve months from acquisition. Goodwill adjustments represent subsequent adjustments to the purchase price allocation for acquisitions.

The Corporation completed its annual goodwill impairment testing as of October 31, 2018, 2017, and 2016 and concluded that there was no impairment of goodwill. The estimated fair value of each respective reporting unit substantially exceeded its recorded book value.

9. OTHER INTANGIBLE ASSETS, NET

Intangible assets are generally the result of acquisitions and consist primarily of purchased technology, customer related intangibles, and trademarks. Intangible assets are amortized over useful lives that generally range between 1 and 20 years.

The following tables present the cumulative composition of the Corporation's intangible assets as of December 31, 2018 and December 31, 2017, respectively.

	2018			2017		
(In thousands)	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
Technology	$238,212	$(123,156)	$ 115,056	$243,440	$(114,036)	$129,404
Customer related intangibles	358,832	(193,455)	165,377	367,230	(180,580)	186,650
Programs[1]	144,000	(5,400)	138,600	—	—	—
Other intangible assets	40,340	(29,806)	10,534	40,640	(27,026)	13,614
Total	$781,384	$(351,817)	$429,567	$651,310	$(321,642)	$329,668

[1] Programs include values assigned to major programs of acquired businesses and represent the aggregate value associated with the customer relationships, contracts, technology, and trademarks underlying the associated program.

During the year ended December 31, 2018, the Corporation acquired intangible assets of $146.1 million which included Programs of $144.0 million, Customer-related intangibles of $1.8 million, and Other intangible assets of $0.3 million. The weighted average amortization periods for these aforementioned intangible assets are 20.0 years, 10.4 years, and 8.0 years, respectively.

Amortization expense from continuing operations for the years ended December 31, 2018, 2017, and 2016 was $43.6 million, $38.4 million, and $33.4 million, respectively. The estimated future amortization expense of intangible assets over the next five years is as follows:

(In thousands)	
2019	$43,488
2020	41,576
2021	39,826
2022	37,312
2023	33,641

10. FAIR VALUE OF FINANCIAL INSTRUMENTS

Forward Foreign Exchange and Currency Option Contracts

The Corporation has foreign currency exposure primarily in the United Kingdom, Canada, and Europe. The Corporation uses financial instruments, such as forward and option contracts, to hedge a portion of existing and anticipated foreign currency denominated transactions. The purpose of the Corporation's foreign currency risk management program is to reduce volatility in earnings caused by exchange rate fluctuations. Guidance on accounting for derivative instruments and hedging activities requires companies to recognize all of the derivative financial instruments as either assets or liabilities at fair value in the Consolidated Balance Sheets.

Interest Rate Risks and Related Strategies

The Corporation's primary interest rate exposure results from changes in U.S. dollar interest rates. The Corporation's policy is to manage interest cost using a mix of fixed and variable rate debt. The Corporation periodically uses interest rate swaps to manage such exposures. Under these interest rate swaps, the Corporation exchanges, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. The Corporation's foreign exchange contracts and interest rate swaps are considered Level 2 instruments which are based on market based inputs or unobservable inputs and corroborated by market data such as quoted prices, interest rates, or yield curves.

For interest rate swaps designated as fair value hedges (i.e., hedges against the exposure to changes in the fair value of an asset or a liability or an identified portion thereof that is attributable to a particular risk), changes in the fair value of the interest rate swaps offset changes in the fair value of the fixed rate debt due to changes in market interest rates.

Effects on Consolidated Balance Sheet

As of December 31, 2018 and December 31, 2017, the fair values of the asset and liability derivative instruments are immaterial.

Effects on Consolidated Statement of Earnings

Undesignated hedges

The location and amount of (gains) and losses recognized in income on forward exchange derivative contracts not designated for hedge accounting for the years ended December 31, were as follows:

(In thousands)	2018	2017	2016
Forward exchange contracts:			
General and administrative expenses	$6,643	$(346)	$11,510

Debt

The estimated fair value amounts were determined by the Corporation using available market information, which is primarily based on quoted market prices for the same or similar issues as of December 31, 2018. The fair value of our debt instruments are characterized as a Level 2 measurement which are based on market based inputs or unobservable inputs and corroborated by market data such as quoted prices, interest rates, or yield curves. The estimated fair values of the Corporation's fixed rate debt instruments as of December 31, 2018, net of debt issuance costs, totaled $750 million compared to a carrying value, net of debt issuance costs, of $749 million. The estimated fair values of the Corporation's fixed rate debt instruments as of December 31, 2017, net of debt issuance costs, totaled $822 million compared to a carrying value, net of debt issuance costs, of $799 million.

The fair values described above may not be indicative of net realizable value or reflective of future fair values. Furthermore, the use of different methodologies to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date.

11. ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES

Accrued expenses consist of the following as of December 31:

(In thousands)	2018	2017
Accrued compensation	$ 118,479	$108,268
Accrued commissions	7,769	6,296
Accrued interest	8,944	9,894
Accrued insurance	6,951	7,015
Other	24,811	18,933
Total accrued expenses	$166,954	$150,406

Other current liabilities consist of the following as of December 31:

(In thousands)	2018	2017
Warranty reserves	$17,293	$14,212
Additional amounts due to sellers on acquisitions	233	1,941
Reserves on loss contracts	2,487	1,418
Pension and other postretirement liabilities	6,528	5,060
Other	18,288	13,179
Total other current liabilities	$44,829	$35,810

12. INCOME TAXES

2017 Tax Cuts and Jobs Act

On December 22, 2017, the 2017 Tax Cuts and Jobs Act (the Tax Act) was enacted into law. The new legislation contained several key tax provisions, including a one-time mandatory transition tax on accumulated foreign earnings and a reduction of the U.S. corporate income tax rate to 21%. The Corporation will also generally be eligible for a 100% dividends received exemption on its foreign earnings. The Tax Act subjects a U.S. shareholder to tax on global intangible low-taxed income ("GILTI") earned by certain foreign subsidiaries. The Corporation has applied an accounting policy election to provide for the tax expense related to GILTI in the year in which the tax is incurred.

The Corporation has summarized the most significant impacts from the Tax Act below:

Reduction of the U.S. Corporate Income Tax Rate

The Corporation measures deferred tax assets and liabilities using enacted tax rates that are applicable in the years in which the temporary differences are expected to be recovered or paid. Accordingly, the Corporation's deferred tax assets and liabilities were remeasured to reflect the reduction of the U.S. corporate income tax rate from 35 percent to 21 percent, resulting in a provisional $13.4 million decrease in income tax expense for the year ended December 31, 2017 and a corresponding $13.4 million decrease in net deferred tax liabilities as of December 31, 2017.

Transition Tax on Foreign Earnings

The Corporation recorded provisional income tax expense of $18.2 million for the year ended December 31, 2017 related to the one-time transition tax on certain foreign earnings. Prior to assessing the impact of the Tax Act, the Corporation had a deferred tax liability of $5.5 million for certain foreign subsidiaries whose earnings were not considered permanently reinvested. As of December 31, 2017, the Corporation's provisional income tax liability related to the transition tax was $23.7 million. The finalized transition tax of $23.6 million was to be paid over eight years pursuant to the Tax Act, with $1.9 million paid in 2018. An additional $12.7 million carryforward from the 2017 income tax return further reduced the transition tax liability to $9.0 million, which will be paid in 2024 and 2025. Given that foreign undistributed earnings are no longer considered permanently reinvested, the Corporation also recorded provisional income tax expense of $3.8 million for the year ended December 31, 2017 for withholding taxes that would arise upon distribution of the Corporation's foreign undistributed earnings.

During the year ended December 31, 2018, the Corporation recorded additional tax expense of $9.3 million for foreign withholding taxes associated with the Tax Act, $6.5 million of which related to the prior period. The Corporation is considered permanently reinvested to the extent of any outside basis differences in its foreign subsidiaries in excess of the amount of undistributed earnings.

Earnings before income taxes for the years ended December 31 consist of:

(In thousands)	2018	2017	2016
Domestic	$217,374	$179,006	$154,571
Foreign	138,865	120,613	113,390
	$356,239	$299,619	$267,961

The provision for income taxes for the years ended December 31 consists of:

(In thousands)	2018	2017	2016
Current:			
Federal	$37,648	$54,963	$45,523
State	9,228	2,648	8,002
Foreign	25,285	23,162	20,861
Total current	72,161	80,773	74,386
Deferred:			
Federal	8,518	2,595	4,267
State	(1,047)	4,282	73
Foreign	858	(2,922)	(147)
Total deferred	8,329	3,955	4,193
Provision for income taxes	$80,490	$84,728	$78,579

The effective tax rate varies from the U.S. federal statutory tax rate for the years ended December 31, principally:

	2018	2017	2016
U.S. federal statutory tax rate	21.0%	35.0%	35.0%
Add (deduct):			
State and local taxes, net of federal benefit	2.2	1.8	1.1
R&D tax credits	(1.0)	(1.3)	(0.9)
Foreign earnings[1]	0.9	(6.0)	(5.8)
Stock compensation - excess tax benefits	(1.3)	(2.6)	—
Impacts related to the Tax Act	1.8	3.4	—
All other, net	(1.0)	(2.0)	(0.1)
Effective tax rate	22.6%	28.3%	29.3%

[1] Foreign earnings primarily include the net impact of differences between local statutory rates and the U.S. Federal statutory rate, the cost of repatriating foreign earnings, and the impact of changes to foreign valuation allowances.

The components of the Corporation's deferred tax assets and liabilities as of December 31 are as follows:

(In thousands)	2018	2017
Deferred tax assets:		
Pension plans	$ 28,020	$ 18,903
Environmental reserves	8,613	7,109
Inventories	14,154	15,116
Postretirement/postemployment benefits	7,636	8,241
Incentive compensation	8,472	7,721
Net operating loss	9,868	10,908
Capital loss carryover	6,972	7,047
Other	27,795	28,775
Total deferred tax assets	111,530	103,820
Deferred tax liabilities:		
Depreciation	24,983	19,586
Goodwill amortization	70,850	67,779
Other intangible amortization	33,600	38,252
Withholding taxes	10,300	3,800
Other	5,345	8,836
Total deferred tax liabilities	145,078	138,253
Valuation allowance	11,646	12,322
Net deferred tax liabilities	$ 45,194	$ 46,755

Deferred tax assets and liabilities are reflected on the Corporation's consolidated balance sheet as of December 31 as follows:

(In thousands)	2018	2017
Net noncurrent deferred tax assets	1,927	2,605
Net noncurrent deferred tax liabilities	47,121	49,360
Net deferred tax liabilities	$45,194	$46,755

The Corporation has income tax net operating loss carryforwards related to international operations of $19.2 million, of which $16.4 million have an indefinite life and $2.8 million which expire through 2027. The Corporation has federal and state income tax net loss carryforwards of $102.2 million, of which $71.1 million are net operating losses which expire through 2037 and $31.1 million are capital loss carryforwards which expire through 2020. The Corporation has recorded a deferred tax asset of $16.8 million reflecting the benefit of the loss carryforwards.

Management assesses the available positive and negative evidence to estimate if sufficient future taxable income will be generated to utilize the existing deferred tax assets. A significant piece of objective negative evidence evaluated was the cumulative loss incurred over the three-year period ended December 31, 2018 in certain of the Corporation's foreign locations. Such objective evidence limits the ability to consider other subjective evidence such as projections for future growth. The Corporation provisionally decreased its valuation allowance by $0.7 million to $11.6 million, as of December 31, 2018, in order to measure only the portion of the deferred tax asset that more likely than not will be realized. The amount of the deferred tax asset considered realizable, however, could be adjusted if estimates of future taxable income during the carryforward period are reduced or if objective negative evidence in the form of cumulative losses is no longer present and additional weight may be given to subjective evidence such as projections for growth.

Income tax payments, net of refunds, of $79.1 million, $92.1 million, and $54.5 million were made in 2018, 2017, and 2016, respectively.

The Corporation has recognized a liability in Other liabilities for interest of $3.2 million and penalties of $1.7 million as of December 31, 2018.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

(In thousands)	2018	2017	2016
Balance as of January 1,	$13,174	$11,454	$12,414
Additions for tax positions of prior periods	88	1,069	32
Reductions for tax positions of prior periods	(290)	(194)	(1,679)
Additions for tax positions related to the current year	1,036	1,273	789
Settlements	(445)	(428)	(102)
Balance as of December 31,	$13,563	$13,174	$11,454

In many cases, the Corporation's uncertain tax positions are related to tax years that remain subject to examination by tax authorities.

The following describes the open tax years, by major tax jurisdiction, as of December 31, 2018:

United States (Federal)	2015 - present
United States (Various states)	2007 - present
United Kingdom	2011 - present
Canada	2012 - present

The Corporation does not expect any significant changes to the estimated amount of liability associated with its uncertain tax positions through the next twelve months. Included in total unrecognized tax benefits as of December 31, 2018, 2017, and 2016 is $11.0 million, $10.1 million, and $7.7 million, respectively, which if recognized, would favorably impact the effective income tax rate.

13. DEBT

Debt consists of the following as of December 31:

(In thousands)	2018 Carrying Value	2018 Estimated Fair Value	2017 Carrying Value	2017 Estimated Fair Value
3.84% Senior notes due 2021	100,000	100,359	100,000	102,472
3.70% Senior notes due 2023	202,500	201,813	225,000	228,783
3.85% Senior notes due 2025	90,000	89,711	100,000	102,164
4.24% Senior notes due 2026	200,000	202,288	200,000	208,873
4.05% Senior notes due 2028	67,500	66,942	75,000	76,997
4.11% Senior notes due 2028	90,000	89,647	100,000	103,226
Other debt	243	243	150	150
Total debt	750,243	751,003	800,150	822,665
Debt issuance costs, net	(714)	(714)	(831)	(831)
Unamortized interest rate swap proceeds	13,027	13,027	14,820	14,820
Total debt, net	762,556	763,316	814,139	836,654
Less: current portion of long-term debt and short-term debt	243	243	150	150
Total long-term debt	$762,313	$763,073	$813,989	$836,504

The weighted-average interest rate of the Corporation's Revolving Credit Agreement was 3.2% in 2018. The Corporation did not have any borrowings against the Revolving Credit Agreement in 2017.

The Corporation's total debt outstanding had weighted-average interest rates of 3.7% and 3.9% in 2018 and 2017, respectively.

Aggregate maturities of debt are as follows:

(In thousands)	
2019	$ 243
2020	—
2021	100,000
2022	—
2023	202,500
Thereafter	447,500
Total	$750,243

Interest payments of $32 million, $39 million, and $38 million were made in 2018, 2017, and 2016, respectively.

Revolving Credit Agreement

In October 2018, the Corporation amended the terms of its existing Credit Agreement (Credit Agreement) with a syndicate of financial institutions, led by Bank of America N.A., Wells Fargo, N.A., and JP Morgan Chase Bank, N.A.. The amended agreement, which provides the Corporation with a borrowing capacity of $500 million, extended the maturity date from November 2019 to October 2023 and expanded the accordion feature from $100 million to $200 million. The proceeds available under the Credit Agreement are to be used for working capital, internal growth initiatives, funding of future acquisitions, and general corporate purposes. As of December 31, 2018, the Corporation had $22 million in letters of credit supported by the credit facility and no borrowings outstanding under the credit facility. The unused credit available under the credit facility as of December 31, 2018 was $478 million, which the Corporation had the ability to borrow in full without violating its debt to capitalization covenant.

The Credit Agreement contains covenants that the Corporation considers usual and customary for an agreement of this type for comparable commercial borrowers, including a maximum consolidated debt to capitalization ratio of 60%. The Credit Agreement has customary events of default, such as non-payment of principal when due; nonpayment of interest, fees, or other amounts; cross-payment default and cross-acceleration.

Borrowings under the credit agreement will accrue interest based on (i) Libor or (ii) a base rate of the highest of (a) the federal funds rate plus 0.5%, (b) BofA's announced prime rate, or (c) the Eurocurrency rate plus 1%, plus a margin. The interest rate and level of facility fees are dependent on certain financial ratios, as defined in the Credit Agreement. The Credit Agreement also provides customary fees, including administrative agent and commitment fees. In connection with the Credit Agreement, the Corporation paid customary transaction fees that have been deferred and are being amortized over the term of the Credit Agreement.

Senior Notes

On February 26, 2013, the Corporation issued $500 million of Senior Notes (the "2013 Notes"). The 2013 Notes consist of $225 million of 3.70% Senior Notes that mature on February 26, 2023, $100 million of 3.85% Senior Notes that mature on February 26, 2025, and $75 million of 4.05% Senior Notes that mature on February 26, 2028. $100 million of additional 4.11% Senior Notes were deferred and subsequently issued on September 26, 2013 that mature on September 26, 2028. On October 15, 2018, the Corporation made a discretionary $50 million prepayment on the $500 million 2013 Notes. The 2013 Notes are senior unsecured obligations, equal in right of payment to the Corporation's existing senior indebtedness. The Corporation, at its option, can prepay at any time all or any part of the 2013 Notes, subject to a make-whole payment in accordance with the terms of the Note Purchase Agreement. In connection with the issuance of the 2013 Notes, the Corporation paid customary fees that have been deferred and are being amortized over the term of the 2013 Notes. Under the terms of the Note Purchase Agreement, the Corporation is required to maintain certain financial ratios, the most restrictive of which is a debt to capitalization limit of 60%. The debt to capitalization ratio (as defined per the Notes Purchase Agreement and Credit Agreement) is calculated using the same formula for all of the Corporation's debt agreements and is a measure of the Corporation's indebtedness to capitalization, where capitalization equals debt plus

equity. As of December 31, 2018, the Corporation had the ability to borrow additional debt of $1.4 billion without violating our debt to capitalization covenant. The 2013 Notes also contain a cross default provision with respect to the Corporation's other senior indebtedness.

On December 8, 2011, the Corporation issued $300 million of Senior Notes (the "2011 Notes"). The 2011 Notes consist of $100 million of 3.84% Senior Notes that mature on December 1, 2021 and $200 million of 4.24% Senior Series Notes that mature on December 1, 2026. The 2011 Notes are senior unsecured obligations, equal in right of payment to our existing senior indebtedness. The Corporation, at its option, can prepay at any time all or any part of our 2011 Notes, subject to a make-whole payment in accordance with the terms of the Note Purchase Agreement. In connection with our 2011 Notes, the Corporation paid customary fees that have been deferred and are being amortized over the term of our 2011 Notes. Under the Note Purchase Agreement, the Corporation is required to maintain certain financial ratios, the most restrictive of which is a debt to capitalization limit of 60%. The 2011 Notes also contain a cross default provision with our other senior indebtedness.

Interest Rate Swaps

On February 5, 2016, the Corporation terminated its fixed-to floating interest rate swap agreements on the 3.85% and 4.24% Senior Notes. As a result of the termination, the Corporation received a cash payment of $20.4 million, representing the fair value of the interest rate swaps on the date of termination. In connection with the termination, the Corporation and the counterparties released each other from all obligations under the interest rate swaps agreement, including, without limitation, the obligation to make periodic payments under such agreements. The gain on termination is reflected as a bond premium to the carrying value of the respective Senior Notes and will be amortized into interest expense over the remaining terms of the notes.

14. EARNINGS PER SHARE

The Corporation is required to report both basic earnings per share (EPS), based on the weighted-average number of common shares outstanding, and diluted earnings per share, based on the basic EPS adjusted for all potentially dilutive shares issuable.

As of December 31, 2018, 2017, and 2016, there were no options outstanding that were considered anti-dilutive.

Earnings per share calculations for the years ended December 31, 2018, 2017, and 2016, are as follows:

(In thousands, except per share data)	Earnings from continuing operations	Weighted-Average Shares Outstanding	Earnings per share from continuing operations
2018			
Basic earnings per share from continuing operations	$275,749	43,892	$6.28
Dilutive effect of stock options and deferred stock compensation		424	
Diluted earnings per share from continuing operations	$275,749	44,316	$6.22
2017			
Basic earnings per share from continuing operations	$214,891	44,182	$4.86
Dilutive effect of stock options and deferred stock compensation		579	
Diluted earnings per share from continuing operations	$214,891	44,761	$4.80
2016			
Basic earnings per share from continuing operations	$189,382	44,389	$4.27
Dilutive effect of stock options and deferred stock compensation		656	
Diluted earnings per share from continuing operations	$189,382	45,045	$4.20

15. SHARE-BASED COMPENSATION PLANS

In May 2014, the Corporation adopted the Curtiss-Wright 2014 Omnibus Incentive Plan (the "2014 Omnibus Plan"). The plan replaced the Corporation's existing 2005 Long Term Incentive Plan and the 2005 Stock Plan for Non-Employee Directors (collectively the "2005 Stock Plans"). Beginning in May 2014, all awards were granted under the 2014 Omnibus Plan. The maximum aggregate number of shares of common stock that may be issued under the 2014 Omnibus Plan are 2,400,000 less one share of common stock for every one share of common stock granted under any prior plan after December 31, 2013 and prior to the effective date of the 2014 Omnibus Plan. In addition, any awards that were previously granted under any prior plan that terminate without issuance of shares, shall be eligible for issuance under the 2014 Omnibus Plan. Awards under the 2014 Omnibus Plan may be in the form of stock options, stock appreciation rights, restricted stock, restricted stock units (RSU), other stock-based awards, performance share units (PSU), or cash-based performance units (PU).

During 2018, the Corporation granted awards in the form of RSUs, PSUs, and restricted stock. Previous grants under the 2005 Stock Plans included non-qualified stock options. Under our employee benefit program, the Corporation also provides an Employee Stock Purchase Plan (ESPP) to most active employees. Certain awards provide for accelerated vesting if there is a change in control.

The compensation cost for employee and non-employee director share-based compensation programs during 2018, 2017, and 2016 is as follows:

(In thousands)	2018	2017	2016
Employee Stock Purchase Plan	1,435	1,207	1,184
Performance Share Units	4,746	4,340	3,910
Restricted Share Units	7,026	4,931	3,426
Other share-based payments	887	1,094	958
Total share-based compensation expense before income taxes	$14,094	$11,572	$9,478

Other share-based grants include service-based restricted stock awards to non-employee directors, who are treated as employees as prescribed by the accounting guidance on share-based payments. The compensation cost recognized follows the cost of the employee, which is primarily reflected as General and administrative expenses in the Consolidated Statement of Earnings. No share-based compensation costs were capitalized during 2018, 2017, or 2016.

The following table summarizes the cash received from share-based awards on share-based compensation:

(In thousands)	2018	2017	2016
Cash received from share-based awards	$11,940	$14,179	$22,300

A summary of employee stock option activity is as follows:

	Shares (000's)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term in Years	Aggregate Intrinsic Value (000's)
Outstanding as of December 31, 2017	264	$30.30		
Exercised	(105)	30.23		
Forfeited	(1)	30.12		
Outstanding as of December 31, 2018	158	$30.34	1.5	$11,345
Exercisable as of December 31, 2018	158	$30.34	1.5	$11,345

The total intrinsic value of stock options exercised during 2018, 2017, and 2016 was $10.1 million, $12.7 million, and $20.6 million, respectively.

Performance Share Units

The Corporation has granted performance share units to certain employees, whose three year cliff vesting is contingent upon the Corporation's total shareholder return over the three-year term of the awards compared to a self-constructed peer group. The non-vested shares are subject to forfeiture if established performance goals are not met or employment is terminated other than due to death, disability, or retirement. Share plans are denominated in share-based units based on the fair market value of the Corporation's common stock on the date of grant. The performance share unit's compensation cost is amortized to expense on a straight-line basis over the three-year requisite service period.

Restricted Share Units

Restricted share units cliff vest at the end of the awards' vesting period. The restricted share units are service-based and thus compensation cost is amortized to expense on a straight-line basis over the requisite service period, which is typically three years. The non-vested restricted units are subject to forfeiture if employment is terminated other than due to death, disability, or retirement.

A summary of the Corporation's 2018 activity related to performance share units and restricted share units are as follows:

	Performance Share Units (PSUs)		Restricted Share Units (RSUs)	
	Shares/Units (000's)	Weighted-Average Fair Value	Shares/Units (000's)	Weighted-Average Fair Value
Nonvested as of December 31, 2017	135	$ 75.51	169	$ 75.19
Granted	75	126.46	47	135.46
Vested	(93)	83.52	(77)	147.26
Forfeited	—	—	(2)	95.92
Nonvested as of December 31, 2018	117	$101.70	137	$ 54.66
Expected to vest as of December 31, 2018	117	$101.70	137	$ 54.66

Nonvested PSUs had an intrinsic value of $12.0 million and unrecognized compensation costs of $6.8 million as of December 31, 2018. Nonvested RSUs had an intrinsic value of $14.0 million and unrecognized compensation costs of $6.7 million as of December 31, 2018. Unrecognized compensation costs related to PSUs and RSUs are expected to be recognized over periods of 1.3-1.9 years.

Employee Stock Purchase Plan

The Corporation's ESPP enables eligible employees to purchase the Corporation's common stock at a price per share equal to 85% of the fair market value at the end of each offering period. Each offering period of the ESPP lasts six months, commencing on January 1st and July 1st of each year. Compensation cost is recognized on a straight-line basis over the six-month vesting period during which employees perform related services.

16. PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS

The Corporation maintains ten separate and distinct pension and other post-retirement defined benefit plans, consisting of three domestic plans and seven separate foreign pension plans. The domestic plans include a qualified pension plan, a non-qualified pension plan, and a postretirement health-benefits plan. The foreign plans consist of one defined benefit pension plan each in the United Kingdom, Canada, and Switzerland, two in Germany, and two in Mexico.

Domestic Plans

Qualified Pension Plan

The Corporation maintains a defined benefit pension plan (the "CW Pension Plan") covering certain employee populations under six benefit formulas: a non-contributory non-union and union formula for certain Curtiss-Wright (CW) employees, a contributory union and non-union benefit formula for employees at the EMD business unit, and two benefit formulas providing annuity benefits for participants in the former Williams Controls salaried and union plans.

CW non-union employees hired prior to February 1, 2010 receive a "traditional" benefit based on years of credited service, using the five highest consecutive years' compensation during the last ten years of service. These employees became participants under the CW Pension Plan after one year of service and were vested after three years of service. CW non-union employees hired on or after the effective date were eligible for a cash balance benefit through December 31, 2013, and were transitioned to the new defined contribution plan, further described below. CW union employees who have negotiated a benefit under the CW Pension Plan are entitled to a benefit based on years of service multiplied by a monthly pension rate.

The formula for EMD employees covers both union and non-union employees and is designed to satisfy the requirements of relevant collective bargaining agreements. Employee contributions are withheld each pay period and are equal to 1.5% of salary. The benefits for the EMD employees are based on years of service and compensation. On December 31, 2012, the Corporation amended the CW Pension Plan to close the benefit to EMD employees hired after January 1, 2014.

Participants of the former Williams Controls Retirement Income Plan for salaried employees are either deferred vested participants or currently receiving benefits, as benefit accruals under the plan were frozen to future accruals effective January 1, 2003. Benefits in the salaried plan are based on average compensation and years of service.

Participants of the former Williams Controls UAW Local 492 Plan for union employees are entitled to a benefit based on years of service multiplied by a monthly pension rate, and may be eligible for supplemental benefits based upon attainment of certain age and service requirements.

Effective January 1, 2014, all active non-union employees participating in the final and career average pay formulas in the defined benefit plan will cease accruals 15 years from the effective date of the amendment. In addition to the sunset provision, the "cash balance" benefit for non-union participants ceased as of January 1, 2014. Non-Union employees who were not currently receiving final or career average pay benefits became eligible to participate in a new defined contribution plan which provides both employer match and non-elective contribution components. The amendment did not affect CW employees that are subject to collective bargaining agreements.

As of December 31, 2018 and 2017, the Corporation had a noncurrent pension liability of $26.6 million and $45.1 million, respectively. This decrease was driven by a $50 million pension contribution to the Curtiss-Wright Pension Plan in February 2018 and an increase in the discount rate as of December 31, 2018, partially offset by unfavorable asset experience during 2018.

Due to the aforementioned discretionary pension contribution of $50 million, the Corporation does not expect to make any required contributions through 2023.

Nonqualified Pension Plan

The Corporation also maintains a non-qualified restoration plan (the "CW Restoration Plan") covering those employees of CW and EMD whose compensation or benefits exceed the IRS limitation for pension benefits. Benefits under the CW Restoration Plan are not funded, and, as such, the Corporation had an accrued pension liability of $52.8 million and $48.7 million as of December 31, 2018 and 2017, respectively. The Corporation's contributions to the CW Restoration Plan are expected to be $4.6 million in 2019.

Other Post-Employment Benefits (OPEB) Plan

The Corporation provides post-employment benefits consisting of retiree health and life insurance to three distinct groups of employees/retirees: the CW Grandfathered plan, and plans assumed in the acquisitions of EMD and Williams Controls.

The Corporation also provides retiree health and life insurance benefits for substantially all of the Curtiss-Wright EMD employees. The plan provides basic health and welfare coverage for pre-65 participants based on years of service and are subject to certain caps. Effective January 1, 2011, the Corporation modified the benefit design for post-65 retirees by introducing Retiree Reimbursement Accounts (RRA's) to participants in lieu of the traditional benefit delivery. Participant accounts are funded a set amount annually that can be used to purchase supplemental coverage on the open market, effectively capping the benefit.

The plan also provides retiree health and life insurance benefits for certain retirees of the Williams Controls salaried and union pension plans. Effective August 31, 2013, the Corporation modified the benefit design for post-65 retirees by introducing Retiree Reimbursement Accounts (RRA's) to align with the EMD delivery model.

The Corporation had an accrued postretirement benefit liability as of December 31, 2018 and 2017 of $22.0 million and $25.0 million, respectively. The Corporation expects to contribute $1.6 million to the plan during 2019.

Foreign Plans

As of December 31, 2018 and 2017, the total projected benefit obligation related to all foreign plans was $83.5 million and $97.4 million, respectively. As of December 31, 2018 and 2017, the Corporation had a net pension asset of $2.7 million and $1.5 million, respectively. The Corporation's contributions to the foreign plans are expected to be $2.3 million in 2019.

Components of net periodic benefit expense

The net pension and net postretirement benefit costs (income) consisted of the following:

	Pension Benefits			Postretirement Benefits		
(In thousands)	2018	2017	2016	2018	2017	2016
Service cost	$ 27,116	$ 25,093	$ 25,100	$ 490	$ 435	$ 338
Interest cost	26,149	25,895	30,495	719	762	996
Expected return on plan assets	(58,641)	(53,552)	(54,101)	—	—	—
Amortization of prior service cost	(252)	(100)	(46)	(656)	(656)	(657)
Recognized net actuarial loss/(gain)	16,867	12,925	12,029	(131)	(223)	(296)
Cost of settlements/curtailments	337	327	—	—	—	—
Net periodic benefit cost (income)	$ 11,576	$ 10,588	$ 13,477	$ 422	$ 318	$ 381

The cost of settlements/curtailments indicated above represents events that are accounted for under guidance on employers' accounting for settlements and curtailments of defined benefit pension plans. In 2018, a settlement charge was incurred in connection with a restructuring in Switzerland. In 2017, there were settlement charges incurred in both the U.K. and Switzerland.

The following table outlines the Corporation's consolidated disclosure of the pension benefits and postretirement benefits information described previously. The Corporation had no foreign postretirement plans. All plans were valued using a December 31, 2018 measurement date.

	Pension Benefits		Postretirement Benefits	
(In thousands)	**2018**	**2017**	**2018**	**2017**
Change in benefit obligation:				
Beginning of year	$868,887	$798,605	$ 25,035	$ 24,436
Service cost	27,116	25,093	490	435
Interest cost	26,149	25,895	719	762
Plan participants' contributions	1,402	1,655	319	253
Actuarial (gain) loss	(58,913)	56,727	(1,982)	2,056
Benefits paid	(41,962)	(41,233)	(2,521)	(2,907)
Actual expenses	(1,371)	(1,301)	—	—
Settlements	(2,228)	(4,151)	—	—
Currency translation adjustments	(4,186)	7,597	—	—
End of year	$814,894	$868,887	$ 22,060	$ 25,035
Change in plan assets:				
Beginning of year	$776,482	$714,608	$ —	$ —
Actual return on plan assets	(44,876)	94,960	—	—
Employer contribution	55,311	4,561	2,203	2,654
Plan participants' contributions	1,402	1,655	319	253
Benefits paid	(44,190)	(45,384)	(2,522)	(2,907)
Actual Expenses	(1,371)	(1,301)	—	—
Currency translation adjustments	(4,462)	7,383	—	—
End of year	$738,296	$776,482	$ —	$ —
Funded status	$ (76,598)	$ (92,405)	$(22,060)	$(25,035)
Amounts recognized on the balance sheet				
Noncurrent assets	$ 9,098	$ 8,663	$ —	$ —
Current liabilities	(4,905)	(3,374)	(1,623)	(1,686)
Noncurrent liabilities	(80,791)	(97,694)	(20,437)	(23,349)
Total	$ (76,598)	$ (92,405)	$(22,060)	$(25,035)
Amounts recognized in accumulated other comprehensive income (AOCI)				
Net actuarial loss (gain)	$228,430	$201,390	$ (4,751)	$ (2,899)
Prior service cost	(1,225)	(1,461)	(2,060)	(2,718)
Total	$227,205	$199,929	$ (6,811)	$ (5,617)
Amounts in AOCI expected to be recognized in net periodic cost in the coming year:				
Loss (gain) recognition	$ 10,368	$ 15,615	$ 131	$ (29)
Prior service cost recognition	$ (284)	$ (250)	$ (657)	$ (657)
Accumulated benefit obligation	$784,205	$834,745	N/A	N/A
Information for pension plans with an accumulated benefit obligation in excess of plan assets:				
Projected benefit obligation	$743,632	$785,039	N/A	N/A
Accumulated benefit obligation	714,146	752,371	N/A	N/A
Fair value of plan assets	658,327	684,756	N/A	N/A

Plan Assumptions

	Pension Benefits		Postretirement Benefits	
	2018	2017	2018	2017
Weighted-average assumptions in determination of benefit obligation:				
Discount rate	4.09%	3.46%	4.20%	3.54%
Rate of compensation increase	3.50%	3.55%	N/A	N/A
Health care cost trends:				
Rate assumed for subsequent year	N/A	N/A	7.85%	8.30%
Ultimate rate reached in 2026	N/A	N/A	4.50%	4.50%
Weighted-average assumptions in determination of net periodic benefit cost:				
Discount rate	3.46%	3.93%	3.54%	4.02%
Expected return on plan assets	7.47%	7.47%	N/A	N/A
Rate of compensation increase	3.50%	3.54%	N/A	N/A
Health care cost trends:				
Rate assumed for subsequent year	N/A	N/A	8.30%	8.25%
Ultimate rate reached in 2026	N/A	N/A	4.50%	4.50%

Effective December 31, 2016, the Corporation adopted the spot rate, or full yield curve, approach for developing discount rates. The discount rate for each plan's past service liabilities and service cost is determined by discounting the plan's expected future benefit payments using a yield curve developed from high quality bonds that are rated Aa or better by Moody's as of the measurement date. The yield curve calculation matches the notional cash inflows of the hypothetical bond portfolio with the expected benefit payments to arrive at one effective rate for these components. Interest cost is determined by applying the spot rate from the full yield curve to each anticipated benefit payment, based on the anticipated optional form elections.

The overall expected return on assets assumption is based on a combination of historical performance of the pension fund and expectations of future performance. Expected future performance is determined by weighting the expected returns for each asset class by the plan's asset allocation. The expected returns are based on long-term capital market assumptions utilizing a ten-year time horizon through consultation with investment advisors. While consideration is given to recent performance and historical returns, the assumption represents a long-term prospective return.

The effect on the Other Post-Employment Benefits plan of a 1% change in the health care cost trend is as follows:

(In thousands)	1% Increase	1% Decrease
Total service and interest cost components	$ 29	$ (23)
Postretirement benefit obligation	$331	$(272)

Pension Plan Assets

The overall objective for plan assets is to earn a rate of return over time to meet anticipated benefit payments in accordance with plan provisions. The long-term investment objective of the domestic retirement plans is to achieve a total rate of return, net of fees, which exceeds the actuarial overall expected return on asset assumptions used for funding purposes and which provides an appropriate premium over inflation. The intermediate-term objective of the domestic retirement plans, defined as three to five years, is to outperform each of the capital markets in which assets are invested, net of fees. During periods of extreme market volatility, preservation of capital takes a higher precedence than outperforming the capital markets.

The Finance Committee of the Corporation's Board of Directors is responsible for formulating investment policies, developing investment manager guidelines and objectives, and approving and managing qualified advisors and investment managers. The guidelines established define permitted investments within each asset class and apply certain restrictions such as limits on concentrated holdings, and prohibits selling securities short, buying on margin, and the purchase of any securities issued by the Corporation.

The Corporation maintains the funds of the CW Pension Plan under a trust that is diversified across investment classes and among investment managers to achieve an optimal balance between risk and return. As a part of its diversification strategy, the Corporation has established target allocations for each of the following assets classes: domestic equity securities, international equity securities, and debt securities. Below are the Corporation's actual and established target allocations for the CW Pension Plan, representing 88% of consolidated assets:

	As of December 31,		Target	Expected
	2018	2017	Exposure	Range
Asset class				
Domestic equities	48%	52%	50%	40%-60%
International equities	15%	15%	15%	10%-20%
Total equity	63%	67%	65%	55%-75%
Fixed income	37%	33%	35%	25%-45%

As of December 31, 2018 and 2017, cash funds in the CW Pension Plan represented approximately 6% of portfolio assets in both periods.

Foreign plan assets represent 12% of consolidated plan assets, with the majority of the assets supporting the U.K. plan. Generally, the foreign plans follow a similar asset allocation strategy and are more heavily weighted in fixed income resulting in a weighted expected return on assets assumption of 4.50% for all foreign plans.

The Corporation may from time to time require the reallocation of assets in order to bring the retirement plans into conformity with these ranges. The Corporation may also authorize alterations or deviations from these ranges where appropriate for achieving the objectives of the retirement plans.

Fair Value Measurements

The following table presents consolidated plan assets (in thousands) as of December 31, 2018 using the fair value hierarchy, as described in Note 10 to the Consolidated Financial Statements.

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Asset Category				
Cash and cash equivalents	$ 42,374	$ 12,551	$ 29,823	$ —
Equity securities-Mutual funds[1]	504,633	455,175	49,458	—
Bond funds[2]	216,372	150,265	66,107	—
Insurance Contracts[3]	10,912	—	—	10,912
Other[4]	2,191	—	—	2,191
December 31, 2017	$776,482	$617,991	$145,388	$13,103
Cash and cash equivalents	$ 42,261	$ 20,034	$ 22,227	$ —
Equity securities-Mutual funds[1]	446,434	404,509	41,925	—
Bond funds[2]	238,880	177,731	61,149	—
Insurance Contracts[3]	8,408	—	—	8,408
Other[4]	2,313	—	—	2,313
December 31, 2018	$738,296	$602,274	$125,301	$10,721

(1) This category consists of domestic and international equity securities. It is comprised of U.S. securities benchmarked against the S&P 500 index and Russell 2000 index, international mutual funds benchmarked against the MSCI EAFE index, global equity index mutual funds associated with our U.K. based pension plans and balanced funds associated with the U.K. and Canadian based pension plans.

(2) This category consists of domestic and international bonds. The domestic fixed income securities are benchmarked against the Bloomberg Barclays Capital Aggregate Bond index, actively-managed bond mutual funds comprised of domestic investment grade debt, fixed income derivatives, and below investment-grade issues, U.S. mortgage backed securities, asset backed securities, municipal bonds, and convertible debt. International bonds consist of bond mutual funds for institutional investors associated with the CW Pension Plan, Switzerland, and U.K. based pension plans.

(3) This category consists of a guaranteed investment contract (GIC) in Switzerland. Amounts contributed to the plan are guaranteed by a foundation for occupational benefits that in turn entered into a group insurance contract and the foundation pays a guaranteed rate of interest that is reset annually.

(4) This category consists primarily of real estate investment trusts in Switzerland.

Valuation

Equity securities and exchange-traded equity and bond mutual funds are valued using a market approach based on the quoted market prices of identical instruments. Pooled institutional funds are valued at their net asset values and are calculated by the sponsor of the fund.

Fixed income securities are primarily valued using a market approach utilizing various underlying pricing sources and methodologies. Real estate investment trusts are priced at net asset value based on valuations of the underlying real estate holdings using inputs such as discounted cash flows, independent appraisals, and market-based comparable data.

Cash balances in the United States are held in a pooled fund and classified as a Level 2 asset. Non-U.S. cash is valued using a market approach based on quoted market prices of identical instruments.

The following table presents a reconciliation of Level 3 assets held during the years ended December 31, 2018 and 2017:

(In thousands)	Insurance Contracts	Other	Total
December 31, 2016	$10,760	$1,618	$12,378
Actual return on plan assets:			
Relating to assets still held at the reporting date	167	58	226
Purchases, sales, and settlements	(503)	436	(68)
Foreign currency translation adjustment	488	79	567
December 31, 2017	$10,912	$2,191	$13,103
Actual return on plan assets:			
Relating to assets still held at the reporting date	163	(13)	150
Purchases, sales, and settlements	(2,595)	152	(2,443)
Foreign currency translation adjustment	(72)	(17)	(89)
December 31, 2018	$ 8,408	$2,313	$10,721

Benefit Payments

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid from the plans:

(In thousands)	Pension Plans	Postretirement Plans	Total
2019	$ 48,806	$1,623	$ 50,429
2020	48,976	1,630	50,606
2021	50,691	1,616	52,307
2022	51,360	1,615	52,975
2023	52,418	1,619	54,037
2024 — 2028	275,736	7,611	283,347

Defined Contribution Retirement Plans

The Corporation offers all of its domestic employees the opportunity to participate in a defined contribution plan. Costs incurred by the Corporation in the administration and record keeping of the defined contribution plan are paid for by the Corporation and are not considered material.

Effective January 1, 2014, all non-union employees who were not currently receiving final or career average pay benefits became eligible to receive employer contributions in the Corporation's sponsored 401(k) plan, including both employer match and non-elective contribution components. Effective January 1, 2019, the employer contribution was increased to a maximum of 7% of eligible compensation from 6% previously. During the year ended December 31, 2018, the expense relating to the plan was $14.4 million, consisting of $6.3 million in matching contributions to the plan in 2018, and $8.1 million in non-elective contributions paid in January 2019. Cumulative contributions of approximately $81 million are expected to be made from 2019 through 2023.

In addition, the Corporation had foreign pension costs under various defined contribution plans of $5.3 million, $4.2 million, and $4.2 million in 2018, 2017, and 2016, respectively.

17. LEASES

The Corporation conducts a portion of its operations from leased facilities, which include manufacturing and service facilities, administrative offices, and warehouses. In addition, the Corporation leases vehicles, machinery, and office equipment under operating leases. The leases expire at various dates and may include renewals and escalations. Rental expenses for all operating leases amounted to $38.4 million, $37.1 million, and $35.3 million in 2018, 2017, and 2016, respectively.

As of December 31, 2018, the approximate future minimum rental commitments under operating leases that have initial or remaining non-cancelable lease terms in excess of one year are as follows:

(In thousands)	Rental Commitments
2019	$ 29,562
2020	28,514
2021	24,501
2022	19,996
2023	19,778
Thereafter	93,974
Total	$216,325

18. SEGMENT INFORMATION

The Corporation's segments are composed of similar product groupings that serve the same or similar end markets. Based on this approach, the Corporation has three reportable segments: Commercial/Industrial, Defense, and Power, as described below in further detail.

The Commercial/Industrial reportable segment is comprised of businesses that provide a diversified offering of highly engineered products and services supporting critical applications primarily across the commercial aerospace and general industrial markets. The products offered include electronic throttle control devices and transmission shifters, electro-mechanical actuation control components, valves, and surface technology services such as shot peening, laser peening, coatings, and advanced testing.

The Defense reportable segment is comprised of businesses that primarily provide products to the defense markets and to a lesser extent the commercial aerospace market. The products offered include commercial off-the-shelf (COTS) embedded computing board level modules, integrated subsystems, turret aiming and stabilization products, weapons handling systems, avionics and electronics, flight test equipment, and aircraft data management solutions.

The Power segment is comprised of businesses that primarily provide products to the power generation markets and to a lesser extent the naval defense market. The products offered include main coolant pumps, power-dense compact motors, generators, secondary propulsion systems, pumps, pump seals, control rod drive mechanisms, fastening systems, specialized containment doors, airlock hatches, spent fuel management products, and fluid sealing products.

The Corporation's measure of segment profit or loss is operating income. Interest expense and income taxes are not reported on an operating segment basis as they are not considered in the segments' performance evaluation by the Corporation's chief operating decision-maker, its Chief Executive Officer.

Net sales and operating income by reportable segment are as follows:

	Year Ended December 31,		
(In thousands)	**2018**	**2017**	**2016**
Net sales			
Commercial/Industrial	$1,209,943	$1,163,510	$1,120,326
Defense	559,058	557,954	469,796
Power	649,754	554,048	524,967
Less: Intersegment Revenues	(6,920)	(4,486)	(6,158)
Total Consolidated	$2,411,835	$2,271,026	$2,108,931

(In thousands)	**2018**	**2017**	**2016**
Operating income (expense)			
Commercial/Industrial	$ 182,669	$ 168,146	$ 156,084
Defense	128,446	109,338	98,182
Power	98,858	81,119	74,360
Corporate and Eliminations[(1)]	(36,347)	(33,483)	(32,107)
Total Consolidated	$ 373,626	$ 325,120	$ 296,519
Depreciation and amortization expense			
Commercial/Industrial	$ 50,690	$ 53,180	$ 53,970
Defense	20,578	20,702	14,488
Power	27,737	22,019	23,032
Corporate	3,944	4,094	4,518
Total Consolidated	$ 102,949	$ 99,995	$ 96,008
Segment assets			
Commercial/Industrial	$1,398,601	$1,444,097	$1,391,040
Defense	961,298	1,044,776	751,859
Power	720,073	482,753	516,321
Corporate	175,413	264,695	378,561
Total Consolidated	$3,255,385	$3,236,321	$3,037,781

(In thousands)	2018	2017	2016
Capital expenditures			
Commercial/Industrial	$ 30,411	$ 29,028	$ 30,145
Defense	5,793	9,276	5,870
Power	11,350	10,039	6,653
Corporate	5,863	4,362	4,108
Total Consolidated	$ 53,417	$ 52,705	$ 46,776

(1) Corporate and Eliminations includes pension expense, environmental remediation and administrative expenses, legal, foreign currency transactional gains and losses, and other expenses.

Reconciliations

	Year Ended December 31,		
(In thousands)	2018	2017	2016
Earnings before taxes:			
Total segment operating income	$ 409,973	$ 358,603	$ 328,626
Corporate and Eliminations	(36,347)	(33,483)	(32,107)
Interest expense	33,983	41,471	41,248
Other income, net	16,596	15,970	12,690
Total consolidated earnings before tax	$ 356,239	$ 299,619	$ 267,961

	As of December 31,		
(In thousands)	2018	2017	2016
Assets:			
Total assets for reportable segments	$3,079,972	$2,971,626	$2,659,220
Non-segment cash	138,053	204,664	357,021
Other assets	37,360	60,031	21,540
Total consolidated assets	$3,255,385	$3,236,321	$3,037,781

Geographic Information

	Year Ended December 31,		
(In thousands)	2018	2017	2016
Revenues			
United States of America	$1,623,511	$1,562,180	$1,472,241
United Kingdom	126,439	118,350	114,752
Other foreign countries	661,885	590,496	521,938
Consolidated total	$2,411,835	$2,271,026	$2,108,931

	As of December 31,		
(In thousands)	2018	2017	2016
Long-Lived Assets			
United States of America	$ 258,504	$ 264,829	$ 272,826
United Kingdom	34,649	41,100	39,014
Other foreign countries	81,507	84,306	77,063
Consolidated total	$ 374,660	$ 390,235	$ 388,903

Net sales by product line

	Year Ended December 31,		
(In thousands)	**2018**	**2017**	**2016**
Net sales			
Flow Control	$1,008,262	$ 899,705	$ 883,735
Motion Control	1,090,703	1,075,218	940,162
Surface Technologies	312,870	296,103	285,034
Consolidated total	$2,411,835	$2,271,026	$2,108,931

The Flow Control products include valves, pumps, motors, generators, and instrumentation that manage the flow of liquids and gases, generate power, and monitor or provide critical functions. Motion Control's products include turret aiming and stabilization products, embedded computing board level modules, electronic throttle control devices, transmission shifters, and electro-mechanical actuation control components. Surface Technologies include shot peening, laser peening, and coatings services that enhance the durability, extend the life, and prevent premature fatigue and failure on customer-supplied metal components.

19. CONTINGENCIES AND COMMITMENTS

Legal Proceedings

The Corporation has been named in a number of lawsuits that allege injury from exposure to asbestos. To date, the Corporation has not been found liable for or paid any material sum of money in settlement in any case. The Corporation believes its minimal use of asbestos in its past operations and the relatively non-friable condition of asbestos in its products make it unlikely that it will face material liability in any asbestos litigation, whether individually or in the aggregate. The Corporation maintains insurance coverage for these potential liabilities and believes adequate coverage exists to cover any unanticipated asbestos liability.

In December 2013, the Corporation, along with other unaffiliated parties, received a claim from Canadian Natural Resources Limited (CNRL) filed in the Court of Queen's Bench of Alberta, Judicial District of Calgary. The claim pertains to a January 2011 fire and explosion at a delayed coker unit at its Fort McMurray refinery that resulted in the injury of five CNRL employees, damage to property and equipment, and various forms of consequential loss such as loss of profit, lost opportunities, and business interruption. The fire and explosion occurred when a CNRL employee bypassed certain safety controls and opened an operating coker unit. The total quantum of alleged damages arising from the incident has not been finalized, but is estimated to meet or exceed $1 billion. The Corporation maintains various forms of commercial, property and casualty, product liability, and other forms of insurance; however, such insurance may not be adequate to cover the costs associated with a judgment against it. All parties have agreed in principle to participate in a formal mediation in 2019 with the intention of settling this claim. In an effort to induce the parties to participate in the formal mediation, CNRL agreed to reduce its claim to approximately $400 million, which reflects the monetary amount of property damage incurred as a result of the fire and explosion. The Corporation is currently unable to estimate an amount, or range of potential losses, if any, from this matter. The Corporation believes that it has adequate legal defenses and intends to defend this matter vigorously. The Corporation's financial condition, results of operations, and cash flows could be materially affected during a future fiscal quarter or fiscal year by unfavorable developments or outcome regarding this claim.

The Corporation is party to a number of other legal actions and claims, none of which individually or in the aggregate, in the opinion of management, are expected to have a material effect on the Corporation's results of operations or financial position.

WEC Bankruptcy

On March 29, 2017, WEC filed for Chapter 11 bankruptcy protection in the United States Bankruptcy Court for the Southern District of New York, Case No. 17-10751. The Bankruptcy Court overseeing the Bankruptcy Case approved, on an interim basis, an $800 million Debtor-in-Possession Financing Facility to help WEC finance its business operations during the reorganization process. On January 4, 2018, WEC announced that it had agreed to be acquired by Brookfield Business Partners L.P for approximately $4.6 billion. The acquisition, which was completed on August 1, 2018, is not expected to have a material impact on the Corporation's financial condition or results of operations as WEC plans to continue operating in the ordinary course of business under existing senior management.

On January 18, 2019, the Corporation executed an agreement to settle substantially all of its general unsecured claims with WEC, including its pre-petition billings. As it relates to post-petition work, the Corporation will continue to honor its executory contracts and expects to collect all amounts due. The Corporation will continue to monitor and evaluate the status of the WEC bankruptcy for potential impacts on its business.

Letters of Credit and Other Arrangements

The Corporation enters into standby letters of credit agreements and guarantees with financial institutions and customers primarily relating to guarantees of repayment, future performance on certain contracts to provide products and services, and to secure advance payments from certain international customers. As of December 31, 2018 and 2017, there were $21.7 million and $21.3 million of stand-by letters of credit outstanding, respectively, and $11.7 million and $14.6 million of bank guarantees outstanding, respectively.

The Corporation, through its Electro-Mechanical Division (EMD) business unit, has three Pennsylvania Department of Environmental Protection (PADEP) radioactive materials licenses that are utilized in the continued operation of the EMD business. In connection with these licenses, the Corporation has known conditional asset retirement obligations related to asset decommissioning activities to be performed in the future, when the Corporation terminates these licenses. For two of the three licenses, the Corporation has recorded an asset retirement obligation of approximately $7.2 million. For its third license, the Corporation has not recorded an asset retirement obligation as it is not reasonably estimable due to insufficient information about the timing and method of settlement of the obligation. Accordingly, this obligation has not been recorded in the Consolidated Financial Statements. A liability for this obligation will be recorded in the period when sufficient information regarding timing and method of settlement becomes available to make a reasonable estimate of the liability's fair value. The Corporation is required to provide the Nuclear Regulatory Commission financial assurance demonstrating its ability to cover the cost of decommissioning its Cheswick, Pennsylvania facility upon closure, though the Corporation does not intend to close this facility. The Corporation has provided this financial assurance in the form of a $45.6 million surety bond.

AP1000 Program

Within the Corporation's Power segment, the Electro-Mechanical Division is the RCP supplier for the WEC AP1000 nuclear power plants under construction in China and the United States. The terms of the AP1000 China and U.S. contracts include liquidated damage provisions for failure to meet contractual delivery dates if the Corporation caused the delay and the delay was not excusable. The Corporation would be liable for liquidated damages if the Corporation was deemed responsible for not meeting the delivery dates. On October 10, 2013, the Corporation received a letter from WEC stating entitlements to the maximum amount of liquidated damages allowable under the AP1000 China contract from WEC of approximately $25 million. As of December 31, 2018, the Corporation has not met certain contractual delivery dates under its AP1000 U.S. and China contracts; however, there are significant counterclaims and uncertainties as to which parties are responsible for the delays. The Corporation believes it has adequate legal defenses and intends to vigorously defend this matter. Given the uncertainties surrounding the responsibility for the delays, no accrual has been made for this matter as of December 31, 2018. As of December 31, 2018, the range of possible loss is $0 million to $31 million for the AP1000 U.S. contract, for a total range of possible loss of $0 to $55.5 million.

20. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The total cumulative balance of each component of accumulated other comprehensive income (loss), net of tax, is as follows:

(In thousands)	Foreign currency translation adjustments, net	Total pension and postretirement adjustments, net	Accumulated other comprehensive income (loss)
December 31, 2016	$(172,650)	$(119,106)	$(291,756)
Other comprehensive loss before reclassifications[1]	77,942	(10,831)	67,111
Amounts reclassified from accumulated other comprehensive income[1]	—	7,805	7,805
Net current period other comprehensive income (loss)	77,942	(3,026)	74,916
December 31, 2017	$ (94,708)	$(122,132)	$(216,840)
Other comprehensive loss before reclassifications[1]	(52,440)	(31,380)	(83,820)
Amounts reclassified from accumulated other comprehensive income[1]	—	12,213	12,213
Net current period other comprehensive loss	(52,440)	(19,167)	(71,607)
December 31, 2018	$(147,148)	$(141,299)	$(288,447)

[1] All amounts are after tax.

Details of amounts reclassified from accumulated other comprehensive income (loss) are below:

	Amount reclassified from Accumulated other comprehensive income (loss)		Affected line item in the statement where net earnings is presented
(In thousands)	2018	2017	
Defined benefit pension and postretirement plans			
Amortization of prior service costs	908	756	[1]
Amortization of net actuarial losses	(16,736)	(12,702)	[1]
Settlements	(337)	(327)	[1]
	(16,165)	(12,273)	Total before tax
	3,952	4,468	Income tax effect
Total reclassifications	$(12,213)	$ (7,805)	Net of tax

[1] These items are included in the computation of net periodic pension cost. See Note 16, Pension and Other Postretirement Benefit Plans.

21. QUARTERLY RESULTS OF OPERATIONS (UNAUDITED)

The following tables set forth selected unaudited quarterly Consolidated Statements of Earnings information for the fiscal years ended December 31, 2018 and 2017.

(In thousands, except per share data)	First	Second	Third	Fourth
2018				
Net sales	$547,522	$620,298	$595,393	$648,622
Gross profit	181,191	226,500	222,518	241,052
Net earnings	43,643	74,788	74,483	82,835
Net earnings per share				
Basic earnings per share	$ 0.99	$ 1.69	$ 1.70	$ 1.91
Diluted earnings per share	$ 0.98	$ 1.68	$ 1.68	$ 1.89
2017				
Net sales	$523,591	$567,653	$567,901	$611,881
Gross profit	166,935	195,010	207,496	231,344
Net earnings	32,547	50,650	63,944	67,750
Net earnings per share				
Basic earnings per share	$ 0.74	$ 1.15	$ 1.45	$ 1.54
Diluted earnings per share	$ 0.73	$ 1.13	$ 1.43	$ 1.52

Note: Certain amounts may not add due to rounding.

Report of the Corporation

The Consolidated Financial Statements appearing in Item 8 of this Annual Report on Form 10-K have been prepared by the Corporation in conformity with accounting principles generally accepted in the United States of America. The financial statements necessarily include some amounts that are based on the best estimates and judgments of the Corporation. Other financial information in this Annual Report on Form 10-K is consistent with that in the Consolidated Financial Statements.

The Corporation maintains accounting systems, procedures, and internal accounting controls designed to provide reasonable assurance that assets are safeguarded and that transactions are executed in accordance with the appropriate corporate authorization and are properly recorded. The accounting systems and internal accounting controls are augmented by written policies and procedures, organizational structure providing for a division of responsibilities, selection and training of qualified personnel, and an internal audit program. The design, monitoring, and revision of internal accounting control systems involve, among other things, management's judgment with respect to the relative cost and expected benefits of specific control measures. Management of the Corporation has completed an assessment of the Corporation's internal controls over financial reporting and has included "Management's Annual Report on Internal Control Over Financial Reporting" in Item 9A of this Annual Report on Form 10-K.

Deloitte & Touche LLP, our independent registered public accounting firm, performed an integrated audit of the Corporation's Consolidated Financial Statements that also included forming an opinion on the internal controls over financial reporting of the Corporation for the year ended December 31, 2018. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. The objective of their audit is the expression of an opinion on the fairness of the Corporation's Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America, in all material respects, and on the internal controls over financial reporting as of December 31, 2018.

The Audit Committee of the Board of Directors, composed entirely of directors who are independent of the Corporation, appoints the independent registered public accounting firm for ratification by stockholders and, among other things, considers the scope of the independent registered public accounting firm's examination, the audit results, and the adequacy of internal accounting controls of the Corporation. The independent registered public accounting firm and the internal auditor have direct access to the Audit Committee, and they meet with the committee from time to time, with and without management present, to discuss accounting, auditing, non-audit consulting services, internal control, and financial reporting matters.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Curtiss-Wright Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Curtiss-Wright Corporation and subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of earnings, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 27, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

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

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

/s/ Deloitte & Touche LLP

Parsippany, New Jersey
February 27, 2019

We have served as the Company's auditor since 2003.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Curtiss-Wright Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Curtiss-Wright Corporation and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018, of the Company and our report dated February 27, 2019, expressed an unqualified opinion on those financial statements.

As described in Management's Annual Report on Internal Control Over Financial Reporting, management excluded from its assessment the internal control over financial reporting at Dresser-Rand Government Business, which was acquired on April 2, 2018 and whose financial statements constitute 3% of total net sales and 2% of total assets of the consolidated financial statement amounts (excluding acquired intangible assets and goodwill) as of and for the year ended December 31, 2018. Accordingly, our audit did not include the internal control over financial reporting at Dresser-Rand Government Business.

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 Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte & Touche LLP

Parsippany, New Jersey
February 27, 2019

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures

As of December 31, 2018, the Corporation's management, including the Corporation's Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the Corporation's disclosure controls and procedures, as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Based on such evaluation, the Corporation's Chief Executive Officer and Chief Financial Officer concluded that the Corporation's disclosure controls and procedures are effective as of December 31, 2018 insofar as they are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms, and they include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report On Internal Control Over Financial Reporting

The Corporation's management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended.

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

The Corporation's management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2018. In making this assessment, the Corporation's management used the criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. However, under guidelines established by the SEC, companies are allowed to exclude an acquired business from management's report on internal control over financial reporting for the first year subsequent to the acquisition. Accordingly, in making its assessment of internal control over financial reporting as of December 31, 2018, management excluded the internal control activities of Dresser-Rand Government Business (DRG), which was acquired on April 2, 2018. DRG constituted 3% of total net sales and 2% of total assets (excluding acquired intangible assets and goodwill) as of and for the year ended December 31, 2018.

Based on management's assessment, management believes that as of December 31, 2018, the Corporation's internal control over financial reporting is effective based on the established criteria.

The Corporation's internal controls over financial reporting as of December 31, 2018 have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, and their report thereon is included in Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

The information required by Items 10, 11, 12, 13, and 14 of Part III of this Annual Report on Form 10-K, to the extent not set forth herein, is incorporated herein by reference from the registrant's definitive proxy statement relating to the annual meeting of stockholders to be held on May 9, 2019 which definitive proxy statement shall be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year to which this report relates. Information required by Item 401(b) of Regulation S-K is included in Part I of this report under the caption "Executive Officers" and information required by Item 201(d) of Regulation S-K is included in Part II of this report under the caption "Securities Authorized For Issuance Under Equity Compensation Plans."

PART IV

Item 15. Exhibits, Financial Statement Schedule.

(a)	Financial Statements and Footnotes	Page
1.	The following are documents filed as part of this report in Part II, Item 8:	
	Consolidated Statements of Earnings	39
	Consolidated Statements of Comprehensive Income	40
	Consolidated Balance Sheets	41
	Consolidated Statements of Cash Flows	42
	Consolidated Statements of Stockholders' Equity	43
	Notes to Consolidated Financial Statements	44
2.	Financial Statement Schedule	
	Schedule II-Valuation and Qualifying Accounts	89
	All other financial statement schedules have been omitted because they are either not required, not applicable or the required information is shown in the Consolidated Financial Statements or Notes thereto.	

(b) Exhibits

Exhibit No.	Exhibit Description	Incorporated by Reference		Filed Herewith
		Form	Filing Date	
2.1	Agreement and Plan of Merger and Recapitalization, dated as of February 1, 2005, by and between the Registrant and CW Merger Sub, Inc.	8-K	February 3, 2005	
3.1	Amended and Restated Certificate of Incorporation	8-A12B/A	May 24, 2005	
3.2	Amended and Restated By-Laws	8-K	May 18, 2015	
4.1	Form of stock certificate for Common Stock	8-A12B/A	May 24, 2005	
10.1	Curtiss-Wright Corporation 2005 Omnibus Long-Term Incentive Plan, amended and restated effective January 1, 2010*	14A	March 19, 2010	
10.2	Form of Long Term Incentive Award Agreement, between the Registrant and the executive officers of the Registrant*	10-K	March 7, 2006	
10.3	Revised Standard Employment Severance Agreement with Senior Management of the Registrant*	10-Q	August 15, 2001	
10.4	Amended and Restated Retirement Benefits Restoration Plan as amended January 1, 2009.*	10-K	February 25, 2011	
10.5	Instrument of Amendment No. 1 to Amended and Restated Retirement Benefits Restoration Plan as amended January 1, 2009*	10-K	February 24, 2012	
10.6	Instrument of Amendment No. 2 to Amended and Restated Retirement Benefits Restoration Plan as amended January 1, 2009*	10-K	February 19, 2015	
10.7	Instrument of Amendment No. 3 to Amended and Restated Retirement Benefits Restoration Plan as amended January 1, 2009*	10-K	February 19, 2015	
10.8	Instrument of Amendment No. 4 to Amended and Restated Retirement Benefits Restoration Plan as amended January 1, 2009*	10-K	February 25, 2016	
10.9	Curtiss-Wright Corporation Retirement Plan, as Amended and Restated January 1, 2015*	10-K	February 25, 2016	

Exhibit No.	Exhibit Description	Incorporated by Reference		Filed Herewith
		Form	Filing Date	
10.10	Instrument of Amendment No. 1 to Curtiss-Wright Corporation Retirement Plan, as Amended and Restated January 1, 2015*	10-K	February 21, 2017	
10.11	Instrument of Amendment No. 2 to Curtiss-Wright Corporation Retirement Plan, as Amended and Restated January 1, 2015*	10-K	February 21, 2017	
10.12	Instrument of Amendment No. 3 to Curtiss-Wright Corporation Retirement Plan, as Amended and Restated January 1, 2015*	10-K	February 22, 2018	
10.13	Instrument of Amendment No. 4 to Curtiss-Wright Corporation Retirement Plan, as Amended and Restated January 1, 2015*	10-K	February 22, 2018	
10.14	Instrument of Amendment No. 5 to Curtiss-Wright Corporation Retirement Plan, as Amended and Restated January 1, 2015*			X
10.15	Instrument of Amendment No. 6 to Curtiss-Wright Corporation Retirement Plan, as Amended and Restated January 1, 2015*			X
10.16	Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective as of January 1, 2015*	10-K	February 25, 2016	
10.17	Instrument of Amendment No. 1 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*	10-K	February 25, 2016	
10.18	Instrument of Amendment No. 2 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*	10-K	February 21, 2017	
10.19	Instrument of Amendment No. 3 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*	10-K	February 21, 2017	
10.20	Instrument of Amendment No. 4 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*	10-K	February 21, 2017	
10.21	Instrument of Amendment No. 5 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*	10-K	February 22, 2018	
10.22	Instrument of Amendment No. 6 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*	10-K	February 22, 2018	
10.23	Instrument of Amendment No. 7 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*			X
10.24	Instrument of Amendment No. 8 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*			X
10.25	Instrument of Amendment No. 9 to the Curtiss-Wright Corporation Savings and Investment Plan, as Amended and Restated effective January 1, 2015*			X
10.26	Curtiss-Wright Corporation 2014 Omnibus Incentive Plan*	14A	March 21, 2014	
10.27	Curtiss-Wright Corporation Retirement Savings Restoration Plan*	10-K	February 19, 2015	

Exhibit No.	Exhibit Description	Incorporated by Reference		Filed Herewith
		Form	Filing Date	
10.28	Instrument of Amendment No. 1 to the Curtiss-Wright Corporation Retirement Savings Restoration Plan*	10-K	February 25, 2016	
10.29	Form of indemnification Agreement entered into by the Registrant with each of its directors	10-Q	May 7, 2012	
10.30	Amended and Restated Curtiss-Wright Electro-Mechanical Corporation Savings Plan, dated January 1, 2010*	10-K	February 25, 2011	
10.31	Instrument of Amendment No.1 to the Amended and Restated Curtiss-Wright Electro-Mechanical Corporation Savings Plan, dated January 1, 2010*	10-K	February 24, 2012	
10.32	Instrument of Amendment No. 2 to the Amended and Restated Curtiss-Wright Electro-Mechanical Corporation Savings Plan, dated January 1, 2010*	10-K	February 21, 2013	
10.33	Instrument of Amendment No.3 to the Amended and Restated Curtiss-Wright Electro-Mechanical Corporation Savings Plan, dated January 1, 2010*	10-K	February 21, 2013	
10.34	Instrument of Amendment No.4 to the Amended and Restated Curtiss-Wright Electro-Mechanical Corporation Savings Plan, dated January 1, 2010*	10-K	February 21, 2014	
10.35	Curtiss-Wright Corporation 2005 Stock Plan for Non-Employee Directors*	14A	April 5, 2005	
10.36	Amended and Revised Curtiss-Wright Corporation Executive Deferred Compensation Plan, as amended November 2006*	10-K	February 27, 2007	
10.37	Instrument of Amendment No. 1 to the Amended and Revised Curtiss-Wright Corporation Executive Deferred Compensation Plan, as amended August 29, 2008*	10-K	February 24, 2012	
10.38	Instrument of Amendment No. 2 to the Amended and Revised Curtiss-Wright Corporation Executive Deferred Compensation Plan, as amended August 29, 2008*	10-K	February 19, 2015	
10.39	Instrument of Amendment No. 3 to the Amended and Revised Curtiss-Wright Corporation Executive Deferred Compensation Plan, as amended August 29, 2008*	10-K	February 25, 2016	
10.40	Standard Change In Control Severance Protection Agreement, dated July 9, 2001, between the Registrant and Key Executives of the Registrant*	10-Q	November 15, 2001	
10.41	Curtiss-Wright Corporation Employee Stock Purchase Plan, as amended May 10, 2018*	14A	March 23, 2018	
10.42	Incentive Compensation Plan, as amended November 15, 2010*	14A	March 24, 2011	
10.43	Restricted Stock Unit Agreement, dated April 1, 2013, by and between the Registrant and Thomas Quinly*	10-Q	May 2, 2013	
10.44	Trust Agreement, dated January 20, 1998, between the Registrant and PNC Bank, National Association	10-Q	May 13, 1998	
10.45	Note Purchase Agreement between the Registrant and certain Institutional Investors, dated December 8, 2011	8-K	December 13, 2011	

Exhibit No.	Exhibit Description	Incorporated by Reference		Filed Herewith
		Form	Filing Date	
10.46	Restrictive Legends on Notes subject to Note Purchase Agreement between the Registrant and certain Institutional Investors, dated December 8, 2011	8-K	December 13, 2011	
10.47	Note Purchase Agreement between the Registrant and certain Institutional Investors, dated February 26, 2013	8-K	February 27, 2013	
10.48	Restrictive Legends on Notes subject to Note Purchase Agreement between the Registrant and certain Institutional Investors, dated February 26, 2013	8-K	February 27, 2013	
10.49	Fourth Amended and Restated Credit Agreement dated as of October 17, 2018 among the Company and Certain Subsidiaries as Borrowers; the Lenders party thereto; Bank of America N.A., as Administrative Agent, Swingline Lender, and L/C Issuer; Merrill Lynch, Pierce, Fenner & Smith Incorporated, JPMorgan Chase Bank, N.A., and Wells Fargo Securities, LLC, as Joint Lead Arrangers and Joint Bookrunners; JPMorgan Chase Bank, N.A., and Wells Fargo, N.A., as Syndication Agents; and Citizens Bank, N.A., as Documentation Agents	8-K	October 17, 2018	
21.00	Subsidiaries of the Registrant			X
23.00	Consent of Independent Registered Public Accounting Firm			X
31.10	Certification of David C. Adams, Chairman and CEO, Pursuant to Rule 13a - 14(a)			X
31.20	Certification of Glenn E. Tynan, Chief Financial Officer, Pursuant to Rule 13a - 14(a)			X
32.00	Certification of David C. Adams, Chairman and CEO and Glenn E. Tynan, Chief Financial Officer, Pursuant to 18 U.S.C. Section 1350			X
*	Indicates contract or compensatory plan or arrangement			
101.INS	XBRL Instance Document			
101.SCH	XBRL Taxonomy Extension Schema Document			
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document			
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document			
101.LAB	XBRL Taxonomy Extension Label Linkbase Document			
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document			

CURTISS-WRIGHT CORPORATION and SUBSIDIARIES
SCHEDULE II – VALUATION and QUALIFYING ACCOUNTS
for the years ended December 31, 2018, 2017, and 2016
(In thousands)

Description	Balance at Beginning of Period	Additions		Deductions	Balance at End of Period
		Charged to Costs and Expenses	Charged to Other Accounts		
Deducted from assets to which they apply:					
December 31, 2018					
Tax valuation allowance	12,322	108	17[1]	801	11,646
Total	$12,322	$ 108	$ 17	$ 801	$11,646
December 31, 2017					
Tax valuation allowance	17,776	1,471	125[1]	7,050[3]	12,322
Total	$17,776	$1,471	$ 125	$7,050	$12,322
December 31, 2016					
Tax valuation allowance	17,895	1,951	(181)[1]	1,889[2]	17,776
Total	$17,895	$1,951	$(181)	$1,889	$17,776

[1] Primarily foreign currency translation adjustments.

[2] Capital loss on sale of upstream oil and gas business.

[3] $4.3 million relates to the reduction of the U.S. corporate income tax rate due to the Tax Act.

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.

CURTISS-WRIGHT CORPORATION
(Registrant)

Date: February 27, 2019

By: /s/ David C. Adams
David C. Adams
Chairman 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.

Date: February 27, 2019

By: /s/ Glenn E. Tynan
Glenn E. Tynan
Vice President and Chief Financial Officer

Date: February 27, 2019

By: /s/ K. Christopher Farkas
K. Christopher Farkas
Vice President of Finance and Corporate Controller

Date: February 27, 2019

By: /s/ David C. Adams
David C. Adams
Director

Date: February 27, 2019

By: /s/ Dean M. Flatt
Dean M. Flatt
Director

Date: February 27, 2019

By: /s/ S. Marce Fuller
S. Marce Fuller
Director

Date: February 27, 2019

By: /s/ Bruce D. Hoechner
Bruce D. Hoechner
Director

Date: February 27, 2019

By: /s/ Allen A. Kozinski
Allen A. Kozinski
Director

Date: February 27, 2019

By: /s/ John B. Nathman
John B. Nathman
Director

Date: February 27, 2019

By: /s/ Robert J. Rivet
Robert J. Rivet
Director

Date: February 27, 2019

By: /s/ Albert E. Smith
Albert E. Smith
Director

Date: February 27, 2019

By: /s/ Peter C. Wallace
Peter C. Wallace
Director

2018 RECONCILIATIONS
Year ended December 31
(Dollars in millions, except percentages; unaudited)

	2018 Reported (GAAP)	2018 Adjustments[1] (Non-GAAP)	2018 Adjusted (Non-GAAP)
Sales			
Commercial/Industrial	$1,209.2	$ —	$1,209.2
Defense	554.4	—	554.4
Power	648.3	—	648.3
Total sales	**$2,411.8**	**$ —**	**$2,411.8**
Operating income (expense)			
Commercial/Industrial	$ 182.7	$ —	$ 182.7
Defense	128.4	—	128.4
Power	98.9	8.6	107.5
Total segments	**$ 410.0**	**$ 8.6**	**$ 418.6**
Corporate and other	(36.3)	—	(36.3)
Total operating income	**$ 373.6**	**$ 8.6**	**$ 382.3**
Interest expense	(34.0)	—	(34.0)
Other income, net	16.6	—	16.6
Earnings before income taxes	**$ 356.2**	**$ 8.6**	**$ 364.9**
Provision for income taxes	(80.5)	**$ (1.9)**	(82.4)
Net earnings	**$ 275.7**	**$ 6.7**	**$ 282.4**
Diluted earnings per share	**$ 6.22**	**$0.15**	**$ 6.37**
Diluted shares outstanding	**$ 44.3**	—	**$ 44.3**
Effective tax rate	**22.6%**	—	**22.6%**
Operating margins			
Commercial/Industrial	15.1%		15.1%
Defense	23.2%		23.2%
Power	15.2%	+140bps	16.6%
Total operating margin	**15.5%**	**+30bps**	**15.8%**

Note: Amounts may not add to the total due to rounding.

[1] Adjusted financials are defined as Reported Operating Income, Operating Margin and Diluted EPS under GAAP, and excludes the impact of first year purchase accounting costs associated with acquisitions, specifically one-time inventory step-up, backlog amortization and transaction costs.

2018 RECONCILIATIONS
Year ended December 31
(Dollars in millions, except percentages; unaudited)

	2018 Reported	2018 Adjustments[1] (Pension)	2018 Adjusted
Net cash provided by operating activities	$**336,273**	$ —	$ —
Capital expenditures	(53,417)	—	—
Free cash flow	$**282,856**	$**50,000**	$**332,856**
Free cash flow conversion	**103%**	—	**121%**

[1] Adjusted free cash flow (FCF) is defined is cash flow from operations less capital expenditures, and excludes voluntary contributions to the Company's corporate defined benefit pension plan. Adjusted FCF conversion is defined as adjusted free cash flow divided by net earnings from continuing operations.