UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

FOR THE QUARTERLY PERIOD ENDED DECEMBER 31, 2016

Commission file number 1-5318

KENNAMETAL INC.

(Exact name of registrant as specified in its charter)

Pennsylvania

(State or other jurisdiction of incorporation or organization)

600 Grant Street Suite 5100 Pittsburgh, Pennsylvania

(Address of principal executive offices)

Website: www.kennametal.com

Registrant's telephone number, including area code: (412) 248-8000

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 [X] NO []

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES [X] NO []

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

Large accelerated filer [X] Non-accelerated filer [] (Do not check if a 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 [X]

Indicate the number of shares outstanding of each of the issuer's classes of capital stock, as of the latest practicable date.

Title of Each Class

Capital Stock, par value \$1.25 per share

15219-2706

25-0900168

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

Accelerated filer [] Smaller reporting company []

Outstanding at January 31, 2017

80.193.977

(Zip Code)

KENNAMETAL INC.

FORM 10-Q

FOR THE THREE AND SIX MONTHS ENDED DECEMBER 31, 2016

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FORWARD-LOOKING INFORMATION

This Quarterly Report on Form 10-Q contains "forward-looking" statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are statements that do not relate strictly to historical or current facts. You can identify forward-looking statements by the fact they use words such as "should," "anticipate," "estimate," "approximate," "expect," "may," "will," "project," "intend," "plan," "believe" and other words of similar meaning and expression in connection with any discussion of future operating or financial performance or events. We have also included forward looking statements in this Quarterly Report on Form 10-Q concerning, among other things, our strategy, goals, plans and projections regarding our financial position, liquidity and capital resources, results of operations, market position and product development. These statements are based on current estimates that involve inherent risks and uncertainties. Should one or more of these risks or uncertainties materialize, or should the assumptions underlying the forward-looking statements prove incorrect, our actual results could vary materially from our current expectations. There are a number of factors that could cause our actual results to differ from those indicated in the forward-looking statements. They include: economic recession; our ability to achieve all anticipated benefits of restructuring initiatives; our foreign operations and international markets, such as currency exchange rates, different regulatory environments, trade barriers, exchange controls, and social and political instability; changes in the regulatory environment in which we operate, including environmental, health and safety regulations; potential for future goodwill and other intangible asset impairment charges; our ability to protect and defend our intellectual property; continuity and security of information technology infrastructure; competition; our ability to retain our management and employees; demands on management resources; availability and cost of the raw materials we use to manufacture our products; product liability claims; integrating acquisitions and achieving the expected savings and synergies; global or regional catastrophic events; demand for and market acceptance of our products; business divestitures; energy costs; commodity prices; labor relations; and implementation of environmental remediation matters. We provide additional information about many of the specific risks we face in the "Risk Factors" Section of our Annual Report on Form 10-K. We can give no assurance that any goal or plan set forth in forward-looking statements can be achieved and readers are cautioned not to place undue reliance on such statements, which speak only as of the date made. We undertake no obligation to release publicly any revisions to forward-looking statements as a result of future events or developments.

PART I – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

KENNAMETAL INC.

CONDENSED CONSOLIDATED STATEMENTS OF INCOME (UNAUDITED)

	Three Months Ended December 31,			S	December			
(in thousands, except per share amounts)		2016		2015		2016	2015	
Sales	\$	487,573	\$	524,021	\$	964,713	\$	1,079,376
Cost of goods sold		339,950		383,215		673,560		787,345
Gross profit		147,623		140,806		291,153		292,031
Operating expense		111,004		123,580		230,869		252,824
Restructuring and asset impairment charges (Notes 8 and 18)		8,456		112,237		37,061		121,357
Loss on divestiture (Note 5)		—		133,307		—		133,307
Amortization of intangibles		4,150		5,638		8,421		11,886
Operating income (loss)		24,013		(233,956)		14,802		(227,343)
Interest expense		7,151		6,803		14,144		13,782
Other expense (income), net		726		(732)		844		353
Income (loss) before income taxes		16,136		(240,027)		(186)		(241,478)
Provision (benefit) for income taxes		8,221		(71,216)		13,100		(66,964)
Net income (loss)		7,915		(168,811)		(13,286)		(174,514)
Less: Net income attributable to noncontrolling interests		653		416		1,108		939
Net income (loss) attributable to Kennametal	\$	7,262	\$	(169,227)	\$	(14,394)	\$	(175,453)
PER SHARE DATA ATTRIBUTABLE TO KENNAMETAL SHAREHOLDERS								
Basic earnings (loss) per share	\$	0.09	\$	(2.12)	\$	(0.18)	\$	(2.20)
Diluted earnings (loss) per share	\$	0.09	\$	(2.12)	\$	(0.18)	\$	(2.20)
Dividends per share	\$	0.20	\$	0.20	\$	0.40	\$	0.40
Basic weighted average shares outstanding		80,206		79,840		80,131		79,784
Diluted weighted average shares outstanding		81,026		79,840		80,131		79,784

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

KENNAMETAL INC. CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (UNAUDITED)

	Th	ree Months E 3		d December	Six Months E	December	
(in thousands)		2016	_,	2015	2016	,	2015
Net income (loss)	\$	7,915	\$	(168,811) \$	6 (13,286)	\$	(174,514)
Other comprehensive loss, net of tax							
Unrealized gain on derivatives designated and qualified as cash flow hedges		1,606		277	1,480		802
Reclassification of unrealized loss (gain) on expired derivatives designated and qualified as cash flow hedges		382		(418)	769		(2,184)
Unrecognized net pension and other postretirement benefit gain		3,471		1,450	4,101		2,449
Reclassification of net pension and other postretirement benefit loss		1,796		1,203	3,630		2,422
Foreign currency translation adjustments		(41,428)		(23,639)	(40,264)		(42,488)
Reclassification of foreign currency translation adjustment loss realized upon sale		_		17,028	_		17,028
Total other comprehensive loss, net of tax		(34,173)		(4,099)	(30,284)		(21,971)
Total comprehensive loss		(26,258)		(172,910)	(43,570)		(196,485)
Less: comprehensive (loss) income attributable to noncontrolling interests		(401)		(111)	469		(128)
Comprehensive loss attributable to Kennametal Shareholders	\$	(25,857)	\$	(172,799) \$	6 (44,039)	\$	(196,357)

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

KENNAMETAL INC. CONDENSED CONSOLIDATED BALANCE SHEETS (UNAUDITED)

(in thousands, except per share data)	D	ecember 31, 2016		June 30, 2016
ASSETS				
Current assets:				
Cash and cash equivalents	\$	102,001	\$	161,579
Accounts receivable, less allowance for doubtful accounts of \$12,247 and \$12,724, respectively		339,479		370,916
Inventories (Note 11)		449,890		458,830
Deferred income taxes (Note 3)		_		26,713
Other current assets		80,375		57,303
Total current assets		971,745		1,075,341
Property, plant and equipment:				
Land and buildings		348,848		353,789
Machinery and equipment		1,518,731		1,511,462
Less accumulated depreciation		(1,142,446)		(1,134,611)
Property, plant and equipment, net		725,133		730,640
Other assets:				
Investments in affiliated companies		2		2
Goodwill (Note 18)		291,952		298,487
Other intangible assets, less accumulated amortization of \$119,522 and \$114,093, respectively (Note 18)		197,267		207,208
Deferred income taxes (Note 3)		34,368		14,459
Other		34,314		36,646
Total other assets		557,903		556,802
Total assets	\$	2,254,781	\$	2,362,783
LIABILITIES	Ψ	2,204,701	Ψ	2,302,703
Current liabilities:				
Current naturities of long-term debt and capital leases	\$	254	\$	732
Notes payable to banks	ψ	2,009	Φ	1,163
Accounts payable		168,880		1,105
Accrued income taxes		18,742		16,602
Accrued expenses		59,744		74,470
Other current liabilities		140,522		152,269
Total current liabilities				
Long-term debt and capital leases, less current maturities (Notes 3 and 12)		390,151 694,329		427,275 693,548
Deferred income taxes (Note 3)				
Accrued pension and postretirement benefits		13,901		17,126
		191,717		201,473
Accrued income taxes		2,756		3,100
Other liabilities		27,246		24,460
Total liabilities		1,320,100		1,366,982
EQUITY (Note 16)				
Kennametal Shareholders' Equity:				
Preferred stock, no par value; 5,000 shares authorized; none issued		-		
Capital stock, \$1.25 par value; 120,000 shares authorized; 80,065 and 79,694 shares issued, respectively		100,082		99,618
Additional paid-in capital		450,645		436,617
Retained earnings		734,233		780,597
Accumulated other comprehensive loss		(382,154)		(352,509)
Total Kennametal Shareholders' Equity		902,806		964,323
Noncontrolling interests		31,875		31,478
Total equity		934,681		995,801
Total liabilities and equity	\$	2,254,781	\$	2,362,783

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

KENNAMETAL INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOW (UNAUDITED)

	Siz	Months End	ed De	ecember 31,
(in thousands)	2016			2015
OPERATING ACTIVITIES				
Net loss	\$	(13,286)	\$	(174,514)
Adjustments for non-cash items:				
Depreciation		45,994		50,429
Amortization		8,421		11,886
Stock-based compensation expense		13,275		10,811
Restructuring and asset impairment charges (Note 8 and 18)		781		111,327
Deferred income tax provision		1,274		(78,742)
Loss on divestiture (Note 5)		—		133,307
Other		(2,773)		(345)
Changes in certain assets and liabilities:				
Accounts receivable		20,423		69,832
Inventories		(1,938)		46,565
Accounts payable and accrued liabilities		(7,618)		(44,142)
Accrued income taxes		1,632		(12,390)
Accrued pension and postretirement benefits		(11,298)		(18,176)
Other		(8,309)		(1,304)
Net cash flow provided by operating activities		46,578		104,544
INVESTING ACTIVITIES				
Purchases of property, plant and equipment		(70,573)		(61,175)
Disposals of property, plant and equipment		3,509		4,402
Proceeds from divestiture (Note 5)				61,100
Other		100		814
Net cash flow (used for) provided by investing activities		(66,964)		5,141
FINANCING ACTIVITIES				
Net increase (decrease) in notes payable		1,005		(6,990)
Term debt borrowings		—		26,173
Term debt repayments		(427)		(63,726)
Purchase of capital stock		(125)		(167)
Dividend reinvestment and the effect of employee benefit and stock plans		3,462		1,473
Cash dividends paid to Shareholders		(31,970)		(31,845)
Other		(6,626)		(290)
Net cash flow used for financing activities		(34,681)		(75,372)
Effect of exchange rate changes on cash and cash equivalents		(4,511)		(829)
CASH AND CASH EQUIVALENTS				
Net (decrease) increase in cash and cash equivalents		(59,578)		33,484
Cash and cash equivalents, beginning of period		161,579		105,494
Cash and cash equivalents, end of period	\$	102,001	\$	138,978

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

1. ORGANIZATION

Kennametal Inc. was incorporated in Pennsylvania in 1943. Kennametal Inc. and its subsidiaries (collectively, Kennametal or the Company) are a leading global manufacturer and supplier of tooling, engineered components and advanced materials consumed in production processes. We believe that our reputation for manufacturing excellence, as well as our technological expertise and innovation we deliver in our products and services, helps us to achieve a leading position in our primary markets. End users of our products include metalworking and machinery manufacturers and suppliers across a diverse array of industries, including the aerospace, defense, transportation, machine tool, light machinery and heavy machinery, as well as producers and suppliers in a number of equipment-intensive industries such as coal mining, road construction and quarrying, as well as oil and gas exploration, refining, production and supply. Our end users' applications range from airframes to mining operations, engines to oil wells and turbochargers to processing.

In order to take advantage of the growth opportunities of our WIDIA brand, we implemented a new operating structure at the beginning of fiscal 2017. A key attribute of the new structure is the establishment of the Widia operating segment. In order to better leverage the opportunities in this business, in addition to being more agile and competitive in the marketplace, we are placing higher levels of focus, determination and leadership in this business. The Industrial and Widia segments in 2017 were formed from the 2016 Industrial segment. We now have three global reportable operating segments: Industrial, Widia, and Infrastructure.

2. BASIS OF PRESENTATION

The condensed consolidated financial statements, which include our accounts and those of our majority-owned subsidiaries, should be read in conjunction with our 2016 Annual Report on Form 10-K. The condensed consolidated balance sheet as of June 30, 2016 was derived from the audited balance sheet included in our 2016 Annual Report on Form 10-K. These interim statements are unaudited; however, we believe that all adjustments necessary for a fair statement of the results of the interim periods were made and all adjustments are normal recurring adjustments. The results for the six months ended December 31, 2016 and 2015 are not necessarily indicative of the results to be expected for a full fiscal year. Unless otherwise specified, any reference to a "year" is to a fiscal year ended June 30. For example, a reference to 2017 is to the fiscal year ending June 30, 2017. When used in this Form 10-Q, unless the context requires otherwise, the terms "we," "our" and "us" refer to Kennametal Inc. and its subsidiaries.

3. NEW ACCOUNTING STANDARDS

Adopted

In November 2015, the Financial Accounting Standards Board (FASB) issued guidance on balance sheet classification of deferred taxes. The amendments in this guidance require that deferred tax liabilities and assets be classified as noncurrent in a classified statement of financial position, in comparison to the previous practice of separating deferred income tax liabilities and assets into current and noncurrent amounts on the balance sheet. We adopted this guidance July 1, 2016 on a prospective basis. Therefore, prior period balance sheets were not retrospectively adjusted. Current deferred tax assets of \$26.7 million and current deferred tax liabilities of \$0.6 million are reported in the June 30, 2016 balance sheet.

In April 2015, the FASB issued guidance on the presentation of debt issuance costs. The guidance requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct reduction from the carrying amount of that debt liability, consistent with debt discounts. This guidance was effective for Kennametal beginning July 1, 2016 and was retrospectively applied to all periods presented. Debt issuance costs of \$5.3 million and \$6.0 million are reported as direct reductions of the carrying amounts of debt liabilities in the balance sheet as of December 31, and June 30, 2016, respectively.

In April 2015, the FASB issued guidance on accounting for fees paid in a cloud computing arrangement. The amendments in this update provide guidance to customers about treatment of costs as either capitalized and amortized as an intangible asset or expensed as incurred as a service contract. The amendments provide clarification that costs in arrangements that include software license should be capitalized and amortized, and costs in arrangements that do not include a software license should be expensed as incurred. This standard was effective for Kennametal beginning July 1, 2016 and was applied prospectively. The adoption of this guidance did not have a material impact on our condensed consolidated financial position, results of operations and cash flows.



Issued

In October 2016, the FASB issued guidance on the accounting for income tax consequences of intra-entity transfers of assets other than inventory. The guidance clarifies that an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers: Topic 606." This ASU replaces nearly all existing U.S. GAAP guidance on revenue recognition. The standard prescribes a five-step model for recognizing revenue, the application of which will require significant judgment. It also requires additional disclosures. We will adopt this standard on July 1, 2018. We have commenced our assessment of the new standard and developed a project plan to guide the implementation. This project plan includes analyzing the standard's impact on our customer arrangements, comparing our historical accounting policies and practices to the requirements of the new standard and identifying potential differences from applying the requirements of the new standard. We have not yet determined the impact of adoption on our financial statements.

4. SUPPLEMENTAL CASH FLOW DISCLOSURES

	Six	Months End	led De	ecember 31,
(in thousands)		2016		2015
Cash paid during the period for:				
Interest	\$	13,480	\$	13,076
Income taxes		10,191		25,735
Supplemental disclosure of non-cash information:				
Changes in accounts payable related to purchases of property, plant and equipment		15,404		16,400

5. DIVESTITURE

During the three months ended December 31, 2015, Kennametal completed the sale of the outstanding capital stock of: Kennametal Extrude Hone LLC and its wholly owned subsidiaries, Kennametal Stellite S.r.l. (Bellusco, Italy), Kennametal Stellite S.p.A. (Milan, Italy), Kennametal Stellite GmbH (Koblenz, Germany); and all of the assets of the businesses of: Tricon (manufacturing operations in Birmingham, Alabama; Chicago, Illinois; and Elko, Nevada), Landis (manufacturing operation in Waynesboro, Pennsylvania); and all of the assets located at the Biel, Switzerland manufacturing facility ("non-core businesses") to Madison Industries for an aggregate price of \$61.1 million, net. A portion of the transaction proceeds were used to pay down revolver debt and the remaining balance was held as cash on hand.

The net book value of these non-core businesses was \$191.9 million, which included a refinement to estimated working capital adjustment. We recognized a pre-tax loss on the sale of \$133.3 million during the three months ended December 31, 2015, of which \$126.0 million and \$7.3 million were recorded in the Infrastructure and Industrial segments, respectively. The pre-tax income attributable to the non-core businesses was assessed and determined to be immaterial for disclosure for the periods presented.

6. FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy consists of three levels to prioritize the inputs used in valuations, as defined below:

Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, including quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability (e.g., interest rates); and inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3: Inputs that are unobservable.

As of December 31, 2016, the fair values of the Company's financial assets and financial liabilities are categorized as follows:

(in thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Derivatives ⁽¹⁾	\$ 	\$ 2,543	\$ — \$	2,543
Total assets at fair value	\$ _	\$ 2,543	\$ — \$	2,543
Liabilities:				
Derivatives ⁽¹⁾	\$ 	\$ 1,287	\$ — \$	1,287
Total liabilities at fair value	\$ _	\$ 1,287	\$ — \$	1,287

As of June 30, 2016, the fair values of the Company's financial assets and financial liabilities are categorized as follows:

(in thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Derivatives ⁽¹⁾	\$ 	\$ 334	\$ 	\$ 334
Total assets at fair value	\$ _	\$ 334	\$ _	\$ 334
Liabilities:				
Derivatives ⁽¹⁾	\$ 	\$ 763	\$ _	\$ 763
Contingent consideration			6,600	6,600
Total liabilities at fair value	\$ _	\$ 763	\$ 6,600	\$ 7,363

⁽¹⁾ Currency derivatives are valued based on observable market spot and forward rates and are classified within Level 2 of the fair value hierarchy.

There have been no changes in classification and transfers between levels in the fair value hierarchy in the current period. The fair value of contingent consideration payable that was classified as Level 3 at June 30, 2016 related to our probability assessments of expected future milestone targets, primarily associated with product delivery, related to a previous acquisition. During the the six months ended December 31, 2016, the Company paid the remaining \$6.6 million in conjunction with achieved milestone targets. The payment is recorded in the financing activities section of our condensed consolidated statement of cash flow for the six months ended December 31, 2016 under the caption "other." The contingent consideration was recorded in other current liabilities in our condensed consolidated balance sheet at June 30, 2016. No other changes in the expected outcome have occurred during the six months ended December 31, 2016.

7. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

As part of our financial risk management program, we use certain derivative financial instruments. We do not enter into derivative transactions for speculative purposes and, therefore, hold no derivative instruments for trading purposes. We account for derivative instruments as a hedge of the related asset, liability, firm commitment or anticipated transaction, when the derivative is specifically designated and qualifies as a hedge of such items. Our objective in managing foreign exchange exposures with derivative instruments is to reduce volatility in cash flow. We measure hedge effectiveness by assessing the changes in the fair value or expected future cash flows of the hedged item. The ineffective portions are recorded in other expense, net.

The fair value of derivatives designated and not designated as hedging instruments in the condensed consolidated balance sheet are as follows:

(in thousands)	ember 31, 2016	June 30, 2016
Derivatives designated as hedging instruments		
Other current assets - range forward contracts	\$ 1,590	\$ 323
Total derivatives designated as hedging instruments	1,590	323
Derivatives not designated as hedging instruments		
Other current assets - currency forward contracts	953	11
Other current liabilities - currency forward contracts	(1,287)	(763)
Total derivatives not designated as hedging instruments	(334)	(752)
Total derivatives	\$ 1,256	\$ (429)

Certain currency forward contracts that hedge significant cross-border intercompany loans are considered as other derivatives and therefore do not qualify for hedge accounting. These contracts are recorded at fair value in the condensed consolidated balance sheet, with the offset to other expense (income), net. Gains related to derivatives not designated as hedging instruments have been recognized as follows:

	Thre	e Months Ei 31	nded December ,	S	Six Months En 3	 December
(in thousands)		2016	2015		2016	2015
Other expense (income), net - currency forward contracts	\$	(59)	\$ 25	\$	(377)	\$ 8

CASH FLOW HEDGES

Range forward contracts (a transaction where both a put option is purchased and a call option is sold) are designated as cash flow hedges and hedge anticipated cash flows from cross-border intercompany sales of products and services. Gains and losses realized on these contracts at maturity are recorded in accumulated other comprehensive loss and are recognized as a component of other expense, net when the underlying sale of products or services is recognized into earnings. The notional amount of the contracts translated into U.S. dollars at December 31, 2016 and June 30, 2016, was \$52.7 million and \$53.3 million, respectively. The time value component of the fair value of range forward contracts is excluded from the assessment of hedge effectiveness. Assuming the market rates remain constant with the rates at December 31, 2016, we expect to recognize into earnings in the next 12 months \$1.3 million of income on outstanding derivatives.

The following represents gains and losses related to cash flow hedges:

	Th		Ende 81,	d December	S	ix Months E	nded 31,	December
(in thousands)		2016		2015		2016		2015
Gains (losses) recognized in other comprehensive loss, net	\$	1,606	\$	(239)	\$	1,481	\$	277
Losses (gains) reclassified from accumulated other comprehensive loss into other expense (income), net	\$	382	\$	1,122	\$	768	\$	(336)

No portion of the gains or losses recognized in earnings was due to ineffectiveness and no amounts were excluded from our effectiveness testing for the six months ended December 31, 2016 and 2015.

8. RESTRUCTURING AND RELATED CHARGES

We are implementing restructuring actions to streamline the Company's cost structure. These initiatives are expected to improve the alignment of our cost structure with the current operating environment through headcount reductions; as well as rationalization and consolidation of certain manufacturing facilities. These restructuring actions are expected to be completed by December of fiscal 2019 and are anticipated to be mostly cash expenditures.

The total pre-tax charges for these programs are expected to be in the range of \$155 million to \$175 million, which is expected to be approximately 60 percent Industrial, 5 percent Widia, 30 percent Infrastructure and 5 percent Corporate. Total restructuring and related charges since inception of \$114.9 million have been recorded for these programs through December 31, 2016: \$60.3 million in Industrial, \$36.7 million in Infrastructure, \$10.6 million in Widia and \$7.3 million in Corporate.

We have recorded restructuring and related charges of \$11.8 million and \$8.9 million for the three months ended December 31, 2016 and 2015, respectively. Of these amounts, restructuring charges totaled \$8.8 million and \$3.5 million, of which expense of \$0.3 million and benefits of \$0.3 million were related to inventory and were recorded in cost of goods sold, respectively. Restructuring-related charges of \$2.1 million and \$2.0 million were recorded in cost of goods sold and \$0.9 million and \$3.4 million in operating expense for the three months ended December 31, 2016 and 2015, respectively.

We have recorded restructuring and related charges of \$43.4 million and \$24.0 million for the six months ended December 31, 2016 and 2015, respectively. Of these amounts, restructuring charges totaled \$37.3 million and \$12.6 million, of which expense of \$0.3 million and benefits of \$0.3 million were related to inventory and were recorded in cost of goods sold, respectively. Restructuring-related charges of \$4.1 million and \$3.6 million were recorded in cost of goods sold and \$2.0 million and \$2.0 million and \$7.8 million in operating expense for the six months ended December 31, 2016 and 2015, respectively.

As of December 31, 2016, \$16.1 million and \$3.0 million of the restructuring accrual is recorded in other current liabilities and other liabilities, respectively, in our condensed consolidated balance sheet. The restructuring accrual of \$15.7 million as of June 30, 2016 is recorded in other current liabilities. The amount attributable to each segment is as follows:

(in thousands)	Jun	e 30, 2016	Expense	As	sset Write-Down	Translation	Ca	sh Expenditures	De	cember 31, 2016
Industrial										
Severance	\$	8,180	\$ 21,270	\$		\$ (412)	\$	(18,324)	\$	10,714
Facilities		—	100		(100)	—		—		
Other		809	(72)			(10)		(477)		250
Total Industrial	\$	8,989	\$ 21,298	\$	(100)	\$ (422)	\$	(18,801)	\$	10,964
Widia										
Severance	\$	909	\$ 4,504	\$	_	\$ (87)	\$	(3,880)	\$	1,446
Facilities		—	9		(9)	—		—		—
Other		90	(15)		—	(3)		(72)		
Total Widia		999	4,498		(9)	(90)		(3,952)		1,446
Infrastructure										
Severance	\$	5,301	\$ 10,620	\$		\$ (205)	\$	(9,148)	\$	6,568
Facilities		33	967		(967)	—		—		33
Other		381	(36)			(7)		(245)		93
Total Infrastructure	\$	5,715	\$ 11,551	\$	(967)	\$ (212)	\$	(9,393)	\$	6,694
Total	\$	15,703	\$ 37,347	\$	(1,076)	\$ (724)	\$	(32,146)	\$	19,104

9. STOCK-BASED COMPENSATION

Stock Options

There were no grants made during the six months ended December 31, 2016.

The assumptions used in our Black-Scholes valuation related to grants made during the six months ended December 31, 2015 were as follows:

Risk-free interest rate	1.4%
Expected life (years) ⁽²⁾	4.5
Expected volatility ⁽³⁾	31.0%
Expected dividend yield	2.0%
(2) Expected life is derived from historical experience.	

(3) Expected volatility is based on the implied historical volatility of our stock.

Changes in our stock options for the six months ended December 31, 2016 were as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Life (years)	Aggregate Intrinsic value (in thousands)
Options outstanding, June 30, 2016	2,547,809	\$ 33.72		
Granted	_	—		
Exercised	(111,683)	27.34		
Lapsed or forfeited	(169,129)	30.51		
Options outstanding, December 31, 2016	2,266,997	\$ 34.27	4.3	\$ 4,445
Options vested and expected to vest, December 31,				
2016	2,243,491	\$ 34.32	4.3	\$ 4,369
Options exercisable, December 31, 2016	1,747,101	\$ 35.96	3.0	\$ 2,153

During the six months ended December 31, 2016 and 2015, compensation expense related to stock options was \$1.0 million and \$1.9 million, respectively. As of December 31, 2016, the total unrecognized compensation cost related to options outstanding was \$1.4 million and is expected to be recognized over a weighted average period of 1.6 years.

Weighted average fair value of options granted during the six months ended December 31, 2015 was \$6.84 per option. Fair value of options vested during the six months ended December 31, 2016 and 2015 was \$3.1 million and \$2.3 million, respectively.

Tax benefits relating to excess stock-based compensation deductions are presented in the condensed consolidated statements of cash flow as financing cash inflows. No tax benefits were realized resulting from stock-based compensation deductions for the six months ended December 31, 2016 due to the valuation allowance on U.S. deferred tax assets. Tax benefits resulting from stock-based compensation deductions were less than amounts reported for financial reporting purposes by \$1.7 million for the six months ended December 31, 2015.

The amount of cash received from the exercise of capital stock options during the six months ended December 31, 2016 and 2015 was \$3.1 million and \$1.0 million, respectively. No related tax benefit was realized for the six months ended December 31, 2016 due to the valuation allowance on U.S. deferred tax assets, and the related tax benefit was immaterial for the six months ended December 31, 2015. The total intrinsic value of options exercised was immaterial during the six months ended December 31, 2015.

Under the provisions of the Kennametal Inc. Stock and Incentive Plan of 2010 as amended and restated on October 22, 2013 and as further amended January 27, 2015, plan participants may deliver stock, owned by the holder for at least six months, in payment of the option price and receive credit for the fair market value of the shares on the date of delivery. The fair market value of shares delivered during both the six months ended December 31, 2016 and 2015 was immaterial.

Restricted Stock Units - Time Vesting and Performance Vesting

Performance vesting restricted stock units are earned pro rata each year if certain performance goals are met over a three-year period and are also subject to a service condition that requires the individual to be employed by the Company at the vesting date after the three-year performance period, with the exception of retirement eligible grantees, who upon retirement are entitled to vest in any units that have been earned, including a prorated portion in the partially completed fiscal year in which the retirement occurs. Time vesting stock units are valued at the market value of the stock on the grant date. Performance vesting stock units with a market condition are valued using a Monte Carlo model.

Changes in our time vesting and performance vesting restricted stock units for the six months ended December 31, 2016 were as follows:

	Performance Vesting Stock Units	Performance Vesting Weighted Average Fair Value	Time Vesting Stock Units	Time Vesting Weighted Average Fair Value
Unvested performance vesting and time vesting restricted stock units, June 30, 2016	115,467	\$ 36.96	1,014,744	\$ 31.97
Granted	235,241	26.35	586,662	25.01
Vested	(16,084)	45.24	(300,888)	36.11
Performance metric not achieved	(35,980)	26.35	—	
Forfeited	(17,354)	35.31	(49,727)	27.20
Unvested performance vesting and time vesting restricted stock units, December 31, 2016	281,290	\$ 27.69	1,250,791	\$ 27.89

During the six months ended December 31, 2016 and 2015, compensation expense related to time vesting and performance vesting restricted stock units was \$12.3 million and \$8.8 million, respectively. As of December 31, 2016, the total unrecognized compensation cost related to unvested time vesting and performance vesting restricted stock units was \$19.8 million and is expected to be recognized over a weighted average period of 2.2 years.

10. BENEFIT PLANS

We sponsor several defined benefit pension plans. Additionally, we provide varying levels of postretirement health care and life insurance benefits to some U.S. employees.

The table below summarizes the components of net periodic pension income:

	Th	ree Months H 3	Ende 1,	l December	Six Months Ende 31,				
(in thousands)		2016		2015		2016	2015		
Service cost	\$	727	\$	1,156	\$	1,460	\$	2,319	
Interest cost		7,770		9,438		15,579		18,923	
Expected return on plan assets		(14,672)		(14,657)		(29,429)		(29,364)	
Amortization of transition obligation		22		21		45		42	
Amortization of prior service credit		(113)		(104)		(226)		(209)	
Recognition of actuarial losses		2,088		1,815		4,200		3,648	
Special termination benefit charge		—		54		—		107	
Net periodic pension income	\$	(4,178)	\$	(2,277)	\$	(8,371)	\$	(4,534)	

The special termination benefit charge of \$0.1 million during the six months ended December 31, 2015 is the result of lump sum payments to several terminated Executive Retirement Plan participants.

The table below summarizes the components of net periodic other postretirement benefit cost:

	Th	ree Months I 3	Ende 81,	d December	S	Six Months E	December	
(in thousands)		2016		2015		2016		2015
Interest cost	\$	168	\$	210	\$	337	\$	420
Amortization of prior service credit		(6)		(5)		(11)		(11)
Recognition of actuarial loss		89		81		177		162
Net periodic other postretirement benefit cost	\$	251	\$	286	\$	503	\$	571

11. INVENTORIES

We used the last-in, first-out (LIFO) method of valuing inventories for 46 percent and 44 percent of total inventories at December 31, 2016 and June 30, 2016, respectively. Since inventory valuations under the LIFO method are based on an annual determination of quantities and costs as of June 30 of each year, the interim LIFO valuations are based on our projections of expected year-end inventory levels and costs. Therefore, the interim financial results are subject to any final year-end LIFO inventory adjustments.

Inventories consisted of the following:

(in thousands)	Dece	mber 31, 2016	Ju	ne 30, 2016
Finished goods	\$	280,427	\$	284,054
Work in process and powder blends		150,881		166,274
Raw materials		76,003		68,472
Inventories at current cost		507,311		518,800
Less: LIFO valuation		(57,421)		(59,970)
Total inventories	\$	449,890	\$	458,830

During the three months ended December 31, 2016, the Company identified and recorded an adjustment to correct an error impacting the excess and obsolete inventory reserve as of September 30, 2016. This resulted in an increase of \$1.4 million to cost of goods sold for the three months ended December 31, 2016 that should have been recorded in the three months ended September 30, 2016. There was no impact to cost of goods sold for the six months ended December 31, 2016 nor to inventories as of December 31, 2016. After evaluation, the Company determined that the impact was not material to the previously issued interim financial statements.

12. LONG-TERM DEBT

Our five-year, multi-currency, revolving credit facility, as amended and restated in April 2016 (Credit Agreement) permits revolving credit loans of up to \$600 million for working capital, capital expenditures and general corporate purposes. The Credit Agreement requires us to comply with various restrictive and affirmative covenants, including two financial covenants: a maximum leverage ratio and a minimum consolidated interest coverage ratio (as those terms are defined in the agreement). We were in compliance with all covenants as of December 31, 2016. We had no borrowings outstanding under the Credit Agreement as of December 31, 2016 and June 30, 2016. Borrowings under the Credit Agreement are guaranteed by our significant domestic subsidiaries. The Credit Agreement matures in April 2021.

Fixed rate debt had a fair market value of \$696.6 million and \$704.0 million at December 31, 2016 and June 30, 2016, respectively. The Level 2 fair value is determined based on the quoted market price of this debt as of December 31, 2016 and June 30, 2016, respectively.

13. ENVIRONMENTAL MATTERS

The operation of our business has exposed us to certain liabilities and compliance costs related to environmental matters. We are involved in various environmental cleanup and remediation activities at certain of our locations.

Superfund Sites Among other environmental laws, we are subject to the Comprehensive Environmental Response Compensation and Liability Act of 1980 (Superfund), under which we have been designated by the United States Environmental Protection Agency (USEPA) as a potentially responsible party (PRP) with respect to environmental remedial costs at certain Superfund sites. We have evaluated our claims and liabilities associated with these Superfund sites based upon best currently available information. We believe our environmental accruals are adequate to cover our portion of the environmental remedial costs at the Superfund sites where we have been designated a PRP, to the extent these expenses are probable and reasonably estimable.

Other Environmental Matters We establish and maintain reserves for other potential environmental issues. At December 31, 2016 and June 30, 2016, the balances of these reserves were \$12.1 million and \$12.5 million, respectively. These reserves represent anticipated costs associated with the remediation of these issues.

The reserves we have established for environmental liabilities represent our best current estimate of the costs of addressing all identified environmental situations, based on our review of currently available evidence, and taking into consideration our prior experience in remediation and that of other companies, as well as public information released by the USEPA, other governmental agencies and by the PRP groups in which we are participating. Although the reserves currently appear to be sufficient to cover these environmental liabilities, there are uncertainties associated with environmental liabilities, and we can give no assurance that our estimate of any environmental liability will not increase or decrease in the future. The reserved and unreserved liabilities for all environmental concerns could change substantially due to factors such as the nature and extent of contamination, changes in remedial requirements, technological changes, discovery of new information, the financial strength of other PRPs, the identification of new PRPs and the involvement of and direction taken by the government on these matters.

We maintain a Corporate Environmental Health and Safety (EHS) Department to monitor compliance with environmental regulations and to oversee remediation activities. In addition, we have designated EHS coordinators who are responsible for each of our global manufacturing facilities. Our financial management team periodically meets with members of the Corporate EHS Department and the Corporate Legal Department to review and evaluate the status of environmental projects and contingencies. On a quarterly basis, we review financial provisions and reserves for environmental contingencies and adjust these reserves when appropriate.

14. INCOME TAXES

The effective income tax rates for the three months ended December 31, 2016 and 2015 were 50.9 percent (provision on income) and 29.7 percent (benefit on a loss), respectively. The effective income tax rate for the six months ended December 31, 2016 was not meaningful and was 27.7 percent (benefit on a loss) for the six months ended December 31, 2015. The change in both periods was primarily driven by an asset impairment charge; the tax impact of the divestiture of non-core businesses in the prior year; losses in the U.S. that cannot be tax affected in the current year; jurisdictional mix of earnings; and the effect of the R&D legislation enacted in the prior year.

15. EARNINGS PER SHARE

Basic earnings per share is computed using the weighted average number of shares outstanding during the period, while diluted earnings per share is calculated to reflect the potential dilution that would occur related to the issuance of capital stock under stock option grants and restricted stock units. The difference between basic and diluted earnings per share relates solely to the effect of capital stock options and restricted stock units.

For the six months ended December 31, 2016 and for the three and six months ended December 31, 2015, the effect of unexercised capital stock options and unvested restricted stock units was anti-dilutive as a result of net losses in the periods and therefore has been excluded from diluted shares outstanding as well as from the diluted earnings per share calculation. For purposes of determining the number of diluted shares outstanding for the three months ended December 31, 2016, weighted average shares outstanding for basic earnings per share calculations were increased due solely to the dilutive effect of unexercised capital stock options, unvested performance awards and unvested restricted stock units by 0.8 million shares. Unexercised capital stock options, performance awards and restricted stock units of 1.7 million shares for the three months ended December 31, 2016 were not included in the computation of diluted earnings per share because the option exercise price was greater than the average market price, and therefore the inclusion would have been anti-dilutive.

16. EQUITY

A summary of the changes in the carrying amounts of total equity, Kennametal Shareholders' equity and equity attributable to noncontrolling interests as of December 31, 2016 and 2015 is as follows:

		Kennametal S	Share	eholders' Equity				
(in thousands)	Capital stock	Additional paid-in capital		Retained earnings	Accumulated other aprehensive loss	Non- controlling interests	To	otal equity
Balance as of June 30, 2016	\$ 99,618	\$ 436,617	\$	780,597	\$ (352,509)	\$ 31,478	\$	995,801
Net (loss) income				(14,394)	—	1,108		(13,286)
Other comprehensive income		_			(29,645)	(639)		(30,284)
Dividend reinvestment	5	122			—	—		127
Capital stock issued under employee benefit and stock plans ⁽⁴⁾	464	14,028		_	_	_		14,492
Purchase of capital stock	(5)	(122)			—	—		(127)
Cash dividends paid	—			(31,970)	—	(72)		(32,042)
Balance as of December 31, 2016	\$ 100,082	\$ 450,645	\$	734,233	\$ (382,154)	\$ 31,875	\$	934,681

		Kennametal S	Share	eholders' Equity					
(in thousands)	Capital stock	Additional paid-in capital		Retained earnings	Accumulated other comprehensive loss	C	Non- controlling interests]	Гotal equity
Balance as of June 30, 2015	\$ 99,219	\$ 419,829	\$	1,070,282	\$ (243,523)	\$	29,628	\$	1,375,435
Net (loss) income				(175,453)	—		939		(174,514)
Other comprehensive loss	_				(20,904)		(1,067)		(21,971)
Dividend reinvestment	8	159		—	—				167
Capital stock issued under employee benefit and stock plans ⁽⁴⁾	369	6,874			_				7,243
Purchase of capital stock	(8)	(159)			_				(167)
Cash dividends paid		—		(31,845)			(71)		(31,916)
Balance as of December 31, 2015	\$ 99,588	\$ 426,703	\$	862,984	\$ (264,427)	\$	29,429	\$	1,154,277

(4) Net of restricted stock units delivered upon vesting to satisfy tax withholding requirements.

The amounts of comprehensive loss attributable to Kennametal Shareholders and noncontrolling interests are disclosed in the condensed consolidated statements of comprehensive income.

17. ACCUMULATED OTHER COMPREHENSIVE LOSS

Total accumulated other comprehensive loss (AOCL) consists of net income (loss) and other changes in equity from transactions and other events from sources other than shareholders. It includes postretirement benefit plan adjustments, currency translation adjustments and unrealized gains and losses from derivative instruments designated as cash flow hedges.

The components of, and changes in, AOCL were as follows, net of tax, for the six months ended December 31, 2016 (in thousands):

Attributable to Kennametal:	Ро	stretirement benefit plans	Currency translation adjustment	Derivatives	Total
Balance, June 30, 2016	\$	(212,163) \$	(131,212) \$	(9,134) \$	(352,509)
Other comprehensive income (loss) before reclassifications		4,101	(39,625)	1,480	(34,044)
Amounts reclassified from AOCL		3,630	—	769	4,399
Net current period other comprehensive income (loss)		7,731	(39,625)	2,249	(29,645)
AOCL, December 31, 2016	\$	(204,432) \$	(170,837) \$	(6,885) \$	(382,154)
Attributable to noncontrolling interests:					
Balance, June 30, 2016	\$	— \$	(3,446) \$	— \$	(3,446)
Other comprehensive income before reclassifications		_	(639)	_	(639)
Net current period other comprehensive loss		_	(639)		(639)
AOCL, December 31, 2016	\$	— \$	(4,085) \$	— \$	(4,085)

The components of, and changes in, AOCL were as follows, net of tax, for the six months ended December 31, 2015 (in thousands):

Attributable to Kennametal:	Posti	retirement benefit plans	Currency translation adjustment	Derivatives	Total
Balance, June 30, 2015	\$	(138,793) \$	(97,309) \$	(7,421) \$	(243,523)
Other comprehensive income (loss) before reclassifications		2,449	(41,421)	802	(38,170)
Amounts reclassified from AOCL		2,422	17,028	(2,184)	17,266
Net current period other comprehensive income (loss)		4,871	(24,393)	(1,382)	(20,904)
AOCL, December 31, 2015	\$	(133,922) \$	(121,702) \$	(8,803) \$	(264,427)
Attributable to noncontrolling interests:					
Balance, June 30, 2015	\$	— \$	(2,258) \$	— \$	(2,258)
Other comprehensive loss before reclassifications		_	(1,067)	_	(1,067)
Net current period other comprehensive					
loss			(1,067)	—	(1,067)
AOCL, December 31, 2015	\$	— \$	(3,325) \$	— \$	(3,325)

Reclassifications out of AOCL for the three and six months ended December 31, 2016 and 2015 consisted of the following (in thousands):

	Three Months Ended DecemberSix Months Ended December31,31,						
Details about AOCL components		2016	2015	2016		2015	Affected line item in the Income Statement
Gains and losses on cash flow hedges:							
Forward starting interest rate swaps	\$	545	\$ 525 \$	1,090	\$	1,049	Interest expense
Currency exchange contracts		(163)	(1,199)	(321))	(4,572)	Other expense (income), net
Total before tax		382	(674)	769		(3,523)	
Tax impact		—	256	_		1,339	Provision (benefit) for income taxes
Net of tax	\$	382	\$ (418) \$	769	\$	(2,184)	
Postretirement benefit plans:							
Amortization of transition obligations	\$	22	\$ 21 \$	45	\$	42	See note 10 for further details
Amortization of prior service credit		(119)	(109)	(237)	(220)	See note 10 for further details
Recognition of actuarial losses		2,177	1,896	4,377		3,810	See note 10 for further details
Total before tax		2,080	1,808	4,185		3,632	
Tax impact		(284)	(605)	(555))	(1,210)	Provision (benefit) for income taxes
Net of tax	\$	1,796	\$ 1,203 \$	3,630	\$	2,422	
Foreign currency translation adjustments:							
Released due to divestiture	\$	_	\$ 17,028 \$		\$	17,028	Loss on divestiture
Total before taxes		_	17,028	_		17,028	
Tax impact		—	—	—			Provision (benefit) for income taxes
Net of tax	\$		\$ 17,028 \$		\$	17,028	

The amount of income tax allocated to each component of other comprehensive loss for the three months ended December 31, 2016 and 2015:

	2016						2015				
(in thousands)		Pre-tax	Ta	ax impact	Ν	et of tax		Pre-tax	Tax impact	Net of tax	
Unrealized gain on derivatives designated and qualified as cash flow hedges	\$	1,606	\$	_	\$	1,606	\$	447	\$ (170)	\$ 277	
Reclassification of unrealized loss (gain) on expired derivatives designated and qualified as cash flow hedges		382		_		382		(674)	256	(418)	
Unrecognized net pension and other postretirement benefit gain		4,639		(1,168)		3,471		1,949	(499)	1,450	
Reclassification of net pension and other postretirement benefit loss		2,080		(284)		1,796		1,808	(605)	1,203	
Foreign currency translation adjustments		(41,428)		_		(41,428)		(24,643)	1,004	(23,639)	
Reclassification of foreign currency translation adjustment loss realized upon sale								17,028		17,028	
Other comprehensive loss	\$	(32,721)	\$	(1,452)	\$	(34,173)	\$	(4,085)	\$ (14)	\$ (4,099)	

The amount of income tax allocated to each component of other comprehensive loss for the six months ended December 31, 2016 and 2015:

	2016					2015				
(in thousands)	 Pre-tax	Τa	ax impact	Net of	tax]	Pre-tax	Tax impact	Net of tax	
Unrealized (loss) gain on derivatives designated and qualified as cash flow hedges	\$ 1,480	\$		\$ 1,4	480	\$	1,294	\$ (492)	\$ 802	
Reclassification of unrealized loss (gain) on expired derivatives designated and qualified as cash flow hedges	769				769		(3,523)	1,339	(2,184)	
Unrecognized net pension and other postretirement benefit gain	5,401		(1,300)	4,1	101		3,216	(767)	2,449	
Reclassification of net pension and other postretirement benefit loss	4,185		(555)	3,0	530		3,632	(1,210)	2,422	
Foreign currency translation adjustments	(40,264)			(40,2	264)		(43,548)	1,060	(42,488)	
Reclassification of foreign currency translation adjustment loss realized upon sale					_		17,028		17,028	
Other comprehensive loss	\$ (28,429)	\$	(1,855)	\$ (30,2	284)	\$	(21,901)	\$ (70)	\$ (21,971)	

18. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill represents the excess of cost over the fair value of the net assets of acquired companies. Goodwill and other intangible assets with indefinite lives are tested at least annually for impairment. We perform our annual impairment tests during the June quarter in connection with our annual planning process, unless there are impairment indicators based on the results of an ongoing cumulative qualitative assessment that warrant a test prior to that. We evaluate the recoverability of goodwill for each of our reporting units by comparing the fair value of each reporting unit with its carrying value. The fair values of our reporting units are determined using a combination of a discounted cash flow analysis and market multiples based upon historical and projected financial information. We apply our best judgment when assessing the reasonableness of the financial projections used to determine the fair value of each reporting unit. We evaluate the recoverability of indefinite-lived intangible assets using a discounted cash flow analysis based on projected financial information. This evaluate the recoverability to changes in market interest rates and other external factors.

Identifiable assets with finite lives are reviewed for impairment when events or circumstances indicate that the carrying value may not be recoverable.

At the beginning of fiscal 2017, we reorganized our operating structure in a manner that changed the composition of our reporting units. The Industrial and Widia reporting units in fiscal 2017 were formed from the fiscal 2016 Industrial reporting unit. In connection with this reporting unit realignment, during the first quarter of fiscal 2017 we updated our goodwill impairment assessment based on a quantitative analysis. We evaluated the goodwill of our reporting units immediately prior to and after the realignment and concluded in both cases that there was no impairment. We allocated our goodwill from the former Industrial segment to the current Industrial and Widia segments using a relative fair value approach. The restated Industrial reporting unit passed the goodwill impairment test with fair value substantially exceeded the carrying value. The new Widia reporting unit's fair value approximates its carrying value.

See Note 19 for further discussion regarding the Company's segments.

We are currently exploring strategic alternatives for one of our non-core Infrastructure businesses. The estimated net book value of the business is approximately \$30 million as of December 31, 2016. As the strategic direction has not yet been determined for this business, the Company cannot determine if additional impairment charges will be incurred.

A summary of the carrying amount of goodwill attributable to each segment, as well as the changes in such, is as follows:

(in thousands)	Industrial	Widia	I	nfrastructure	Total
Gross goodwill	\$ 408,705	\$ 40,624	\$	633,211	\$ 1,082,540
Accumulated impairment losses	(137,204)	(13,638)		(633,211)	(784,053)
Balance as of June 30, 2016	\$ 271,501	\$ 26,986	\$		\$ 298,487
Activity for the six months ended December 31, 2016:					
Change in gross goodwill due to translation	(6,549)	14			(6,535)
Gross goodwill	402,156	40,638		633,211	1,076,005
Accumulated impairment losses	(137,204)	(13,638)		(633,211)	(784,053)
Balance as of December 31, 2016	\$ 264,952	\$ 27,000	\$		\$ 291,952

Fiscal 2016 December Quarter Impairment Charge

As previously disclosed, we recorded a non-cash pre-tax impairment charge during the three months ended December 31, 2015 of \$106.1 million in the Infrastructure segment, of which \$105.7 million was for goodwill and \$0.4 million was for an indefinite-lived trademark intangible asset. We also recorded a preliminary non-cash pre-tax impairment charge during the three months ended December 31, 2015 of \$2.3 million in the Industrial segment for an indefinite-lived trademark intangible asset. These impairment charges were recorded in restructuring and asset impairment charges in our condensed consolidated statements of income.

Divestiture Impact on Goodwill and Other Intangible Assets

During the three months ended December 31, 2015, we completed the sale of non-core businesses, see Note 5. As a result of this transaction, goodwill decreased by \$1.1 million and \$6.5 million in our Industrial and Infrastructure segments, respectively. These decreases were recorded in the loss on divestiture account in our condensed consolidated statements of income.

The components of our other intangible assets were as follows:

	Estimated	 Decemb	er 3	1, 2016		June 30	016										
(in thousands)	Useful Life (in years)	Gross Carrying Amount	Accumulated Amortization												Gross Carrying Amount		Accumulated Amortization
Contract-based	3 to 15	\$ 7,058	\$	(6,996)	\$	7,152	\$	(6,886)									
Technology-based and other	4 to 20	45,914		(27,152)		47,323		(27,011)									
Customer-related	10 to 21	203,731		(67,922)		205,471		(66,938)									
Unpatented technology	10 to 30	31,659		(9,363)		31,837		(4,614)									
Trademarks	5 to 20	12,230		(8,089)		12,668		(8,644)									
Trademarks	Indefinite	16,197				16,850		—									
Total		\$ 316,789	\$	(119,522)	\$	321,301	\$	(114,093)									

During the six months ended December 31, 2016 and 2015, we recorded amortization expense of \$8.4 million and \$11.9 million, respectively, related to our other intangible assets.

19. SEGMENT DATA

Kennametal delivers productivity to customers seeking peak performance in demanding environments by providing innovative custom and standard wearresistant solutions. To provide these solutions, we harness our knowledge of advanced materials and application development with a commitment to environmental sustainability. Our product offering includes a wide selection of standard and customized technologies for metalworking, such as sophisticated metal cutting tools, tooling systems and services, as well as advanced, high-performance materials, such as cemented tungsten carbide products, super alloys, coatings and investment castings to address customer demands. We offer these products through a variety of channels to meet customer-specified needs.

The Company's reportable operating segments have been determined in accordance with the Company's internal management structure, which is organized based on operating activities, the manner in which we organize segments for making operating decisions and assessing performance and the availability of separate financial results. We do not allocate certain corporate expenses related to executive retirement plans, the Company's Board of Directors and strategic initiatives, as well as certain other costs and report them in Corporate. None of our three reportable operating segments represent the aggregation of two or more operating segments.

The Industrial segment generally serves customers that operate in industrial end markets such as transportation, general engineering and aerospace and defense, delivering high performance metalworking tools for specified purposes. The customers in these end markets manufacture engines, airframes, automobiles, trucks, ships and various types of industrial equipment. The technology and customization requirements for customers we serve vary by customer, application and industry. The value we deliver to our Industrial segment customers centers on our application expertise and our diverse offering of products and services, with products delivered through a diverse base including direct and indirect channels.

The Widia segment generally serves customers that operate in industrial end markets, primarily in general engineering, delivering high performance metalworking tools for general purposes. Whereas the Industrial segment's core is in application expertise and specific customer needs, Widia offers a competitive alternative for general metal cutting solutions across a broader platform for application, with products delivered primarily through indirect channels.

The Infrastructure segment generally serves customers that operate in the earthworks and energy sectors who support primary industries such as oil and gas, power generation, underground, surface and hard-rock mining, highway construction and road maintenance. Generally, we rely on customer intimacy to serve this segment. By gaining an in-depth understanding of our customers' engineering and development needs, we are able to offer complete system solutions and high-performance capabilities to optimize and add value to their operations.

Our sales and operating income (loss) by segment are as follows:

	Three Months Ended December 31,			Six Months Endec 31,			l December	
(in thousands)		2016	-	2015	2016			2015
Sales:								
Industrial ⁽⁵⁾	\$	267,492	\$	268,578	\$	536,536	\$	538,770
Widia ⁽⁵⁾		42,874		42,305		83,888		85,447
Infrastructure		177,207		213,138		344,289		455,159
Total sales	\$	487,573	\$	524,021	\$	964,713	\$	1,079,376
Operating income (loss):								
Industrial ⁽⁵⁾	\$	18,067	\$	12,025	\$	23,603	\$	33,483
Widia ⁽⁵⁾		(2,666)		(4,665)		(8,403)		(6,374)
Infrastructure		10,274		(237,738)		2,687		(246,166)
Corporate		(1,662)		(3,578)		(3,085)		(8,286)
Total operating income (loss)		24,013		(233,956)		14,802		(227,343)
Interest expense		7,151		6,803		14,144		13,782
Other expense (income), net		726		(732)		844		353
Income (loss) from continuing operations before income taxes	\$	16,136	\$	(240,027)	\$	(186)	\$	(241,478)



Total assets by segment are as follows:

(in thousands)	Dece	mber 31, 2016	Ju	ine 30, 2016
Industrial ⁽⁵⁾	\$	1,054,688	\$	1,019,887
Widia ⁽⁵⁾		193,343		195,339
Infrastructure		755,836		849,447
Corporate		250,914		298,110
Total assets	\$	2,254,781	\$	2,362,783

(5) Amounts for the three and six months ended December 31, 2015 and as of June 30, 2016 have been restated to reflect the change in reportable operating segments.

OVERVIEW

Kennametal Inc. is a leading global manufacturer and supplier of tooling, engineered components and advanced materials consumed in production processes. We deliver productivity solutions to customers seeking peak performance in demanding environments. The Company provides innovative wear-resistant products, application engineering and services backed by advanced material science serving customers across diverse sectors of industrial production, transportation, earthworks, energy, construction, process industries and aerospace. Kennametal solutions are built around industry-essential technology platforms, including precision-engineered metalworking tools and components, surface technologies and earth cutting tools that are mission-critical to customer operations battling extreme conditions associated with wear fatigue, corrosion and high temperatures. The Company's reputation for material and industrial technology excellence, as well as expertise and innovation in development of custom solutions and services, contributes to its leading position in its primary industrial and infrastructure markets. End users of the Company's products include manufacturers, metalworking suppliers, machinery operators and processors engaged in a diverse array of industries, including the manufacture of transportation vehicles and components; machine tool, light machinery and heavy machinery industries; airframe and aerospace components, defense; as well as producers and suppliers in equipment-intensive operations such as coal mining, road construction, quarrying, oil and gas exploration, refining, production and supply. We believe we are one of the largest global providers of consumable metal cutting tools and tooling supplies.

Our sales of \$487.6 million for the quarter ended December 31, 2016 decreased 7 percent compared to sales for the quarter ended December 31, 2015. The Company grew organically for the first time since the September quarter of fiscal 2015, and the Infrastructure segment completed the quarter without organic sales decline for the first time since the June quarter of fiscal 2014. Industrial grew organically for the second consecutive quarter, benefiting from stability in the indirect channel stock levels and favorable conditions in the aerospace sector. Widia also had organic growth this quarter, in part due to strong performance in Asia.

Operating income was \$24.0 million, compared to operating loss of \$234.0 million in the prior year quarter, which included loss on divestiture of \$133.3 million and goodwill and other intangible asset impairment charges of \$108.5 million. Additionally, year-over-year comparative operating results reflect incremental restructuring benefits of approximately \$16 million, higher fixed cost absorption and productivity, the positive effects of lower raw material costs and sales volume growth, partially offset by the negative impacts of unfavorable price and mix and more restructuring and related charges in the current period.

Our cost reduction initiatives are mitigating challenging end market conditions. As of December 31, 2016, we have identified 85 percent of the targeted employment reduction of 1,000, corresponding to approximately 72 percent of the estimated annualized savings associated with this initiative. Further, our modernization and end-to-end initiatives are progressing as planned, which we expect will deliver higher profitability in the future.

The permanent savings that we are realizing from restructuring are the result of programs that we have undertaken over the past 24 months. Pre-tax benefits from these restructuring actions were approximately \$24 million in the current quarter, of which approximately \$16 million were incremental to the same quarter one year ago. Refer to the Results of Continuing Operations section of Item 2 for further discussion and analysis of our restructuring programs.

In addition to these restructuring programs, our product line simplification, end-to-end and factory modernization initiatives are underway. We will be monitoring future sales levels as certain indicators are showing more rapid improvements than previously expected. If our modernization efforts increase pressure on our ability to maintain timely order fulfillment in certain locations, then we may be required to sustain higher levels of direct hourly employment in those locations than currently anticipated.

We reported current quarter earnings per diluted share of \$0.09, which includes \$0.13 per share of restructuring and related charges and \$0.02 per share associated with recording a valuation allowance with regards to deferred tax assets in Australia. Loss per diluted share of \$2.12 in the prior year quarter included \$1.20 per share loss on divestiture, \$0.98 per share of goodwill and other intangible asset impairment charges and \$0.08 per share of restructuring and related charges.

We generated cash flow from operating activities of \$46.6 million and \$104.5 million during the six months ended December 31, 2016 and 2015, respectively. The decrease is due primarily to comparatively lower reductions in primary working capital and lower cash earnings, partially offset by lower payments for taxes. Capital expenditures were \$70.6 million and \$61.2 million during the six months ended December 31, 2016 and 2015, respectively.

We invested further in technology and innovation to continue meeting our customers' needs. Research and development expenses included in operating expense totaled \$9.3 million for the three months ended December 31, 2016.

The following narrative provides further discussion and analysis of our results of operations, liquidity and capital resources, as well as other pertinent matters.

NEW OPERATING STRUCTURE IMPLEMENTED IN FISCAL 2017

In order to take advantage of the growth opportunities of our WIDIA brand, we implemented a new operating structure in fiscal 2017.

A key attribute of the new structure is the establishment of the Widia operating segment. In order to better leverage the opportunities in this business, in addition to being more agile and competitive in the marketplace, we are placing higher levels of focus, determination and leadership in the business. The newly formed Industrial and Widia segments were formed from the previously reported Industrial segment. Amounts for the three and six months ended December 31, 2015 and as of June 30, 2016 have been restated to reflect the change in reportable operating segments.

We now have three reportable operating segments going forward: Industrial, Widia and Infrastructure.

In connection with this change, we updated our goodwill impairment assessment based on a quantitative analysis during the first quarter of fiscal 2017. We evaluated the goodwill of our reporting units immediately prior to and after the realignment and concluded in both cases that there was no impairment. We allocated our goodwill from the former Industrial segment to the current Industrial and Widia segments using a relative fair value approach. The restated Industrial reporting unit passed the goodwill impairment test with fair value substantially exceeded the carrying value. The new Widia reporting unit's fair value approximates its carrying value. The amount of goodwill allocated to the Widia reporting unit was \$27.0 million.

We completed Step 1 of the Widia goodwill impairment test using both an income approach and a market approach. The discounted cash flow method was used to measure the fair value of our equity under the income approach. A terminal value utilizing a constant growth rate of cash flows was used to calculate a terminal value after the explicit projection period. The estimates and assumptions used in our calculations include revenue growth rates, expense growth rates, expected capital expenditures to determine projected cash flows, expected tax rates and an estimated discount rate to determine present value of expected cash flows. These estimates are based on historical experiences, our projections of future operating activity and our weighted average cost of capital ("WACC"). The discount rate used was 14.5 percent. In order to determine the discount rate, the Company uses a market perspective WACC approach. The WACC is calculated incorporating weighted average returns on debt and equity from market participants. Therefore, changes in the market, which are beyond the control of the Company, may have an impact on future calculations of estimated fair value. Management forecasts were used for the years ending June 30, 2017-2021, with a residual period growth rate of 3.0 percent. The tax rate used was 25.0 percent. Under the market approach, we estimate the fair value based on market multiples of revenue and earnings of comparable publicly traded companies and comparable transactions of similar companies.

Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the goodwill and indefinite-lived intangible impairment test will prove to be an accurate prediction of the future. Examples of events or circumstances that could reasonably be expected to negatively affect the underlying key assumptions and ultimately impact the estimated fair value of our reporting units may include such items as: (i) a decrease in expected future cash flows, specifically, a decrease in sales volume driven by a prolonged weakness in consumer demand or other competitive pressures adversely affecting our long term volume trends, unfavorable working capital changes and an inability to successfully achieve our cost savings targets; (ii) inability to achieve all of the anticipated benefits from restructuring actions assumed; (iii) an economic recovery that significantly differs from our assumptions in timing and/or degree; (iv) volatility in the equity and debt markets or other country specific factors which could result in a higher discount rate; and (v) sensitivity to market transaction multiples.

RESULTS OF CONTINUING OPERATIONS

SALES

Sales for the three months ended December 31, 2016 were \$487.6 million, a decrease of \$36.4 million or 7 percent, from \$524.0 million in the prior year quarter. The decrease in sales was driven by a 6 percent decline from divestiture, a 2 percent decline due to fewer business days and a 1 percent unfavorable currency exchange impact, offset partially by 2 percent organic growth. Excluding the impact of currency exchange and divestiture, sales increased in aerospace and defense by 5 percent and 3 percent in both general engineering and energy, partially offset by decreases of 9 percent in earthworks and 1 percent in transportation. On a regional basis excluding the impact of currency exchange and divestiture, sales increased by 3 percent in Asia and 1 percent in the Americas, offset by a decrease of approximately 3 percent in Europe.

Sales for the six months ended December 31, 2016 were \$964.7 million, a decrease of \$114.7 million or 11 percent, from \$1,079.4 million in the prior year period. The decrease in sales was driven by an 8 percent decline from divestiture, a 1 percent unfavorable currency exchange impact, a 1 percent decrease due to fewer business days and a 1 percent organic decline. Excluding the impact of currency exchange and divestiture, sales decreased by approximately 15 percent in earthworks and 3 percent in energy, offset by increases of approximately 5 percent in aerospace and defense and 2 percent in general engineering, while sales in transportation remained relatively flat. On a regional basis excluding the impact of currency exchange and divestiture, sales decreased 3 percent in both the Americas and Europe, offset partially by a 2 percent increase in Asia.

GROSS PROFIT

Gross profit for the three months ended December 31, 2016 was \$147.6 million, an increase of \$6.8 million from \$140.8 million in the prior year quarter. The increase was primarily due to higher fixed cost absorption and productivity, lower raw material costs, incremental restructuring benefits of approximately \$7 million and sales volume growth, partially offset by the negative impacts of unfavorable price and business mix, divestiture impact of \$3.7 million and unfavorable currency exchange impact of \$2.9 million. The gross profit margin for the three months ended December 31, 2016 was 30.3 percent, as compared to 26.9 percent generated in the prior year quarter.

Gross profit for the six months ended December 31, 2016 was \$291.2 million, a decrease of \$0.9 million from \$292.0 million in the prior year quarter. The decrease was primarily due to unfavorable business mix, organic sales decline, divestiture impact of \$11.4 million and unfavorable currency exchange impact of \$5.5 million, partially offset by lower raw material costs, higher fixed cost absorption and productivity and incremental restructuring benefits of approximately \$10 million. The gross profit margin for the six months ended December 31, 2016 was 30.2 percent, as compared to 27.1 percent generated in the prior year quarter.

OPERATING EXPENSE

Operating expense for the three months ended December 31, 2016 decreased \$12.6 million or 10.2 percent to \$111.0 million as compared to \$123.6 million in the prior year quarter. The decrease was primarily due to incremental restructuring benefits of approximately \$9 million, divestiture impact of \$4.5 million, \$2.5 million less in restructuring-related charges and favorable foreign currency exchange impacts of \$1.0 million, partially offset by \$3.9 million higher employment-related costs.

Operating expense for the six months ended December 31, 2016 decreased \$22.0 million or 8.7 percent to \$230.9 million as compared to \$252.8 million in the prior year quarter. The decrease was primarily due to incremental restructuring benefits of approximately \$15 million, divestiture impact of \$10.5 million, \$5.8 million less in restructuring-related charges and favorable foreign currency exchange impacts of \$2.5 million, offset partially by higher employment-related costs of \$9.9 million.

RESTRUCTURING AND RELATED CHARGES AND ASSET IMPAIRMENT CHARGES

We have recorded restructuring and related charges of \$11.8 million and \$8.9 million for the three months ended December 31, 2016 and 2015, respectively. Of these amounts, restructuring charges totaled \$8.8 million and \$3.5 million, of which expense of \$0.3 million and benefits of \$0.3 million were related to inventory and were recorded in cost of goods sold, respectively. Restructuring-related charges of \$2.1 million and \$2.0 million were recorded in cost of goods sold and \$0.9 million and \$3.4 million in operating expense for the three months ended December 31, 2016 and 2015, respectively.

We have recorded restructuring and related charges of \$43.4 million and \$24.0 million for the six months ended December 31, 2016 and 2015, respectively. Of these amounts, restructuring charges totaled \$37.3 million and \$12.6 million, of which expense of \$0.3 million and benefits of \$0.3 million were related to inventory and were recorded in cost of goods sold, respectively. Restructuring-related charges of \$4.1 million and \$3.6 million were recorded in cost of goods sold and \$2.0 million and \$2.0 million and \$7.8 million in operating expense for the six months ended December 31, 2016 and 2015, respectively.

Total restructuring and related charges since the inception of our restructuring plans through December 31, 2016 were \$114.9 million. See Note 8 in our condensed consolidated financial statements set forth in Part I Item 1 of this Quarterly Report on Form 10-Q (Note 8).

We are implementing restructuring actions to streamline the Company's cost structure. These initiatives are expected to improve the alignment of our cost structure with the current operating environment through headcount reductions; as well as rationalization and consolidation of certain manufacturing facilities. These restructuring actions are currently anticipated to deliver annual ongoing pre-tax savings of \$147 million to \$162 million once completed by December of fiscal 2019 and are anticipated to be mostly cash expenditures. The total pre-tax charges for these programs are expected to be in the range of \$155 million to \$175 million.

Asset Impairment Charges

We recorded non-cash pre-tax asset impairment charges of \$108.5 million during the three and six months ended December 31, 2015. See Note 18 in our condensed consolidated financial statements set forth in Part I Item 1 of this Quarterly Report on Form 10-Q (Note 18).

LOSS ON DIVESTITURE

During the three months ended December 31, 2015, we completed the divestiture of non-core businesses for net proceeds of \$61.1 million and recognized a pre-tax loss on divestiture of \$133.3 million. See Note 5 in our condensed consolidated financial statements set forth in Part I Item 1 of this Quarterly Report on Form 10-Q (Note 5).

INTEREST EXPENSE

Interest expense for the three months ended December 31, 2016 increased \$0.3 million to \$7.2 million as compared to \$6.8 million in the prior year quarter. Interest expense for the six months ended December 31, 2016 increased \$0.4 million to \$14.1 million as compared to \$13.8 million in the prior year period.

OTHER EXPENSE (INCOME), NET

Other expense, net for the three months ended December 31, 2016, was \$0.7 million compared to other income, net of \$0.7 million in the prior year quarter. The year-over-year change was primarily due to losses on derivatives.

Other expense, net for the six months ended December 31, 2016, was \$0.8 million compared to \$0.4 million in the prior year period. The increase was primarily due to losses on derivatives, partially offset by loss on sale of assets in the prior year and income from transition services provided to the acquirer of our non-core businesses.

INCOME TAXES

The effective income tax rates for the three months ended December 31, 2016 and 2015 were 50.9 percent (provision on income) and 29.7 percent (benefit on a loss), respectively. The effective income tax rate for the six months ended December 31, 2016 was not meaningful and was 27.7 percent (benefit on a loss) for the six months ended December 31, 2015. The change in both periods was primarily driven by an asset impairment charge; the tax impact of the divestiture of non-core businesses in the prior year; losses in the U.S. that cannot be tax affected in the current year; jurisdictional mix of earnings; and the effect of the R&D legislation enacted in the prior year.

BUSINESS SEGMENT REVIEW

We operate three reportable segments consisting of Industrial, Widia and Infrastructure. Expenses that are not allocated are reported in Corporate. Segment determination is based upon the manner in which we organize segments for making operating decisions and assessing performance and the availability of separate financial results.

Amounts for the three and six months ended December 31, 2015 for Industrial and Widia have been restated to reflect the change in reportable operating segments.

INDUSTRIAL

	Th	ree Months l 3	Endeo 81,	d December	S	ix Months E	l December	
(in thousands)		2016 2015		2016			2015	
Sales	\$	267,492	\$	268,578	\$	536,536	\$	538,770
Operating income		18,067		12,025		23,603		33,483

For the three months ended December 31, 2016, Industrial sales remained relatively flat compared to the prior year quarter, reflecting organic growth of 4 percent, offset by a 2 percent decrease due to fewer business days, a 1 percent unfavorable currency exchange impact and a 1 percent decline due to divestiture. Excluding the impact of currency exchange and divestiture, sales increased approximately 6 percent in general engineering and 4 percent in aerospace and defense, offset partially by sales decreases of approximately 5 percent in energy and 2 percent in transportation. General engineering sales grew in the Americas and Asia, benefiting from stability in the indirect channel stock levels, while general engineering activity in Europe was flat. Globally, conditions remain favorable in the aerospace sector. The transportation market was mixed with more projects and favorable conditions contributing to higher sales in Asia, which were more than offset by less favorable conditions in Europe and the Americas. On a segment regional basis excluding the impact of divestiture and currency exchange, sales increased 7 percent in Asia and 4 percent in the Americas, partially offset by a 2 percent decrease in Europe. The sales increase in Asia was primarily driven by the transportation and general engineering end markets and to a lesser extent the aerospace and defense end market, partially offset by a decrease in the energy end market. The sales increase in the Americas was primarily driven by the performance in the general engineering end market, partially offset by decreases in the transportation end market. The sales decrease in Europe was primarily driven by the performance in the aerospace and defense end market, offset partially by an increase in the aerospace and defense end market.

For the three months ended December 31, 2016, Industrial operating income increased by \$6.0 million, driven primarily by incremental restructuring benefits of approximately \$8 million, a \$7.3 million loss on divestiture in the prior period and current period higher productivity, partially offset by unfavorable mix, higher employment-related costs and \$2.0 million more restructuring and related charges. Industrial operating margin was 6.8 percent compared with 4.5 percent in the prior year.

For the six months ended December 31, 2016, Industrial sales remained flat compared to the same period last year, reflecting organic growth of 3 percent, offset by unfavorable currency exchange of 1 percent, unfavorable business days impact of 1 percent and divestiture impact of 1 percent. Excluding the impact of currency exchange and divestiture, sales increased 5 percent in general engineering and 5 percent in aerospace and defense, offset partially by decreases of approximately 8 percent in energy and 1 percent in transportation. Activity in the aerospace sector remains elevated with sales growing globally. General engineering sales in the Americas and Asia have benefited from stability in the indirect channel stock levels, offsetting the general industrial weakness caused by the continued decline in the energy sector. The transportation market was mixed with more projects contributing to higher sales in Asia, partially offset by less favorable conditions in Europe and Americas. On a segment regional basis excluding the impact of divestiture and currency exchange, sales increased 7 percent in Asia and 4 percent in the Americas, offset partially by a decrease of 1 percent in Europe. The sales increase in Asia was primarily driven by the transportation and general engineering end markets, partially offset by a decrease in the energy end market, partially offset by decreases in the transportation and energy end markets. The sales decrease in Europe was primarily driven by the performance in the transportation and energy end markets.

For the six months ended December 31, 2016, Industrial operating income decreased by \$9.9 million, driven primarily by \$15.2 million more restructuring and related charges, higher employment-related costs, unfavorable mix and unfavorable currency exchange, partially offset by incremental restructuring benefits of approximately \$13 million, a \$7.3 million loss on divestiture in the prior period, higher productivity and organic sales growth. Industrial operating margin was 4.4 percent compared with 6.2 percent in the prior year.

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Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (CONTINUED)

WIDIA

	Th	ree Months I 3	Endec 1,	l December	S	ix Months E	nded 31,	December
(in thousands)		2016		2015		2016		2015
Sales	\$	42,874	\$	42,305	\$	83,888	\$	85,447
Operating loss		(2,666)		(4,665)		(8,403)		(6,374)

For the three months ended December 31, 2016, Widia sales increased 1 percent from the prior year quarter, driven by organic growth of 5 percent, offset partially by a 3 percent decrease due to fewer business days and a 1 percent unfavorable currency exchange impact. On a segment regional basis excluding the impact of currency exchange, sales increased 19 percent in Asia, offset partially by decreases of 4 percent in the Americas and 2 percent in Europe.

For the three months ended December 31, 2016, Widia operating loss was \$2.7 million compared to \$4.7 million for the prior year period. Operating loss decreased by \$2.0 million, driven primarily by a prior period other intangible asset impairment charge of \$2.3 million and incremental restructuring benefits of approximately \$2 million, partially offset by \$1.3 million higher restructuring and related charges. Widia operating loss margin was 6.2 percent compared with 11.0 percent in the prior year.

For the six months ended December 31, 2016, Widia segment sales decreased by 2 percent from the same period last year, due to an unfavorable business days impact of 2 percent and unfavorable currency exchange of 1 percent, offset partially by organic growth of 1 percent. On a segment regional basis excluding the impact of currency exchange, sales decreased 6 percent in Europe and 5 percent in the Americas, offset partially by an increase of 12 percent in Asia.

For the six months ended December 31, 2016, Widia operating loss was \$8.4 million compared to \$6.4 million for the prior year period. Operating loss increased by \$2.0 million, driven primarily by \$3.6 million higher restructuring and related charges in addition to unfavorable mix, partially offset by a prior period other intangible asset impairment charge of \$2.3 million, incremental restructuring benefits of approximately \$2 million and higher productivity. Widia operating loss margin was 10.0 percent compared with 7.5 percent in the prior year.

INFRASTRUCTURE

	Th	iree Months I 3	Ende 81,	d December	S	ix Months E	December	
(in thousands)		2016		2015		2016		2015
Sales	\$	177,207	\$	213,138	\$	344,289	\$	455,159
Operating income (loss)		10,274		(237,738)		2,687		(246,166)

For the three months ended December 31, 2016, Infrastructure sales decreased by 17 percent from the prior year quarter, reflecting a 14 percent decline due to divestiture, a 2 percent decrease due to fewer business days and a 1 percent unfavorable currency exchange impact. Excluding the impact of currency exchange and divestiture, sales decreased by approximately 10 percent in earthworks and 5 percent in general engineering, offset partially by an increase of 6 percent in energy. Key energy markets, particularly in North America, began to stabilize in the December quarter of fiscal 2017. During the December quarter, average quarterly U.S. rig counts were still down year-over-year by over 20 percent, but have increased from the lows experienced in the June quarter of fiscal 2016. Sales in the December quarter of fiscal 2017 associated with oil & gas in Americas have increased year-over-year by approximately 13 percent. Conditions in underground mining in North America continued to be challenging with sales down approximately 24 percent. As previously disclosed, this weakness is expected to continue for the foreseeable future. On a segment regional basis excluding the impact of divestiture and currency exchange, sales decreases in Europe and 7 percent in Asia, while sales in the Americas remained flat. The sales decrease in Europe was primarily driven by decreases in the earthworks and general engineering end markets, partially by increases in the energy and general engineering end markets. While sales in the Americas remained flat, decreases in Asia was driven primarily by the performance in the earthworks and general engineering end markets were offset by increases in the energy end market.

For the three months ended December 31, 2016, Infrastructure operating income was \$10.3 million compared to operating loss of \$237.7 million for the prior year period. The change in operating results is due primarily to a prior period \$126.0 million loss on divestiture, prior period goodwill and other intangible asset impairment charges of \$106.1 million, current period lower raw material costs, incremental restructuring program benefits of approximately \$6 million, better productivity and divestiture impact of \$1.8 million, partially offset by unfavorable mix and \$2.0 million higher restructuring and related charges. Infrastructure operating income margin was 5.8 percent compared with operating loss margin 111.5 percent in the prior year.

For the six months ended December 31, 2016, Infrastructure sales decreased by 24 percent, reflecting a 17 percent decline due to divestiture, a 5 percent organic sales decline, a 1 percent unfavorable currency exchange impact and a 1 percent unfavorable business days impact. Excluding the impact of currency exchange and divestiture, sales decreased by approximately 16 percent in earthworks and 4 percent in general engineering, while energy was flat. Key energy markets, particularly in North America, have continued to stabilize during the year. U.S. rig counts have increased steadily from fiscal 2016 year-end lower levels. Oil and gas sales in the Americas were effectively flat compared to the prior year. Conditions in underground mining in North America declined further, with sales down 28 percent year-over-year. As previously disclosed, this weakness is expected to continue for the foreseeable future. On a segment regional basis excluding the impact of divestiture and currency exchange, sales decreased 8 percent in the Americas, 7 percent in Asia and 6 percent in Europe. The sales decrease in the Americas was driven by decreases in earthworks, general engineering and energy end markets, although oil and gas-related sales increased. The sales decrease in Asia was driven primarily by the performance in the earthworks end market, offset partially by increases in the general engineering and earthworks end markets, offset partially by an increase in the energy end market.

For the six months ended December 31, 2016, Infrastructure operating income was \$2.7 million compared to operating loss of \$246.2 million for the prior year period. The change in operating results is due primarily to a prior period \$126.0 million loss on divestiture, prior period goodwill and other intangible asset impairment charges of \$106.1 million, current period lower raw material costs, higher productivity, incremental restructuring program benefits of approximately \$9 million and divestiture impact of \$1.9 million, offset partially by unfavorable mix, lower organic sales and \$6.3 million more restructuring and related charges. Infrastructure operating income margin was 0.8 percent compared with operating loss margin of 54.1 percent in the prior year.

CORPORATE

	Th	ree Months En 31,	ded December	Six Months Er 3	December	
(in thousands)		2016	2015	2016		2016
Corporate unallocated expense	\$	(1,662)	\$ (3,578)	\$ (3,085)	\$	(8,286)

For the three months ended December 31, 2016, Corporate unallocated expense decreased \$1.9 million, or 53.5 percent, primarily due to \$2.3 million lower restructuring-related charges in the current period.

For the six months ended December 31, 2016, Corporate unallocated expense decreased \$5.2 million, or 62.8 percent, due to \$5.6 million lower restructuring-related charges in the current period.

LIQUIDITY AND CAPITAL RESOURCES

Cash flow from operations is the primary source of funding for capital expenditures and internal growth. Year to date December 31, 2016 cash flow provided by operating activities was \$46.6 million, primarily driven by cash earnings and primary working capital improvements, partially offset by net outflows from changes in other assets and liabilities.

Our five-year, multi-currency, revolving credit facility, as amended and restated in April 2016 (Credit Agreement) is used to augment cash from operations and is an additional source of funds. The Credit Agreement permits revolving credit loans of up to \$600.0 million for working capital, capital expenditures and general corporate purposes. The Credit Agreement allows for borrowings in U.S. dollars, euro, Canadian dollars, pound sterling and Japanese yen. Interest payable under the Credit Agreement is based upon the type of borrowing under the facility and may be (1) LIBOR plus an applicable margin, (2) the greater of the prime rate or the Federal Funds effective rate plus an applicable margin, or (3) fixed as negotiated by us. The Credit Agreement matures in April 2021. We had no borrowings outstanding on our Credit Agreement as of December 31, 2016.

The Credit Agreement requires us to comply with various restrictive and affirmative covenants, including two financial covenants: a maximum leverage ratio and a minimum consolidated interest coverage ratio (as those terms are defined in the agreement). We were in compliance with all covenants as of December 31, 2016. For the six months ended December 31, 2016, average daily borrowings outstanding under the Credit Agreement were approximately \$19.5 million. Borrowings under the Credit Agreement are guaranteed by our significant domestic subsidiaries.

We consider the unremitted earnings of our non-U.S. subsidiaries that have not previously been taxed in the U.S. to be permanently reinvested. As of December 31, 2016, cash and cash equivalents of \$44.0 million and short-term intercompany advances made by our foreign subsidiaries to our U.S. parent of \$39.5 million would not be available for use in the U.S. on a long term basis without incurring U.S. federal and state income tax consequences. We have not, nor do we anticipate the need to, repatriate funds to the U.S. to satisfy domestic liquidity needs arising in the ordinary course of business or associated with our domestic debt service requirements.

At December 31, 2016, cash and cash equivalents were \$102.0 million, total debt, including notes payable, was \$696.6 million and total Kennametal Shareholders' equity was \$902.8 million. Our current senior credit ratings are at investment grade levels. We believe that our current financial position, liquidity and credit ratings provide access to the capital markets. We believe that we have sufficient resources available to meet cash requirements for the next 12 months. We continue to closely monitor our liquidity position and the condition of the capital markets, as well as the counterparty risk of our credit providers.

There have been no material changes in our contractual obligations and commitments since June 30, 2016.

Cash Flow Provided by Operating Activities

During the six months ended December 31, 2016, cash flow provided by operating activities was \$46.6 million, compared to \$104.5 million for the prior year period. Cash flow provided by operating activities for the current year period consisted of net loss and non-cash items amounting to an inflow of \$53.7 million and changes in certain assets and liabilities netting to an outflow of \$7.1 million. Contributing to the changes in certain assets and liabilities were a decrease in accrued pension and postretirement benefits of \$11.3 million, a net decrease of accounts payable and accrued liabilities of \$7.6 million primarily driven by lower accrued compensation. Partially offsetting these cash outflows was a decrease in accounts receivable of \$20.4 million due to lower sales volume.

During the six months ended December 31, 2015, cash flow provided by operating activities for the period consisted of net loss and non-cash items amounting to an inflow of \$64.2 million, and by changes in certain assets and liabilities netting to an inflow of \$40.4 million. Contributing to the changes in certain assets and liabilities were a decrease in accounts receivable of \$69.8 million due to lower sales volume and a decrease in inventory of \$46.6 million due to our continued focus on working capital management. Offsetting these cash inflows were a decrease of accounts payable and accrued liabilities of \$44.1 million primarily driven by lower accrued compensation and lower restructuring liabilities; a decrease in accrued pension and postretirement benefits of \$18.2 million due in part to payments to previous executives; and a decrease of accrued income taxes of \$12.4 million primarily driven by payment of a capital gains tax related to a prior period tax reorganization.

Cash Flow (Used for) Provided by Investing Activities

Cash flow used for investing activities was \$67.0 million for the six months ended December 31, 2016, compared to cash provided by investing activities of \$5.1 million in the prior year period. During the current year period, cash flow used for investing activities included capital expenditures, net of \$67.1 million, which consisted primarily of equipment upgrades.

For the six months ended December 31, 2015, cash flow provided by investing activities included \$61.1 million of proceeds from the sale of non-core businesses, partially offset by capital expenditures, net of \$56.8 million, which consisted primarily of equipment upgrades.

Cash Flow Used for Financing Activities

Cash flow used for financing activities was \$34.7 million for the six months ended December 31, 2016 compared to \$75.4 million in the prior year period. During the current year period, cash flow used for financing activities included \$32.0 million of cash dividends paid to Shareholders and a \$6.6 million payment on the remaining contingent consideration related to a prior acquisition. These cash outflows were partially offset by \$3.5 million of dividend reinvestment and the effect of employee benefit and stock plans and \$0.6 million net increase in borrowings.

For the six months ended December 31, 2015, cash flow used for financing activities primarily included \$44.5 million net decrease in borrowings and \$31.8 million of cash dividends paid to Shareholders. These cash flows were partially offset by \$1.5 million of dividend reinvestment and the effect of employee benefit and stock plans.

FINANCIAL CONDITION

Working capital was \$581.6 million at December 31, 2016, a decrease of \$66.5 million from \$648.1 million at June 30, 2016. The decrease in working capital was primarily driven by a decrease in cash and cash equivalents of \$59.6 million, a decrease in accounts receivable of \$31.4 million due to lower sales volume, a decrease in deferred income taxes of \$26.7 million due to the impact of prospective adoption of a new accounting standard requiring all deferred tax assets and liabilities to be classified as long-term and a decrease in inventories of \$8.9 million. Partially offsetting these items were an increase in other current assets of \$23.1 million as a result of the reclassification of \$14 million prepaid taxes from noncurrent to current as we expect to receive a refund in the next 12 months, a decrease in accrued expenses of \$14.7 million driven by payroll timing and lower accrued vacation pay, a decrease in accounts payable of \$13.2 million as a result of both lower volumes and our focus on working capital management and a decrease in other current liabilities of \$11.7 million due primarily to the payment to relieve the remaining contingent consideration related to a prior year acquisition and lower accrued compensation. Currency exchange rate effects decreased working capital by \$18.4 million.

Property, plant and equipment, net decreased \$5.5 million from \$730.6 million at June 30, 2016 to \$725.1 million at December 31, 2016, primarily due to depreciation expense of \$46.0 million, a negative currency exchange impact of \$12.0 million during the current period and disposals of \$3.5 million. These decreases are partially offset by capital expenditures of \$70.6 million, which includes \$15.4 million change in accounts payable related to purchases of property, plant and equipment.

At December 31, 2016, other assets were \$557.9 million, an increase of \$1.1 million from \$556.8 million at June 30, 2016. The primary driver for the increase was an increase in deferred income taxes of \$19.9 million due in part to the impact of prospective adoption of a new accounting standard requiring all deferred tax assets and liabilities to be classified as long-term. This increase was partially offset by a \$9.9 million decrease in other intangible assets, which was due to amortization expense of \$8.4 million and unfavorable currency exchange effects of \$1.5 million, and a \$6.5 million decrease in goodwill due to currency exchange effects.

Long-term debt and capital leases increased by \$0.8 million to \$694.3 million at December 31, 2016 from \$693.5 million at June 30, 2016.

Kennametal Shareholders' equity was \$902.8 million at December 31, 2016, a decrease of \$61.5 million from \$964.3 million at June 30, 2016. The decrease was primarily due to unfavorable currency exchange of \$40.3 million, cash dividends paid to Shareholders of \$32.0 million and net loss attributable to Kennametal of \$14.4 million, partially offset by capital stock issued under employee benefit and stock plans of \$14.5 million, unrecognized net pension and other postretirement benefit gain of \$4.1 million and reclassification of net pension and other postretirement benefit loss of \$3.6 million.

ENVIRONMENTAL MATTERS

The operation of our business has exposed us to certain liabilities and compliance costs related to environmental matters. We are involved in various environmental cleanup and remediation activities at certain of our locations.

Superfund Sites Among other environmental laws, we are subject to the Comprehensive Environmental Response Compensation and Liability Act of 1980 (Superfund), under which we have been designated by the United States Environmental Protection Agency (USEPA) as a potentially responsible party (PRP) with respect to environmental remedial costs at certain Superfund sites. We have evaluated our claims and liabilities associated with these Superfund sites based upon best currently available information. We believe our environmental accruals are adequate to cover our portion of the environmental remedial costs at the Superfund sites where we have been designated a PRP, to the extent these expenses are probable and reasonably estimable.

Other Environmental Matters We establish and maintain reserves for other potential environmental issues. At December 31, 2016 and June 30, 2016, the balances of these reserves were \$12.1 million and \$12.5 million, respectively. These reserves represent anticipated costs associated with the remediation of these issues.

The reserves we have established for environmental liabilities represent our best current estimate of the costs of addressing all identified environmental situations, based on our review of currently available evidence, and taking into consideration our prior experience in remediation and that of other companies, as well as public information released by the USEPA, other governmental agencies, and by the PRP groups in which we are participating. Although the reserves currently appear to be sufficient to cover these environmental liabilities, there are uncertainties associated with environmental liabilities, and we can give no assurance that our estimate of any environmental liability will not increase or decrease in the future. The reserved and unreserved liabilities for all environmental concerns could change substantially due to factors such as the nature and extent of contamination, changes in remedial requirements, technological changes, discovery of new information, the financial strength of other PRPs, the identification of new PRPs and the involvement of and direction taken by the government on these matters.

We maintain a Corporate Environmental Health and Safety (EHS) Department, to monitor compliance with environmental regulations and to oversee remediation activities. In addition, we have designated EHS coordinators who are responsible for each of our global manufacturing facilities. Our financial management team periodically meets with members of the Corporate EHS Department and the Corporate Legal Department to review and evaluate the status of environmental projects and contingencies. On a quarterly basis, we review financial provisions and reserves for environmental contingencies and adjust these reserves when appropriate.

DISCUSSION OF CRITICAL ACCOUNTING POLICIES

There have been no changes to our critical accounting policies since June 30, 2016.

NEW ACCOUNTING STANDARDS

See Note 3 to our condensed consolidated financial statements set forth in Part I Item 1 of this Quarterly Report on Form 10-Q for a description of new accounting standards.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There have been no material changes to our market risk exposures since June 30, 2016.

ITEM 4. CONTROLS AND PROCEDURES

As of the end of the period covered by this quarterly report on Form 10-Q, the Company's management evaluated, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, the effectiveness of the Company's disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)). The Company's disclosure controls were designed to provide a reasonable assurance that information required to be disclosed in reports that we file or submit under the Securities Exchange Act of 1934, as amended (Exchange Act), is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission. It should be noted that the design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote. However, the controls have been designed to provide reasonable assurance of achieving the controls' stated goals. Based on that evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures are effective to provide reasonable assurance at December 31, 2016 to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (i) accumulated and communicated to management, including the Company's Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure and (ii) recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Act is (i) accumulated and communicated to management, including the Company's Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure and (ii) recorded, processed, summarized and reported within the time p

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

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The information set forth in Part I, Item 1, under the caption "Regulation" of the annual report on Form 10-K for the year ended June 30, 2016 is incorporated into this Item 1. From time to time, we are party to legal claims and proceedings that arise in the ordinary course of business, which may relate to our operations or assets, including real, tangible or intellectual property. Although certain of these actions are currently pending, we do not believe that any individual proceeding is material or that our pending legal proceedings in the aggregate are material to Kennametal.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total Number of Shares Purchased ⁽¹⁾	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs ⁽²⁾
October 1 through October 31, 2016	655	\$ 28.59	_	10,100,100
November 1 through November 30, 2016	4,418	30.58	—	10,100,100
December 1 through December 31, 2016	2,530	32.99	—	10,100,100
Total	7,603	\$ 31.21	_	

(1) During the current period, 1,824 shares were purchased on the open market on behalf of Kennametal to fund the Company's dividend reinvestment program. Also, during the current period employees delivered 5,779 shares of restricted stock to Kennametal, upon vesting, to satisfy tax withholding requirements.

(2) On July 25, 2013, the Company publicly announced an amended repurchase program for up to 17 million shares of its outstanding capital stock outside of the Company's dividend reinvestment program.

UNREGISTERED SALES OF EQUITY SECURITIES

None.



ITEM 6. EXHIBITS

(10)	Material Contracts	
(10.1)	Form of Kennametal Inc. Restricted Unit Award (three-year cliff vest) (granted under the Kennametal Inc. Stock and Incentive Plan of 2016)	Filed herewith.
(31)	Rule 13a-14(a)/15d-14(a) Certifications	
(31.1)	Certification executed by Ronald M. De Feo, President and Chief Executive Officer of Kennametal Inc.	Filed herewith.
(31.2)	Certification executed by Jan Kees van Gaalen, Vice President and Chief Financial Officer of Kennametal Inc.	Filed herewith.
(32)	Section 1350 Certifications	
(32.1)	Certification Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, executed by Ronald M. De Feo, President and Chief Executive Officer of Kennametal Inc., and Jan Kees van Gaalen, Vice President and Chief Financial Officer of Kennametal Inc.	Filed herewith.
(101)	XBRL	
(101.INS)	XBRL Instance Document	Filed herewith.
(101.SCH)	XBRL Taxonomy Extension Schema Document	Filed herewith.
(101.CAL)	XBRL Taxonomy Extension Calculation Linkbase Document	Filed herewith.
(101.DEF)	XBRL Taxonomy Definition Linkbase	Filed herewith.
(101.LAB)	XBRL Taxonomy Extension Label Linkbase Document	Filed herewith.
(101.PRE)	XBRL Taxonomy Extension Presentation Linkbase Document	Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

KENNAMETAL INC.

Date: February 8, 2017

By: /s/ Martha Fusco

Martha Fusco Vice President Finance and Corporate Controller

KENNAMETAL INC.

RESTRICTED UNIT AWARD

Grant Date:

Kennametal Inc. (the "Company") hereby grants to «name» (the "Awardee"), as of the Grant Date listed above, this Restricted Unit Award (the "Award") for «number of stock units» Stock Units, subject to the terms and conditions of the Kennametal Inc.2016 Stock and Incentive Plan (the "Plan") and the additional terms listed below. Capitalized terms used herein, but not otherwise defined, shall have the same meaning ascribed to them in the Plan.

1. Each Stock Unit represents the right to receive one Share of the Company's Capital Stock, par value \$1.25 per share, subject to the Forfeiture Restrictions (defined below). Notwithstanding, Stock Units as initially awarded have no independent economic value, but rather are mere units of measurement used for the purpose of calculating the number of Shares, if any, to be delivered under the Award.

2. The prohibition against transfer and the obligation to forfeit and surrender the Stock Units to the Company are herein referred to as "Forfeiture Restrictions." The Stock Units may not be sold, assigned, pledged, exchanged, hypothecated, gifted or otherwise transferred, encumbered or disposed of, except as described in the Plan, to the extent then subject to the Forfeiture Restrictions. The Forfeiture Restrictions will be binding upon, and enforceable against, any permitted transferree of the Stock Units.

3. Provided that the Awardee does not Separate from Service and maintains Continuous Status as an Employee from the Grant Date through the lapse date, the Forfeiture Restrictions will lapse as to 100% of the Stock Units on the third anniversary of the Grant Date.

4. The Stock Units, to the extent then subject to the Forfeiture Restrictions, will be forfeited to the Company upon Separation from Service for any reason *other than* death, Disability, Retirement (including Early Retirement), or involuntary termination by the Company without cause or voluntary termination by the Awardee for Good Reason (a) within the six-month period immediately preceding a Change in Control in contemplation of such Change in Control (and the Change in Control actually occurs) or (b) during the two-year period following a Change in Control (a " Change in Control Separation"). In the event that the Awardee Separates from Service as a result of death, Disability, Retirement (including Early Retirement) or a Change in Control Separation, the vesting and/or forfeiture of the Stock Units shall be determined as provided in the Plan.

5. Except as otherwise provided herein, the shares of Company Capital Stock (the "Shares") underlying Stock Units which are no longer subject to Forfeiture Restrictions shall be issued to the Awardee on the lapse date (or as soon as reasonably practicable thereafter but in no event later than the 15th day of the third month following such date), subject to the Awardee's satisfaction of all applicable income and employment withholding taxes. Notwithstanding the foregoing or any provisions of this Award or the Plan to the contrary, for a U.S. participant who is a "specified employee" under Section 409A of the Internal Revenue Code of 1986, as amended (the "Code") upon Separation from Service due to Retirement (including Early Retirement), Disability or a Change in Control Separation, the delivery of any Shares underlying this Award will be delayed and delivered on the first day following the six (6) month anniversary of the Awardee's Separation from Service (or upon earlier death) if and to the extent such payments would constitute or be considered as deferred compensation under Code Section 409A, subject to the Awardee's satisfaction of all applicable income and employment withholding taxes.

6. The Shares underlying Stock Units shall not be sold or otherwise disposed of in any manner that would constitute a violation of any applicable federal or state securities laws. The Company may refuse to register a transfer of the Shares on the stock transfer records of the Company if the transfer constitutes a violation of any applicable securities law and the Company may give related instructions to its transfer agent, if any, to stop registration of the The Shares.

7. This Restricted Unit Award is intended to comply with Section 409A of the Internal Revenue Code (which deals with nonqualified deferred compensation) or an exception thereto and the regulations promulgated thereunder and will be construed accordingly. The Company reserves the right to administer, amend or modify the Award or to take any other action necessary or desirable to enable the Award to be interpreted and construed accordingly. Notwithstanding the foregoing, the Awardee acknowledges and agrees that Section 409A may impose upon the Awardee certain taxes or interest charges for which the Awardee is and shall remain solely responsible.

8. Notwithstanding anything to the contrary in this Award or the Plan, in the event that this Award is not accepted by the Awardee on or before the date that is 180 days from the grant date noted herein (the "Forfeiture Date"), then this Award shall become null and void and all Stock Units subject to this Award shall be forfeited by the Awardee as of the Forfeiture Date. For acceptance to be valid, the Awardee must accept this Award in the manner specified by the Company. Any Shares underlying the Stock Units covered by this Award that are forfeited by the Awardee shall be returned to the Plan and resume the status of shares available for grant.

9. All other terms and conditions applicable to this Award are contained in the Plan. A copy of the Plan and related Prospectus is available on your accounts page at netbenefits.fidelity.com under Plan Information and Documents, as well as on The Hub under Human Resources.

KENNAMETAL INC.

By: Michelle R. Keating

Title: Vice President, Secretary and General Counsel

I, Ronald M. De Feo, certify that:

- 1. I have reviewed this quarterly report on Form 10-Q of Kennametal Inc.;
- 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d -15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions)
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 8, 2017

/s/ Ronald M. De Feo

Ronald M. De Feo President and Chief Executive Officer I, Jan Kees van Gaalen, certify that:

- 1. I have reviewed this quarterly report on Form 10-Q of Kennametal Inc.;
- 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d -15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions)
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 8, 2017

/s/ Jan Kees van Gaalen

Jan Kees van Gaalen Vice President and Chief Financial Officer

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Kennametal Inc. (the "Corporation") on Form 10-Q for the period ended December 31, 2016, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Corporation certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

- 1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- 2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Corporation.

<u>/s/ Ronald M. De Feo</u> Ronald M. De Feo President and Chief Executive Officer

February 8, 2017

<u>(s/ Jan Kees van Gaalen</u> Jan Kees van Gaalen Vice President and Chief Financial Officer

February 8, 2017

*This certification is made solely for purposes of 18 U.S.C. Section 1350, subject to the knowledge standard contained therein, and not for any other purpose.