ENPRO INDUSTRIES, INC
Form 10-K
February 26, 2018

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

FORM 10-K

(Mark One)
ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2017
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D)
OF THE SECURITIES EXCHANGE ACT OF 1934
Commission File Number 001-31225

ENPRO INDUSTRIES, INC.
(Exact name of registrant, as specified in its charter)

North Carolina	01-0573945
(State or other jurisdiction of incorporation)	(I.R.S. employer identification no.)
5605 Carnegie Boulevard, Suite 500 Charlotte, North Carolina	28209
(Address of principal executive offices)	(Zip code)

(704) 731-1500
(Registrant’s telephone number, including area code)
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common stock, $0.01 par value	New York Stock Exchange

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ý No ¨
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No ý
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ý No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ý No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the 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, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):
Large accelerated filer ý Accelerated filer ¨

Non-accelerated filer o (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 ý

The aggregate market value of voting and nonvoting common stock of the registrant held by non-affiliates of the registrant as of June 30, 2017 was $1,497,015,868. As of February 22, 2018, there were 21,592,605 shares of common stock of the registrant outstanding, which includes 191,342 shares of common stock held by a subsidiary of the registrant and accordingly are not entitled to be voted.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for the 2018 annual meeting of shareholders are incorporated by reference into Part III.

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ENPRO INDUSTRIES, INC.
PART I

ITEM 1. BUSINESS
As used in this report, the terms “we,” “us,” “our,” “EnPro” and “Company” mean EnPro Industries, Inc. and its subsidiaries (unless the context indicates another meaning). The term “common stock” means the common stock of EnPro Industries, Inc., par value $0.01 per share. The terms “convertible debentures” and “debentures” mean the 3.9375% Convertible Senior Debentures due 2015 issued by the Company in October 2005. The term "senior notes" means the 5.875% Senior Notes due 2022 issued by the Company in September 2014 and, unless the context otherwise requires, the 5.875% Senior Notes due 2022 of the same series issued in a follow-on offering in March 2017. The term "Coltec" refers to our subsidiary Coltec Industries Inc prior to its merger with and into our OldCo, LLC subsidiary on December 31, 2016 and to its assigns and successor after such date.

Background
We are a leader in designing, developing, manufacturing, and marketing proprietary engineered industrial products. We serve a wide variety of customers in varied industries around the world. As of December 31, 2017, we had 54 primary manufacturing facilities located in 12 countries, including the United States. We were incorporated under the laws of the State of North Carolina on January 11, 2002, as a wholly owned subsidiary of Goodrich Corporation (“Goodrich”). The incorporation was in anticipation of Goodrich’s announced distribution of its Engineered Industrial Products segment to existing Goodrich shareholders. The distribution took place on May 31, 2002 (the “Distribution”).
Our sales by geographic region in 2017, 2016 and 2015 were as follows:

	2017	2016	2015
	(in millions)		
United States	$750.6	$682.4	$696.2
Europe	292.6	289.9	289.5
Other	266.4	215.4	218.7
Total	$1,309.6	$1,187.7	$1,204.4

On June 5, 2010 (the “GST Petition Date”), three of our subsidiaries filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code in the U.S. Bankruptcy Court for the Western District of North Carolina (the "Bankruptcy Court") as a result of tens of thousands of pending and expected future asbestos personal injury claims. For a discussion of the effects of these proceedings on our financial statements, see Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Overview and Outlook – Overview” and Note 20, "Subsidiary Asbestos Bankruptcies" to our Consolidated Financial Statements, included in this report. Because of the filing, the results of these subsidiaries were deconsolidated from our results from the GST Petition Date until the Joint Plan (as defined below) was consummated and became effective at 12:01 a.m. on July 31, 2017.

On March 17, 2016, we announced that we had reached a comprehensive consensual settlement to resolve current and future asbestos claims which contemplated the joint plan of reorganization (the "Joint Plan") which was filed with the Bankruptcy Court. This settlement contemplated that Coltec would, subject to the receipt of necessary consents, undergo a corporate restructuring (the “Coltec Restructuring”) in which all of its significant operating assets and subsidiaries, which included each of the Company’s major business units, would be distributed to a new direct subsidiary of the Company, which would also assume all of Coltec’s non-asbestos liabilities. The Coltec Restructuring was completed on December 31, 2016, and included the merger of Coltec with and into OldCo, LLC (“OldCo”), an indirect subsidiary of EnPro. As further contemplated by the settlement, on January 30, 2017 (the "OldCo Petition Date"), OldCo filed a Chapter 11 bankruptcy petition with the Bankruptcy Court (the "OldCo Chapter 11 Case"). GST and OldCo were reconsolidated effective July 31, 2017, upon the consummation of the Joint Plan.

GST and OldCo had combined sales for the seven months ended July 30, 2017 (that is prior to the consummation of the Joint Plan) and for the years ended December 31, 2016 and 2015 as follows:

	Seven Months Ended July 30,	Years Ended December 31,	
	2017	2016	2015
	(in millions)		
United States	$63.1	$101.6	$114.9
Europe	6.1	9.4	11.4
Other	56.7	84.8	91.3
Total	$125.9	$195.8	$217.6

We maintain an Internet website at www.enproindustries.com. We will make this annual report, in addition to our other annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports, available free of charge on our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission. Our Corporate Governance Guidelines and the charters for each of our Board Committees (Audit and Risk Management, Compensation and Human Resources, Executive, and Nominating and Corporate Governance committees) are also available on our website, and copies of this information are available in print to any shareholder who requests it. Information included on or linked to our website is not incorporated by reference into this annual report.

Acquisitions and Dispositions

In October 2017, we acquired 100% of the stock of Commercial Vehicle Components Co., Ltd. ("CVC"), a manufacturer of air disc brake and medium duty hydraulic disc brake pads for the heavy-duty and medium-duty commercial vehicle aftermarket. CVC will be managed as part of our Stemco division within the Sealing Products segment.

In June 2017, we acquired certain assets and assumed certain liabilities of Qualiseal Technology (“Qualiseal”), a privately-held company offering custom-engineered mechanical face and circumferential seals for demanding aerospace and industrial applications. Qualiseal is managed as part of our Technetics division within the Sealing Products segment.

We paid $44.6 million, net of cash acquired, in 2017 for businesses acquired during the year.

Additionally, the reconsolidation of GST and OldCo on July 31, 2017 was accounted for as a business acquisition. See Note 2, "Garlock Sealing Technologies LLC, Garrison Litigation Management Group, Ltd., and OldCo, LLC" for further information about this transaction.

In April 2016, we acquired certain assets and assumed certain liabilities of Rubber Fab Gasket & Molding, Inc. ("Rubber Fab"), a privately-held company offering a full range of high performance sanitary gaskets, hoses and fittings for the hygienic process industries. Rubber Fab is managed as part of EnPro's Garlock division within the Sealing Products segment. In total, we paid $22.6 million for the acquisition of Rubber Fab.

In July 2015, we purchased the Veyance North American air spring business (the "Air Spring Business") through the purchase of 100% of the stock of Veyance's Mexico business and of all of the assets of its U.S. business. The Air Spring Business is a manufacturer of air springs that are used in the suspension systems of commercial vehicles. Following the acquisition, it became part of our Stemco division within the Sealing Products segment. The Air Spring Business manufactures products in its facility in San Luis Potosi, Mexico with a commercial organization in the U.S., Canada and Mexico, and engineering, testing and administrative resources in Fairlawn, Ohio. The addition of the Air Spring Business significantly expanded Stemco's presence and scale in the commercial vehicle suspension market. In the second quarter of 2016, we finalized and agreed upon the acquisition date balance sheet of the Air Spring Business with the seller and made an additional cash payment of $5.9 million for the agreed-upon acquisition date working capital balance.

In February 2015, we acquired 100% of the stock of ATDynamics, Inc. ("ATDynamics"), a privately-held company offering innovative aerodynamic products to the commercial trucking industry. ATDynamics is managed as part of our Stemco division within the Sealing Products segment. ATDynamics, with operations in Texas, is a leading designer and manufacturer of a suite of aerodynamic products engineered to reduce fuel consumption in the global freight transportation industry.

We paid $45.5 million, net of cash acquired, in 2015 for the businesses acquired during that year.

In December 2014, we acquired Fabrico, Inc. ("Fabrico"), a privately-held company offering mission-critical components for the combustion and hot path sections of industrial gas and steam turbines. The business is headquartered in Oxford, Massachusetts with additional facilities in Charlton, Massachusetts and Greenville, South Carolina. The addition of Fabrico significantly expanded our presence and scale in the land-based turbine seal and combustion market.

In March 2014, we acquired the remaining interest of the Stemco Crewson LLC joint venture. As a result, we own all of the ownership interests in Stemco Crewson LLC. The joint venture was formed in 2009 with joint venture partner Tramec, LLC to expand our brake product offerings to include automatic brake adjusters. The purchase of the remaining interest in the joint venture allows us to accelerate investment in new product development and commercial strategies focused on market share growth for these products.

In March 2014, we acquired the business of Strong-Tight Co. Ltd., a Taiwanese manufacturer and seller of gaskets and industrial sealing products. This acquisition added an established Asian marketing presence and manufacturing facilities for our gasket and sealing products business.

All of the businesses acquired in 2014 are included in our Sealing Products segment. We paid $61.9 million in 2014, net of cash acquired, for these businesses.

In January 2013, we acquired certain assets and assumed certain liabilities of a small distributor of industrial seals in Singapore which is managed as part of the Garlock operations in the Sealing Products segment. The acquisition was paid for with $2.0 million of cash.

In 2016, we sold all shares of our Franken Plastik business unit in the Sealing Products segment and of our CPI Thailand business unit in the Engineered Products segment. The Franken Plastic sale closed in December, while the CPI Thailand sale closed in June. We received $3.7 million for the sale of these businesses.

In December 2014, we sold substantially all of the assets and transferred certain liabilities of the GRT business unit. GRT, which was a single manufacturing facility in Paragould, Arkansas, manufactures and sells conveyor belts and sheet rubber for many applications across a diversified array of end markets. The business was sold for $42.3 million, net of transaction expenses. The escrow amount of $6.6 million was received in 2016. Consolidated net sales for the year ended December 31, 2014 included $31.3 million attributable to GRT prior to the sale.

Operations

We manage our business as three segments: a Sealing Products segment, an Engineered Products segment, and a Power Systems segment. Our reportable segments are managed separately based on differences in their products and services and their end-customers. For financial information with respect to our business segments, see Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Results of Operations,” and Note 19 to our Consolidated Financial Statements. Item 7 and Note 19 contain information about sales and profits for each segment, and Note 19 contains information about each segment’s assets.

Sealing Products Segment

Overview. Our Sealing Products segment includes three operating divisions, Garlock, Technetics and Stemco, that serve a wide variety of industries where performance and durability are vital for safety and environmental protection. Our products are used in many demanding environments, such as those characterized by high pressure, high temperature and chemical corrosion, and many of our products support critical applications with a low tolerance for failure.

The Garlock family of companies designs, manufactures and sells sealing products, including: metallic, non-metallic and composite material gaskets; dynamic seals; compression packing; hydraulic components; expansion joints; flange sealing and isolation products; pipeline casing spacers/isolators; casing end seals; and modular sealing systems for sealing pipeline penetrations.

Gasket products are used for sealing flange joints in chemical, petrochemical and pulp and paper processing facilities where high pressures, high temperatures and corrosive chemicals create the need for specialized and highly engineered sealing products. Our products are also used in sanitary markets such as food and beverage and pharmaceuticals where product integrity and safety are extremely important. We sell these gasket products under the Garlock®, Gylon®, Blue-Gard®, Stress-Saver®, Edge®, Graphonic®, Bio-Pro®, Tuf-Steel®, Detectomer®, and Flexseal® brand names. These products have a long-standing reputation for performance and reliability within the industries we serve.

Dynamic elastomeric seals are used in rotating applications to contain the lubricants that protect the bearings from excessive friction and heat generation. Because these sealing products are utilized in dynamic applications, they are subject to wear. Durability, performance, and reliability are, therefore, critical requirements of our customers. These rotary seals are used in demanding applications in the steel industry, mining and pulp and paper processing under well-known brand names including KLOZURE® and Model 64®.

Dynamic bearing isolator seals are used in power transmission systems to contain lubricants within bearing housings while also preventing contamination ingress. Bearing isolators provide users long-life sealing due to the non-contact seal design, and therefore are used in many OEM electric motors and gear boxes. Garlock continues to innovate and build a patent portfolio of bearing isolator products. Its well-known brands include GUARDIAN,™ ISO-GARD,™ EnDuro™ and SGi.™

Gar-Seal® brand PTFE-lined butterfly valves are used to control the flow of corrosive, abrasive or toxic media in the chemical processing industry.

Compression packing is used to provide sealing in pressurized, static and dynamic applications such as pumps and valves. Major markets for compression packing products are the pulp and paper, mining, petrochemical and hydrocarbon processing industries. Branded products for these markets include EVSP™, Synthepak® and Graph-lock®.

Critical service flange gaskets, seals and electrical flange isolation kits are used in high-pressure wellhead equipment, flow lines, water injection lines, sour hydrocarbon process applications and crude oil and natural gas pipeline/transmission line applications. These products are sold under the brand names Pikotek®, VCS/LineSeal®, VCFS™, Flowlok™, PGE™, LineBacker®, LineBacker®61™ NSF, GasketSeal® and ElectroStop®. Additional products for pipeline wall penetration sealing systems are supplied to water, construction and infrastructure industries under the Link-Seal® and Century-Line® brand names.

Technetics designs, manufactures and sells high performance metal seals, mechanical seals, elastomeric seals, edge-welded bellows, pedestals for semiconductor manufacturing, and a wide range of polytetrafluoroethylene (PTFE) products. These products are used in extreme applications for a variety of industries, including semiconductor, aerospace, industrial gas turbines, power generation, oil and gas, life sciences and other markets. Brands include HELICOFLEX®, BELFAB®, FELTMETAL™, BLADESAFE®, TEXOLON®, CEFILAC GPA®, VITAFLEX®, CEFIL'AIR®, and ORIGRAF®. Technetics also provides a number of value-added services, including surface and coating technologies, metal and plastics machining, fluoropolymer etching, as well as research, design, testing, and analysis for custom solutions.

Stemco designs, manufactures and sells heavy-duty truck wheel-end components and systems including: seals; hubcaps; mileage counters; bearings; locking nuts; brake products, such as brake drums, automatic brake adjusters, brake friction and shoes, brake pads, hardware and brake kits; suspension components, such as steering knuckle king-pins and bushings, spring pins and bushings, other polymer bushing components, and air springs for tractor, trailer and cab suspensions; and automatic tire inflation systems, RF-based tire pressure monitoring and inflation systems and automated mileage collection devices, as well as trailer aerodynamic devices designed to increase fuel efficiency. Its products primarily serve the medium and heavy-duty commercial vehicle market. Product brands include STEMCO®, STEMCO Kaiser®, STEMCO Duroline®, STEMCO Crewson®, STEMCO Motor Wheel®, Grit Guard®, Guardian HP®, Voyager®, Discover®, Endeavor®, Pro-Torq®, Zip-Torq®, Sentinel®, Defender®, Data Trac®, QwikKit®, Centrifuse®, AerisTM, Aeris Smart SenseTM, BAT RF®, TrailerTail®, Spring Ride® and Super Cushion®.

Customers. Our Sealing Products segment sells products to industrial agents and distributors, original equipment manufacturers (“OEMs”), engineering and construction firms and end users worldwide. Sealing products are offered to global customers, with approximately 35% of sales delivered to customers outside the United States in 2017. Representative customers include Saudi Aramco, Motion Industries, Applied Industrial Technologies, Electricite de France, AREVA, Bayer, BASF Corporation, Chevron, General Electric Company, Georgia-Pacific Corporation, Eastman Chemical Company, Exxon Mobil Corporation, Minara Resources, Queensland Alumina, AK Steel Corporation, Volvo Corporation, Wabash Trailer, Utility Trailer, Great Dane, Mack Trucks, International Truck, PACCAR, Hendrickson, Applied Materials, Carlisle Interconnect Technologies, Schlumberger, China Nuclear Power Engineering Company Ltd., and Flextronics. In 2017, the largest customer accounted for approximately 10% of segment revenues.

Competition. Competition in the sealing markets we serve is based on proven product performance and reliability, as well as price, customer service, application expertise, technical support, delivery terms, breadth of product offering, reputation for quality, and the availability of product. Our leading brand names, including Garlock® and STEMCO®, have been built upon long-standing reputations for reliability and durability. In addition, the breadth, performance and quality of our product offerings allow us to achieve premium pricing and have made us a preferred supplier among our agents and distributors. We believe that our record of product performance in the major markets in which this segment operates is a significant competitive advantage for us. Major competitors include A.W. Chesterton Company, Klinger Group, Teadit, Lamons, SIEM/Flexitallic, SKF USA Inc., Federal-Mogul Corporation, Meritor, Firestone, Saint-Gobain, Eaton Corporation, Parker Hannifin Corporation, and Miropro Co. Ltd.

Raw Materials and Components. Our Sealing Products segment uses PTFE resins, aramid fibers, specialty elastomers, elastomeric compounds, graphite and carbon, common and exotic metals, cold-rolled steel, leather, aluminum die castings, nitrile rubber, powdered metal components, and various fibers and resins. We believe all of these raw materials and components are readily available from various suppliers.

Engineered Products Segment

Overview. Our Engineered Products segment includes two high performance industrial products businesses: GGB and Compressor Products International (CPI).

GGB designs, manufactures and sells self-lubricating, non-rolling, metal polymer, engineered plastics, and fiber reinforced composite bearing products, as well as aluminum bushing blocks for hydraulic applications. The bearing surfaces are often made of PTFE or a mixture that includes PTFE to provide maintenance-free performance and reduced friction. GGB's bearing products typically perform as sleeve bearings or thrust washers under conditions of no lubrication, minimal lubrication or pre-lubrication. These products are used in a wide variety of markets such as the automotive, aerospace, pump and compressor, construction, power generation and general industrial markets. GGB has approximately 20,000 bearing part numbers of different designs and physical dimensions. GGB is a leading and well recognized brand name and sells products under the DU®, DP®, DX®, DS®, HI-EX®, EP™, SY™, HPMB™, and GAR-MAX™ names.

CPI designs, manufactures, sells and services components for reciprocating compressors and engines. These components, which include packing and wiper rings, piston and rider rings, compressor valve assemblies, divider block valves, compressor monitoring systems, lubrication systems and related components are utilized primarily in the refining, petrochemical, natural gas gathering, storage and transmission, and general industrial markets. Brand names for our products include Hi-Flo™, Valvealert™, Triple Circle™, CPI Special Polymer Alloys™, Twin Ring™, Liard™, ProFl
SAFEGUARD®, Neomag®, CVP®, XDC® POPR® and Proven Solutions for the Global Compression Industry™.

Customers. The Engineered Products segment sells its products to a diverse customer base worldwide, with approximately 73% of sales delivered to customers outside the United States in 2017. GGB has customers worldwide in all major industrial sectors, and supplies products directly to customers through GGB's own local distribution system and indirectly to the market through independent agents and distributors with their own local networks. CPI sells its products and services globally through its internal sales force, independent sales representatives, distributors, and service centers. In 2017, the largest customer accounted for approximately 2% of segment revenues.

Competition. GGB has a number of competitors, including Kolbenschmidt Pierburg AG, Saint-Gobain's Norglide division, and Federal-Mogul Corporation. In the markets in which GGB competes, competition is based primarily on performance of the product for specific applications, product reliability, delivery, and price. CPI competes against other component manufacturers and service providers, such as Cook Compression, Hoerbiger Corporation, Graco and numerous smaller component manufacturers. In the markets served by CPI, the primary competitive drivers are trusted solutions with personalized customer care, product quality, availability, engineering support, and price.

Raw Materials. GGB's major raw material purchases include steel coil, bronze powder, bronze coil, PTFE and aluminum. GGB sources components from a number of external suppliers. CPI's major raw material purchases include PTFE, polyetheretherketone (PEEK), compound additives, bronze, steel, and stainless steel bar stock. We believe all of these raw materials and components are readily available from various suppliers, though there are limited suppliers for certain other minor, but critical, raw materials.

Power Systems Segment

Overview. Our Power Systems segment is composed of our Fairbanks Morse business, which designs, manufactures, sells and services heavy-duty, medium-speed diesel, natural gas and dual fuel reciprocating engines. We market these products and services under the Fairbanks Morse® brand name. Products in this segment include licensed heavy-duty, medium-speed diesel, natural gas and dual fuel reciprocating engines, in addition to our own designs. The reciprocating engines range in size from 700 to 31,970 horsepower and from five to 20 cylinders. These products are used in marine, oil and gas, and power generation markets. We have been building engines for over 115 years under the Fairbanks Morse® brand name and we have a large installed base of engines for which we supply aftermarket parts and service. Fairbanks Morse has been a key supplier to the U.S. Navy for medium-speed diesel engines and has supplied engines to the U.S. Navy for over 70 years.

Customers. Our Power Systems segment sells its products and services to customers worldwide, including major shipyards, municipal utilities, institutional and industrial organizations, sewage treatment plants, nuclear power plants and offshore oil and gas platforms, with approximately 21% of sales delivered to customers outside the United States in 2017. We market our products through a direct sales force of engineers in North America and through independent agents worldwide. Our representative customers include Northrop Grumman, General Dynamics, Lockheed Martin, the U.S. Navy, the U.S. Coast Guard, Electricite de France, Areva, Abbvie, and Exelon. In 2017, the largest customer accounted for approximately 13% of segment revenues.

Competition. Major competitors for our Power Systems segment include MTU, Caterpillar Inc., and Wartsila Corporation. Price, delivery time, engineering and service support, and engine efficiency relating to fuel consumption and emissions drive competition.

Raw Materials and Components. Our Power Systems segment purchases multiple ferrous and non-ferrous castings, forgings, plate stock and bar stock for fabrication and machining into engines. In addition, we buy a considerable amount of precision-machined engine components. We believe all of these raw materials and components are readily available from various suppliers, but may be subject to long and variable lead times.

Research and Development

The goal of our research and development effort is to strengthen our product portfolios for traditional markets while simultaneously creating distinctive and breakthrough products. We utilize a process to move product innovations from concept to commercialization, and to identify, analyze, develop and implement new product concepts and opportunities aimed at business growth.

We employ scientists, engineers and technicians throughout our operations to develop, design and test new and improved products. We work closely with our customers to identify issues and develop technical solutions. The majority of our research and development spending typically is directed toward the development of new sealing products for the most demanding environments, the development of truck and trailer fleet information systems, the development of bearing products and materials with increased load carrying capability and superior friction and wear characteristics, and the development of power systems to meet current and future emissions requirements while improving fuel efficiencies.

Net research and development expenditures in 2017, 2016 and 2015 were $32.7 million, $28.9 million, and $22.5 million, respectively.

Backlog

At December 31, 2017, we had a backlog of orders valued at $377.0 million compared with $347.7 million at December 31, 2016. Approximately 13% of the backlog, primarily in our Power Systems segment, is expected to be filled beyond 2018. Backlog represents orders on hand we believe to be firm. However, there is no certainty the backlog orders will result in actual sales at the times or in the amounts ordered. In addition, for most of our business, backlog is not particularly predictive of future performance because of our short lead times and some seasonality.

Quality Assurance

We believe product quality is among the most important factors in developing and maintaining strong, long-term relationships with our customers. In order to meet the exacting requirements of our customers, we maintain stringent standards of quality control. We routinely employ in-process inspection by using testing equipment as a process aid during all stages of development, design and production to ensure product quality and reliability. These include state-of-the-art CAD/CAM equipment, statistical process control systems, laser tracking devices, failure mode and effect analysis, and coordinate measuring machines. We are able to extract numerical quality control data as a statistical measurement of the quality of the parts being manufactured from our CNC machinery. In addition, we perform quality control tests on parts that we outsource. As a result, we are able to significantly reduce the number of defective parts and therefore improve efficiency, quality and reliability.

As of December 31, 2017, 48 of our manufacturing facilities were ISO 9000, QS 9000 and/or TS 16949 certified. Eighteen of our facilities are ISO 14001 certified. OEMs are increasingly requiring these standards in lieu of individual certification procedures and as a condition of awarding business.

Patents, Trademarks and Other Intellectual Property

We maintain a number of patents and trademarks issued by the U.S. and other countries relating to the name and design of our products and have granted licenses to some of these patents and trademarks. We routinely evaluate the need to protect new and existing products through the patent and trademark systems in the U.S. and other countries. We also have unpatented proprietary information, consisting of know-how and trade secrets relating to the design, manufacture and operation of our products and their use. We do not consider our business as a whole to be materially dependent on any particular patent, patent right, trademark, trade secret or license granted or group of related patents, patent rights, trademarks, trade secrets or licenses granted.

In general, we are the owner of the rights to the products that we manufacture and sell. However, we also license patented and other proprietary technology and processes from various companies and individuals in order to broaden our product

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offerings. We are dependent on the ability of these third parties to diligently protect their intellectual property rights. In several cases, the intellectual property licenses are integral to the manufacture of our products and certain services we perform. A failure on the part of the licensor to protect its own intellectual property could reduce our revenues. These licenses are subject to renewal and it is possible we may not successfully renegotiate these licenses or they could be terminated in the event of a material breach. If this were to occur, our business, financial condition, results of operations and cash flows could be adversely affected. For example, Fairbanks Morse licenses technology from MAN Diesel and Turbo (MDT) and its subsidiaries for a majority of the four-stroke reciprocating engines and spare parts it produces and for nearly all the new engines and parts it manufactures for use by the U.S military. The terms of the licenses vary by engine type. These licenses have terms, subject to potential renewal, expiring in 2018 or 2019. The renewal terms for these licenses are currently being negotiated, and such licenses would expire if renewal terms cannot be agreed upon. The loss of these licenses could adversely affect our business, financial condition, results of operations and cash flows.

Employees and Labor Relations

We currently have approximately 6,000 employees worldwide in our consolidated operations. Approximately 3,300 employees are located within the U.S., and approximately 2,700 employees are located outside the U.S., primarily in Europe, Mexico, Canada and China. Approximately 25% of our U.S. employees are members of trade unions covered by four collective bargaining agreements with contract expiration dates from August 2020 to November 2021. Union agreements relate, among other things, to wages, hours, and conditions of employment. The wages and benefits furnished are generally comparable to industry and area practices.

ITEM 1A. RISK FACTORS

In addition to the risks stated elsewhere in this annual report, set forth below are certain risk factors that we believe are material. If any of these risks occur, our business, financial condition, results of operations, cash flows and reputation could be harmed. You should also consider these risk factors when you read “forward-looking statements” elsewhere in this report. You can identify forward-looking statements by terms such as “may,” “hope,” “will,” “could,” “should,” “expect,” “ “anticipate,” “intend,” “believe,” “estimate,” “predict,” “potential” or “continue,” the negative of those terms or other compara terms. Those forward-looking statements are only predictions and can be adversely affected if any of these risks occur.

Risks Related to Our Business

Our business and some of the markets we serve are cyclical and distressed market conditions could have a material adverse effect on our business.

The markets in which we sell our products, particularly chemical companies, petroleum refineries, heavy-duty trucking, semiconductor manufacturing, capital equipment and the automotive industry, are, to varying degrees, cyclical and have historically experienced periodic downturns. Prior downturns have been characterized by diminished product demand, excess manufacturing capacity and subsequent erosion of average selling prices in these markets resulting in negative effects on our net sales, gross margins and net income. The most recent recession negatively affected our results of operations. A prolonged and severe downward cycle in our markets could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We face intense competition that could have a material adverse effect on our business.

We encounter intense competition in almost all areas of our businesses. Customers for many of our products are attempting to reduce the number of vendors from which they purchase. To remain competitive, we need to invest continuously in manufacturing, marketing, customer service and support and our distribution networks. We also need to develop new products to continue to meet the needs and desires of our customers. We may not have sufficient resources to continue to make such investments or maintain our competitive position. Additionally, some of our competitors are larger than we are and have substantially greater financial resources than we do. As a result, they may be better able to withstand the effects of periodic economic downturns. Certain of our products may also experience transformation from unique branded products to undifferentiated price sensitive products. This product commoditization may be accelerated by low cost foreign competition. Changes in the replacement cycle of certain of our products, including because of improved product quality or improved maintenance, may affect aftermarket demand for such products. Initiatives designed to distinguish our products through superior service, continuous improvement, innovation, customer relationships, technology, new product acquisitions, bundling with key services, long-term contracts or market focus may not be effective. Pricing and other competitive pressures could adversely affect our business, financial condition, results of operations and cash flows.

If we fail to retain the independent agents and distributors upon whom we rely to market our products, we may be unable to effectively market our products and our revenue and profitability may decline.

The marketing success of many of our businesses in the U.S. and abroad depends largely upon our independent agents' and distributors' sales and service expertise and relationships with customers in our markets. Many of these agents have developed strong ties to existing and potential customers because of their detailed knowledge of our products. A loss of a significant number of these agents or distributors, or of a particular agent or distributor in a key market or with key customer relationships, could significantly inhibit our ability to effectively market our products, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Increased costs for raw materials, the termination of existing supply agreements or disruptions of our supply chain could have a material adverse effect on our business.

The prices for some of the raw materials we purchase increased in 2017. While we have been successful in passing along some of these higher costs, there can be no assurance we will be able to continue doing so without losing customers. Additionally, our Power Systems segment has entered into long-term contracts to manufacture and sell engines and generator sets which do not allow for price adjustments to recover additional costs resulting from increases in the costs of materials and components during the contract period, and accordingly material increases in relevant costs could adversely affect the profitability of these long-term contracts and the profits of that segment. Similarly, the loss of a key supplier or the unavailability of a key raw material could adversely affect our business, financial condition, results of operations and cash flows.

We have exposure to some contingent liabilities relating to previously owned businesses, which could have a material adverse effect on our financial condition, results of operations or cash flows in any fiscal period.

We have contingent liabilities related to discontinued operations, including previously owned businesses of our predecessors, including environmental liabilities and liabilities for certain products and other matters. In some instances we have indemnified others against those liabilities, and in other instances we have received indemnities from third parties against those liabilities.

Claims could arise relating to products, facilities or other matters related to our discontinued operations. Some of these claims could seek substantial monetary payments. For example, EnPro has entered into an Administrative Settlement Agreement and Order on Consent for Interim Removal Action with the Environmental Protection Agency for the assessment and potential remediation of eight surface uranium mines in Arizona on the basis that our EnPro Holdings, Inc. subsidiary ("EnPro Holdings"), through which we hold all of our operating subsidiaries, was a potentially responsible party under federal environmental laws as the successor to a former operator in the 1950s of those mines. Similarly, in connection with a facility located in Water Valley, Mississippi, which was divested in 1996 and has trichloroethylene soil and groundwater contamination, EnPro has entered into an Agreed Order with the Mississippi Department of Environmental Quality requiring development and implementation of a corrective action work plan addressing both the sources of contamination at the facility and areas where the contamination has migrated, which include residential homes and commercial and local government facilities, and area homeowners, owners of commercial facilities and the local county government and possibly other private parties and individuals have reportedly engaged legal counsel to separately evaluate possible legal action. Further, we could potentially be liable with respect to firearms manufactured prior to March 1990 by Colt Firearms, a former operation of a corporate predecessor of EnPro Holdings, and electrical transformers manufactured prior to May 1994 by Central Moloney, another former operation of that corporate predecessor. EnPro Holdings also has ongoing obligations with regard to workers compensation, retiree medical and other retiree benefit matters associated with discontinued operations in connection with a corporate predecessor's periods of ownership of those operations.

We have insurance and reserves to address some of these liabilities. However, if our insurance coverage is depleted or our reserves are not adequate, environmental and other liabilities relating to discontinued operations could have a material adverse effect on our financial condition, results of operations and cash flows.

We conduct a significant amount of our sales activities outside of the U.S., which subjects us to additional business risks, including foreign exchange risks, that may cause our profitability to decline.

Because we sell our products in a number of foreign countries, we are subject to risks associated with doing business internationally. In 2017, we derived approximately 43% of our net sales from sales of our products outside of the U.S. In addition, we operate 54 primary manufacturing facilities located in 12 countries, including the U.S. Our sales and operating activities outside of the U.S. are, and will continue to be, subject to a number of risks, including:

- unfavorable fluctuations in foreign currency exchange rates, including long-term contracts denominated in foreign currencies;

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- adverse changes in foreign tax, legal and regulatory requirements;
- difficulty in protecting intellectual property;
- government embargoes, trade protection measures, such as "anti-dumping" duties applicable to classes of products, and import or export licensing requirements, as well as the imposition of trade sanctions against a class of products imported from or sold and exported to, or the loss of "normal trade relations" status with, countries in which we conduct business, could significantly increase our cost of products or otherwise reduce our sales and harm our business;
- cultural norms and expectations that may sometimes be inconsistent with our Code of Conduct and our requirements about the manner in which our employees, agents and distributors conduct business;
- differing labor regulations;
- political and economic instability, including instabilities associated with European sovereign debt uncertainties and the future continuity of membership of the European Union; and
- acts of hostility, terror or war.

Any of these factors, individually or together, could have a material adverse effect on our business, financial condition, results of operations and cash flows. For example, tapered roller bearings manufactured at our facilities in China that are imported into the United States before re-sale to customers are potentially subject to "anti-dumping" duties imposed by the U.S. Department of Commerce based on its periodic review and analysis of the manufacturing and selling activities of larger Chinese suppliers of these products. Such duties, if imposed, could be at levels that could materially adversely affect the commercial competitiveness of these products, which could adversely affect the business and results of operations of our Sealing Products segment.

Our operations outside the United States require us to comply with a number of United States and international regulations. For example, our operations in countries outside the United States are subject to the Foreign Corrupt Practices Act (the "FCPA"), which prohibits United States companies or their agents and employees from providing anything of value to a foreign official for the purposes of influencing any act or decision of these individuals in their official capacity to help obtain or retain business, direct business to any person or corporate entity, or obtain any unfair advantage. Our activities in countries outside the United States create the risk of unauthorized payments or offers of payments by one of our employees or agents that could be in violation of the FCPA, even though these parties are not always subject to our control. We have internal control policies and procedures and have implemented training and compliance programs with respect to the FCPA. However, we cannot assure that our policies, procedures and programs always will protect us from reckless or criminal acts committed by our employees or agents. In the event that we believe or have reason to believe that our employees or agents have or may have violated applicable anti-corruption laws, including the FCPA, we may be required to investigate or have outside counsel investigate the relevant facts and circumstances. In addition, we are subject to and must comply with all applicable export controls and economic sanctions laws and embargoes imposed by the United States and other various governments. Changes in export control or trade sanctions laws may restrict our business practices, including cessation of business activities in sanctioned countries or with sanctioned entities, and may result in modifications to compliance programs and increase compliance costs, and violations of these laws or regulations may subject us to fines, penalties and other sanctions, such as loss of authorizations needed to conduct aspects of our international business or debarments from export privileges. Violations of the FCPA or export controls or sanctions laws and regulations may result in severe criminal or civil sanctions, and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition.

We intend to continue to pursue international growth opportunities, which could increase our exposure to risks associated with international sales and operations. As we expand our international operations, we may also encounter new risks that could adversely affect our revenues and profitability. For example, as we focus on building our international sales and distribution networks in new geographic regions, we must continue to develop relationships with qualified local agents, distributors and trading companies. If we are not successful in developing these relationships, we may not be able to increase sales in these regions.

Failure to properly manage these risks could adversely affect our business, financial condition, results of operations and cash flows.

If we are unable to protect our intellectual property rights and knowledge relating to our products, our business and prospects may be negatively impacted.

We believe that proprietary products and technology are important to our success. If we are unable to adequately protect our intellectual property and know-how, our business and prospects could be negatively impacted. Our efforts to protect our intellectual property through patents, trademarks, service marks, domain names, trade secrets, copyrights, confidentiality, noncompete and nondisclosure agreements and other measures may not be adequate to protect our proprietary rights. Patents issued to third parties, whether before or after the issue date of our patents, could render our intellectual property less valuable. Questions as to whether our competitors' products infringe our intellectual property rights or whether our products infringe our competitors' intellectual property rights may be disputed. In addition, intellectual property rights may be unavailable, limited or difficult to enforce in some jurisdictions, which could make it easier for competitors to capture market share in those jurisdictions.

Our competitors may capture market share from us by selling products that claim to mirror the capabilities of our products or technology. Without sufficient protection nationally and internationally for our intellectual property, our competitiveness worldwide could be impaired, which would negatively impact our growth and future revenue. As a result, we may be required to spend significant resources to monitor and police our intellectual property rights.

Failure to maintain or renew licenses to certain patent and technology rights could adversely affect our business, financial condition, results of operations and cash flows.

In general, we are the owner of the rights to the products that we manufacture and sell. However, we also license patented and other proprietary technology and processes from various companies and individuals in order to broaden our product offerings. In several cases, the intellectual property licenses are integral to the manufacture of our products and certain services we perform. These licenses are subject to renewal and it is possible we may not successfully renegotiate these licenses or they could be terminated in the event of a material breach. If this were to occur, our business, financial condition, results of operations and cash flows could be adversely affected. See Item 1, "Business - Patents, Trademarks and Other Intellectual Property" for a discussion of the status of renewal of certain licenses.

Reductions in the U.S. Navy's requirements for engines offered by Fairbanks Morse could materially adversely affect the results of our Power Systems segment and our business with the U.S. Navy and other governmental agencies is subject to government contracting risks.

Sales of new engines for use by the U.S. Navy by our Power Systems segment, which have been a significant component of that segment's revenues, are based on the U.S. Navy's long-term ship-building programs. Although the Power Systems segment has expanded its activities in other markets, including the sale of diesel engine generator sets for emergency back-up power at nuclear power plants in France, the establishment of an exclusive distribution arrangement with a German engine manufacturer in the power generation industry in the U.S. and the introduction of its internally-developed Trident OP™ engine, any decline in demand from the U.S. Navy could materially adversely affect the results of our Power Systems segment.

Our business with the U.S. Navy, and other governmental agencies, including sales to prime contractors that supply these agencies, is subject to government contracting risks. U.S. government contracts are subject to termination by the government, either for the convenience of the government or for default as a result of our failure to perform under the applicable contract. If terminated by the government as a result of our default, we could be liable for additional costs the government incurs in acquiring undelivered goods or services from another source and any other damages it suffers. In addition, if we or one of our divisions were charged with wrongdoing with respect to a U.S. government contract, the U.S. government could suspend us from bidding on or receiving awards of new government contracts pending the completion of legal proceedings. If convicted or found liable, the U.S. government could subject us to fines, penalties, repayments and treble and other damages, and/or bar us from bidding on or receiving new awards of U.S. government contracts and void any contracts found to be tainted by fraud. The U.S. government also reserves the right to debar a contractor from receiving new government contracts for fraudulent, criminal or other seriously improper conduct.

We have made and expect to continue to make acquisitions, which could involve certain risks and uncertainties.

We expect to continue to make acquisitions in the future. Acquisitions involve numerous inherent challenges, such as properly evaluating acquisition opportunities, properly evaluating risks and other diligence matters, ensuring adequate capital availability and balancing other resource constraints. There are risks and uncertainties related to acquisitions, including: difficulties integrating acquired technology, operations, personnel and financial and other systems; unrealized sales expectations from the acquired business; unrealized synergies and cost savings; unknown or underestimated liabilities; diversion of management attention from running our existing businesses and potential loss of key management employees of the acquired business. In addition, internal controls over financial reporting of acquired companies may not be up to required standards. Our integration activities may place substantial demands on our management, operational resources and financial and internal control systems. Customer dissatisfaction or performance problems with an acquired business, technology, service or product could also have a material adverse effect on our reputation and business.

Our products are often used in critical applications, which could expose us to potentially significant product liability, warranty and other claims and recalls. Our insurance coverage may be inadequate to cover all of our significant risks or our insurers may deny coverage of material losses we incur, which could adversely affect our profitability and overall financial condition.

Our products are often used in critical applications in demanding environments, including in the nuclear, oil and gas, automotive, aerospace and pharmaceutical industries. Accordingly, product failures can have significant consequences and could result in significant product liability, warranty and other claims against us, regardless of whether our products caused the incident that is the subject of the claim, and we may have obligations to participate in the recall of products in which our products are components, if any of the components we supply prove to be defective. We endeavor to identify and obtain in established markets insurance agreements to cover significant risks and liabilities, though insurance against some of the risks inherent in our operations (such as insurance covering down-stream customer product recalls) is either unavailable or available only at rates or on terms that we consider uneconomical. Depending on competitive conditions and other factors, we endeavor to obtain contractual protection against uninsured risks from our customers, including limitations on liability and indemnification. In some cases, we are unable to obtain such contractual protections, and when we do, such contractual protection may not be as broad as we desire, may not be supported by adequate insurance maintained by the customer, or may not be fully enforceable in the jurisdictions in which our customers are located. Such insurance or contractual protection may not be sufficient or effective under all circumstances or against all hazards to which we may be subject. A successful claim or product recall for which we are not insured or for which we are underinsured could have a material adverse effect on us. Additionally, disputes with insurance carriers over coverage may affect the timing of cash flows and, if litigation with the carrier becomes necessary, an outcome unfavorable to us may have a material adverse effect on our results of operations.

Our business may be adversely affected by information technology disruptions.

Our business may be impacted by information technology disruptions, including information technology attacks. Cybersecurity attacks, in particular, are evolving and include, but are not limited to, malicious software, attempts to gain unauthorized access to data, and other electronic security breaches that could lead to disruptions in systems, unauthorized release of confidential or otherwise protected information and corruption of data (our own or that of third parties). We believe that we have adopted appropriate measures to mitigate potential risks to our systems from information technology-related disruptions. However, given the unpredictability of the timing, nature and scope of such disruptions, we could potentially be subject to production downtimes, operational delays, other detrimental impacts on our operations or ability to provide products and services to our customers, the compromising of confidential or otherwise protected information, misappropriation, destruction or corruption of data, security breaches, other manipulation or improper use of our systems or networks, financial losses from remedial actions, loss of business or potential liability, and/or damage to our reputation, any of which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Many of the products that we manufacture are sold to industries and used in applications that are susceptible to challenges from trends to address climate change or other trends favoring “clean” energy solutions.

International trends favoring “clean” energy solutions to address climate change, sustainability and other environmental concerns may present challenges to a number of industries that we supply. These trends include increasing market replacement of vehicles powered by internal-combustion engines with electric-powered vehicles and increasing implementation of solar and wind energy solutions. In some jurisdictions, these trends have been spurred by applicable government regulation, and similar or additional regulations may be adopted in the future in other jurisdictions. Furthermore, technological advances may accelerate the pace of these trends. Many of the products that we manufacture are used by industries and in applications that may face challenges from, and may be adversely affected by, these trends and, as a result, the demand for certain of our current products could be similarly adversely affected by these trends. Accordingly, we are subject to risks and uncertainties with respect to these trends. While we anticipate considering these trends in the continued development and implementation of our long-term strategy, our business and results of operations could be adversely affected by these trends if they continue or accelerate at a pace that we do not anticipate.

The strategy of our Power Systems segment to deliver power generating systems depends on our ability to outsource various elements of the scope of this work to third parties, which may expose us to the business risks of our suppliers and subcontractors, which could have a material adverse impact on its business and results of operations.

Our Power Systems segment is implementing a strategy to offer customers power generating systems, in which it depends on third-party suppliers and subcontractors for outsourced products, components or services. The implementation of that strategy subjects us to the risk of customer dissatisfaction with the quality or performance of the products or services we sell due to supplier or subcontractor failure. In addition, business difficulties experienced by a third-party supplier or subcontractor could lead to the interruption of our ability to obtain outsourced products or services and ultimately our inability to supply products or services to these customers. Third-party supplier and subcontractor business interruptions could include, but are not limited to, work stoppages, union negotiations and other labor disputes. Current or future economic conditions could also impact the ability of suppliers and subcontractors to access credit and, thus, impair their ability to provide us quality products or services in a timely manner, or at all. These factors may affect the timing and cost of completion of such projects and could adversely affect the business and results of operations of our Power Systems segment.

The strategy of our Power Systems segment includes development and commercialization of new power systems, including the Trident OP™ engine currently in development, to support growth, which involves significant investment and involves various risks and uncertainties. These new products may not achieve desired commercial or financial results.

The future growth of our Power Systems segment will depend, in part, on its ability to successfully develop and commercialize new product offerings, including the opposed piston engine currently in development which is being marketed as the Trident OP engine. Investments in developing new products such as the Trident OP engine involve varying degrees of uncertainties and risk, including whether a new product designed to meet specific performance, cost and safety criteria can be successfully developed in a cost effective manner and our ability to internally develop, or to license or purchase from third parties, technologies critical to new product development. Commercial success of new products depends on many factors, including the levels of innovation, the development costs, the levels of competition from others developing similar or other competing products (including the duration of our exclusive use of technologies critical to our new products), our ability to obtain or maintain government permits or certifications, the effectiveness of production, distribution and marketing efforts, and the costs to customers to deploy and provide support for the new products. We may not achieve significant revenues from new product development investments for a number of years, if at all. Moreover, new products may not be profitable, and, even if they are profitable, our operating margins from new products may not be as high as the margins we anticipate or have experienced historically.

Our business could be materially adversely affected by numerous other risks, including rising healthcare costs, changes in environmental laws and other unforeseen business interruptions.

Our business may be negatively impacted by numerous other risks. For example, medical and healthcare costs may continue to increase. Initiatives to address these costs, such as consumer driven health plan packages, may not successfully reduce these expenses as needed. Failure to offer competitive employee benefits may result in our inability to recruit or maintain key employees. Other risks to our business include potential changes in environmental rules or regulations, which could negatively impact our manufacturing processes. Use of certain chemicals and other substances could become restricted or such changes may otherwise require us to incur additional costs which could reduce our profitability and impair our ability to offer competitively priced products. Additional risks to our business include global or local events which could significantly disrupt our operations. Terrorist attacks, natural disasters, political insurgencies, pandemics and electrical grid disruptions and outages are some of the unforeseen risks that could negatively affect our business, financial condition, results of operations and cash flows.

Risks Related to Ownership of Our Common Stock

The market price and trading volume of our common stock may be volatile.

A relatively small number of shares traded in any one day could have a significant effect on the market price of our common stock. The market price of our common stock could fluctuate significantly for many reasons, including in response to the risks described in this section and elsewhere in this report or for reasons unrelated to our operations, such as reports by industry analysts, investor perceptions or negative announcements by our customers, competitors or suppliers regarding their own performance, as well as industry conditions and general financial, economic and political instability.

Because our quarterly revenues and operating results may vary significantly in future periods, our stock price may fluctuate.

Our revenue and operating results may vary significantly from quarter to quarter. A high proportion of our costs are fixed, due in part to significant selling and manufacturing costs. Small declines in revenues could disproportionately affect operating results in a quarter and the price of our common stock may fall. Other factors that could affect quarterly operating results include, but are not limited to:

- demand for our products;
- the timing and execution of customer contracts;
- the timing of sales of our products;
- increases in manufacturing costs due to equipment or labor issues;

- changes in foreign currency exchange rates;
- changes in applicable tax rates;
- an impairment of goodwill or other intangibles at one of our reporting units;
- unanticipated delays or problems in introducing new products;
- the incurrence of contractual penalties for the late delivery of long lead-time products;
- announcements by competitors of new products, services or technological innovations;
- changes in our pricing policies or the pricing policies of our competitors;
- increased expenses, whether related to sales and marketing, raw materials or supplies, product development or administration;
- major changes in the level of economic activity in major regions of the world in which we do business;
- costs related to possible future acquisitions or divestitures of technologies or businesses;
- an increase in the number or magnitude of product liability or environmental claims;
- our ability to expand our operations and the amount and timing of expenditures related to expansion of our operations, particularly outside the U.S.; and
- economic assumptions and market factors used to determine post-retirement benefits and pension liabilities.

Various provisions and laws could delay or prevent a change of control.

The anti-takeover provisions of our articles of incorporation and bylaws and provisions of North Carolina law could delay or prevent a change of control or may impede the ability of the holders of our common stock to change our management. In particular, our articles of incorporation and bylaws, among other things:

- require a supermajority shareholder vote to approve any business combination transaction with an owner of 5% or more of our shares unless the transaction is recommended by disinterested directors;
- limit the right of shareholders to remove directors and fill vacancies;
- regulate how shareholders may present proposals or nominate directors for election at shareholders’ meetings; and
- authorize our board of directors to issue preferred stock in one or more series, without shareholder approval.

Future sales of our common stock in the public market could lower the market price for our common stock.

In the future, we may sell additional shares of our common stock to raise capital. In addition, a reasonable number of shares of our common stock are reserved for issuance under our equity compensation plans, including shares to be issued upon the exercise of stock options and vesting of restricted stock or unit grants. We cannot predict the size of future issuances or the effect, if any, that they may have on the market price for our common stock. The issuance and sales of substantial amounts of common stock, or the perception that such issuances and sales may occur, could adversely affect the market price of our common stock.

Risks Related to Our Capital Structure

Our debt agreement and the indenture governing our senior notes impose limitations on our operations, which could impede our ability to respond to market conditions, address unanticipated capital investments and/or pursue business opportunities.

The agreement governing our senior secured revolving credit facility and the indenture governing the senior notes impose limitations on our operations, such as limitations on certain restricted payments, investments, incurrence or repayment of indebtedness, and maintenance of a consolidated net leverage ratio and an interest coverage financial ratio. In addition, the indenture governing our senior notes contains limitations on certain restricted payments, investments and incurrence or repayment of indebtedness. These limitations could impede our ability to respond to market conditions, address unanticipated capital investment needs and/or pursue business opportunities.

We may not have sufficient cash to fund a required repurchase of the senior notes upon a change of control.

Upon a change of control, as defined under the indenture governing the senior notes and includes events that may be beyond our control, the holders of the senior notes have the right to require us to offer to purchase all of the senior notes then outstanding at a price equal to 101% of their principal amount plus accrued and unpaid interest. In order to obtain sufficient funds to pay the purchase price of the outstanding notes, we expect that we would have to refinance the senior notes. We cannot assure you that we would be able to refinance the senior notes on reasonable terms, if at all. Our failure to offer to purchase all outstanding notes or to purchase all validly tendered notes would be an event of default under the indenture governing the senior notes. Such an event of default may cause the acceleration of our other debt.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

We are headquartered in Charlotte, North Carolina and have 54 primary manufacturing facilities located in 12 countries, including the U.S. The following table outlines the location, business segment and size of our largest facilities, along with whether we own or lease each facility:

Location	Segment	Owned/ Leased	Size (Square Feet)
U.S.			
Palmyra, New York	Sealing Products	Owned	690,000
Berea, Kentucky	Sealing Products	Owned	240,000
Longview, Texas	Sealing Products	Owned	219,000
Rome, Georgia	Sealing Products	Owned	175,000
Chattanooga, Tennessee	Sealing Products	Owned	117,000
Thorofare, New Jersey	Engineered Products	Owned	171,000
Beloit, Wisconsin	Power Systems	Owned	433,000
Foreign			
San Luis Potosi, Mexico	Sealing Products	Owned	387,250
Mexico City, Mexico	Sealing Products	Owned	128,000
Neuss, Germany	Sealing Products	Leased	146,000
Saint Etienne, France	Sealing Products	Owned	108,000
Suzhou, China	Engineered Products	Owned	223,500
Annecy, France	Engineered Products	Owned	196,000
Heilbronn, Germany	Engineered Products	Owned	127,000
Sucany, Slovakia	Engineered Products	Owned	109,000

Our manufacturing capabilities are flexible and allow us to customize the manufacturing process to increase performance and value for our customers and meet particular specifications. We also maintain numerous sales offices and warehouse facilities in strategic locations in the U.S., Canada and other countries. We believe our facilities and equipment are generally in good condition and are well maintained and able to continue to operate at present levels.

ITEM 3. LEGAL PROCEEDINGS

Descriptions of environmental and other legal matters are included in Item 7 of this annual report under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Contingencies” and in Note 21 to our Consolidated Financial Statements, which descriptions are incorporated by reference herein.

In addition to the matters noted above and discussed in those sections of this report, we are from time to time subject to, and are presently involved in, other litigation and legal proceedings arising in the ordinary course of business. We believe that the outcome of such other litigation and legal proceedings will not have a material adverse effect on our financial condition, results of operations and cash flows.

We were not subject to any penalties associated with any failure to disclose “reportable transactions” under Section 6707A of the Internal Revenue Code.

BorgWarner

A subsidiary of BorgWarner has asserted claims against our subsidiary, GGB France E.U.R.L. (“GGB France”), regarding certain bearings supplied by GGB France to BorgWarner and used by BorgWarner in manufacturing hydraulic control units included in motor vehicle automatic transmission units, mainly that the bearings caused performance problems with and/or damage to the transmission units, leading to associated repairs and replacements. BorgWarner and GGB France participated in a technical review before a panel of experts to determine, among other things, whether there were any defects in such bearings that were a cause of the damages claimed by BorgWarner, including whether GGB France was required to notify BorgWarner of a change in the source of a raw material used in the manufacture of such bearings. This technical review was a required predicate to the commencement of a legal proceeding for damages. The expert panel issued a final report on technical and financial matters on April 6, 2017. In the final report, the expert panel concluded that GGB France had a duty to notify BorgWarner regarding the change of source of raw material used in the bearings, but that the failure of the hydraulic control units was attributable to both the raw material supplier change and the insufficient design of the units by BorgWarner. The expert panel provided detail on a possible allocation of damages alleged to have been incurred by BorgWarner and its customer. Although the language of the report is not clear, the report appears to note a potential allocation of recoverable damages 35% to BorgWarner and 65% to GGB France. It also indicates that, though it is for a court to ultimately determine, the aggregate damages to BorgWarner and its customer was in the range of 7.9 million EUR to 10.2 million EUR, with 1.8 million EUR to 2.1 million EUR of this range being for damages to BorgWarner and the remainder being for damages to its customer. The experts noted the lower end of the range as being more likely and noted a lack of sufficient evidence provided substantiating the customer's damages. Applying a 65% liability allocation to GGB to the total aggregate range yields a range of 5.1 million EUR to 6.6 million EUR. In the final report, the expert panel deferred to a court the determination of whether GGB France had breached its contractual obligations to BorgWarner. On October 25, 2017, BorgWarner initiated a legal proceeding against GGB with respect to this matter by filing a writ of claim with the Commercial Court of Brive, France. The parties have begun briefing their legal positions and we expect court hearings to begin in the summer of 2018.

We continue to believe that GGB France has valid factual and legal defenses to these claims and we are vigorously defending these claims. Among GGB France’s legal defenses are a contractual disclaimer of consequential damages, which, if controlling, would limit liability for consequential damages and provide for the replacement of the bearings at issue, at an aggregate replacement value we estimate to be approximately 0.4 million EUR; that the determination of any duty to notify of the change in the source of the raw material is a legal matter to be determined by the presiding court; and the insufficiency of evidence of damage to BorgWarner's customer provided to the expert panel. Based on the final report from the expert panel and GGB France's legal defenses described above, we estimate GGB France’s reasonably possible range of loss associated with this matter to be approximately 0.4 million EUR to 6.6 million EUR plus a potential undetermined amount of apportioned proceeding expenses, with no amount within the range being a better estimate than the minimum of the range. Accordingly, GGB France has retained the accrual of 0.4 million EUR associated with this matter, which was established in the second quarter of 2016.

Lower Passaic River Study Area of the Diamond Alkali Superfund Site

Based on our prior ownership of Crucible Steel Corporation a/k/a Crucible, Inc. (“Crucible”), we may have contingent liabilities in one or more significant environmental matters. One such matter is the Lower Passaic River Study Area of the Diamond Alkali Superfund Site in New Jersey. Crucible operated a steel mill abutting the Passaic River in Harrison, New Jersey from the 1930s until 1974, which was one of many industrial operations on the river dating back to the 1800s. Certain contingent environmental liabilities related to this site were retained by Coltec when Coltec sold a majority interest in Crucible Materials Corporation (the successor of Crucible) in 1985, which liabilities and other legacy non-asbestos liabilities were assumed by our subsidiary, EnPro Holdings, as part of the corporate restructuring of Coltec. The United States Environmental Protection Agency (the “EPA”) notified Coltec in September 2003 that it is a potentially responsible party ("PRP") for Superfund response actions in the lower 17-mile stretch of the Passaic River known as the Lower Passaic River Study Area. Coltec and approximately 70 of the numerous other PRPs, known as the Cooperating Parties Group, are parties to a May 2007 Administrative Order on Consent with the EPA to perform a Remedial Investigation/Feasibility Study ("RI/FS") of the contaminants in the Lower Passaic River Study Area. The RI/FS was completed and submitted to the EPA at the end of April 2015. The RI/FS recommends a targeted dredge and cap remedy with monitored natural recovery and adaptive management for the Lower Passaic River Study Area. The cost of such remedy is estimated to be $726 million. Previously, on April 11, 2014, the EPA released its Focused Feasibility Study (the "FFS") with its proposed plan for remediating the lower eight miles of the

Lower Passaic River Study Area. The FFS calls for bank-to-bank dredging and capping of the riverbed of that portion of the river and estimates a range of the present value of aggregate remediation costs of approximately $953 million to approximately $1.73 billion, although estimates of the costs and the timing of costs are inherently imprecise. On March 3, 2016, the EPA issued the final Record of Decision (ROD) as to the remedy for the lower eight miles of the Lower Passaic River Study Area, with the maximum estimated cost being reduced by the EPA from $1.73 billion to $1.38 billion, primarily due to a reduction in the amount of cubic yards of material that will be dredged. In October 2016, Occidental Chemical Corporation, the successor to the entity that operated the Diamond Alkali chemical manufacturing facility, reached an agreement with the EPA to develop the design for this proposed remedy at an estimated cost of $165 million. The EPA has estimated that it will take approximately four years to develop this design.

No final allocations of responsibility have been made among the numerous PRPs that have received notices from the EPA, there are numerous identified PRPs that have not yet received PRP notices from the EPA, and there are likely many PRPs that have not yet been identified. Based on our evaluation of the site, during 2014 we accrued a liability of $3.5 million related to environmental remediation costs associated with the lower eight miles of the Lower Passaic River Study Area, which is our estimate of the low end of a range of reasonably possible costs, with no estimate within the range being a better estimate than the minimum. Our actual remediation costs could be significantly greater than the $3.5 million we accrued. With respect to the upper 9 miles of the Lower Passaic River Study Area, we are unable to estimate a range of reasonably possible costs.

Onondaga Lake Superfund Site

Based on our prior ownership of Crucible, we may have contingent liability relating to the Onondaga Lake Superfund Site (the “Onondaga Site”) located near Syracuse, New York. Crucible operated a steel mill facility adjacent to Onondaga Lake from 1911 to 1983. The New York State Department of Environmental Conservation (“NYSDEC”) has contacted us and Coltec, as well as other parties, demanding reimbursement of unquantified environmental response costs incurred by NYSDEC and the EPA at the Onondaga Site. NYSDEC and EPA have alleged that contamination from the Crucible facility contributed to the need for environmental response actions at the Onondaga Site. In addition, Honeywell International Inc. (“Honeywell”), which has undertaken certain remediation activities at the Onondaga Site under the supervision of NYSDEC and the EPA, has informed us that it has claims against Coltec related to investigation and remediation at the Onondaga Site. We have entered into tolling agreements with NYSDEC, the EPA and Honeywell. On May 4, 2016, we received from Honeywell a summary of its claims. We have corresponded with Honeywell and have begun discussions with them regarding their claims. In addition, we have received notice from the Natural Resource Trustees for the Onondaga Lake Superfund Site (which are the U. S. Department of Interior, NYSDEC, and the Onondaga Nation) alleging that Coltec is considered to be a potentially responsible party for natural resource damages at the Onondaga Site. At this time, based on limited information we have with respect to estimated remediation costs and the respective allocation of responsibility for remediation among potentially responsible parties, we cannot estimate a reasonably possible range of loss associated with Crucible’s activities that may have affected the Onondaga Site. We have reserved $1.5 million for reimbursement of EPA response costs and certain costs associated with the remedial investigation.

A&B Mines

In addition to the Crucible environmental matters discussed above, Coltec has received a notice from the EPA asserting that Coltec is a potentially responsible party under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") as the successor to a former operator in 1954 and 1955 of two uranium mines in Arizona. On October 15, 2015, Coltec received another notice from the EPA asserting that Coltec is a potentially responsible party as the successor to the former operator of six additional uranium mines in Arizona. In 2015, we reserved $1.1 million for the minimum amount of probable loss associated with the first two mines identified by the EPA, including the cost of the investigative work to be conducted at such sites. During the second quarter of 2016, we reserved an additional $1.1 million for the minimum amount of probable loss associated with the six additional mines, which includes additional estimated costs of investigative work to be conducted at the eight mines. At September 30, 2017, we increased the reserve by $1.9 million to a balance of $4.0 million in anticipation of entering into an agreement with the EPA to perform investigations to determine the nature and extent of contamination at each site with the investigations to be completed by the end of 2019. On November 7, 2017, EnPro

Holdings entered into an Administrative Settlement Agreement and Order on Consent for Interim Removal Action with EPA for the performance of this work. We cannot at this time estimate a reasonably possible range of loss associated with remediation or other incremental costs related to these mines.

Water Valley

In connection with the former operation of a division of Colt Industries Inc, located in Water Valley, Mississippi, which Coltec divested to BorgWarner, Inc. ("BorgWarner") in 1996, Coltec has been managing trichloroethylene soil and groundwater contamination at the site. In February 2016, the Mississippi Department of Environmental Quality (MDEQ) issued an order against EnPro requiring evaluation of potential vapor intrusion into residential properties and commercial facilities located over the groundwater plume as well as requiring additional groundwater investigation and remediation. MDEQ performed the initial vapor intrusion investigations at certain residential and commercial sites, with the findings all being below the applicable screening level. In April 2016, the parties entered into a new order including negotiated time frames for groundwater remediation. Pursuant to that order, MDEQ performed a second round of seasonal vapor intrusion sampling beginning in August 2016. Results from sampling outside of three residences were above screening levels. Follow-up sampling directly underneath those residences (either sub-slab or in crawl spaces) were all below applicable screening levels. Two separate sampling events at another residence were also below applicable screening levels. Due to an increasing trend in vapor concentrations, MDEQ requested that we develop and implement initial corrective action measures to address vapor intrusion resulting from groundwater contamination in this residential area. These measures were developed and approved by MDEQ but could not be implemented because the owner of the private property where the corrective action system would be located would not provide access. An alternate plan has been submitted to and is being reviewed by MDEQ. In addition, vapor intrusion sampling at the manufacturing facility owned by BorgWarner was conducted during the first quarter of 2017. The results showed exceedances of screening levels at various areas in the plant and exceedances of levels requiring responsive actions in a limited area of the plant. Implementation of the immediate responsive actions has been completed and corrective action consisting of a permanent vapor intrusion remediation system became operational in May 2017. We are also continuing soil and groundwater investigation work in the area inside the plant where the vapor intrusion remediation system is located and around the outside of the plant and developing corrective action plans for both the contamination remaining at the plant as well as contamination that has migrated off-site. All of the work to be performed at the residential area, the plant and off-site is set forth in an agreed Order that we and MDEQ entered into on September 11, 2017. During the quarter ended March 31, 2016, we established an additional $1.3 million reserve with respect to this matter. During the quarter ended March 31, 2017, we reserved an additional $3.3 million for further investigation, additional remediation, long-term monitoring costs, and legal fees to support regulatory compliance for the above noted actions. During the quarter ended December 31, 2017, we reserved an additional $3.5 million for further investigation, additional remediation, long-term monitoring costs, and legal fees to support regulatory compliance for the above noted actions. The remaining reserve at December 31, 2017 is $3.8 million. As the corrective actions are implemented and their performance monitored, further modifications to the remediation system at the site may be required which may result in additional costs beyond the current reserve.

On April 7, 2017, the State of Mississippi through its Attorney General filed suit against EnPro, OldCo and Goodrich Corporation in Mississippi Circuit Court in Yalobusha County seeking recovery of all costs and expenses to be incurred by the State in remediating the groundwater contamination, punitive damages and attorney’s fees. We plan to aggressively defend this case. The additional reserve established in the quarter ended December 31, 2017, noted above, does not include any estimate of contingent loss associated with this lawsuit other than due to remediation and other actions with respect to this site based on the MDEQ orders described above. In addition, it is our understanding that area homeowners, owners of commercial facilities and the local county government and possibly other private parties and individuals have engaged or may engage legal counsel to separately evaluate possible legal action relating to potential vapor intrusion and groundwater contamination. We have been further advised that certain of these parties intend to file legal action based on these claims. Based upon limited information regarding any further remediation or other actions that may be required at the site, we cannot estimate a minimum loss estimate or a reasonably possible range of loss for remediation costs.

Asbestos Insurance Coverage Litigation

We are a party to legal proceedings initiated in August 2017 in the United States District Court for the Western District of North Carolina (the “District Court”) with two insurers that collectively provide $15 million of coverage under insurance policies purchased on or after January 1, 1976. The legal proceedings were initiated by one of the insurers seeking to compel arbitration of issues under its policy and, alternatively, a determination that its policy does not cover asbestos claims. We have counterclaimed, seeking a determination that the policy covers asbestos claims and that the insurer breached the terms of its policy by failing to provide coverage for these claims. We joined the second insurer in this action and are seeking similar relief against it. On October 12, 2017, the magistrate judge issued a decision denying the petitioning insurer's motion to compel arbitration and holding that the arbitration clause in the policy was deleted by an endorsement. The insurer filed an objection to the magistrate judge's decision with the District Court. The District Court has not yet issued a ruling on the objection. These legal proceedings were commenced following the consummation on July 31, 2017 of a joint plan of reorganization (the “Joint Plan”) confirmed by the District Court in proceedings under Chapter 11 of the United States Bankruptcy Code involving certain of our subsidiaries, including Garlock Sealing Technologies LLC, for resolution of claims alleging personal injury or death as a result of exposure to asbestos fibers. For a description of the Chapter 11 proceedings and the terms of the Joint Plan, see Note 20, "Subsidiary Asbestos Bankruptcies" to our Consolidated Financial Statements, which descriptions are incorporated by reference herein.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable

EXECUTIVE OFFICERS OF THE REGISTRANT

Information concerning our executive officers is set forth below:

Name	Age	Position
Stephen E. Macadam	57	President, Chief Executive Officer and Director
Marvin A. Riley	43	Executive Vice President, Chief Operating Officer and President, Fairbanks Morse
J. Milton Childress II	60	Executive Vice President and Chief Financial Officer
Steven R. Bower	59	Senior Vice President, Controller and Chief Accounting Officer
Robert S. McLean	53	Executive Vice President, Chief Administrative Officer, General Counsel and Secretary
Jan A. Myers	56	Vice President, Tax
William C. O'Neal	42	Senior Vice President, Strategy, Corporate Development and Investor Relations
Jon D. Rickers	44	Senior Vice President, Human Resources

Stephen E. Macadam has served as our Chief Executive Officer and President and as a director since April 2008. Prior to accepting these positions with EnPro, Mr. Macadam served as Chief Executive Officer of BlueLinx Holdings Inc. since October 2005. Before joining BlueLinx Holdings Inc., Mr. Macadam was the President and Chief Executive Officer of Consolidated Container Company LLC since August 2001. He served previously with Georgia-Pacific Corp. where he held the position of Executive Vice President, Pulp & Paperboard from July 2000 until August 2001, and the position of Senior Vice President, Containerboard & Packaging from March 1998 until July 2000. Mr. Macadam held positions of increasing responsibility with McKinsey and Company, Inc. from 1988 until 1998, culminating in the role of principal in charge of McKinsey’s Charlotte, North Carolina operation. Mr. Macadam received a B.S. in mechanical engineering from the University of Kentucky, an M.S. in finance from Boston College and an M.B.A. from Harvard University, where he was a Baker Scholar.

Marvin A. Riley is currently Executive Vice President and Chief Operating Officer and has held this position since July 2017. Mr. Riley also serves as President, Fairbanks Morse Engine division, since May 2012. Prior to that Mr. Riley served as Vice President, Manufacturing, of EnPro since December 2011. Mr. Riley served as Vice President Global Operations, GGB division, from November 2009 until November 2011 and as Vice President Operations Americas, GGB division, from July 2007 until November 2011. Prior to joining EnPro, he was an executive with General Motors Vehicle Manufacturing and held multiple positions of increasing responsibility from 1997 to 2007 within General Motors.

J. Milton Childress II is currently Executive Vice President and Chief Financial Officer and has held this position since July, 2017. Mr. Childress previously served as Senior Vice President and Chief Financial Officer since March 2015, after having previously served as Vice President, Strategic Planning and Business Development since February 2006. Mr. Childress joined the EnPro corporate staff in December 2005. He was a co-founder of and served from October 2001 through December 2005 as Managing Director of Charlotte-based McGuireWoods Capital Group. Prior to that, Mr. Childress was Senior Vice President, Planning and Development of United Dominion Industries, Inc. from December 1999 until May 2001, having previously served as Vice President. Mr. Childress held a number of positions with Ernst & Young LLP’s corporate finance consulting group prior to joining United Dominion in 1992.

Steven R. Bower is currently Senior Vice President, Controller and Chief Accounting Officer and has held this position since July 2017. Mr. Bower previously served as Vice President, Controller and Chief Accounting Officer since joining the Company in October 2014. Immediately prior to joining the Company, Mr. Bower was Corporate Controller of Polymer Group, Inc. (PGI) from July 2014 through October 2014. Prior to joining PGI, Mr. Bower was Vice President, Finance and Accounting and Corporate Secretary for HITCO Carbon Composites, Inc., (a subsidiary of SGL Group), from April 2003 to February 2014. Prior to HITCO, Mr. Bower served at SGL's global headquarters in Germany as Controller -

Central Planning and Coordination, from July 2001 to April 2003; and prior to that; as Corporate Controller - North America from August 1996 to June 2001. Prior to his positions with SGL Group, Mr. Bower served Collins & Aikman Corporation and its predecessor companies from November 1989 through August 1996 in accounting, public reporting and investor relations roles. Prior to Collins & Aikman, Mr. Bower was with Price Waterhouse LLP from July 1983 through November 1989, where he departed as an Audit Manager. Mr. Bower is both a Certified Public Accountant and a Certified Management Accountant.

Robert S. McLean is currently Executive Vice President, a position he has held since July 2017, as well as Chief Administrative Officer, a position he has held since January 2016, and General Counsel and Secretary of EnPro, positions he has held since May 2012. Mr. McLean served as Vice President, Legal and Assistant Secretary from April 2010 to May 2012. Prior to joining EnPro, Mr. McLean was a partner at the Charlotte, North Carolina law firm of Robinson Bradshaw & Hinson P.A., which he joined in 1995, and where he chaired the firm’s corporate practice group. Prior to joining Robinson Bradshaw & Hinson, Mr. McLean worked with the Atlanta office of the King & Spalding law firm and the Charlotte office of the Smith, Helms, Mullis & Moore law firm (now part of McGuireWoods, LLP), after which he was the Assistant General Counsel and Secretary of the former Carolina Freight Corporation (now part of Arkansas Best Corporation).

William C. O’Neal is currently Senior Vice President, Strategy, Corporate Development and Investor Relations, a position he has held since July 2017. Mr. O’Neal previously served as Vice President, Strategy, Corporate Development and Investor Relations since April 2015. Mr. O’Neal first joined EnPro in 2008 as Director, Mergers and Acquisitions. He then served as Vice President Strategy, Development and Finance, Technetics division, from January 2012 to March 2015.

Jan A. Myers is currently Vice President, Tax and has held this position since July 2017. Prior to joining EnPro, Ms. Myers served as Vice President, Tax at Baker & Taylor from 2008 to 2017, and held positions of increasing responsibility with KB Home from 1992 to 2008, culminating in the position of Vice President, Tax. Ms. Myers began her career with Price Waterhouse and is a Certified Public Accountant.

Jon D. Rickers is currently Senior Vice President, Human Resources and has held this position since July 2017. Mr. Rickers previously served as Vice President, Human Resources since February 2017 and Vice President, Human Resources of the Stemco division from November 2007 to September 2013, and as Global Vice President, Human Resources of the Technetics Group division from September 2013 to December 2017 and of EnPro Europe from September 2013 to February 2017. Prior to joining EnPro Industries, Mr. Rickers was the Director of Human Resources with ITT Corporation.

PART II

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

Our common stock is publicly traded on the New York Stock Exchange ("NYSE") under the symbol "NPO."

As of December 31, 2017, there were 2,802 holders of record of our common stock. The price range of our common stock for each quarter from January 1, 2016 through December 31, 2017, and cash dividends declared on our common stock for these periods is listed below:

	Low Sale Price	High Sale Price	Dividend
Fiscal 2017:			
Fourth Quarter	$ 77.73	$ 94.79	$ 0.22
Third Quarter	68.35	81.32	0.22
Second Quarter	63.62	74.89	0.22
First Quarter	61.36	71.76	0.22
Fiscal 2016:			
Fourth Quarter	$ 52.00	$ 69.24	$ 0.21
Third Quarter	43.19	57.47	0.21
Second Quarter	42.56	60.47	0.21
First Quarter	37.53	63.82	0.21

For a discussion of the restrictions on payment of dividends on our common stock, see "Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Dividends."

The following table sets forth all purchases made by us or on our behalf or any "affiliated purchaser," as defined in Rule 10b-18(a)(3) under the Exchange Act, of shares of our common stock during each month in the fourth quarter of 2017.

Period	(a) Total Number of Shares (or Units) Purchased		(b) Average Price Paid per Share (or Unit)		(c) Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs (2)	(d) Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs (2)
October 1 – October 31, 2017	—		—		—	—
November 1 – November 30, 2017	—		—		—	—
December 1 – December 31, 2017	496	(1)	$93.49	(1)	—	—
Total	496	(1)	$93.49	(1)	—	—

(1) In December 2017, a total of 496 shares were transferred to a rabbi trust that we established in connection with our Deferred Compensation Plan for Non-Employee Directors, pursuant to which non-employee directors may elect to defer directors' fees into common stock units. EnPro Holdings furnished these shares in exchange for management and other services provided by EnPro. 68 of these shares were valued at a price of $93.39 per share, the closing trading price of our common stock on December 20, 2017, and 428 of these shares were valued at a price of $93.51 per share, the closing trading price of our common stock on December 31, 2017. Accordingly, the total 496 shares were valued at a weighted average price of $93.49. We do not consider the transfer of shares from EnPro Holdings in this context to be pursuant to a publicly announced plan or program.

Effective on October 28, 2017, EnPro's Board of Directors authorized the repurchase of up to $50 million of our common shares over a three-year period, which repurchases may be effected in both open market and privately negotiated transactions. The repurchase program, which was publicly announced on October 30, 2017, may be suspended or discontinued at any time. No repurchase transactions under this program or our prior program which expired on October 28, 2017 were effected during the quarter ended December 31, 2017.

CUMULATIVE TOTAL RETURN PERFORMANCE GRAPH

Set forth below is a line graph showing the yearly change in the cumulative total shareholder return for our common stock as compared to similar returns for the Russell 2000® Stock Index, a group of our peers (the "Peer Group") consisting of Actuant Corporation, Barnes Group, Inc., and Circor International, Inc.

Each of the returns is calculated assuming the investment of $100 in each of the securities on December 31, 2012, and reinvestment of dividends into additional shares of the respective equity securities when paid. The graph plots the respective values beginning on December 31, 2012, and continuing through December 31, 2017. Past performance is not necessarily indicative of future performance.

ITEM 6. SELECTED FINANCIAL DATA

The following historical consolidated financial information as of and for each of the years ended December 31, 2017, 2016, 2015, 2014 and 2013 has been derived from, and should be read together with, our Consolidated Financial Statements and the related notes, for each of those years. The audited Consolidated Financial Statements and related notes as of December 31, 2017 and 2016, and for the years ended December 31, 2017, 2016 and 2015, are included elsewhere in this annual report. The information presented below with respect to the last three completed fiscal years should also be read together with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	Year Ended December 31,				
	2017 (1) (3)	2016 (1)	2015 (1) (2)	2014 (1) (2)	2013 (1) (2)
	(as adjusted, in millions, except per share data)				
Statement of Operations Data:					
Net sales	$1,309.6	$1,187.7	$1,204.4	$1,219.3	$1,144.2
Net income (loss)	539.8	$(40.1)	$(20.9)	$22.0	$27.4
Balance Sheet Data:					
Total assets	$1,886.1	$1,546.4	$1,498.8	$1,597.5	$1,396.4
Long-term debt (including current portion)	$618.5	$425.0	$356.3	$315.9	$164.5
Notes payable to GST	$—	$295.9	$283.2	$271.0	$259.3
Per Common Share Data – Basic:					
Net income (loss)	$25.28	$(1.86)	$(0.93)	$0.95	$1.31
Per Common Share Data – Diluted:					
Net income (loss)	$24.76	$(1.86)	$(0.93)	$0.85	$1.17
Cash dividends declared per share	$0.88	$0.84	$0.80	$—	$—

(1) For a discussion regarding the reconsolidation of GST and OldCo effective July 31, 2107, see Item 1, "Business-Background." For a discussion of acquisitions and divestitures in the fiscal years ended December 31, 2017, 2016, 2015, 2014, and 2013, see Item 1, "Business-Acquisitions and Dispositions."

(2) In 2016, we adopted a standard that amended existing guidance to require the presentation of debt issuance costs in the balance sheet as a deduction from the carrying amount of the related debt liability instead of a deferred charge. As a result of adopting this standard retrospectively, Total assets and Long-term debt (including current portion) in the above table have been recast as of December 31, 2013 through 2015.

(3) On December 22, 2017, the Tax Cuts and Jobs Act (the "Tax Act") was enacted and contains several key tax provisions impacting us. The impact of these tax law changes, including the remeasurement of our deferred tax assets and liabilities based on the tax rates in effect at the time the deferred balances are expected to reverse, the reassessment of the net realizability of the deferred tax balances, and the transition tax, were recognized in our income tax provision in 2017.

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

The following is management’s discussion and analysis of certain significant factors that have affected our consolidated financial condition and operating results during the periods included in the accompanying audited Consolidated Financial Statements and the related notes. You should read the following discussion in conjunction with our audited Consolidated Financial Statements and the related notes, included elsewhere in this annual report.

Forward-Looking Statements

This report contains certain statements that are “forward-looking statements” as that term is defined under the Private Securities Litigation Reform Act of 1995 (the “Act”) and releases issued by the Securities and Exchange Commission (the “SEC”). The words “may,” “hope,” “will,” “should,” “could,” “expect,” “plan,” “anticipate,” “intend,” “believe,” “estimat “potential,” “continue,” and other expressions which are predictions of or indicate future events and trends and which do not relate to historical matters identify forward-looking statements. We believe that it is important to communicate our future expectations to our shareholders, and we therefore make forward-looking statements in reliance upon the safe harbor provisions of the Act. However, there may be events in the future that we are not able to accurately predict or control, and our actual results may differ materially from the expectations we describe in our forward-looking statements. Forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause our actual results, performance or achievements to differ materially from anticipated future results, performance or achievements expressed or implied by such forward-looking statements. We advise you to read further about certain of these and other risk factors set forth in Item 1A of this annual report, entitled “Risk Factors.” We undertake no obligation to publicly update or revise any forward-looking statement, either as a result of new information, future events or otherwise. Whenever you read or hear any subsequent written or oral forward-looking statements attributed to us or any person acting on our behalf, you should keep in mind the cautionary statements contained or referred to in this section.

Overview and Outlook

Overview. We design, develop, manufacture, service and market proprietary engineered industrial products. We have 54 primary manufacturing facilities located in 12 countries, including the United States.

We manage our business as three segments: a Sealing Products segment, an Engineered Products segment, and a Power Systems segment.

Our Sealing Products segment designs, manufactures and sells sealing products, including: metallic, non-metallic and composite material gaskets, dynamic seals, compression packing, resilient metal seals, elastomeric seals, hydraulic components, expansion joints, flange sealing and isolation products, pipeline casing spacers/isolators, casing end seals, modular sealing systems for sealing pipeline penetrations, sanitary gaskets, hoses and fittings for the hygienic process industries, hole forming products, manhole infiltration sealing systems, bellows and bellows assemblies, pedestals for semiconductor manufacturing, custom-engineered mechanical seals for applications in the aerospace industry and other markets, PTFE products, and heavy-duty commercial vehicle parts used in the wheel-end, braking, suspension, and tire and mileage optimization systems. These products are used in a variety of industries, including chemical and petrochemical processing, petroleum extraction and refining, pulp and paper processing, power generation, food and pharmaceutical processing, primary metal manufacturing, mining, water and waste treatment, heavy-duty trucking, aerospace, medical, filtration and semiconductor fabrication. In many of these industries, performance and durability are vital for safety and environmental protection. Many of our products are used in highly demanding applications, e.g., where extreme temperatures, extreme pressures, corrosive environments, strict tolerances, and/or worn equipment make product performance difficult.

Our Engineered Products segment includes operations that design, manufacture and sell self-lubricating, non-rolling, metal-polymer, solid polymer and filament wound bearing products, aluminum blocks for hydraulic applications and precision engineered components and lubrication systems for reciprocating compressors. These products are used in a wide range of applications, including the automotive, pharmaceutical, pulp and paper, natural gas, health, power generation, machine tools, air treatment, refining, petrochemical and general industrial markets.

Our Power Systems segment designs, manufactures, sells and services heavy-duty, medium-speed diesel, natural gas and dual fuel reciprocating engines. The United States government and the general markets for marine propulsion, power generation, and pump and compressor applications use these products and services.

The historical business operations of certain of our subsidiaries, principally Garlock Sealing Technologies LLC (“GST LLC”) and The Anchor Packing Company (“Anchor”), had resulted in a substantial volume of asbestos litigation in which plaintiffs alleged personal injury or death as a result of exposure to asbestos fibers. On June 5, 2010 (the “GST Petition Date”), GST LLC, Anchor and another subsidiary, Garrison Litigation Management Group, Ltd. (“Garrison”), filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code (the “GST Chapter 11 Case”) in the U.S. Bankruptcy Court for the Western District of North Carolina in Charlotte (the “Bankruptcy Court”). GST LLC, Anchor and Garrison are sometimes referred to collectively as “GST” in this report. These filings were the initial step in a claims resolution process for an efficient and permanent resolution of pending and future asbestos claims through court approval of a plan of reorganization to establish a facility to resolve and pay all GST asbestos claims. The filings on the GST Petition Date did not include EnPro Industries, Inc. or any other EnPro Industries, Inc. operating subsidiary. GST LLC is one of the businesses in our broader Garlock group and, prior to the GST Petition Date, was included in our Sealing Products segment. GST LLC and its subsidiaries operate five manufacturing facilities, including operations in Palmyra, New York and Houston, Texas.

The financial results of GST and subsidiaries were included in our consolidated results through June 4, 2010, the day prior to the GST Petition Date. However, U.S. generally accepted accounting principles (“GAAP”) require an entity that files for protection under the U.S. Bankruptcy Code, whether solvent or insolvent, whose financial statements were previously consolidated with those of its parent, as GST’s and its subsidiaries’ were with ours, generally must be prospectively deconsolidated from the parent and the investment accounted for using the cost method. At deconsolidation, our investment was recorded at its estimated fair value as of June 4, 2010, resulting in a gain for reporting purposes. The cost method required us to present our ownership interests in the net assets of GST at the GST Petition Date as an investment and we did not recognize any income or loss from GST and subsidiaries in our results of operations until the reconsolidation of these subsidiaries upon consummation of a plan of reorganization under these proceedings.

In January 2015, we announced that GST and we had reached an agreement with the court-appointed representative of future asbestos claimants (the “GST FCR”) in the GST Chapter 11 Case that included a second amended plan of reorganization. The second amended plan was filed with the Bankruptcy Court on January 14, 2015 and superseded the prior reorganization plans filed by GST in the GST Chapter 11 Case. The GST FCR agreed to support, recommend and vote in favor of the second amended plan.

The second amended plan would have provided for the establishment of two facilities - a settlement facility (which would receive $220 million from GST and $30 million from our then-consolidated Coltec Industries Inc subsidiary ("Coltec") upon consummation of the second amended plan and additional contributions from GST aggregating $77.5 million over the seven years) and a litigation fund (which would receive $30 million from GST) to fund the defense and payment of claims of claimants who elect to pursue litigation under the second amended plan rather than accept the settlement option under the second amended plan. Funds contained in the settlement facility and the litigation fund would have provided the exclusive remedies for current and future GST asbestos claimants other than claimants whose claims had been resolved by settlement or verdict prior to the GST Petition Date and were not paid prior to the GST Petition Date. Under the terms of the second amended plan, we would have retained 100% of the equity interests of GST LLC. The second amended plan would have provided for the extinguishment of any derivative claims against us based on GST asbestos products and operations, but would not have protected us or our other subsidiaries, including Coltec, from non-derivative asbestos claims.

In light of the filing of the second amended proposed plan of reorganization by GST on January 14, 2015, GST undertook to revise its estimate of ultimate costs to resolve all asbestos claims against it. Under the second amended plan, not less than $367.5 million would be required to fund the resolution of all GST asbestos claims, $30 million of which would be funded by Coltec. As a result, GST believed the low end of the range of values that would be necessary for it to resolve all present and future claims to be $337.5 million. Accordingly, GST revised its estimate of its ultimate asbestos expenditures to $337.5 million and had accrued its liability at December 31, 2015 at that amount and Coltec had accrued a liability of $30 million at December 31, 2015, which accrual was reflected in our consolidated financial results for 2015, in connection with its contribution to be made pursuant to the second amended plan.

While the GST FCR had agreed to support the second amended plan of reorganization, the official committee representing current asbestos claimants (the "GST Committee") in the GST Chapter 11 Case and their law firms opposed the second amended plan of reorganization. Accordingly, GST continued to seek a consensual resolution that would also be acceptable to representatives of current asbestos claimants as well as the GST FCR. On March 17, 2016, EnPro announced that it had reached a comprehensive settlement (the "Consensual Settlement") to resolve current and future asbestos claims. The settlement was reached with the GST Committee and the GST FCR, and representatives for current and future asbestos claimants (the "Coltec Representatives") against Coltec also joined in the settlement. Under the settlement, the GST Committee, the GST FCR and the Coltec Representatives agreed to join GST and Coltec in proposing a joint plan of reorganization (the "Joint Plan") and to ask asbestos claimants and the court to approve the Joint Plan. The Joint Plan was filed with the Bankruptcy Court on May 20, 2016 and amendments to the Joint Plan were filed with the Bankruptcy Court on June 21, 2016, July 29, 2016, December 2, 2016, April 3, 2017, May 14, 2017, May 19, 2017, June 8, 2017, and June 9, 2017. As so modified, the Joint Plan superseded all prior plans of reorganization filed by GST with the Bankruptcy Court. Following receipt of all necessary asbestos claimant and judicial approvals, including approval by the United States District Court for the Western District of North Carolina (the "District Court"), the Joint Plan was consummated and became effective at 12:01 a.m. on July 31, 2017 (the "Joint Plan Effective Date").

The Joint Plan and Consensual Settlement contemplated that, as an appropriate and necessary step to facilitate the implementation of the Consensual Settlement and not to delay or hinder creditors or the resolution of claims, Coltec would, subject to the receipt of necessary consents, undergo a corporate restructuring (the "Coltec Restructuring") in which all of its significant operating assets and subsidiaries, which included each of our major business units, would be distributed to a new direct EnPro subsidiary, EnPro Holdings, Inc. ("EnPro Holdings"). EnPro Holdings would also assume all of Coltec's non-asbestos liabilities. The Coltec Restructuring was completed on December 31, 2016, and included the merger of Coltec with and into OldCo, LLC ("OldCo"), which was a direct subsidiary of EnPro Holdings. OldCo, as the restructured entity, retained responsibility for all asbestos claims and rights to certain insurance assets of Coltec, as well as the business operated by our EnPro Learning System, LLC subsidiary ("EnPro Learning System"), which provides occupational safety training and consulting services to third parties. EnPro Learning System was also merged into OldCo.

As contemplated by the Joint Plan, on January 30, 2017 (the "OldCo Petition Date"), OldCo, as the successor by merger to Coltec, filed a Chapter 11 bankruptcy petition with the Bankruptcy Court (the "OldCo Chapter 11 Case"). On

February 3, 2017, the Bankruptcy Court issued an order for the joint administration of the OldCo Chapter 11 Case with the GST Chapter 11 Case. As required by GAAP, OldCo was deconsolidated beginning on the OldCo Petition Date. Accordingly the financial results of OldCo and its subsidiaries were included in our consolidated results through January 29, 2017, the day prior to the OldCo Petition Date.

Pursuant to the Joint Plan, a claims resolution trust (the “Trust”) was established prior to the Joint Plan Effective Date. As contemplated by the Joint Plan, the Trust was funded (i) with aggregate cash contributions by GST LLC and Garrison of $350 million made immediately prior to the Joint Plan Effective Date, (ii) by the contribution made by OldCo immediately prior to the Joint Plan Effective Date of $50 million in cash and an option (the “Option”), exercisable one year after the Joint Plan Effective Date, permitting the Trust to purchase for $1 shares of EnPro common stock having a value of $20 million (with

OldCo having the right to call the Option for payment of $20 million in cash at any time prior to the first anniversary of the Joint Plan Effective Date, with the Trust having the right to put the Option to OldCo for payment by OldCo of $20 million on the day prior to the first anniversary of the Joint Plan Effective Date and with the Option terminating on the second anniversary of the Joint Plan Effective Date in return for payment to the Trust of $20 million), and (iii) by the obligations under the Joint Plan of OldCo to make a deferred contribution of $40 million in cash and of GST LLC and Garrison to make an aggregate deferred contribution of $20 million in cash no later than one year after the Joint Plan Effective Date. These deferred contributions were guaranteed by EnPro and secured by a pledge of 50.1% of the outstanding voting equity interests of GST LLC and Garrison.

The Consensual Settlement included as a condition to our obligations to proceed with the settlement that EnPro, Coltec, GST and Garlock of Canada Ltd (an indirect subsidiary of GST LLC) enter into a written agreement, to be consummated concurrently with the consummation of the Joint Plan on the Joint Plan Effective Date, with the Canadian provincial workers' compensation boards (the "Provincial Boards") resolving remedies the Provincial Boards may possess against Garlock of Canada Ltd, GST, Coltec or any of their affiliates, including releases and covenants not to sue, for any present or future asbestos-related claim, and that the agreement is either approved by the Bankruptcy Court following notice to interested parties or the Bankruptcy Court concludes that its approval is not required. On November 11, 2016, we entered into such an agreement (the "Canadian Settlement") with the Provincial Boards to resolve current and future claims against EnPro, GST, Garrison, Coltec, and Garlock of Canada Ltd for recovery of a portion of amounts the Provincial Boards have paid and will pay in the future under asbestos-injury recovery statutes in Canada for claims relating to asbestos-containing products. The Canadian Settlement provides for an aggregate cash settlement payment to the Provincial Boards of $20 million (U.S.), payable on the fourth anniversary of the effective date of the Joint Plan. Under the Canadian Settlement, after the effective date of the Joint Plan, the Provincial Boards had the option of accelerating the payment, in which case the amount payable would be discounted from the fourth anniversary of the effective date of the Joint Plan to the payment date at a discount rate of 4.5% per annum. In return, the Provincial Boards have separately agreed to provide a covenant not to sue EnPro, any of EnPro's affiliates or the Trust for any present or future asbestos-related claims. On February 3, 2017, the Bankruptcy Court issued an order approving the Canadian Settlement. Prior to the Joint Plan Effective Date, the Provincial Boards provided notice of their election to accelerate the payment. After application of the discount resulting from such acceleration of payment, the settlement payment of approximately $16.7 million (U.S.) was made to the Provincial Boards on August 11, 2017.

In light of the Consensual Settlement and the Canadian Settlement, in 2016 GST further revised its estimate of the ultimate costs to resolve all asbestos claims against it. Under the Joint Plan proposed pursuant to the Consensual Settlement, $480 million was required to fund the resolution of all asbestos claims against GST and OldCo, as the successor by merger to Coltec, $370.0 million of which funded by GST LLC and Garrison and $110 million of which funded by OldCo. In addition, GST estimated the amount necessary to resolve all current and future Canadian asbestos claims alleging disease, resulting in whole or in part from exposure to GST asbestos-containing products, to be $17.0 million, the net present value of the amount to be paid pursuant to the Canadian Settlement. GST revised its estimate of its ultimate asbestos expenditures to $387.0 million and had accrued its liability at December 31, 2016 at that amount. In addition, OldCo (then still a consolidated subsidiary) had accrued a liability of $110.0 million at December 31, 2016 in connection with its contributions to be made pursuant to the Joint Plan, with the accrual of the $80.0 million increase in its estimated liability being reflected in our consolidated financial results for 2016.

The Joint Plan permanently resolves current and future asbestos claims against GST LLC, Garrison and OldCo, as the successor by merger to Coltec, and injunctions issued under the Joint Plan protect all of EnPro and its subsidiaries from those claims, which claims are enjoined under Section 524(g) of the U.S. Bankruptcy Code. Under the Joint Plan, the Trust has assumed responsibility for all present and future asbestos claims arising from the operations or products of GST LLC, Garrison or Coltec/OldCo. Under the Joint Plan, EnPro, through its subsidiaries, retained ownership of OldCo, GST LLC and Garrison. Anchor, which has not conducted business operations for many years and had nominal assets, has been dissolved.

GST and OldCo were reconsolidated effective upon the effective date of the consummation of the Joint Plan, which effective date was 12:01 a.m. on July 31, 2017. The reconsolidation of GST and OldCo was treated as a business acquisition in accordance with applicable accounting rules. The purchase price for the acquisition was equal to the fair

value of our investment in GST and OldCo on the reconsolidation date. Associated with the reconsolidation of GST and OldCo, we recorded a pretax gain of $534.4 million. The gain on revaluation of our investment in GST and OldCo is the difference between the above-noted fair value of the investment and its book value of $236.9 million as of the date of reconsolidation as well as the elimination of the net amounts payable to GST and OldCo at the reconsolidation date.
On November 29, 2017, GST LLC, EnPro Holdings and EnPro entered into an agreement with the Trust to provide for the early settlement of the deferred contributions to the Trust under the Joint Plan and for the call of the Option by EnPro Holdings, as the successor by merger to OldCo. Under that agreement, in full satisfaction of the $60 million of aggregate deferred contribution obligations under the Joint Plan and payment of the $20 million call payment under the Option, on

December 1, 2017 GST LLC, EnPro Holdings and EnPro paid $78.8 million (the "Early Cash Settlement Amount") to the Trust and agreed to make a further payment to the Trust to the extent that total interest earned through July 31, 2018, with respect to a fixed income account in which the Early Cash Settlement Amount was invested by the Trust is less than $1.2 million.

The primary businesses comprising GST are managed as part of the Garlock division within our Sealing Products segment. Smaller businesses also reconsolidated with GST are managed by the Technetics and Stemco divisions within this segment, by the Compressor Products International ("CPI") division within our Engineered Products segment, and by the Fairbanks Morse division, which comprises our Power Systems segment.

The assets and liabilities of both GST and OldCo are reconsolidated into the EnPro balance sheet at their estimated fair value in accordance with authoritative guidance on business acquisitions. As a result, EnPro's consolidated financial statements include the sales, income, expenses and cash flows of both GST and OldCo beginning on July 31, 2017. Periods prior to that date are not restated to include GST and OldCo's results.

In May 2014, our Fairbanks Morse division and a consortium partner entered into a multi-year, Euro-denominated contractual arrangement with Electricite de France ("EDF") to supply 23 3.5 MWe opposed-piston, diesel engine-generator sets to EDF for emergency backup power at 20 of EDF's nuclear power plants in France. From the date the contract was signed until the end of the first quarter of 2015, the U.S. Dollar strengthened significantly against the Euro, resulting in total U.S. Dollar equivalent revenues, calculated at the exchange rate in effect at the end of the first quarter of 2015, falling below total projected U.S. Dollar costs for the EDF contract, and for the first quarter of 2015 we recorded a loss provision on the contract as a result of the effect of foreign exchange rates. This evaluation was based upon the 2015 first-quarter-end U.S. Dollar to Euro exchange rate of $1.10 compared to an exchange rate of $1.36 when the contract was signed. We have not entered into any transactions to hedge the impact of future foreign exchange rate changes on this contract. The evaluation of the impact of exchange rates on the contract is updated on a quarterly basis for the duration of the contract, with the amount of any change in a quarter in the impact of exchange rates on the loss provision affecting segment profit of the Power Systems segment for the quarter by the amount of such change. For the year ended December 31, 2017, we recognized a decrease in the loss provision of $3.9 million, which included $9.1 million of favorability related to the strengthening of the Euro versus the U.S. Dollar offset by $5.2 million in increased projected total contract costs.

The EDF contract also includes contractual penalties for late delivery and our profitability under the contract could be adversely affected if we are not timely in performing our obligations under the contract and the penalties apply. In addition, our profitability could be adversely affected if we do not realize certain internal efficiency gains that we anticipate achieving while performing under the contract.

In 2015, we launched a focused effort to restructure underperforming units. The initial effort focused on exiting and consolidating certain facilities in the Engineered Products segment and selectively reducing cost in the Sealing Products segment. The associated activities were substantially completed by the end of the second quarter of 2016. During the quarter ended June 30, 2016, an additional company-wide initiative to reduce cost across all operating segments and the corporate office was initiated. Although these company-wide cost reduction efforts launched in 2015 and 2016 have been completed, we continue to pursue numerous segment and corporate cost-savings initiatives on an ongoing basis.

Through the first quarter of 2015, several initiatives were implemented to remove labor, facility and other costs from CPI's cost structure and a customer-focused organizational realignment was implemented to identify price and volume opportunities to optimize sales and profitability in the weak oil and gas business environment. During the first quarter of 2015 new strategic options and opportunities to improve business performance were analyzed given the continuing weakness in demand. Additional strategic measures were planned to be implemented during the second half of 2015 and the expected benefits of these actions were taken into consideration in assessing the outlook for CPI.

However, as more time passed, the benefits of strategic measures and initiatives being implemented were no longer expected to sufficiently compensate for the financial impacts of the prolonged and significant weakness in the oil and gas markets served by CPI. Taking this into account, the forecasted results for CPI were lowered significantly at the end of May 2015 to such an extent that we thought it likely that the fair value of CPI would be less than its carrying value which necessitated an interim impairment test for goodwill. The interim step one analysis we performed, using a combination of discounted cash flow and market value approaches to determine the fair value of CPI consistent with our annual impairment testing, indicated that the fair value of CPI was less than the carrying value of its net assets. The required step two valuation analysis performed as of May 31, 2015 and completed in July 2015 indicated that $46.1 million of the CPI goodwill balance was impaired. Accordingly, CPI goodwill in the amount of $46.1 million was written-off in the second quarter of 2015.

We review the carrying amounts of long-lived assets when certain events or changes in circumstances indicate that the carrying amounts may not be recoverable. In consideration of the poor financial performance of the ATDynamics business, an asset group in the Stemco division of our Sealing Products segment, for the quarter ended September 30, 2017 and significantly lowered expectations for the fourth quarter forecast and the budget for fiscal year 2018, we determined that a test of ATDynamics' recoverability was required.

As a result of this test, certain of ATDynamics' definite-lived intangible assets were determined to be impaired, and were valued in total at $1.7 million, resulting in an impairment loss of $10.1 million, which equaled the excess of these assets' net book value at September 30, 2017 over their fair value. The loss is reflected in other expense (operating) in the Consolidated Statement of Operations.

During 2017, 2016, and 2015, we completed a number of acquisitions and a significant disposition of a business. Please refer to “Acquisitions and Dispositions” in Item 1, "Business" for additional discussion regarding these transactions.

Outlook

We experienced favorable conditions in many of the markets that we serve in 2017. Demand in semiconductor, aerospace, automotive, food and pharmaceuticals, metals and mining, general industrial, and oil and gas was strong during the quarter. Power Systems experienced increased sales versus the fourth quarter of last year driven by higher engine and aftermarket parts sales. This positive momentum was partially offset by continued softness in the industrial gas turbines, heavy-duty trucking, and nuclear markets, although heavy-duty trucking and nuclear improved in the fourth quarter.

With the exception of the sluggish demand in the industrial gas turbine market, demand in the majority of the industries we serve continues to be strong in the early stages of 2018. On the whole, the macroeconomic drivers and key indicators we track that affect our businesses suggest modest demand growth over the course of 2018.

We remain committed to our strategy to create shareholder value through earnings growth and balanced capital allocation. We remain focused on disciplined investments for organic growth and innovation, strategic acquisitions, and returning capital to shareholders through dividends and share repurchases. Our Board of Directors authorized a new $50 million, three-year share repurchase program in October, and in February 2018 approved the increase in the quarterly dividend from $0.22 to $0.24 per share.

Our effective tax rate is directly affected by the relative proportions of revenue and income before taxes in the jurisdictions in which we operate. Based on the expected mix of domestic and foreign earnings, the lower U.S. corporate tax rate resulting from U.S. tax reform (see discussion in Note 5 to the Consolidated Financial Statements) and a significant portion of our earnings in lower tax rate foreign jurisdictions, we anticipate our global effective tax rate in 2018 will be in the range of 30% to 35%. Discrete tax events may cause our effective tax rate to fluctuate on a quarterly basis. Certain events, including, for example, acquisitions and other business changes, which are difficult to predict, may also cause our effective tax rate to fluctuate. We are also subject to changing tax laws, regulations, and interpretations in multiple jurisdictions which can significantly impact our effective tax rate. In 2017, we recorded a provisional estimate of the impact of U.S. tax reform in the year of enactment. We will refine our estimate as we further analyze our year-end data and forthcoming guidance during the one-year measurement period permitted by guidance issued by the U.S. Securities and Exchange Commission and incorporate the impact of additional provisions that become effective in our 2018 tax year. Changes to our estimated impact of U.S. tax reform could have significant effects, positive and negative, on our effective tax rate, and on our deferred tax assets and liabilities.

We contributed $8.8 million to our U.S. defined benefit pension plan in 2017 in order to meet a funding level sufficient to not incur variable fees from the PBGC on the underfunded portion of our pension liability. In addition, we contributed $0.6 million to our international plans. There is no requirement to make contributions to our U.S. pension plans in 2018. However, given the decline in the federal tax rates to 21% beginning in the calendar year 2018, we currently expect to contribute $20 million to our U.S. pension plans before the filing of our 2017 federal return (pursuant to federal tax law this contribution will be deductible in 2017). As a result of this accelerated contribution of $20 million, we do not expect to be required to make any further U.S. pension contributions for at least four years.

Future contribution requirements, if any, depend on pension asset returns, pension valuation assumptions, plan design, and legislative actions.

We estimate annual pension expense for the full year of 2018 will be approximately $2.6 million, which would be $1.9 million lower than in 2017. This decrease is due mainly to the impact of a higher than expected return on plan assets in 2017 and the accelerated U.S. pension plan funding noted above.

In connection with our growth strategy, we will continue to evaluate acquisitions in 2018; however, the effect of such acquisitions cannot be predicted and therefore is not reflected in this outlook.

Results of Operations

The following table does not include results for GST and its subsidiaries for January 1 through July 31, 2017 and for the full years ended December 31, 2016 and 2015. See Note 2 to our Consolidated Financial Statements in this Form 10-K for sales and income before taxes of GST and its subsidiaries for the post-reconsolidation period of July 31, 2017 through December 31, 2017, and for selected pro forma information of the Company as if the reconsolidation occurred effective January 1, 2016.

	Years Ended December 31,		
	2017	2016	2015
	(in millions)		
Sales			
Sealing Products	$804.3	$705.6	$705.6
Engineered Products	301.1	277.1	297.8
Power Systems	208.2	208.3	204.6
	1,313.6	1,191.0	1,208.0
Intersegment sales	(4.0)	(3.3)	(3.6)
Total sales	$1,309.6	$1,187.7	$1,204.4
Segment Profit			
Sealing Products	$90.9	$81.8	$84.3
Engineered Products	29.8	12.4	6.4
Power Systems	29.0	17.0	27.1
Total segment profit	149.7	111.2	117.8
Corporate expenses	(34.3)	(30.0)	(28.2)
Asbestos settlement	—	(80.0)	—
Goodwill and other intangible asset impairment	(10.1)	—	(47.0)
Interest expense, net	(49.4)	(55.1)	(52.1)
Gain on reconsolidation of GST and OldCo	534.4	—	—
Other expense, net	(12.8)	(14.8)	(9.1)
Income (loss) before income taxes	$577.5	$(68.7)	$(18.6)

Segment profit is total segment revenue reduced by operating, restructuring and other expenses identifiable with the segment. Corporate expenses include general corporate administrative costs. Expenses not directly attributable to the segments, corporate expenses, net interest expense, asbestos-related expenses, asset impairments, gains/losses related to the sale of assets, and income taxes are not included in the computation of segment profit. The accounting policies of the reportable segments are the same as those for EnPro.

Other expense, net in the table above contains all items included in other (operating) expense and other expense, net on our Consolidated Statements of Operations for the years ending December 31, 2017, 2016, and 2015 with the exception of $5.1 million, $13.4 million and $6.1 million, respectively, of restructuring costs. As noted previously, restructuring costs are considered to be a part of segment profit. Additionally, other income (expense), net in the table above for the years ending December 31, 2017, 2016, and 2015 also includes $2.4 million, $3.7 million, and $3.0 million, respectively, of miscellaneous expenses that are either not associated with a particular segment or not considered part of administering the corporate headquarters. These expenses are included in selling, general and administrative expense on our Consolidated Statements of Operations.

2017 Compared to 2016

Sales of $1,309.6 million in 2017 increased 10.3% from $1,187.7 million in 2016. The following table summarizes the impact of acquisitions and divestitures, the reconsolidation of GST and OldCo, foreign currency, and organic growth by segment:

Sales	Percent Change 2017 vs. 2016				
increase/(decrease)	Acquisitions/Divestiture	Reconsolidation of GST and OldCo	Foreign Currency	Organic	Total
EnPro Industries, Inc.	0.5 %	6.8 %	0.3 %	2.7 %	10.3 %
Sealing Products	0.8 %	10.7 %	0.1 %	2.4 %	14.0 %
Engineered Products	(0.1)%	0.2 %	0.8 %	7.8 %	8.7 %
Power Systems	— %	2.4 %	— %	(2.5)%	(0.1)%

Following are the key effects of acquisitions and divestitures (aside from the reconsolidation of GST and OldCo) on sales for 2017 compared to 2016:

- Acquisition of Qualiseal in the second quarter of 2017 included in the Sealing Products segment;
- Acquisition of CVC in the fourth quarter of 2017 included in the Sealing Products segment;
- Acquisition of Rubber Fab in the second quarter of 2016 included in the Sealing Products segment;
- Divestiture of our Franken Plastik business unit previously included in the Sealing Products segment at the end of 2016; and
- Divestiture of our CPI Thailand business unit previously included in the Engineered Products segment in the second quarter of 2016.

Segment profit, management's primary measure of how our operations perform, increased 34.6% to $149.7 million in 2017 from $111.2 million in 2016. See below for a discussion of the factors driving the change in segment profit for each of our reportable segments.

Corporate expenses for 2017 increased by $4.3 million compared to 2016. The increase was primarily driven by increased incentive compensation costs ($7.2 million) attributable to higher annual and long-term incentive plan attainment levels in 2017, offset by decreased employment costs resulting from restructuring activities initiated in 2016 ($1.3 million) and the year-over-year impact of the restructuring charges taken in 2016 ($2.8 million) associated with these initiatives.

Net interest expense in 2017 was $49.4 million compared to $55.1 million in 2016. The overall decrease of $5.7 million was due mainly to the resolution of our notes payable to GST as a result of the reconsolidation of GST in July 2017, offset by slightly higher average outstanding indebtedness to non-related parties in 2017 as compared to 2016.

Other expense, net in 2017 was $12.8 million compared to $14.8 million in 2016. The decreased expense was due mainly lower management fees to GST as a result of its reconsolidation in July 2017 and by lower costs associated with previously divested businesses.

Income tax expense in 2017 was $37.7 million, resulting in an annual effective tax rate of 6.5%. This is compared to $28.6 million of tax benefit in 2016, which resulted in an annual effective tax rate of 41.7%. The significant reduction in the 2017 tax rate was primarily due to the $534.4 million non-taxable gain on the reconsolidation of GST and OldCo. This reduction was partially offset by a $51.5 million tax charge associated with the step-up of GST and OldCo's net assets to fair value upon reconsolidation. In addition, the effect of U.S. tax reform resulted in a $30.9 million provisional net benefit recorded to income tax expense in the fourth quarter. This provisional amount represents a reasonable estimate of the impact and is comprised of a $35.0 million provisional tax benefit related to the remeasurement of deferred tax assets and liabilities, a $53.9 million provisional tax charge for the mandatory one-time transition tax on accumulated earnings of our foreign subsidiaries, and a $43.5 million provisional tax benefit for foreign tax credits related to the transition tax that will be utilized to offset our future tax liability due to the current year tax loss generated by the funding of the Trust. As a result of U.S. tax reform, we also implemented tax planning strategies in the fourth quarter of 2017 resulting in an additional provisional tax benefit of $6.3 million.

The effective tax rates in 2017 (without the unusual items discussed above) and 2016 are impacted by earnings in lower rate foreign jurisdictions where a significant portion of our income is taxed. In addition, we have historically benefited from income tax incentives such as the U.S. deduction for domestic production activities ($1.2 million in 2016) and credits for research and development ($1.1 million in 2017 and $2.2 million in 2016). In 2017, we were not able to recognize a benefit from the U.S. deduction for domestic production activities due to the tax loss generated by the funding of the Trust. Additionally, due to the funding, we anticipate credits for research and development activities in the U.S. will be carried forward to 2018 to offset our future tax liability.

Net income was $539.8 million, or $24.76 per share, in 2017 compared to a net loss of $40.1 million, or $1.86 per share, in 2016. Earnings/loss per share is expressed on a diluted basis.

Following is a discussion of operating results for each segment during the year:

Sealing Products. Sales of $804.3 million in 2017 increased 14.0% from $705.6 million in 2016. Sales to third parties from the reconsolidated GST businesses for the post-reconsolidation period in 2017 accounted for $75.7 million of this increase. Excluding these sales, the benefit of acquisitions net of the divestiture of Franken Plastik ($5.8 million) and favorable foreign exchange ($0.7 million), sales were up 2.4% or $16.5 million due to volume increases associated with strength in the semiconductor, food and pharmaceutical, and aerospace markets along with volume improvement in the oil and gas market. This strength was offset partially by softness in heavy-duty trucking, industrial gas turbines and nuclear demand.

Segment profit increased 11.1% to $90.9 million in 2017 from $81.8 million in 2016. Segment profit from the reconsolidated GST businesses was $5.8 million. Excluding this impact, the unfavorable year over year impact of acquisitions net of divestitures ($1.1 million, inclusive of the $2.5 million impact of a reduction of an earnout accrual in the prior year associated with the segment's previous acquisition of Fabrico), unfavorable foreign exchange ($0.3 million) and increased restructuring costs ($0.2 million), segment profit increased $4.4 million or 5.1%. The increase was driven primarily by the contribution from higher sales (approximately $11 million) and lower general and administrative costs ($4.2 million) partially attributable to cost savings initiatives in the second half of 2016, offset in part by increased manufacturing costs ($4.6 million), a litigation reserve of $0.7 million established in the fourth quarter of 2017 and increased incentive compensation cost ($8.2 million) due to higher incentive plan attainment levels in 2017. Operating margins for the segment decreased to 11.3% in 2017 from 11.6% in 2016.

Engineered Products. Sales increased 8.7% to $301.1 million in 2017 from $277.1 million in 2016. Sales to third parties from the reconsolidated GST businesses were $0.4 million. Excluding these sales, favorable foreign exchange effects ($2.3 million), and the effect of the 2016 disposition of CPI's Thailand location ($0.3 million), sales were up 7.8% or $21.5 million primarily due to strength in the North American and European automotive market, North American oil and gas market, general industrial market, and general demand in Asia. Price decreases for certain bearings partially offset these volume gains by approximately $2 million.

Segment profit increased 140.3% to $29.8 million in 2017 from $12.4 million in 2016. Segment profit from the reconsolidated GST businesses was $0.1 million. Excluding this impact, the year-over-year impact of restructuring costs incurred in both years ($5.3 million lower in 2017) associated with actions initiated across the company in 2016, along with the favorable effect of foreign exchange ($0.2 million), segment profit increased $11.8 million or 61.0%. The increased sales volume in 2017 contributed approximately $15 million to segment profit, along with cost savings of $4.6 million attributable to the above-mentioned restructuring actions. These impacts were partially offset by increased incentive compensation expense associated with higher 2017 attainment levels under incentive plans ($3.8 million), the above-mentioned price decreases ($2 million), and increased medical and dental expenses ($1.1 million). Operating margins for the segment increased to 9.9% in 2017 from 4.5% in 2016.

Power Systems. Sales decreased slightly to $208.2 million in 2017 from $208.3 million in 2016. Sales to third parties from the reconsolidated GST businesses were $5.1 million. Excluding these sales, engine and aftermarket parts and services volume were both slightly down from 2016. Pricing increases for 2017 mitigated the effect of lower volume by approximately $6 million.

Segment profit increased 70.6% to $29.0 million in 2017 from $17.0 million in 2016. Segment profit from the reconsolidated GST businesses was $1.3 million. Segment profit also benefited from $3.9 million in net decreases to the loss reserve on the EDF contract in 2017, compared to $7.6 million in increases to the reserve in the prior year. The current year benefit consisted of $9.1 million of favorability due to the strengthening of the Euro relative to the U.S. Dollar, offset by a $5.2 million increase in total projected costs. The prior year loss consisted of $3.5 million due to the strengthening of the U.S. Dollar versus the Euro in 2016 and $4.1 million associated with increased total projected costs. The year 2016 also included $3.0 million of charges associated with the resolution of a legal matter and $0.4 million of restructuring costs. Aside from these impacts, segment profit decreased from 2016 due to lower margins on engine contracts ($7.9 million), unfavorable sales mix ($4.9 million) due to the lower proportion of aftermarket parts sales to total sales in the current year, increased medical and dental expenses ($0.8 million), and the overall sales volume decrease, offset by the impact of the above-mentioned price increases. The decrease in engine margins was due to higher production of zero margin engines under the EDF contract in 2017 and another contract where the costs to complete exceeded total revenues, and to higher manufacturing costs in comparison to 2016. Operating margins for the segment increased to 13.9% in 2017 from 8.2% in 2016.

2016 Compared to 2015

Sales of $1,187.7 million in 2016 decreased 1.4% from $1,204.4 million in 2015. The following table summarizes the impact of acquisitions and divestitures, foreign currency, and organic growth by segment:

Sales	Percent Change 2016 vs. 2015			
increase/(decrease)	Acquisitions/Divestiture	Foreign Currency	Organic	Total
EnPro Industries, Inc.	4.4 %	(0.6)%	(5.2)%	(1.4)%
Sealing Products	7.8 %	(0.5)%	(7.3)%	— %
Engineered Products	(0.5)%	(1.2)%	(5.2)%	(6.9)%
Power Systems	— %	— %	1.8 %	1.8 %

Following are the key effects of acquisitions on sales for 2016 compared to 2015:

- Acquisition of ATDynamics in the first quarter of 2015 included in the Sealing Products segment
- Acquisition of the Air Spring Business in the third quarter of 2015 included in the Sealing Products segment
- Acquisition of Rubber Fab in the second quarter of 2016 included in the Sealing Products segment

Segment profit, management's primary measure of how our operations perform, decreased 5.6% to $111.2 million in 2016 from $117.8 million in 2015. See below for a discussion of the factors driving the change in segment profit for each of our reportable segments.

Corporate expenses for 2016 increased by $1.8 million compared to 2015. The increase was primarily driven by workforce reduction costs at the Corporate office ($2.9 million) offset partially by decreased professional fees ($0.7 million).

Net interest expense in 2016 was $55.1 million compared to $52.1 million in 2015. The overall increase of $3.0 million was due to higher average indebtedness in 2016 versus 2015.

Other expense, net in 2016 was $14.8 million compared to $9.1 million in 2015. The increased expense was due primarily to higher additions to environmental reserves ($7.2 million) and increased costs associated with previously divested businesses ($1.3 million) offset by a loss on the convertible debenture exchange and purchase transactions in 2015 ($2.8 million).

Income tax benefit in 2016 was $28.6 million, resulting in an annual effective tax rate of 41.7%. This is compared to $2.3 million of tax expense in 2015, which resulted in an annual effective tax rate of negative 12.3%. The 2016 tax rate was impacted by losses incurred in higher tax rate jurisdictions and income earned in lower tax rate jurisdictions. Additionally, we recorded a valuation allowance of $1.8 million against losses incurred in lower tax rate jurisdictions because of a lack of history of positive evidence to support the realization of the deferred tax assets. In the second half of 2016, we recorded a tax benefit of $0.8 million related to the reduction of an earnout accrual associated with the December 2014 acquisition of Fabrico, Inc. In the fourth quarter of 2016, we repatriated cash from a foreign subsidiary where the income had previously been taxed under U.S. income tax laws. Due to the weakening of the foreign entity's functional currency relative to the U.S. dollar over the time the income was taxed, we recorded the benefit of a foreign exchange loss upon repatriation in the amount of $1.4 million.

The effective tax rates in 2016 (without the unusual items discussed above) and 2015 are lower than U.S. statutory rates primarily due to the earnings in lower rate foreign jurisdictions where a significant portion of our income is taxed. In addition, we historically have benefited from income tax incentives such as the U.S. deduction for domestic production activities ($1.2 million in 2016 and $1.0 million in 2015) and various credits for research and development ($2.2 million in 2016 and $1.4 million in 2015.

Net loss was $40.1 million, or $1.86 per share, in 2016 compared to a net loss of $20.9 million, or $0.93 per share, in 2015. Loss per share is expressed on a diluted basis.

Following is a discussion of operating results for each segment during the year:

Sealing Products. Sales of $705.6 million in 2016 were essentially flat compared to 2015. Excluding the benefit of acquisitions ($54.9 million) and unfavorable foreign exchange ($3.8 million), sales were down 7.2% or $51.1 million. Sales were affected by weak demand in oil and gas, heavy-duty trucking, nuclear, and general industrial markets, which more than offset strength in the semiconductor and food and pharmaceutical markets.

Segment profit decreased 3.0% to $81.8 million in 2016 from $84.3 million in 2015. Excluding the benefit of acquisitions ($2.2 million), offset by unfavorable foreign exchange ($0.3 million) and increased restructuring costs ($2.9 million), segment profit decreased $8.6 million or 9.8%. The decrease was driven primarily by the aforementioned sales volume declines, which negatively impacted segment profit by approximately $20 million. This effect was offset partially by decreased raw material costs for our heavy-duty truck parts driven by lower commodity prices ($8 million) and by a $2.5 million favorable year-over-year impact of adjustments to the earnout accrual associated with the segment's 2014 acquisition of Fabrico. Operating margins for the segment decreased to 11.6% in 2016 from 11.9% in 2015.

Engineered Products. Sales decreased 7.0% to $277.1 million in 2016 from $297.8 million in 2015. Excluding unfavorable foreign exchange effects ($3.7 million), and the effect of the 2016 disposition of CPI's Thailand location ($1.4 million) sales were down 5.2% or $15.6 million. Lower sales of bearings in Europe and Asia driven by weakness in general industrial and automotive and lower sales of reciprocating compressor parts and related services, particularly in the U.S. markets, more than offset sales increases in other European markets. Sales were also negatively impacted year over year by approximately $8 million due to locations exited in the U.S. and Canada associated with the restructuring actions at CPI in 2015.

Segment profit increased 93.8% to $12.4 million in 2016 from $6.4 million in 2015. Excluding the year-over-year impact of restructuring costs incurred in both years ($0.6 million higher in 2016) associated with the actions across the company in 2016 and at CPI in 2015 and 2016, along with the slightly unfavorable effect of foreign exchange, segment profit increased $6.9 million or 55.2%. Lower raw material costs driven by supply chain savings and lower manufacturing costs and general and administrative costs, which were due to initial savings from the above-mentioned actions and overall cost control, drove the increase. The effect of lower sales volumes partially offset these savings. Operating margins for the segment increased to 4.5% in 2016 from 2.1% in 2015.

Power Systems. Sales increased 1.8% to $208.3 million in 2016 from $204.6 million in 2015 as increased engine revenues ($7.2 million) from progress on percentage-of-completion contracts were offset by lower sales in aftermarket parts and services. The decrease in parts and service revenue was driven by lower volume in 2016 but was mitigated by price improvement, which had a positive effect of approximately $6 million year over year, limiting the overall decrease in parts and services revenue to $3.5 million.

Segment profit decreased 37.3% to $17.0 million in 2016 from $27.1 million in 2015. The lower margins were primarily due to a lower mix of parts and services in total sales ($9.5 million), total costs incurred in the first quarter of 2016 associated with the resolution of a legal matter ($3.0 million, inclusive of the $2.7 million settlement), and other manufacturing cost increases partially offset by the aforementioned pricing increases of approximately $6 million, and a lower loss on the EDF contract ($1.2 million).

Operating margins for the segment decreased to 8.2% in 2016 from 13.2% in 2015.

Restructuring and Other Costs

We incurred $5.1 million, $13.4 million and $6.6 million of restructuring costs during the years ended December 31, 2017, 2016 and 2015, respectively.

During 2017, we conducted a number of targeted restructuring activities throughout our operations, which included the exit of some smaller locations and targeted workforce reductions. All costs associated with such initiatives were incurred in 2017. Workforce reductions in 2017 associated with our restructuring activities totaled 117 administrative and manufacturing positions.

During 2016, we conducted a number of restructuring activities throughout our operations, the most significant of which was a company-wide cost reduction initiative that began in the second quarter. Workforce reductions in 2016 totaled 192 administrative and manufacturing positions. Please see the "Overview and Outlook" section of Management's Discussion and Analysis and Note 4 to our Consolidated Financial Statements for further information.

Liquidity and Capital Resources

Cash requirements for, but not limited to, working capital, capital expenditures, acquisitions, pension contributions, and debt repayments have been funded from cash balances on hand, revolver borrowings, issuance of senior notes and cash generated from operations. We are proactively pursuing acquisition opportunities. It is possible our cash requirements for one or more of these acquisition opportunities could exceed our cash balance at the time of closing. Should we need additional capital, we have other resources available, which are discussed in this section under the heading of “Capital Resources.”

As of December 31, 2017, we held all $189.3 million of cash and cash equivalents outside of the United States. As noted under "Capital Resources" we had $111.5 million of availability under our Revolving Credit Facility at

December 31, 2017. This $300 million facility expires in August 31, 2019. At December 31, 2017 we had current income tax receivables

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aggregating $113.2 million relating primarily to the planned carry back of our 2017 tax loss (driven by aggregate Trust funding of $495.8 million) to prior years. Other distributions may require us to incur foreign taxes to repatriate these funds. However, as discussed in Note 5 to our Consolidated Financial Statements, our current intent is to permanently reinvest these funds outside the U.S. and our current plans do not demonstrate a need to repatriate cash to fund our U.S. operations. As a result of the mandatory one-time transition tax on accumulated foreign earnings imposed by the Tax Act, we are re-evaluating our repatriation policy as earnings of our foreign subsidiaries are now available for repatriation without incremental U.S. taxes. However, we have not yet made any changes to our repatriation policy.

Cash Flows

Operating activities provided cash in the amount of $46.6 million, $64.5 million and $86.5 million in 2017, 2016 and 2015, respectively. The decrease in operating cash flows in 2017 versus 2016 was primarily attributable to asbestos payments, net of insurance receipts ($68.9 million) associated with the payment to the Provincial Boards in the third quarter and the funding of the Trust in the fourth quarter of 2017. This effect was offset by contributions from higher segment profit in ($38.5 million) 2017 compared to the prior year, including $7.2 million of segment profit from the reconsolidated GST entities, and lower cash paid for interest and taxes ($7.4 million). The increase in operating cash flows in 2016 versus 2015 was primarily attributable to higher pension contributions ($14.9 million) made primarily to meet minimum funding requirements to avoid payment of variable fees to the PBGC, higher interest payments ($4.6 million) as a result of higher average outstanding borrowings, and lower segment profits. Lower segment working capital requirements ($6 million) as a result of increased company focus on working capital efficiency partially offset the decrease.

We used $97.7 million, $61.4 million, and $86.5 million of cash in 2017, 2016 and 2015, respectively, for investing activities. In 2017, we used $44.6 million, net of cash acquired, to fund acquisitions as opposed to $28.5 million and $44.5 million, net of cash acquired, respectively in 2016 and 2015. Refer to “Acquisitions and Dispositions” in Part I, Item 1 – “Business” for additional discussion regarding these transactions. Additionally, we made a $45.2 million capital contribution to OldCo during the time in which it was deconsolidated from EnPro in order to fund OldCo's initial $50 million payment in July 2017 to the Trust. This funding was partially offset by $36.3 million in net cash increases associated with the deconsolidation of OldCo in the first quarter of 2017 and the reconsolidation of GST and OldCo in the third quarter of 2017. We sold two non-strategic businesses, Franken Plastic in our Sealing Products segment and CPI Thailand in our Engineered Products segment in 2016, receiving a combined $3.7 million, and also received $2.9 million previously in escrow as part of our sale of GRT in 2014. Capital expenditures in 2017 were $5.2 million higher than in 2016, mainly due to facility upgrades and investments to support development of a new opposed-piston engine design in our Power Systems segment.

Financing activities provided $118.5 million in cash in 2017, primarily from the net proceeds from the issuance of follow-on senior notes in March ($149.2 million), offset by a payment on the GST notes during the time in which GST was deconsolidated from EnPro ($45.2 million) that contributed to GST's initial funding of the Trust, net borrowings on our revolving credit facility ($43.5 million), and by cash paid to repurchase shares ($11.5 million) and for dividends ($19.0 million) . Financing activities provided $22.0 million in 2016 primarily from net borrowings on our revolving credit facility of $67.7 million, offset by cash used for share repurchases of $30.4 million, and dividends paid ($18.1 million). Financing activities used $85.2 million in 2015 primarily for share repurchases of $85.3 million, repurchase and repayment of our convertible debentures maturing in October 2015 ($47.1 million), and dividends ($18.0 million). These payments were offset primarily by net borrowings on our revolving credit facility of $62.2 million.

Impact of Funding of the Trust

In February 2017, we received a private letter ruling from the Internal Revenue Service, in satisfaction of a condition of the Joint Plan, that the Trust established under the Joint Plan would be recognized as a “qualified settlement fund” under section 468B of the Internal Revenue Code, and any related regulations, and that amounts contributed to the Trust as contemplated by the Joint Plan would be deductible for federal income tax purposes in the year in which the contribution is made. In accordance with this ruling, we plan to deduct the total 2017 Trust funding of $495.8 million on our 2017 tax return. This funding generates a 2017 net operating tax loss, which is eligible for a ten-year carryback as the loss relates to a specified product liability. Based on our preliminary analysis, we are anticipating a refund in the amount of $102.5 million from the carryback claim and expect to receive it by the end of 2018. In addition to the refund, $3.2 million of foreign tax credits previously utilized during the carryback period will be available to offset our future tax liability. As we further analyze our year-end data, we will refine our calculations, but do not expect that our estimate will materially change.

Capital Resources

Senior Secured Revolving Credit Facility. On August 28, 2014, we amended and restated the agreement governing our senior secured revolving credit facility (the "Credit Facility Amendment").

The Credit Facility Amendment provides for a five-year, $300 million senior secured revolving credit facility (the "Revolving Credit Facility") which expires in August 2019. At December 31, 2017, borrowings under the Revolving Credit Facility bore interest at an annual rate of LIBOR plus 2.00% or base rate plus 1.00%, although the interest rates under the Revolving Credit Facility are subject to incremental increases and decreases based on a consolidated total leverage ratio. In addition, a commitment fee accrues with respect to the unused amount of the Revolving Credit Facility at an annual rate of 0.25%, which rate is also subject to incremental increases and decreases based on a consolidated total leverage ratio.

The Credit Facility Amendment contains certain financial covenants and required financial ratios, including:

- a maximum consolidated total net leverage ratio of not more than 4.0 to 1.0 (with total debt, for the purposes of such ratio, to exclude the intercompany notes payable to GST LLC and to be net of up to $75 million of unrestricted cash of EnPro Industries, Inc. and its domestic, consolidated subsidiaries); and
- a minimum consolidated interest coverage ratio of at least 2.5 to 1.0.

The Credit Facility Amendment contains affirmative and negative covenants (subject, in each case, to customary exceptions and qualifications), including covenants that limit our ability to, among other things:

- grant liens on our assets;
- incur additional indebtedness (including guarantees and other contingent obligations);
- make certain investments (including loans and advances);
- merge or make other fundamental changes;
- sell or otherwise dispose of property or assets;
- pay dividends and other distributions and prepay certain indebtedness;
- make changes in the nature of our business;
- enter into transactions with our affiliates;
- enter into burdensome contracts;
- make certain capital expenditures; and
- modify or terminate documents related to certain indebtedness.

We were in compliance with all covenants of the Credit Facility Amendment as of December 31, 2017.

The borrowing availability under our Revolving Credit Facility at December 31, 2017 was $111.5 million after giving consideration to $15.0 million of outstanding letters of credit and $173.5 million of outstanding borrowings.

In October 2016, the Revolving Credit Facility was amended to permit various transactions as part of the contemplated corporate restructuring of Coltec, which is discussed further in Note 20, "Subsidiary Asbestos Bankruptcies." Permitted borrowers under the Revolving Credit Facility now include newly formed subsidiary EnPro Holdings, in addition to EnPro. OldCo, as the successor by merger to Coltec, was released from its obligations under the Revolving Credit Agreement on January 29, 2017, and each of our other domestic consolidated subsidiaries is required to guarantee the obligations of the borrowers under the Revolving Credit Facility, and each of such existing domestic, consolidated subsidiaries has provided such a guarantee.

Senior Notes. In September 2014, we issued $300 million aggregate principal amount of our senior notes. A portion of the net proceeds of the offering of the senior notes was used to repay outstanding borrowings under the revolving credit facility, including borrowings made to fund the purchase of the convertible debentures in 2014.

The senior notes are unsecured, unsubordinated obligations of EnPro and mature on September 15, 2022. Interest on the senior notes accrues at a rate of 5.875% per annum and is payable semi-annually in cash in arrears on March 15 and September 15 of each year, commencing March 15, 2015. The senior notes are required to be guaranteed on a senior unsecured basis by each of EnPro's existing and future direct and indirect domestic subsidiaries that is a borrower under, or guarantees, our indebtedness under the Revolving Credit Facility or guarantees any other Capital Markets Indebtedness (as defined in the indenture governing the senior notes) of EnPro or any of the guarantors.

Commencing on September 15, 2017, we may, on any one or more occasions, redeem all or a part of the senior notes at specified redemption prices plus accrued and unpaid interest.

Each holder of the senior notes may require us to repurchase some or all of the senior notes for cash upon the occurrence of a defined "change of control" event. Our ability to redeem the senior notes prior to maturity is subject to certain conditions, including in certain cases the payment of make-whole amounts.

The indenture governing the senior notes includes covenants that restrict our ability to engage in certain activities, including incurring additional indebtedness and paying dividends, subject in each case to specified exceptions and qualifications set forth in the indenture.

In March 2017, we completed an add-on offering of $150.0 million of our 5.875% Senior Notes due 2022 (the “Additional Notes"). We issued the Additional Notes inclusive of an original issue premium of $1.5 million. The indenture for the Additional Notes contains the same interest payment, redemption, change of control, covenant, and guarantee provisions as for the senior notes issued in September 2014. The debt premium is being amortized as a reduction to interest expense until the maturity date resulting in an effective interest rate of 5.660%.

The proceeds from the offering of the Additional Notes were used primarily to repay outstanding borrowings under the Revolving Credit Facility in order to increase availability to fund future capital requirements, including those funding requirements associated with the Joint Plan.

Related Party Notes. Effective as of January 1, 2010, Coltec entered into an original issue amount $73.4 million Amended and Restated Promissory Note due January 1, 2017 (the “Coltec Note”) in favor of GST LLC, and our subsidiary Stemco LP entered into an original issue amount $153.8 million Amended and Restated Promissory Note due January 1, 2017, in favor of GST LLC (the “Stemco Note”, and together with the Coltec Note, the “Notes Payable to GST”). The Notes Payable to GST amended and replaced promissory notes in the same principal amounts which were initially issued in March 2005, and which matured on January 1, 2010. In connection with the Coltec Restructuring, the obligations of OldCo, as the successor by merger to Coltec, under the Notes Payable to GST were assumed by EnPro Holdings, and OldCo was released from those obligations. In addition, the Coltec Note and the Stemco Note were amended to extend their maturity date to January 1, 2018.

The Notes Payable to GST bore interest at 11% per annum, of which 6.5% was payable in cash and 4.5% was added to the principal amount of the Notes Payable to GST as payment-in-kind (“PIK”) interest, with interest due on January 31 of each year. In conjunction with the interest payments in 2017 and 2016, $19.3 million and $18.4 million, respectively, was paid in cash and PIK interest of $13.4 million and $12.7 million, respectively, was added to the principal balance of the Notes Payable to GST. With the reconsolidation of GST in the third quarter, these borrowings became intercompany and thus were no longer reported on our Consolidated Balance Sheet beginning in that quarter. In the fourth quarter, the notes were paid off internally.

Share Repurchase Program

In October 2015, our board of directors authorized the repurchase of up to $50.0 million of our outstanding common shares. During the year ended December 31, 2017, we repurchased 0.2 million shares for $11.5 million. Through the program's expiration in October 2017 we purchased $47.2 million of the $50.0 million authorized, including purchases in 2015 and 2016.

Also in October 2017, our board of directors authorized a new program for the repurchase of up to $50.0 million of our outstanding common shares. This program authorization will expire in October 2020. No purchases were made under this program in the year ended December 31, 2017.

Dividends

On January 13, 2015, our Board of Directors adopted a policy under which it intends to declare regular quarterly cash dividends on EnPro’s common stock, with the determination of whether to declare a dividend and the amount being considered each quarter, after taking into account our cash flow, earnings, cash position, financial position and other relevant matters. In 2017, the Board declared a dividend of $0.22 per share in each quarter, and on February 13, 2018 we announced that the Board had increased the quarterly dividend to $0.24 per share, commencing with the dividend to be paid on March 21, 2018. Each of the agreements governing the Revolving Credit Facility and the indenture governing the senior notes includes covenants restricting the payment of dividends, but includes a basket permitting the payment of cash dividends of up to $30.0 million per year. Other baskets may be available under that the agreement governing the Revolving Credit Facility and the indenture governing the senior notes to permit the payment of dividends in excess of $30.0 million per year.

Critical Accounting Policies and Estimates

The preparation of our Consolidated Financial Statements, in accordance with accounting principles generally accepted in the United States, requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures pertaining to contingent assets and liabilities. Note 1, “Overview, Basis of Presentation, Significant Accounting Policies and Recently Issued Accounting Guidance,” to the Consolidated Financial Statements describes the significant accounting policies used to prepare the Consolidated Financial Statements and recently issued accounting guidance. On an ongoing basis we evaluate our estimates, including, but not limited to, those related to bad debts, inventories, intangible assets, income taxes, warranty obligations, restructuring, pensions and other postretirement benefits, and contingencies and litigation. We base our estimates on historical experience and on various other assumptions we believe to be reasonable under the circumstances. Actual results may differ from our estimates.

We believe the following accounting policies and estimates are the most critical. Some of them involve significant judgments and uncertainties and could potentially result in materially different results under different assumptions and conditions.

Revenue Recognition

For the Sealing Products and Engineered Products segments, revenue is recognized at the time title and risk of product ownership is transferred or when services are rendered, and shipping costs billed to customers are recognized as revenue and expensed in cost of goods sold since they are fixed and determinable and collection is reasonably assured.

We generally use the percentage-of-completion ("POC") accounting method to account for our long-term contracts associated with the design, development, manufacture, or modification of complex engines under fixed price or cost plus contracts. During the third quarter of 2011, the Power Systems segment began using POC for prospective engine contracts. We made this change because, as a result of enhancements to our financial management and reporting systems, we are able to reasonably estimate the revenue, costs, and progress towards completion of engine builds. If we are not able to meet those conditions for a particular engine contract, we recognize revenues using the completed-contract method. Additionally, engines that were in production at June 30, 2011 continued to use the completed-contract method through completion and shipment.

Under POC, revenue is recognized based on the extent of progress towards completion of the long-term contract. We generally use the cost-to-cost measure for our long-term contracts unless we believe another method more clearly measures progress towards completion of the contract. Under the cost-to-cost measure, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the contract. Contract costs include labor, material and subcontracting costs, as well as an allocation of indirect costs. Revenues, including estimated fees or profits, are recorded as costs are incurred.

Due to the nature of the work required to be performed on many of our contracts, the estimation of total revenue and cost at completion is complex and subject to many variables. Management must make assumptions and estimates regarding labor productivity including the benefits of learning and investments in new technologies, the complexity of the work to be performed, the availability and future prices of materials, the length of time to complete the contract (to estimate increases in wages and prices for materials and related support cost allocations), performance by our subcontractors and overhead cost rates, among other variables. Based on our analysis, any quarterly adjustments to net sales, cost of sales, and the related impact to operating income are recognized in the period they become known. These adjustments may result in an increase or a decrease in operating income. Changes in estimates of net sales, cost of sales, and the related impact to operating income are recognized quarterly on a cumulative catch-up basis, which recognizes in the current period the cumulative effect of the changes on current and prior periods based on a contract's percentage of completion. A significant change in one or more of these estimates could affect the profitability of one or more of our contracts. When estimates of total costs to be incurred on a contract exceed total estimates of revenue to be earned, a provision for the entire loss on the contract is recorded in the period the loss is determined.

Pensions and Postretirement Benefits

We and certain of our subsidiaries sponsor domestic and foreign defined benefit pension and other postretirement plans. Major assumptions used in the accounting for these employee benefit plans include the discount rate, expected return on plan assets, rate of increase in employee compensation levels and assumed health care cost trend rates. Assumptions are determined based on data available to us and appropriate market indicators, and are evaluated each year as of the plans' measurement date. A change in any of these assumptions could have a material effect on net periodic pension and postretirement benefit costs reported in the Consolidated Statements of Operations, as well as amounts recognized in the Consolidated Balance Sheets. See Note 15 to the Consolidated Financial Statements for a discussion of pension and postretirement benefits.

Income Taxes

We use the asset and liability method of accounting for income taxes. Temporary differences arising between the tax basis of an asset or liability and its carrying amount on the Consolidated Balance Sheet are used to calculate future income tax assets or liabilities. This method also requires the recognition of deferred tax benefits, such as net operating loss carryforwards. A valuation allowance is recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to the taxable income (losses) in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the date of enactment of the change. A tax benefit from an uncertain tax position is recognized only if we believe it is more likely than not that the position will be sustained on its technical merits. If the recognition threshold for the tax position is met, only the portion of the tax benefit that we believe is greater than 50 percent likely to be realized is recorded.

Goodwill and Other Intangible Assets

We do not amortize goodwill, but instead it is subject to annual impairment testing. The goodwill asset impairment test involves comparing the fair value of a reporting unit to its carrying amount. If the carrying amount of a reporting unit exceeds its fair value, a second step of comparing the implied fair value of the reporting unit's goodwill to the carrying amount of that goodwill is required to measure the potential goodwill impairment loss.

To estimate the fair value of our reporting units, we use both discounted cash flow and market valuation approaches. The discounted cash flow approach uses cash flow projections to calculate the fair value of each reporting unit while the market approach relies on market multiples of similar companies. There are inherent assumptions and estimates used in developing future cash flows which require management to apply judgment to the analysis of intangible asset impairment, including projecting revenues, interest rates, our weighted average cost of capital, royalty rates and tax rates. For the market approach, we chose a group of 14 companies we believe are representative of our diversified industrial peers. We used a 70% weighting for the discounted cash flow valuation approach and a 30% weighting for the market valuation approach, reflecting our belief that the discounted cash flow valuation approach provides a better indicator of value since it reflects the specific cash flows anticipated to be generated in the future by the business. Many of the factors used in assessing fair value are outside the control of management, and it is reasonably likely that assumptions and estimates will change in future periods. These changes could result in future impairments. For additional information, see "Management's Discussion and Analysis of Financial Condition and Results of Operations – Overview and Outlook" as well as Notes 1 and 9 to the Consolidated Financial Statements.

Contingencies

General

A detailed description of certain environmental and other legal matters relating to certain of our subsidiaries is included in this section. In addition to the matters noted herein, we are from time to time subject to, and are presently involved in, other litigation and legal proceedings arising in the ordinary course of business. We believe the outcome of such other litigation and legal proceedings will not have a material adverse effect on our financial condition, results of operations and cash flows. Expenses for administrative and legal proceedings are recorded when incurred.

Environmental

Our facilities and operations are subject to federal, state and local environmental and occupational health and safety requirements of the U.S. and foreign countries. We take a proactive approach in our efforts to comply with environmental, health and safety laws as they relate to our manufacturing operations and in proposing and implementing any remedial plans that may be necessary. We also regularly conduct comprehensive environmental, health and safety audits at our facilities to maintain compliance and improve operational efficiency.

Although we believe past operations were in substantial compliance with the then applicable regulations, we or one or more of our subsidiaries are involved with various remediation activities at 15 sites where the future cost per site for us or our subsidiary is expected to exceed $0.1 million. Investigations have been completed for 11 sites and are in progress at the other 4 sites. Our costs at a majority of these sites relate to remediation projects for soil and groundwater contamination at former operating facilities that were sold or closed.

Except as described below, we believe that our accruals for specific environmental liabilities are adequate for those liabilities based on currently available information. Actual costs to be incurred in future periods may vary from estimates because of the inherent uncertainties in evaluating environmental exposures due to unknown and changing conditions, changing government regulations and legal standards regarding liability.

Based on our prior ownership of Crucible Steel Corporation a/k/a Crucible, Inc. ("Crucible"), we may have additional contingent liabilities in one or more significant environmental matters. One such matter, which is included in the 15 sites referred to above, is the Lower Passaic River Study Area of the Diamond Alkali Superfund Site in New Jersey. Crucible operated a steel mill abutting the Passaic River in Harrison, New Jersey from the 1930s until 1974, which was one of many industrial operations on the river dating back to the 1800s. Certain contingent environmental liabilities related to this site were retained by Coltec when Coltec sold a majority interest in Crucible Materials Corporation (the successor of Crucible) in 1985, which liabilities and other legacy non-asbestos liabilities were assumed by our subsidiary, EnPro Holdings, as part of the Coltec

Restructuring. The United States Environmental Protection Agency (the “EPA”) notified Coltec in September 2003 that it is a potentially responsible party (“PRP”) for Superfund response actions in the lower 17-mile stretch of the Passaic River known as the Lower Passaic River Study Area. Coltec and approximately 70 of the numerous other PRPs, known as the Cooperating Parties Group, are parties to a May 2007 Administrative Order on Consent with the EPA to perform a Remedial Investigation/Feasibility Study (“RI/FS”) of the contaminants in the Lower Passaic River Study Area. The RI/FS was completed and submitted to the EPA at the end of April 2015. The RI/FS recommends a targeted dredge and cap remedy with monitored natural recovery and adaptive management for the Lower Passaic River Study Area. The cost of such remedy is estimated to be $726 million. Previously, on April 11, 2014, the EPA released its Focused Feasibility Study (the “FFS”) with its proposed plan for remediating the lower eight miles of the Lower Passaic River Study Area. The FFS calls for bank-to-bank dredging and capping of the riverbed of that portion of the river and estimates a range of the present value of aggregate remediation costs of approximately $953 million to approximately $1.73 billion, although estimates of the costs and the timing of costs are inherently imprecise. On March 3, 2016, the EPA issued the final Record of Decision (ROD) as to the remedy for the lower eight miles of the Lower Passaic River Study Area, with the maximum estimated cost being reduced by the EPA from $1.73 billion to $1.38 billion, primarily due to a reduction in the amount of cubic yards of material that will be dredged. In October 2016, Occidental Chemical Corporation, the successor to the entity that operated the Diamond Alkali chemical manufacturing facility, reached an agreement with the EPA to develop the design for this proposed remedy at an estimated cost of $165 million. The EPA has estimated that it will take approximately four years to develop this design.

No final allocations of responsibility have been made among the numerous PRPs that have received notices from the EPA, there are numerous identified PRPs that have not yet received PRP notices from the EPA, and there are likely many PRPs that have not yet been identified. Based on our evaluation of the site, during 2014 we accrued a liability of $3.5 million related to environmental remediation costs associated with the lower eight miles of the Lower Passaic River Study Area, which is our estimate of the low end of a range of reasonably possible costs, with no estimate within the range being a better estimate than the minimum. Our actual remediation costs could be significantly greater than the $3.5 million we accrued. With respect to the upper 9 miles of the Lower Passaic River Study Area, we are unable to estimate a range of reasonably possible costs.

Another such matter involves the Onondaga Lake Superfund Site (the “Onondaga Site”) located near Syracuse, New York. Crucible operated a steel mill facility adjacent to Onondaga Lake from 1911 to 1983. The New York State Department of Environmental Conservation (“NYSDEC”) has contacted us and Coltec, as well as other parties, demanding reimbursement of unquantified environmental response costs incurred by NYSDEC and the EPA at the Onondaga Site. NYSDEC and EPA have alleged that contamination from the Crucible facility contributed to the need for environmental response actions at the Onondaga Site. In addition, Honeywell International Inc. (“Honeywell”), which has undertaken certain remediation activities at the Onondaga Site under the supervision of NYSDEC and the EPA, has informed us that it has claims against Coltec related to investigation and remediation at the Onondaga Site. We have entered into tolling agreements with NYSDEC, the EPA and Honeywell. On May 4, 2016, we received from Honeywell a summary of its claims. We have corresponded with Honeywell and have begun discussions with them regarding their claims. In addition, we have received notice from the Natural Resource Trustees for the Onondaga Lake Superfund Site (which are the U. S. Department of Interior, NYSDEC, and the Onondaga Nation) alleging that Coltec is considered to be a potentially responsible party for natural resource damages at the Onondaga Site. At this time, based on limited information we have with respect to estimated remediation costs and the respective allocation of responsibility for remediation among potentially responsible parties, we cannot estimate a reasonably possible range of loss associated with Crucible’s activities that may have affected the Onondaga Site. During 2016, we reserved $1.5 million for reimbursement of EPA response costs and certain costs associated with the remedial investigation.

Except with respect to specific Crucible environmental matters for which we have accrued a portion of the liability set forth above, including the Lower Passaic River Study Area, we are unable to estimate a reasonably possible range of loss related to any other contingent environmental liability based on our prior ownership of Crucible.

In addition to the Crucible environmental matters discussed above, Coltec has received a notice from the EPA asserting that Coltec is a potentially responsible party under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") as the successor to a former operator in 1954 and 1955 of two uranium mines in Arizona. On October 15, 2015, Coltec received another notice from the EPA asserting that Coltec is a potentially responsible party as the successor to the former operator of six additional uranium mines in Arizona. In 2015, we reserved $1.1 million for the minimum amount of probable loss associated with the first two mines identified by the EPA, including the cost of the investigative work to be conducted at such mines. During the second quarter of 2016, we reserved an additional $1.1 million for the minimum amount of probable loss associated with the six additional mines, which includes estimated costs of investigative work to be conducted at the eight mines. At September 30, 2017, we increased the reserve by $1.9 million to a balance of $4.0 million in anticipation of entering into an agreement with the EPA to perform investigations to determine the nature and extent of contamination at each site with the investigations to be completed by the end of 2019. On November 7, 2017, EnPro Holdings entered into an Administrative Settlement Agreement and Order on Consent for Interim Removal Action with EPA for the performance of this work. We cannot at this time estimate a reasonably possible range of loss associated with remediation or other incremental costs related to these mines.

In connection with the former operation of a division of Colt Industries Inc, located in Water Valley, Mississippi, which Coltec divested to BorgWarner, Inc. ("BorgWarner") in 1996, Coltec has been managing trichloroethylene soil and groundwater contamination at the site. In February 2016, the Mississippi Department of Environmental Quality (MDEQ) issued an order against EnPro requiring evaluation of potential vapor intrusion into residential properties and commercial facilities located over the groundwater plume as well as requiring additional groundwater investigation and remediation. MDEQ performed the initial vapor intrusion investigations at certain residential and commercial sites, with the findings all being below the applicable screening level. In April 2016, the parties entered into a new order including negotiated time frames for groundwater remediation. Pursuant to that order, MDEQ performed a second round of seasonal vapor intrusion sampling beginning in August 2016. Results from sampling outside of three residences were above screening levels. Follow-up sampling directly underneath those residences (either sub-slab or in crawl spaces) were all below applicable screening levels. Two separate sampling events at another residence were also below applicable screening levels. Due to an increasing trend in vapor concentrations, MDEQ requested that we develop and implement initial corrective action measures to address vapor intrusion resulting from groundwater contamination in this residential area. These measures were developed and approved by MDEQ but could not be implemented because the owner of the private property where the corrective action system would be located would not provide access. An alternate plan has been submitted to and is being reviewed by MDEQ. In addition, vapor intrusion sampling at the manufacturing facility owned by BorgWarner was conducted during the first quarter of 2017. The results showed exceedances of screening levels at various areas in the plant and exceedances of levels requiring responsive actions in a limited area of the plant. Implementation of the immediate responsive actions has been completed and corrective action consisting of a permanent vapor intrusion remediation system became operational in May 2017. We are also continuing soil and groundwater investigation work in the area inside the plant where the vapor intrusion remediation system is located and around the outside of the plant and developing corrective action plans for both the contamination remaining at the plant as well as contamination that has migrated off-site. All of the work to be performed at the residential area, the plant and off-site is set forth in an agreed Order that we and MDEQ entered into on September 11, 2017. During the quarter ended March 31, 2016, we established an additional $1.3 million reserve with respect to this matter. During the quarter ended March 31, 2017 we reserved an additional $3.3 million for further investigation, additional remediation, long-term monitoring costs, and legal fees to support regulatory compliance for the above noted actions. During the quarter ended December 31, 2017, we reserved an additional $3.5 million for further investigation, additional remediation, long-term monitoring costs, and legal fees to support regulatory compliance for the above noted actions. The remaining reserve at December 31, 2017 is $3.8 million. As the corrective actions are implemented and their performance monitored, further modifications to the remediation system at the site may be required which may result in additional costs beyond the current reserve.

On April 7, 2017, the State of Mississippi through its Attorney General filed suit against EnPro, OldCo and Goodrich Corporation in Mississippi Circuit Court in Yalobusha County seeking recovery of all costs and expenses to be incurred by the State in remediating the groundwater contamination, punitive damages and attorney’s fees. We plan to aggressively defend this case. The additional reserve established in the quarter ended December 31, 2017, noted above, does not include any estimate of contingent loss associated with this lawsuit other than due to remediation and other actions with respect to this site based on the MDEQ orders described above. In addition, it is our understanding that area homeowners, owners of commercial facilities and the local county government and possibly other private parties and individuals have engaged or may engage legal counsel to separately evaluate possible legal action relating to potential vapor intrusion and groundwater contamination. We have been further advised that certain of these parties intend to file legal action based on these claims. Based upon limited information regarding any further remediation or other actions that may be required at the site, we cannot estimate a minimum loss estimate or a reasonably possible range of loss for remediation costs.

In 2016, in addition to the accruals described above, we accrued $1.1 million in liabilities to reflect our estimated costs to restart the remediation system at one site, estimated costs to construct the remedial system at one site and our most current estimate of costs for continued remediation at five sites based upon a reassessment of the expected duration of remedial activities at each of those sites. As of December 31, 2017 and 2016, we had accrued liabilities of

$27.3 million and $23.1 million, respectively, for estimated future expenditures relating to environmental contingencies.

Given the uncertainties regarding the status of laws, regulations, enforcement policies, the impact of other parties potentially being liable, technology and information related to individual sites, we do not believe it is possible to develop an estimate of the range of reasonably possible environmental loss in excess of our recorded liabilities. In addition, based on our prior ownership of Crucible, we may have additional contingent liabilities in one or more significant environmental matters, which are included in the 15 sites referred to above. Except with respect to specific Crucible environmental matters for which we have accrued a portion of the liability set forth above, we are unable to estimate a reasonably possible range of loss related to these contingent liabilities. See Note 21 to the Consolidated Financial Statements for additional information regarding our environmental contingencies and see the following section titled "Crucible Steel Corporation a/k/a Crucible, Inc."

Crucible Steel Corporation a/k/a Crucible, Inc.

Crucible, which was engaged primarily in the manufacture and distribution of high technology specialty metal products, was a wholly owned subsidiary of Coltec until 1983 when its assets and liabilities were distributed to a new Coltec subsidiary, Crucible Materials Corporation. Coltec sold a majority of the outstanding shares of Crucible Materials Corporation in 1985 and divested its remaining minority interest in 2004. Crucible Materials Corporation filed for Chapter 11 bankruptcy protection in May 2009 and is no longer conducting operations. We have certain ongoing obligations, which are included in other liabilities in our Consolidated Balance Sheets, including workers' compensation, retiree medical and other retiree benefit matters, related to Coltec's period of ownership of Crucible. Based on Coltec's prior ownership of Crucible, we may have certain other contingent liabilities, including liabilities in one or more significant environmental matters included in the matters discussed in "Environmental" above. We are investigating these matters. Except with respect to those matters for which we have an accrued liability as discussed in "Environmental" above, we are unable to estimate a reasonably possible range of loss related to these contingent liabilities. See Note 21 to the Consolidated Financial Statements for information about certain liabilities relating to Coltec's ownership of Crucible.

Warranties

We provide warranties on many of our products. The specific terms and conditions of these warranties vary depending on the product and the market in which the product is sold. We record a liability based upon estimates of the costs we may incur under our warranties after a review of historical warranty experience and information about specific warranty claims. Adjustments are made to the liability as claims data and historical experience necessitate.

Changes in the carrying amount of the product warranty liability for the years ended December 31, 2017, 2016 and 2015 are as follows:

	2017	2016	2015
	(in millions)		
Balance at beginning of year	$5.0	$4.8	$3.5
Charges to expense	2.6	4.4	3.3
Settlements made	(2.3)	(4.2)	(2.0)
Balance at end of year	$5.3	$5.0	$4.8

BorgWarner

A subsidiary of BorgWarner has asserted claims against our subsidiary, GGB France E.U.R.L. ("GGB France"), regarding certain bearings supplied by GGB France to BorgWarner and used by BorgWarner in manufacturing hydraulic control units included in motor vehicle automatic transmission units, mainly that the bearings caused performance problems with and/or damage to the transmission units, leading to associated repairs and replacements. BorgWarner and GGB France participated in a technical review before a panel of experts to determine, among other things, whether there were any defects in such bearings that were a cause of the damages claimed by BorgWarner, including whether GGB France was required to notify BorgWarner of a change in the source of a raw material used in the manufacture of such bearings. This technical review was a required predicate to the commencement of a legal proceeding for damages. The expert panel issued a final report on technical and financial matters on April 6, 2017. In the final report, the expert panel concluded that GGB France had a duty to notify BorgWarner regarding the change of source of raw material used in the bearings, but that the failure of the hydraulic control units was attributable to both the raw material supplier change and the insufficient design of the units by BorgWarner. The expert panel provided detail on a possible allocation of damages alleged to have been incurred by BorgWarner and its customer. Although the language of the report is not clear, the report appears to note a potential allocation of recoverable damages 35% to BorgWarner and 65% to GGB France. It also indicates that, though it is for a court to ultimately determine, the aggregate damages to BorgWarner and its customer was in the range of 7.9 million EUR to 10.2 million EUR, with 1.8 million EUR to 2.1 million EUR of this range being for damages to BorgWarner and the remainder being for damages to its customer. The experts noted the lower end of the range as being more likely and noted a lack of sufficient evidence provided substantiating the customer's damages. Applying a 65% liability allocation to GGB to the total aggregate range yields a range of 5.1 million EUR to 6.6 million EUR. In the final report, the expert panel deferred to a court the determination of whether GGB France had breached its contractual obligations to BorgWarner. On October 25, 2017, BorgWarner initiated a legal proceeding against GGB with respect to this matter by filing a writ of claim with the Commercial Court of Brive, France. The parties have been briefing their legal positions and we expect court hearings to begin in the summer of 2018.

We continue to believe that GGB France has valid factual and legal defenses to these claims and we are vigorously defending these claims. Among GGB France's legal defenses are a contractual disclaimer of consequential damages, which, if controlling, would limit liability for consequential damages and provide for the replacement of the bearings at issue, at an aggregate replacement value we estimate to be approximately 0.4 million EUR; that the determination of any duty to notify of the change in the source of the raw material is a legal matter to be determined by the presiding court; and the insufficiency of evidence of damage to BorgWarner's customer provided to the expert panel. Based on the final report from the expert panel and GGB France's legal defenses described above, we estimate GGB France's reasonably possible range of loss associated with this matter to be approximately 0.4 million EUR to 6.6 million EUR plus a potential undetermined amount of apportioned proceeding expenses, with no amount within the range being a better estimate than the minimum of the range. Accordingly, GGB France has retained the accrual of 0.4 million EUR associated with this matter, which was established in the second quarter of 2016.

Asbestos Insurance Coverage

Under the Consensual Settlement and Joint Plan described above in "Overview and Outlook," GST and OldCo retained their rights to seek reimbursement under insurance policies for any amounts they have paid in the past to resolve asbestos claims, including contributions made to the Trust under the Joint Plan. These policies include a number of primary and excess general liability insurance policies that were purchased by Coltec and were in effect prior to January 1, 1976 (the "Pre-Garlock Coverage Block"). The policies provide coverage for "occurrences" happening during the policy periods and cover losses associated with product liability claims against Coltec and certain of its subsidiaries. Asbestos claims against GST are not covered under these policies because GST was not a Coltec subsidiary prior to 1976. The Joint Plan provides that OldCo may retain the first $25 million of any settlements and judgments related to insurance policies in the Pre-Garlock Coverage Block and OldCo and the Trust will share equally in any settlements and judgments OldCo may collect in excess of $25 million. As of December 31, 2017, approximately $44.4 million of available products hazard limits or insurance receivables existed under primary and excess general liability insurance policies other than the Pre-Garlock Coverage Block (the "Garlock Coverage Block") from solvent carriers with investment grade ratings.

On June 12, 2017, the District Court approved several settlements with insurance carriers. First, with respect to available products hazard limits and insurance receivables covering claims against both GST and OldCo under the Garlock Coverage Block, the District Court approved settlements with two carriers that will pay their full aggregate remaining policy limits of approximately $18.8 million over a three-year period following consummation of the Joint Plan; as of December 31, 2017, approximately $14.2 million is due from the two carriers. A previously disclosed agreement with another group of carriers calls for the payment of $11 million. EnPro expects that the full amount of remaining policy limits and insurance receivables (approximately $19.2 million) in the Garlock Coverage Block will be received either through settlements or in reimbursement of GST's plan funding as payments are made by the Trust. In addition, the District Court approved settlements with two insurance carriers in the Pre-Garlock Coverage Block that permit the recovery of some of OldCo's contributions to the Trust under the Joint Plan. Under the settlements, the two carriers were obligated to make one-time cash payments to OldCo in the aggregate amount of approximately $19.0 million within 30 days of consummation of the Joint Plan, which payments were made in August 2017. In addition, the District Court approved a settlement with the successors to Coltec's Fairbanks Morse Pump business in which the Fairbanks Morse Pump successors agreed to pay OldCo $6 million in three installments over nine years following consummation of the Joint Plan, with the successor entities being entitled to recoup up to the full amount of their payments to OldCo from collections expected to be received from an additional insurance carrier that issued general liability policies to Coltec prior to January 1, 1976. OldCo and the Trust will share equally in any collections above that $6 million amount. OldCo estimates that the carrier will owe approximately $11 million in reimbursements over the life of the Trust for its share of Coltec claims (which includes Fairbanks Morse Pump claims). In August 2017, the Fairbanks Morse Pump successors and EnPro Holdings, as the successor to OldCo, agreed to permit accelerated settlements of the installments upon the lump sum payment of $3 million made to EnPro Holdings in August 2017, with the Fairbanks Morse Pump successors surrendering any right to recoup the amount of such payment from the additional insurance carrier that issued general liability policies to Coltec prior to January 1, 1976.

At December 31, 2017, we had $44.4 million of insurance coverage we believe is available to cover GST asbestos claims payments and certain expense payments, including contributions to the Trust. GST has collected insurance payments totaling $152.3 million since the GST Petition Date. We consider the $44.4 million of available insurance coverage remaining to be of high quality because the insurance policies are written or guaranteed by U.S.-based carriers whose credit rating by S&P is investment grade (BBB-) or better, and whose AM Best rating is excellent (A-) or better. Of the company's $44.4 million remaining solvent insurance coverage, $17.8 million is allocated to claims that were paid by GST LLC prior to the initiation of the Chapter 11 proceedings and submitted to insurance companies for reimbursement, and the remaining $26.6 million is available to pending and estimated future claims. There are specific agreements in place with carriers covering $29.4 million of the remaining available coverage. Based on those agreements and the terms of the policies in place and prior decisions concerning coverage, we believe that all of the $44.4 million of insurance proceeds will ultimately be collected, although there can be no assurance that the insurance companies will make the payments as and when due. Based on those agreements and policies, some of which define specific annual amounts to be paid and others of which limit the amount that can be recovered in any one year, we anticipate that $15.0 million will be received either through settlements or in reimbursements of GST's plan funding as payments are made by the asbestos trust. Assuming the insurers pay according to the agreements and policies, we anticipate that the following amounts should be collected in the years set out below:

2018 – $16.8 million
2019 – $5.9 million
2020 – $2.5 million

We are a party to legal proceedings initiated in August 2017 in the District Court with two insurers that collectively provide $15 million of coverage under the Garlock Coverage Block. The legal proceedings were initiated by one of the insurers seeking to compel arbitration of issues under its policy and, alternatively, a determination that its policy does not cover asbestos claims. We have counterclaimed, seeking a determination that the policy covers asbestos claims and that the insurer breached the terms of its policy by failing to provide coverage for these claims. We joined the second insurer in this action and are seeking similar relief against it. On October 12, 2017, the magistrate judge issued a decision denying the petitioning insurer's motion to compel arbitration and holding that the arbitration clause in the policy was deleted by an endorsement. The insurer filed an objection to the magistrate judge's decision with the District Court. The District Court has not yet issued a ruling on the objection.

GST LLC has received $8.8 million of insurance recoveries from insolvent carriers since 2007, and may receive additional payments from insolvent carriers in the future. No anticipated insolvent carrier collections are included in the $44.4 million million of anticipated collections. The insurance available to cover current and future asbestos claims is from comprehensive general liability policies that cover OldCo, as the successor to Coltec, and certain of its other subsidiaries in addition to GST LLC for periods prior to 1985 and therefore could be subject to potential competing claims of other covered subsidiaries and their assignees.

Off Balance Sheet Arrangements

Lease Agreements

We have a number of operating leases primarily for real estate, equipment and vehicles. Operating lease arrangements are generally utilized to secure the use of assets from time to time if the terms and conditions of the lease or the nature of the asset makes the lease arrangement more favorable than a purchase. As of December 31, 2017, approximately $49.4 million of future minimum lease payments were outstanding under these agreements. See Note 21, “Commitments and Contingencies – Other Commitments,” to the Consolidated Financial Statements for additional disclosure.

Contractual Obligations

A summary of our contractual obligations and commitments at December 31, 2017, is as follows:

	Payments Due by Period (in millions)		
Contractual Obligations	Total	Less than 1 Year	1-3