

CARPENTER TECHNOLOGY CORP

Form 10-K

August 18, 2016

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended June 30, 2016

OR

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

For the transition period from _____ to _____

Commission File Number 1-5828

CARPENTER TECHNOLOGY CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

23-0458500

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

P.O. Box 14662

Reading, Pennsylvania

19610

(Address of principal executive offices)

(Zip Code)

610-208-2000

(Registrant's telephone number, including area code)

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

Common Stock, \$5 Par Value New York Stock Exchange

Title of each class

Name of each exchange on which registered

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☒

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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 the filing requirements for at least the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, 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 ☒ No ☐

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

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

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

The aggregate market value of the registrants' voting common stock held by non-affiliates at December 31, 2015 was \$1,415,149,138, based on the closing price per share of the registrant's common stock on that date of \$30.27 as reported on the New York Stock Exchange.

As of August 12, 2016, 46,612,582 shares of the registrant's common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Selected portions of the Company's fiscal year 2016 definitive Proxy Statement are incorporated by reference into Part III of this Report.

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PART I

Item 1. Business

(a) General Development of Business:

Carpenter Technology Corporation, incorporated in 1904, is engaged in the manufacturing, fabrication and distribution of specialty metals. As used throughout this report, unless the context requires otherwise, the terms “Carpenter”, “Company”, “Registrant”, “Issuer”, “we” and “our” refer to Carpenter Technology Corporation.

(b) Financial Information About Segments:

We are organized in two reportable business segments: Specialty Alloys Operations (“SAO”) and Performance Engineered Products (“PEP”). See Note 18 to our consolidated financial statements included in Item 8. “Financial Statements and Supplementary Data” for additional segment reporting information.

(c) Narrative Description of Business:

(1) General:

We develop, manufacture and distribute cast/wrought and powder metal stainless steels and special alloys including high temperature (iron-nickel-cobalt base), stainless, superior corrosion resistant, controlled expansion alloys, ultra-high strength and implantable alloys, tool and die steels and other specialty metals, as well as cast/wrought titanium alloys. We also manufacture and rent down-hole drilling tools and components used in the oil and gas industry.

We provide material solutions to the changing needs of the aerospace and defense, energy, transportation, medical and industrial and consumer industries. We have continued to increase our global manufacturing capacity as well as expand our operations to provide customers with solutions to today’s changing materials challenges.

Reportable Segments

The SAO segment is comprised of the Company’s major premium alloy and stainless steel manufacturing operations. This includes operations performed at mills primarily in Reading and Latrobe and surrounding areas in Pennsylvania, South Carolina and Alabama. The combined assets of the SAO operations are being managed in an integrated manner to optimize efficiency and profitability across the total system.

The PEP segment is comprised of the Company’s differentiated operations. This segment includes the Dynamet titanium business, the Carpenter Powder Products business, the Amega West business, the Specialty Steel Supply business and the Latrobe and Mexico distribution businesses. The businesses in the PEP segment are managed with an entrepreneurial structure to promote speed and flexibility, and drive overall revenue and profit growth.

(2) Raw Materials:

Our business depends on continued delivery of critical raw materials for our day-to-day operations. These raw materials include nickel, cobalt, chromium, manganese, molybdenum, titanium, iron and scrap containing iron and nickel. Some of the sources of these raw materials, many of which are international, could be subject to potential interruptions of supply as a result of political events, labor unrest or other reasons. These potential interruptions could cause material shortages and affect availability and price. We have arrangements with certain vendors to provide consigned materials at our manufacturing facilities available for our consumption as necessary.

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We have long-term relationships with major suppliers who provide availability of material at competitive prices. Purchase prices of certain raw materials have historically been volatile. We use pricing surcharges, indexing mechanisms, base price adjustments and raw material forward contracts to reduce the impact of increased costs for the most significant of these materials. There can be delays between the time of the increase in the price of raw materials and the realization of the benefits of such mechanisms or actions that could have a short-term impact on our results and could affect the comparability of our results from period to period.

(3) Patents and Licenses:

We own a number of United States and international patents and have granted licenses under some of them. In addition, certain products that we produce are covered by patents held or owned by other companies from whom licenses have been obtained. The duration of a patent issued in the United States is between 14 and 20 years from the date of filing a patent application or issuance of the patents. The duration of patents issued outside of the United States vary from country to country. Generally, patent licenses are structured to match the duration of the underlying patent. Although these patents and licenses are believed to be of value, we do not consider our business to be materially dependent upon any single such item or related group of such items.

(4) Seasonality of Business:

Our sales are normally influenced by seasonal factors. Historically, our sales in the first two fiscal quarters (the respective three months ending September 30 and December 31) are typically the lowest — principally because of annual plant vacation and maintenance shutdowns by us, as well as by many of our customers. However, the timing of major changes in the general economy or the markets for certain products can alter this historical pattern.

The chart below summarizes the percent of net sales by quarter for the past three fiscal years:

Quarter Ended	2016	2015	2014
September 30,	25 %	25 %	23 %
December 31,	25	24	23
March 31,	25	26	26
June 30,	25	25	28
	100%	100%	100%

(5) Customers:

On a consolidated basis, we are not dependent upon a single customer, or a very few customers, such that the loss of any one or more particular customers would have a materially adverse effect on our consolidated statement of income. One customer, Alcoa Inc., accounted for approximately 13 percent of net sales for the year ended June 30, 2016. No single customer accounted for 10 percent or more of net sales during fiscal years 2015 and 2014. Approximately 22 percent of the accounts receivable outstanding at June 30, 2016 is due from two customers, Alcoa Inc. and Precision Castparts Corporation. Approximately 17 percent of the accounts receivable outstanding at June 30, 2015 is due from one customer, Alcoa Inc. See Note 18 to our consolidated financial statements included in Item 8. “Financial Statements and Supplementary Data” for additional information.

(6) Backlog:

As of June 30, 2016, we had a sales backlog of orders excluding surcharge, believed to be firm, of approximately \$306 million, substantially all of which is expected to be shipped within fiscal year 2017. Our backlog of orders excluding surcharge as of June 30, 2015 was approximately \$435 million.

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(7) Competition:

Our business is highly competitive. We supply materials to a wide variety of end-use market sectors and compete with various companies depending on end-use market, product or geography. We are leaders in specialty materials for critical applications with over 125 years of metallurgical and manufacturing expertise. A significant portion of the products we produce are highly engineered materials for demanding applications. There are less than ten companies producing one or more similar products that we consider our major competitors for our high value products used in demanding applications, particularly in our Aerospace and Defense and Energy end-use markets. These products are generally required to meet complex customer product specifications and often require the materials to be qualified prior to supplying the customer orders. Our experience, technical capabilities, product offerings and research and development efforts that we have in our niche markets represent barriers to existing and potential competitors.

For other products, there are several dozen smaller producing companies and converting companies that are also competitors, as well as several hundred independent distributors of products similar to those distributed by us. Additionally, numerous foreign companies produce various specialty metal products similar to those produced by us. Furthermore, a number of different products may, in certain instances, be substituted for our finished products.

(8) Research, Product and Process Development:

Our expenditures for company-sponsored research and development were \$16.3 million, \$18.7 million and \$18.5 million in fiscal years 2016, 2015 and 2014, respectively. We believe that our ability to be an innovator in special material development and manufacturing processes has been and will continue to be an important factor in the success of the Company. Our worldwide staff of expert metallurgists, research and development scientists, engineers and service professionals work closely with our customers to identify and provide innovative solutions to specific product requirements.

(9) Environmental Regulations:

We are subject to various stringent federal, state, local and international environmental laws and regulations relating to pollution, protection of public health and the environment, natural resource damages and occupational safety and health. Management evaluates the liability for future environmental remediation costs on a quarterly basis. We accrue amounts for environmental remediation costs representing management's best estimate of the probable and reasonably estimable costs relating to environmental remediation. For further information on environmental remediation, see the Contingencies section included in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the notes to our consolidated financial statements included in Item 8. "Financial Statements and Supplementary Data".

Our costs of maintaining and operating environmental control equipment were \$13.5 million, \$14.8 million and \$13.3 million for fiscal years 2016, 2015 and 2014, respectively. The capital expenditures for environmental control equipment were \$0.7 million, \$0.5 million and \$2.2 million for fiscal years 2016, 2015 and 2014, respectively. We anticipate spending approximately \$3 million on major domestic environmental capital projects over the next five fiscal years. This includes approximately \$1 million in fiscal year 2017. Due to the possibility of future regulatory developments, the amount of future capital expenditures may vary from these estimates.

(10) Employees:

As of June 30, 2016, our total workforce consisted of approximately 4,500 employees, which included approximately 125 production employees in Washington, Pennsylvania who are covered under a collective bargaining agreement which expires on August 31, 2016, and approximately 440 employees in Latrobe, Pennsylvania who are covered under a collective bargaining agreement which expires August 1, 2017.

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(d) Financial information about foreign and domestic operations and export sales:

Sales outside of the United States, including export sales, were \$569.9 million, \$646.8 million and \$635.1 million in fiscal years 2016, 2015 and 2014, respectively. Long-lived assets held outside of the United States were \$28.0 million, \$30.0 million and \$27.5 million as of June 30, 2016, 2015 and 2014, respectively. For further information on domestic and international sales, see Note 18 to our consolidated financial statements included in Item 8. “Financial Statements and Supplementary Data”.

(e) Available Information:

Our Board of Directors has adopted a Code of Ethics for the Chief Executive Officer and Senior Financial Officers of Carpenter Technology Corporation, which is also applicable to our other executive officers. There were no waivers of the Code of Ethics in fiscal year 2016. The Code of Ethics and any information regarding any waivers of the Code of Ethics are disclosed on Carpenter’s website at www.cartech.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 are available free of charge through our website as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission (“SEC”). Our website and the content contained therein or connected thereto are not intended to be incorporated into this Annual Report on Form 10-K.

The public may read and copy any materials the Company files with the SEC at the SEC’s Public Reference Room at 100 F Street, N.E., Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet site that contains reports, proxy and other information regarding issuers that file electronically. Such information can be accessed through the Internet at www.sec.gov.

Item 1A. Risk Factors

There are inherent risks and uncertainties associated with all businesses that could adversely affect operating performances or financial conditions. The following discussion outlines the risks and uncertainties that management believes are the most material to our business. However, these are not the only risks or uncertainties that could affect our business. Certain risks are associated specifically with our business, industry or customer base, while others have a broader effect.

The demand for certain products we produce may be cyclical.

Demand in our end-use markets, including companies in the aerospace and defense, energy, transportation, medical and industrial and consumer markets, can be cyclical in nature and sensitive to general economic conditions, competitive influences and fluctuations in inventory levels throughout the supply chain. As such, our results of operations, financial condition, cash flows and availability of credit could fluctuate significantly from period to period.

A significant portion of our sales represents products sold to customers in the commercial aerospace and defense and energy markets. The cyclicity of those markets can adversely affect our current business and our expansion objectives.

The commercial aerospace and defense market is historically cyclical due to both external and internal market factors. These factors include general economic conditions, airline profitability, consumer demand for air travel, varying fuel and labor costs, price competition and international and domestic political conditions such as military conflict and the

threat of terrorism. The length and degree of cyclical fluctuation can be influenced by any one or combination of these factors and therefore are difficult to predict with certainty. A downturn in the commercial aerospace and defense industry would adversely affect the demand for our products and/or the prices at which we are able to sell our products; our results of operations and financial condition could be materially adversely affected.

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The energy market has also been historically cyclical, principally as a result of volatile oil prices. Due to the prolonged weakness in oil and gas drilling and exploration activity oil prices have been depressed. The decline in oil prices has negatively impacted the demand for our products used in our Energy and Industrial and Consumer end-use markets. Our future success requires us to, among other things, expand in key international energy markets by successfully adding to our customer base, distribution channels and product portfolio. The outlook for oil prices remains uncertain. The duration of the current low price environment or further deterioration in prices could further adversely affect the demand for products, which could impact our results of operations and financial condition. Any significant delay or inability to successfully expand our operations in a timely and cost effective manner could materially adversely affect our business, financial condition and results of operations.

Over the last few years, we have undertaken capital projects associated with expanding our production capacity and capability, including our state-of-the-art manufacturing facility in Athens, Alabama and our adjacent superalloy powder facility. These projects place a significant demand on management and operational resources. Our success in expanding our operations in a cost effective manner depends upon numerous factors including the ability of management to ensure the necessary resources are in place to properly execute these projects, our ability to obtain the necessary internal and customer qualifications to produce material from the facility and our ability to operate the facility to maximize the potential opportunities with minimal impacts to our existing operations. If we are not able to achieve the anticipated results from our capital expansion projects, or if we incur unanticipated excess costs, our results of operations and financial position may be materially adversely affected.

Periods of reduced demand and excess supply as well as the availability of substitute lower cost materials can adversely affect our ability to price and sell our products at the profitability levels we require to be successful.

Additional worldwide capacity and reduced demand for our products could significantly impact future worldwide pricing which would adversely impact our results of operations and financial condition. In addition, continued availability of lower cost, substitute materials may also cause significant fluctuations in future results as our customers opt for a lower cost alternative.

We change prices on our products as we deem necessary. In addition to the above general competitive impact, other market conditions and various economic factors beyond our control can adversely affect the timing of our pricing actions. The effects of any pricing actions may be delayed due to long manufacturing lead times or the terms of existing contracts. There is no guarantee that the pricing actions we implement will be effective in maintaining the Company's profit margin levels.

We rely on third parties to supply certain raw materials that are critical to the manufacture of our products and we may not be able to access alternative sources of these raw materials if the suppliers are unwilling or unable to meet our demand.

Costs of certain critical raw materials, such as nickel, cobalt, chromium, manganese, molybdenum, titanium, iron and scrap containing iron and nickel have been volatile due to factors beyond our control. We are able to mitigate most of the adverse impact of rising raw material costs through raw material surcharges, indices to customers and raw material forward contracts, but changes in business conditions could adversely affect our ability to recover rapid increases in raw material costs and may adversely affect our results of operations.

In addition, the availability of these critical raw materials is subject to factors that are not in our control. In some cases, these critical raw materials are purchased from suppliers operating in countries that may be subject to unstable political and economic conditions. At any given time, we may be unable to obtain an adequate supply of these critical raw materials on a timely basis, at prices and other terms acceptable to us, or at all.

If suppliers increase the price of critical raw materials or are unwilling or unable to meet our demand, we may not have alternative sources of supply. In addition, to the extent that we have quoted prices to customers and accepted customer orders for products prior to purchasing necessary raw materials, or have existing contracts, we may be unable to raise the price of products to cover all or part of the increased cost of the raw materials to our customers. The manufacture of some of our products is a complex process and requires long lead times. As a result, we may experience delays or shortages in the supply of raw materials. If unable to obtain adequate and timely deliveries of required raw materials, we may be unable to timely manufacture sufficient quantities of products. This could cause us to lose sales, incur additional costs, delay new product introductions or suffer harm to our reputation.

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Regulations related to conflict minerals could adversely impact our business.

The SEC has promulgated final rules mandated by the Dodd-Frank Act regarding disclosure of the use of tin, tantalum, tungsten and gold, known as conflict minerals, in products manufactured by public companies. These rules require due diligence to determine whether such minerals originated from the Democratic Republic of Congo (the “DRC”) or an adjoining country and whether such minerals helped finance the armed conflict in the DRC. The Company timely filed its annual conflict minerals report required by the rules on June 1, 2016. There will be costs associated with complying with these disclosure requirements going forward, including costs to determine the origin of conflict minerals used in our products. In addition, the implementation of these rules could adversely affect the sourcing, supply and pricing of materials used in our products. Also, we may face disqualification as a supplier for customers and reputational challenges if the due diligence procedures we continue to implement do not enable us to verify the origins for all conflict minerals or to determine that such minerals are DRC conflict-free.

We provide benefits to active and retired employees throughout most of our Company, most of which are not covered by insurance; and thus, our financial condition can be adversely affected if our investment returns are insufficient to meet these obligations.

We have obligations to provide substantial benefits to active and retired employees, and most of the associated costs are paid by the Company and are not covered by insurance. In addition, certain employees are covered by defined benefit pension plans, with the majority of our plans covering employees in the United States. Many domestic and international competitors do not provide defined benefit plans and/or retiree health care plans, and other international competitors operate in jurisdictions with government sponsored health care plans that may offer them a cost advantage. A decline in the value of plan investments in the future, an increase in costs or liabilities or unfavorable changes in laws or regulations that govern pension plan funding could materially change the timing and amount of required pension funding. A requirement to accelerate or increase pension contributions in the future could have a material adverse effect on our results of operations and financial condition.

The extensive environmental, health and safety regulatory regimes applicable to our manufacturing operations create potential exposure to significant liabilities.

The nature of our manufacturing business subjects our operations to numerous and varied federal, state, local and international laws and regulations relating to pollution, protection of public health and the environment, natural resource damages and occupational safety and health. We have used, and currently use and manufacture, substantial quantities of substances that are considered hazardous, extremely hazardous or toxic under worker safety and health laws and regulations. Although we implement controls and procedures designed to reduce continuing risk of adverse impacts and health and safety issues, we could incur substantial cleanup costs, fines and civil or criminal sanctions, third party property damage or personal injury claims as a result of violations, non-compliance or liabilities under these regulatory regimes required at our facilities.

We have environmental remediation liabilities at some of our owned operating facilities and have been designated as a potentially responsible party (“PRP”) with respect to certain third party Superfund or similar waste disposal sites and other third party owned sites. Additionally, we have been notified that we may be a PRP with respect to other Superfund sites as to which no proceedings have been instituted against us. From time to time, we are a party to lawsuits and other proceedings involving alleged violations of, or liabilities arising from, environmental laws.

When our liability is probable and we can reasonably estimate our costs, we record environmental liabilities in our financial statements. However, in many cases, we are not able to determine whether we are liable, or if liability is probable, in order to reasonably estimate the loss or range of loss which could result from such environmental liabilities. Estimates of our liability remain subject to additional uncertainties, including the nature and extent of site contamination, available remediation alternatives, the extent of corrective actions that may be required, and the

number and financial condition of other PRP's, as well as the extent of their responsibility for the remediation. We adjust our accruals to reflect new information as appropriate. Future adjustments could have a material adverse effect on our results of operations in a given period, but we cannot reliably predict the amounts of such future adjustments. Future developments, administrative actions or liabilities relating to environmental matters could have a material adverse effect on our financial condition, cash flows or results of operations.

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Our manufacturing processes, and the manufacturing processes of many of our suppliers and customers, are energy intensive and generate carbon dioxide and other “Greenhouse Gases”, and pending legislation or regulation of Greenhouse Gases, if enacted or adopted in an onerous form, could have a material adverse impact on our results of operations, financial condition and cash flows.

Political and scientific debates related to the impacts of greenhouse gas emissions on the global climate are prevalent. Regulation or some form of legislation aimed at reducing the greenhouse gas emissions is currently being considered both in the United States and globally. As a specialty alloy manufacturer, we will be affected, both directly and indirectly, if proposed climate change legislation, such as use of a “cap and trade”, is enacted. Such legislation could have a material adverse impact on our results of operations, financial condition and cash flows.

Product liability and product quality claims could adversely affect our operating results.

We produce ultra-high strength, high temperature and corrosion-resistant alloys designed for our customers’ demanding applications particularly in our Aerospace and Defense, Energy and Medical end-use markets. Failure of the materials that are included in our customers’ applications could give rise to substantial product liability claims. There can be no assurance that our insurance coverage will be adequate or continue to be available on terms acceptable to us. We have a complex manufacturing process necessary to meet our customers’ stringent product specifications. We are also required to adhere to various third party quality certifications and perform sufficient internal quality reviews to ensure compliance with established standards. If we fail to meet the customer specifications for their products, we may be subject to product quality costs and claims. These costs are generally not insured. The impacts of product liability and quality claims could have a material adverse impact on the results of our operations, financial condition and cash flows.

Our business subjects us to risks of litigation claims, as a routine matter, and this risk increases the potential for a loss that might not be covered by insurance.

Litigation claims relate to the conduct of our currently and formerly owned businesses, including claims pertaining to product liability, commercial disputes, employment actions, employee benefits, compliance with domestic and federal laws, personal injury, patent infringement and tax issues. Due to the uncertainties of litigation, we can give no assurance that we will prevail on claims made against us in the lawsuits that we currently face or that additional claims will not be made against us in the future. The outcome of litigation cannot be predicted with certainty, and some of these lawsuits, claims or proceedings may be determined adversely to us. The resolution in any reporting period of one or more of these matters could have a material adverse effect on our results of operations for that period. We can give no assurance that any other matters brought in the future will not have a material effect on our results of operations, financial condition and cash flows.

A portion of our workforce is covered by collective bargaining agreements and union attempts to organize our other employees may cause work interruptions or stoppages.

Approximately 125 production employees at our Dynamet business unit located in Washington, PA are covered by a collective bargaining agreement. This agreement expires in August 2016. Approximately 440 production employees at our Latrobe business unit located in Latrobe, Pennsylvania are covered by a collective bargaining agreement. This agreement expires in August 2017. There can be no assurance that we will succeed in concluding collective bargaining agreements with the unions to replace those that expire. From time to time, the employees at our manufacturing facility in Reading, Pennsylvania, participate in election campaigns or union organizing attempts. There is no guarantee that future organization attempts will not result in union representation.

Our manufacturing processes are complex and depend upon critical, high cost equipment for which there may be only limited or no production alternatives.

It is possible that we could experience prolonged periods of reduced production due to unplanned equipment failures, and we could incur significant repair or replacement costs in the event of those failures. It is also possible that operations could be disrupted due to other unforeseen circumstances such as power outages, explosions, fires, floods, accidents and severe weather conditions. We must make regular, substantial capital investments and changes to our manufacturing processes to lower production costs, improve productivity, manufacture new or improved products and remain competitive. We may not be in a position to take advantage of business opportunities or respond to competitive pressures if we fail to update, replace or make additions to our equipment or our manufacturing processes in a timely manner. The cost to repair or replace much of our equipment or facilities would be significant. We cannot be certain that we will have sufficient internally generated cash or acceptable external financing to make necessary capital expenditures in the future.

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A significant portion of our manufacturing and production facilities are located in Reading and Latrobe, Pennsylvania and Athens, Alabama, which increases our exposure to significant disruption to our business as a result of unforeseeable developments in these geographic areas.

It is possible that we could experience prolonged periods of reduced production due to unforeseen catastrophic events occurring in or around our manufacturing facilities in Reading and Latrobe, Pennsylvania and Athens, Alabama. As a result, we may be unable to shift manufacturing capabilities to alternate locations, accept materials from suppliers, meet customer shipment needs or address other severe consequences that may be encountered. Our financial condition, cash flows and results of operations could be materially adversely affected.

We rely on third parties to supply energy consumed at each of our energy-intensive production facilities.

The prices for and availability of electricity, natural gas, oil and other energy resources are subject to volatile market conditions. These market conditions often are affected by political and economic factors beyond our control. Disruptions or lack of availability in the supply of energy resources could temporarily impair the ability to operate our production facilities. Further, increases in energy costs, or changes in costs relative to energy costs paid by competitors, has affected and may continue to adversely affect our profitability. To the extent that these uncertainties cause suppliers and customers to be more cost sensitive, increased energy prices may have an adverse effect on our results of operations, financial condition and cash flows.

We consider acquisitions, joint ventures and other business combination opportunities, as well as possible business unit dispositions, as part of our overall business strategy, that involve uncertainties and potential risks that we cannot predict or anticipate fully.

From time to time, management holds discussions with management of other companies to explore such aforementioned opportunities. As a result, the relative makeup of the businesses comprising our Company is subject to change. Acquisitions, joint ventures and other business combinations involve various inherent risks. Such risks include difficulties in integrating the operations, technologies, products and personnel of the acquired companies, diversion of management's attention from existing operations, difficulties in entering markets in which we have limited or no direct prior experience, dependence on unfamiliar supply chains, insufficient revenues to offset increased expenses associated with acquisitions, loss of key employees of the acquired companies, inaccurate assessment of undisclosed liabilities, difficulties in realizing projected efficiencies, synergies and cost savings, and increases in our debt or limitation on our ability to access additional capital when needed.

Our business may be impacted by external factors that we may not be able to control.

War, civil conflict, terrorism, natural disasters and public health issues including domestic or international pandemic have caused and could cause damage or disruption to domestic or international commerce by creating economic or political uncertainties. Additionally, the volatility in the financial markets could negatively impact our business. These events could result in a decrease in demand for our products, affect the availability of credit facilities to us, our customers or other members of the supply chain necessary to transact business, make it difficult or impossible to deliver orders to customers or receive materials from suppliers, affect the availability or pricing of energy sources or result in other severe consequences that may or may not be predictable. As a result, our business, financial condition and results of operations could be materially adversely affected.

We believe that international sales, which are associated with various risks, will continue to account for a significant percentage of our future revenues.

Risks associated with international sales include without limitation: political and economic instability, including weak conditions in the world's economies; difficulty in collecting accounts receivable; unstable or unenforced export controls; changes in legal and regulatory requirements; policy changes affecting the markets for our products; changes in tax laws and tariffs; and exchange rate fluctuations (which may affect sales to international customers and the value of profits earned on international sales when converted into dollars). In addition, we will need to invest in building our capabilities and infrastructure to meet our international growth goals. Any of these factors could materially adversely affect our results for the period in which they occur.

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We value most of our inventory using the LIFO method, which could be repealed resulting in adverse effects on our cash flows and financial condition.

The cost of our inventories is primarily determined using the Last-In, First-Out (“LIFO”) method. Under the LIFO inventory valuation method, changes in the cost of raw materials and production activities are recognized in cost of sales in the current period even though these materials and other costs may have been incurred at significantly different values due to the length of time of our production cycle. Generally in a period of rising prices, LIFO recognizes higher costs of goods sold, which both reduces current income and assigns a lower value to the year-end inventory. Recent proposals have been aimed at repealing the election to use the LIFO method for income tax purposes. According to these proposals, generally taxpayers that currently use the LIFO method would be required to revalue their LIFO inventory to its First-In, First-Out (“FIFO”) value. As of June 30, 2016, if the FIFO method of inventory had been used instead of the LIFO method, our inventories would have been approximately \$98 million higher. This increase in inventory would result in a one-time increase in taxable income which may be taken into account over the following several taxable years. The repeal of the LIFO method could result in a substantial tax liability which could adversely impact our cash flows and financial condition.

We depend on the retention of key personnel.

Much of our future success depends on the continued service and availability of skilled personnel, including members of our executive management team, management, metallurgists and production positions. The loss of key personnel could adversely affect our ability to perform until suitable replacements are found.

We could be adversely impacted if our information technology (“IT”) and computer systems do not perform properly or if we fail to protect the integrity of confidential data.

Management relies on IT infrastructure, including hardware, network, software, people and processes, to provide useful information to conduct our business and support assessments and conclusions about operating performance. Our inability to produce relevant and/or reliable measures of operating performance in an efficient, cost-effective and well-controlled fashion may have significant negative impacts on our future operations. In addition, any material failure, interruption of service, or compromised data security could adversely affect our operations. Security breaches in our information technology could result in theft, destruction, loss, misappropriation or release of confidential data or intellectual property which could adversely impact our future results.

We are in the process of implementing a new enterprise resource planning system and problems with the design or implementation of this system could interfere with our business and operations.

We are engaged in a multi-year implementation of a new global enterprise resource planning (ERP) system. Our ERP system is being designed to accurately maintain books and records, record transactions, provide important information to our management and prepare our financial statements. The implementation of the new ERP system has required, and will continue to require, the investment of significant financial and human resources. Any disruptions, delays or deficiencies in the design and implementation of the new ERP system could adversely affect our financial condition and results of operations.

The carrying value of goodwill and other intangible assets may not be recoverable.

Goodwill and other long-lived assets including property, plant and equipment and other intangible assets are recorded at fair value on the date of acquisition. We review these assets at least annually for impairment. Impairment may result from, among other things, deterioration in performance, adverse market conditions, adverse changes in applicable laws or regulations and a variety of other factors. Any future impairment of goodwill or other long-lived assets could

have a material adverse effect on our results of operations.

Item 1B. Unresolved Staff Comments

None.

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Item 2. Properties

The principal locations of our primary domestic integrated mills in our SAO segment are located in Reading and Latrobe, Pennsylvania and Athens, Alabama. In addition, SAO manufactures large diameter hollow bar in Orwigsburg, Pennsylvania and Elyria, Ohio and operates a mini mill manufacturing stainless steel bar and wire in Hartsville, South Carolina. The principal locations for PEP businesses include titanium alloy production facilities located in Washington, Pennsylvania and Clearwater, Florida, powder products manufacturing facilities in Bridgeville, Pennsylvania; Athens Alabama and Woonsocket, Rhode Island and a facility in Houston, Texas for manufacturing of machined components used in the drilling, exploration and production of oil and gas. The PEP segment also includes domestic leased warehouses and service centers located in Houston, Texas; San Antonio, Texas; Midland, Texas; Oklahoma City, Oklahoma; Casper, Wyoming; Lafayette, Louisiana; West Alexander, Pennsylvania; Vienna, Ohio; Chicago, Illinois; Pinehurst, Texas and Mobile, Alabama. The PEP segment includes one owned service center in White House, Tennessee.

The Reading, Hartsville, Washington, Bridgeville, Orwigsburg, Elyria, Woonsocket, Latrobe, Houston and Athens facilities are owned. The Clearwater facility is owned, but the land is leased.

We also own or lease manufacturing facilities, distribution centers, service centers and sales offices in a number of foreign countries, including Sweden, Canada, Singapore, China, Mexico, Taiwan, the United Arab Emirates, the United Kingdom and Belgium.

Our corporate offices, located in Wyomissing, Pennsylvania, are leased. In February 2016, we announced plans to move the corporate offices to Philadelphia, PA. We currently expect to move prior to the end of calendar 2016.

Our plants, customer service centers, and distribution centers were acquired or leased at various times over several years. There is an active maintenance program to ensure a safe operating environment and to keep facilities in good condition. In addition, we have an active capital spending program to replace equipment as needed to keep it technologically competitive on a worldwide basis. We believe our facilities are in good condition and suitable for our business needs.

Item 3. Legal Proceedings

From time to time, we are a party to lawsuits and other proceedings involving alleged violations of, or liabilities arising from, environmental laws. We have environmental remediation liabilities at some of our owned operating facilities and have been designated as a potentially responsible party ("PRP") with respect to certain third party Superfund or similar waste disposal sites and other third party owned sites. Additionally, we have been notified that we may be a PRP with respect to other Superfund sites as to which no proceedings have been instituted against us. Estimates of the amount and timing of future costs of environmental remediation requirements are inherently imprecise because of the continuing evolution of environmental laws and regulatory requirements, the availability and application of technology, the identification of currently unknown remediation sites and the allocation of costs among the PRP's. Based upon information currently available, such future costs are not expected to have a material effect on our financial position, results of operations or cash flows over the long-term. However, such costs could be material to our financial position, results of operations or cash flows in a particular future quarter or year.

In addition, from time to time, we are a party to certain routine claims and legal actions and other contingent liabilities incident to the normal course of business which pertain to litigation, product claims, commercial disputes, employment actions, employee benefits, compliance with domestic and foreign laws, personal injury claims, patent infringement and tax issues. Based on information currently available, the ultimate resolution of our known contingencies, individually or in the aggregate and including the matters described in Note 10 to the consolidated financial statements in this Form 10-K, is not expected to have a material adverse effect on our financial position, cash

flows or results of operations. However, there can be no assurance that an increase in the scope of pending matters or that any future lawsuits, claims, proceedings or investigations will not be material to our financial position, results of operations or cash flows in a particular future quarter or year.

See the “Contingencies” section included in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operation”, and the “Contingencies and Commitments” section included in Note 10 to our consolidated financial statements included in Item 8. “Financial Statements and Supplementary Data”, included in this Form 10-K, the contents of which are incorporated by reference to this Item 3.

Item 4. Mine Safety Disclosures

Not applicable.

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Item 4A. Executive Officers of the Registrant

Listed below are the names of our corporate executive officers, including those required to be listed as executive officers for SEC purposes, each of whom assumes office after the annual organization meeting of the Board of Directors which immediately follows the Annual Meeting of Stockholders.

Tony R. Thene was appointed President and Chief Executive Officer effective July 1, 2015. Since joining Carpenter in January 2013, Mr. Thene served as the Senior Vice President and Chief Financial Officer. Mr. Thene joined Carpenter after 23 years with Alcoa Inc., a leading producer of primary and fabricated aluminum, holding various management positions.

Damon J. Audia was appointed Senior Vice President and Chief Financial Officer effective October 19, 2015. Mr. Audia joined Carpenter from The Goodyear Tire & Rubber Company where he worked for ten years and most recently served as Senior Vice President of Finance for the company's North America division.

David L. Strobel was appointed Senior Vice President and Chief Technology Officer effective July 13, 2015. Since joining Carpenter in 1983, Mr. Strobel has held numerous positions of increasing responsibility, including Vice President - Manufacturing, Vice President - Technology and Senior Vice President - Global Operations. Mr. Strobel retired from the Company in August 2016.

Joseph E. Haniford was appointed Chief Operating Officer effective June 30, 2016. Since joining Carpenter in July 2015, Mr. Haniford served as Senior Vice President - Specialty Alloys Operations. Mr. Haniford joined Carpenter from EnTrans International where he was responsible for all operations as the company's Chief Operating Officer and was a member of the Board of Directors. Prior to EnTrans International, Mr. Haniford worked for Alcoa, Inc. for more than 30 years in various executive leadership positions.

Name	Age	Position	Assumed Present Position
Tony R. Thene	55	President and Chief Executive Officer	July 2015
Damon J. Audia	45	Senior Vice President and Chief Financial Officer	October 2015
David L. Strobel	55	Senior Vice President and Chief Technology Officer	July 2015
Joseph E. Haniford	57	Chief Operating Officer	June 2016

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PART II

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

Our common stock is listed on the New York Stock Exchange ("NYSE") and traded under the symbol "CRS". The following table sets forth, for the periods indicated, the high and low prices for our common stock as reported by the NYSE:

	Fiscal Year 2016		Fiscal Year 2015	
Quarter Ended:	High	Low	High	Low
September 30	\$ 41.25	\$ 29.18	\$ 64.69	\$ 44.98
December 31	\$ 37.18	\$ 27.55	\$ 53.12	\$ 41.43
March 31	\$ 36.18	\$ 23.99	\$ 49.73	\$ 34.28
June 30	\$ 38.16	\$ 28.74	\$ 45.42	\$ 34.80
Annual	\$ 41.25	\$ 23.99	\$ 64.69	\$ 34.28

The range of our common stock price on the NYSE from July 1, 2016 to August 12, 2016 was \$32.44 to \$40.46. The closing price of the common stock was \$36.62 on August 12, 2016.

We have paid quarterly cash dividends on our common stock for over 120 consecutive years. We paid a quarterly dividend of \$0.18 per share of common stock during each quarter of fiscal years 2016 and 2015.

As of August 12, 2016, there were 2,332 common stockholders of record.

Information regarding Securities Authorized for Issuance under Equity Compensation Plans is set forth in Item 12 hereto "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters".

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Cumulative Total Stockholder Return

The graph below compares the cumulative total stockholder return on our common stock to the cumulative total return of the S&P MidCap 400 Index, the most widely used index for mid-sized companies, and our Peer Group, for each of the last five fiscal years ended June 30, 2016. The cumulative total return assumes an investment of \$100 on June 30, 2011 and the reinvestment of any dividends during the period. Our Peer Group consists of the companies in the Russell Materials and Processing Growth Index. We believe the companies included in our Peer Group, taken as a whole, provide a more meaningful comparison in terms of product offerings, markets served, competition and other relevant factors. The total stockholder return for the peer group is weighted according to the respective issuer's stock market capitalization at the beginning of each period.

	6/11	6/12	6/13	6/14	6/15	6/16
Carpenter Technology Corporation	\$100.00	\$84.10	\$80.37	\$114.16	\$70.91	\$61.70
S&P Midcap 400	\$100.00	\$97.67	\$122.27	\$153.12	\$162.92	\$165.09
Russell Materials & Processing Growth	\$100.00	\$89.57	\$111.20	\$143.43	\$145.31	\$139.78

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Issuer Purchases of Equity Securities

In October 2014, the Company's Board of Directors authorized a share repurchase program up to \$500.0 million of the Company's shares of Common Stock over two years. The shares of Common Stock may be repurchased from time to time at our discretion based on capital needs of the business, general market conditions and market price of the stock. The timing or amount of the shares to be repurchased cannot be assured. The share repurchase program may be discontinued at any time. As of June 30, 2016, \$251.6 million of the \$500.0 million remained available for future purchases.

Item 6. Selected Financial Data

Five-Year Financial Summary
in millions, except per share data
(Fiscal years ended June 30,)

	2016(a)(c)	2015(b)(c)	2014	2013(d)	2012(d)(e)
Summary of Operations:					
Net sales	\$ 1,813.4	\$ 2,226.7	\$2,173.0	\$2,271.7	\$ 2,028.7
Operating income	\$ 51.6	\$ 111.5	\$212.0	\$232.7	\$ 210.1
Net income	\$ 11.3	\$ 58.7	\$132.8	\$146.5	\$ 121.6
Net income attributable to Carpenter	\$ 11.3	\$ 58.7	\$132.8	\$146.1	\$ 121.2
Financial Position at Year-End:					
Cash and cash equivalents	\$ 82.0	\$ 70.0	\$120.0	\$257.5	\$ 211.0
Total assets	\$ 2,794.3	\$ 2,902.6	\$3,053.7	\$2,878.6	\$ 2,625.7
Long-term debt, net of current portion	\$ 611.3	\$ 603.8	\$600.5	\$599.9	\$ 303.8
Per Common Share:					
Net earnings:					
Basic	\$ 0.23	\$ 1.11	\$2.48	\$ 2.75	\$ 2.55
Diluted	\$ 0.23	\$ 1.11	\$2.47	\$ 2.73	\$ 2.53
Cash dividend-common	\$ 0.72	\$ 0.72	\$0.72	\$ 0.72	\$ 0.72
Weighted Average Common Shares Outstanding:					
Basic	48.1	52.6	53.3	52.9	47.1
Diluted	48.2	52.7	53.6	53.2	47.5

(a) Fiscal year 2016 included \$22.5 million of excess inventory write-down charges, \$12.5 million of goodwill impairment charges and \$18.0 million of restructuring and impairment charges including of \$7.6 million of impairment of intangible assets and property, plant and equipment and \$10.4 million of restructuring costs related primarily to an early retirement incentive and other severance related costs. See Note 2 in the Notes to the Consolidated Financial Statements included in Item 8 "Financial Statements and Supplementary Data" of this report.

(b) Fiscal year 2015 included \$29.1 million of restructuring costs related principally to workforce reduction, facility closures and write-down of certain assets. See Note 2 in the Notes to the Consolidated Financial Statements included in Item 8 "Financial Statements and Supplementary Data" of this report.

(c) The weighted average common shares outstanding for fiscal years 2016 and 2015 included 5.5 million and 0.9 million less shares, respectively, related to the share repurchase program authorized in October 2014. During the year ended June 30, 2016 and 2015, we repurchased 3,762,200 shares and 2,995,272 shares, respectively, of common stock for \$123.9 million and \$124.5 million, respectively.

(d) The weighted average common shares outstanding for fiscal years 2013 and 2012 included an additional 8.1 million and 2.7 million, respectively, shares issued in connection with the Latrobe acquisition.

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(e) Fiscal year 2012 included \$11.7 million of acquisition-related costs incurred in connection with the Latrobe acquisition that was consummated on February 29, 2012.

See Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” for discussion of factors that affect the comparability of the “Selected Financial Data”.

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

Background and General

Our discussions below in this Item 7 should be read in conjunction with our consolidated financial statements, including the notes thereto, included in this annual report on Form 10-K.

We are engaged in the manufacturing, fabrication and distribution of specialty metals. We primarily process basic raw materials such as nickel, cobalt, titanium, manganese, chromium, molybdenum, iron scrap and other metal alloying elements through various melting, hot forming and cold working facilities to produce finished products in the form of billet, bar, rod, wire and narrow strip in many sizes and finishes. We also produce certain metal powders. Our sales are distributed directly from our production plants and distribution network as well as through independent distributors. Unlike many other specialty steel producers, we operate our own worldwide network of service and distribution centers. These service centers, located in the United States, Canada, Mexico, Europe and Asia allow us to work more closely with customers and to offer various just-in-time stocking programs. We also manufacture and rent down-hole drilling tools and components used in the oil and gas industry.

As part of our overall business strategy, we have sought out and considered opportunities related to strategic acquisitions, divestitures and joint collaborations as well as possible business unit dispositions aimed at broadening our offering to the marketplace. We have participated with other companies to explore potential terms and structures of such opportunities and expect that we will continue to evaluate these opportunities.

While we prepare our financial statements in accordance with U.S. generally accepted accounting principles (“U.S. GAAP”), we also utilize and present certain financial measures that are not based on or included in U.S. GAAP (we refer to these as “Non-GAAP financial measures”). Please see the section “Non-GAAP Financial Measures” below for further discussion of these financial measures, including the reasons why we use such financial measures and reconciliations of such financial measures to the nearest U.S. GAAP financial measures.

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Business Trends

Selected financial results for the past three fiscal years are summarized below:

(\$ in millions, except per share data)	Fiscal Year		
	2016	2015	2014
Net sales	\$1,813.4	\$2,226.7	\$2,173.0
Net sales excluding surcharge revenue (1)	\$1,572.6	\$1,811.8	\$1,782.8
Operating income	\$51.6	\$111.5	\$212.0
Operating income excluding pension earnings, interest and deferrals (“pension EID”) expense (1)	\$70.9	\$121.0	\$233.8
Net income	\$11.3	\$58.7	\$132.8
Diluted earnings per share	\$0.23	\$1.11	\$2.47
Purchases of property, equipment and software	\$95.2	\$170.5	\$349.2
Free cash flow (1)	\$138.6	\$74.4	\$(147.8)
Pounds sold (in thousands) (2)	242,560	277,482	290,388

(1) See the section “Non-GAAP Financial Measures” below for further discussion of these financial measures.

(2) Includes specialty and titanium alloys, stainless steel and powder materials.

As a result of the realignment of the commercial team during fiscal year 2016, we changed the manner in which sales are classified by end-use market so that we could better evaluate our sales results from period to period. In order to make the discussion of sales by end-use market meaningful, we have reclassified the fiscal year 2015 and 2014 sales by end-use market to conform to the fiscal year 2016 presentation.

Our sales are across a diversified list of end-use markets. The table below summarizes our sales by market over the past three fiscal years:

(\$ in millions)	Fiscal Year					
	2016		2015		2014	
	Dollars	% of Total	Dollars	% of Total	Dollars	% of Total
Aerospace and defense	\$981.5	54 %	\$1,053.8	48 %	\$1,006.8	47 %
Energy	130.6	7	285.6	13	309.9	14
Transportation	160.6	8	171.0	7	153.5	7
Medical	121.5	7	129.4	6	117.6	5
Industrial and consumer	300.9	17	450.0	20	447.6	21
Distribution	118.3	7	136.9	6	137.6	6
Total net sales	\$1,813.4	100 %	\$2,226.7	100 %	\$2,173.0	100 %

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Impact of Raw Material Prices and Product Mix

We value most of our inventory utilizing LIFO inventory costing methodology. Under the LIFO inventory costing method, changes in the cost of raw materials and production activities are recognized in cost of sales in the current period even though these materials may have been acquired at potentially significantly different values due to the length of time from the acquisition of the raw materials to the sale of the processed finished goods to the customers. In a period of rising raw material costs, the LIFO inventory valuation normally results in higher cost of sales. Conversely, in a period of decreasing raw material costs, the LIFO inventory valuation normally results in lower cost of sales.

The volatility of the costs of raw materials has impacted our operations over the past several years. We, and others in our industry, generally have been able to pass cost increases on major raw materials through to our customers using surcharges that are structured to recover increases in raw material costs. Generally, the formula used to calculate a surcharge is based on published prices of the respective raw materials for the previous month which correlates to the prices we pay for our raw material purchases. However, a portion of our surcharges to customers may be calculated using a different surcharge formula or may be based on the raw material prices at the time of order, which creates a lag between surcharge revenue and corresponding raw material costs recognized in cost of sales. The surcharge mechanism protects our net income on such sales except for the lag effect discussed above. However, surcharges have had a dilutive effect on our gross margin and operating margin percentages as described later in this report.

Approximately 25 percent of our net sales are sales to customers under firm price sales arrangements. Firm price sales arrangements involve a risk of profit margin fluctuations, particularly when raw material prices are volatile. In order to reduce the risk of fluctuating profit margins on these sales, we enter into commodity forward contracts to purchase certain critical raw materials necessary to produce the related products sold. Firm price sales arrangements generally include certain annual purchasing commitments and consumption schedules agreed to by the customers at selling prices based on raw material prices at the time the arrangements are established. If a customer fails to meet the volume commitments (or the consumption schedule deviates from the agreed-upon terms of the firm price sales arrangements), the Company may need to absorb the gains or losses associated with the commodity forward contracts on a temporary basis. Gains or losses associated with commodity forward contracts are reclassified to earnings/loss when earnings are impacted by the hedged transaction. Because we value most of our inventory under the LIFO costing methodology, changes in the cost of raw materials and production activities are recognized in cost of sales in the current period attempting to match the most recently incurred costs with revenues. Gains and/or losses on the commodity forward contracts are reclassified from other comprehensive income together with the actual purchase price of the underlying commodities when the underlying commodities are purchased and recorded in inventory. To the extent that the total purchase price of the commodities, inclusive of the gains or losses on the commodity forward contracts, are higher or lower relative to the beginning of year costs, our cost of goods sold reflects such amounts. Accordingly, the gains and/or losses associated with commodity forward contracts may not impact the same period that the firm price sales arrangements revenue is recognized, and comparisons of gross profit from period to period may be impacted. These firm price sales arrangements are expected to continue as we look to strengthen our long-term customer relationships by expanding, renewing and in certain cases extending to a longer term, our customer long-term arrangements.

We produce hundreds of grades of materials, with a wide range of pricing and profit levels depending on the grade. In addition, our product mix within a period is subject to the fluctuating order patterns of our customers as well as decisions we may make on participation in certain products based on available capacity including the impacts of capacity commitments we may have under existing customer agreements. While we expect to see positive contribution from a more favorable product mix in our margin performance over time, the impact by period may fluctuate, and period-to-period comparisons may vary.

Net Pension Expense

Net pension expense, as we define it below, includes the net periodic benefit costs related to both our pension and other postretirement plans. The net periodic benefit costs are determined annually based on beginning of year balances and are recorded ratably throughout the fiscal year, unless a significant re-measurement event occurs. The following is a summary of the net periodic benefit costs for the years ended June 30, 2016, 2015 and 2014:

	Years Ended June 30,		
(\$ in millions)	2016	2015	2014
Pension plans	\$ 50.9	\$ 34.5	\$ 49.0
Other postretirement plans	2.9	10.0	11.1
Net periodic benefit costs	\$ 53.8	\$ 44.5	\$ 60.1

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The service cost component of net pension expense represents the estimated cost of future pension liabilities earned associated with active employees. The pension earnings, interest and deferrals (“pension EID”) is comprised of the expected return on plan assets, interest costs on the projected benefit obligations of the plans and amortization of actuarial gains and losses and prior service costs.

During the year ended June 30, 2016, we offered an early retirement incentive to certain employees. As a result of the incentive, \$9.4 million was paid from the Company's qualified pension plan consisting of various personnel-related costs to cover severance payments.

During the year ended June 30, 2015, in connection with a restructuring plan, we reduced approximately 200 salaried positions. As a result, \$8.3 million was paid from the Company's qualified pension plan consisting primarily of various personnel-related costs to cover severance payments and medical coverage.

Net pension expense is recorded in accounts that are included in both the cost of sales and selling, general and administrative expenses based on the function of the associated employees. The following is a summary of the classification of net pension expense for the years ended June 30, 2016, 2015 and 2014:

(\$ in millions)	Years Ended June 30,		
	2016	2015	2014
Cost of sales			
Service cost	\$28.1	\$29.3	\$28.2
Pension earnings, interest and deferrals	13.2	5.0	14.2
	41.3	34.3	42.4
Selling, general and administrative expenses			
Service cost	6.4	7.3	7.9
Pension earnings, interest and deferrals	6.1	4.5	7.6
Curtailment gain	—	(1.6)	—
	12.5	10.2	15.5
Net pension expense	\$53.8	\$44.5	\$57.9

As of June 30, 2016 and 2015, amounts capitalized in gross inventory were \$10.6 million and \$9.5 million, respectively.

Operating Performance Overview

Fiscal year 2016 was a successful year for Carpenter related to numerous changes made in how we operate as a company, including:

- We strengthened our Carpenter team by adding experienced external talent and promoted internal talent into critical roles.

- We defined our strategy as a solutions provider helping our customers solve their most challenging problems and giving them competitive advantage.

- We reorganized our commercial team to be market focused versus product focused. We are aggressively seeking avenues to deepen customer relationships and expand the participation of our high-end specialty alloys across the most critical applications.

- We launched the Carpenter Operating Model. The Carpenter Operating Model is unlocking manufacturing efficiencies and commercial opportunities, while also driving further improvements in working capital efficiency and capital spending discipline.

These strategic initiatives are aimed at enabling our organization to not only overcome the near term cyclical challenges but also better position Carpenter to generate growth and improve margins over the long-term.

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Results of Operations — Fiscal Year 2016 Compared to Fiscal Year 2015

For fiscal year 2016, we reported net income of \$11.3 million, or \$0.23 per diluted share, compared with net income of \$58.7 million, or \$1.11 per diluted share, a year earlier. Our fiscal year 2016 results reflect operating cost improvements driven by the implementation of the Carpenter Operating Model which were more than offset by the impact of lower volumes principally in our Energy, Industrial and Consumer and Aerospace and Defense end-use markets and non-cash impairment charges related to certain assets in the Company's oil and gas businesses within the Performance Engineered Products ("PEP") segment. The non-cash impairment charges consist of:

- Excess inventory write-down charges totaling \$22.5 million
- Goodwill impairment charges totaling \$12.5 million
- Impairment of intangible assets and property, plant and equipment charges totaling \$7.6 million

In addition, the Company recorded \$10.4 million of restructuring charges consisting primarily of an early retirement incentive offered to certain employees funded by the Company's pension plan.

Net Sales

Net sales for fiscal year 2016 were \$1,813.4 million, which was a 19 percent decrease from fiscal year 2015. Excluding surcharge revenue, sales were 13 percent lower than fiscal year 2015 on 13 percent lower volume. The results reflect weakness in demand for materials used in the Energy end-use market which also affected order patterns for customers in the Industrial and Consumer end-use market.

Geographically, sales outside the United States decreased 12 percent from fiscal year 2015 to \$569.9 million. The decrease is primarily due to sales to Asia and Canada in the Energy and Industrial and Consumer end-use markets. In addition, sales to Europe decreased in the Aerospace and Defense, Energy, Medical and Industrial and Consumer end-use markets. A portion of our sales outside the United States are denominated in foreign currencies. The impact of fluctuations in foreign currency exchange rates resulted in a \$9.5 million decrease in sales during the fiscal year 2016 compared to fiscal year 2015. International sales as a percentage of our total net sales represented 31 percent and 29 percent for fiscal year 2016 and fiscal year 2015, respectively.

Sales by End-Use Markets

We sell to customers across diversified end-use markets. The following table includes comparative information for our net sales, which includes surcharge revenue, by principal end-use markets. We believe this is helpful supplemental information in analyzing the performance of the business from period to period.

	Fiscal Year		\$	%
(\$ in millions)	2016	2015	Decrease	Decrease
Aerospace and defense	\$981.5	\$1,053.8	\$(72.3)	(7)%
Energy	130.6	285.6	(155.0)	(54)%
Transportation	160.6	171.0	(10.4)	(6)%
Medical	121.5	129.4	(7.9)	(6)%
Industrial and consumer	300.9	450.0	(149.1)	(33)%
Distribution	118.3	136.9	(18.6)	(14)%
Total net sales	\$1,813.4	\$2,226.7	\$(413.3)	(19)%

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The following table includes comparative information for our net sales by the same principal end-use markets, but excluding surcharge revenue:

	Fiscal Year		\$	%	
(\$ in millions)	2016	2015	Increase (Decrease)	(Increase) Decrease	
Aerospace and defense	\$ 823.1	\$ 823.5	\$ (0.4)	—	%
Energy	115.3	245.0	(129.7)	(53)	%
Transportation	136.8	130.9	5.9	5	%
Medical	114.5	118.5	(4.0)	(3)	%
Industrial and consumer	265.2	358.3	(93.1)	(26)	%
Distribution	117.7				