As filed with the Securities and Exchange Commission on November 4, 2010

UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

KENNAMETAL INC.

(Exact name of registrant as specified in its charter)

Pennsylvania

(State or other jurisdiction of incorporation or organization)

World Headquarters 1600 Technology Way P.O. Box 231 Latrobe, Pennsylvania (Address of Principal Executive Offices) **25-0900168** (I.R.S. Employer Identification No.)

15650-0231 (Zip Code)

KENNAMETAL INC. STOCK AND INCENTIVE PLAN OF 2010 (Full title of the plan)

Kevin G. Nowe Vice President, Secretary and General Counsel

Kennametal Inc. World Headquarters 1600 Technology Way P.O. Box 231 Latrobe, Pennsylvania 15650-0231 (Name and Address of agent for service)

(724) 539-5000 (Telephone Number, including area code, of agent for service)

> Copy to: Ronald Basso Buchanan Ingersoll & Rooney PC One Oxford Centre 301 Grant Street, 20th Floor Pittsburgh, Pennsylvania 15219-1410 (412) 562-8800

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 \square

Accelerated filer o

Non-accelerated filer o (Do not check if a smaller reporting company) Smaller reporting company o

CALCULATION OF REGISTRATION FEE

| | | Proposed Maximum | Proposed Maximum | Amount of |
|---|----------------------------|-----------------------------|-----------------------------|---------------------------|
| Title of Securities to be Registered | Amount to be Registered | Offering Price Per Share | Aggregate Offering Price | Registration Fee |
| Capital Stock, par value \$1.25 per share | 3,500,000(1) | \$34.30 ₍₂₎ | \$120,050,000(2) | \$8,559.57 ₍₃₎ |

(1) If, as a result of stock splits, stock dividends or similar transactions, the number of securities purported to be registered by this Registration Statement changes, the provisions of Rule 416 under the Securities Act of 1933, as amended, shall apply to this Registration Statement, and this Registration

Statement shall be deemed to cover the additional securities resulting from the split of, or the dividend on, the securities covered by this Registration Statement.

- (2) Estimated solely for purposes of calculating the registration fee pursuant to Rules 457(c) and 457(h). In accordance with Rule 457(h), such price is the average of the high and low sale prices for the Capital Stock as quoted on the New York Stock Exchange on October 29, 2010.
- (3) Calculated pursuant to Section 6(b) of the Securities Act of 1933, as amended.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing the information specified in Part I of this Registration Statement on Form S-8 (the "Registration Statement") will be sent or given to employees as specified by Rule 428(b)(1). Such documents are not required to be and are not filed with the Securities and Exchange Commission (the "Commission") either as a part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424. These documents and the documents incorporated by reference in this Registration Statement pursuant to Item 3 of Part II of this Form S-8, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act of 1933, as amended (the "Securities Act").

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The registrant, Kennametal Inc. (the "Corporation"), hereby incorporates by reference into this Registration Statement the documents listed in (1) through (3) below. The Corporation also incorporates by reference into this Registration Statement, from the date of filing of such documents, all documents subsequently filed by it pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold:

(1) The Corporation's Annual Report on Form 10-K for the fiscal year ended June 30, 2010;

(2) The Corporation's Current Report on Form 8-K filed on October 28, 2010 (with respect to Item 5.07 only); and

(3) The description of the Capital Stock of the Corporation contained in the Corporation's registration statement filed under Section 12 of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Chapter 17, Subchapter D of the Pennsylvania Business Corporation Law of 1988, as amended (the "PBCL") contains provisions permitting indemnification of certain individuals by a business corporation incorporated in Pennsylvania. Section 1741 of the PBCL provides that unless otherwise restricted in its bylaws, a business corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), by reason of the fact that such person is or was a representative of the corporation, or is or was serving at the request of the corporation as a representative of another domestic or foreign corporation for profit or not-for-profit, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with the action or proceeding if he acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful. The termination of any action or proceeding by judgment, order, settlement or conviction or upon a plea of nolo contendere or its equivalent shall

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not of itself create a presumption that the person did not act in good faith and in a manner that he reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal proceeding, had reasonable cause to believe that his conduct was unlawful.

Section 1742 of the PBCL further provides that unless otherwise restricted in its bylaws, a business corporation may indemnify any person who was or is a party, or is threatened to be made a party, to any threatened, pending or completed action by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person is or was a representative of the corporation or is or was serving at the request of the corporation as a representative of another domestic or foreign corporation for profit or not-for-profit, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of the action if such person acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, the best interests of the corporation unless and only to the extent that the court of common pleas of the judicial district embracing the county in which the registered office of the corporation is located or the court in which the action was brought determines upon application that, despite the adjudication of liability but in view of all the circumstances of the case, the person is fairly and reasonably entitled to indemnity for the expenses that the court of common pleas or other court deems proper.

Section 1743 of the PBCL provides that to the extent that a representative of the corporation has been successful on the merits or otherwise in defense of any action or proceeding contemplated by Sections 1741 and 1742 or in defense of any claim, issue or matter therein, the corporation must indemnify such person against expenses (including attorney fees) actually and reasonably incurred by such person.

Section 1744 of the PBCL provides that any indemnification made under Sections 1741 or 1742 shall be made by the corporation only as authorized in the specific case upon a determination that indemnification of the representative is proper in the circumstances because such person has met the applicable standard of conduct set forth in those sections. Such determination shall be made (i) by the board of directors by a majority vote of a quorum consisting of directors who were not parties to the action or proceeding, (ii) if such quorum is not obtainable or if obtainable and a majority vote of a quorum of disinterested directors so directs, by independent legal counsel in a written option, or (iii) by the shareholders of the corporation.

Section 1745 of the PBCL states that expenses (including attorneys' fees) incurred in defending any action or proceeding referred to in Subchapter D of the PBCL may be paid by a business corporation in advance of the final disposition of the action or proceeding upon receipt of an undertaking by or on behalf of the representative to repay the amount if it is ultimately determined that such person is not entitled to be indemnified by the corporation as authorized by Subchapter D of the PBCL or otherwise. Except as otherwise provided in the corporation's bylaws, advancement of expenses must be authorized by the board of directors of the corporation and Section 1728 (relating to interested directors or officers; quorum) and Section 2538 (relating to approval of transactions with interested shareholders) shall not be applicable to the advancement of expenses under this section.

Section 1746 of the PBCL provides that indemnification and advancement of expenses provided by, or granted pursuant to, the other sections of Subchapter D of the PBCL shall not be deemed exclusive of other rights that a person seeking indemnification or advancement of expenses may have under any bylaw, agreement, vote of shareholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding that office. Section 1728 (relating to interested directors or officers; quorum) shall be applicable to any bylaw, contract or transaction authorized by directors under Section 1746. Section 1746 prohibits indemnification in circumstances where the act or failure to act giving rise to the claim for indemnification is determined by a court to have constituted willful misconduct or recklessness.

Section 1747 of the PBCL permits a corporation, unless otherwise restricted in its bylaws, to purchase and maintain insurance on behalf of any person who is or was a representative of the corporation, or is or was serving at the request of the corporation as a representative of another enterprise, against any liability asserted against such person and incurred by him or her in that capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify the person against that liability under Subchapter D of the PBCL.

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Kennametal's Bylaws provide that it is obligated to indemnify directors, officers and other persons designated by the Board of Directors against all reasonable expenses (including attorneys' fees) and any liability and loss, including judgments, fines, ERISA excise taxes or penalties and amounts paid or to be paid in settlement incurred or paid by such person in connection with any action, suit or proceeding, whether civil, criminal, administrative or investigative and whether or not by or in the right of the Corporation or otherwise. The Bylaws provide that no indemnification shall be made where the act or failure to act giving rise to the claim for indemnification is determined by a court to have constituted willful misconduct or recklessness or where the proceeding has been initiated by the person seeking indemnification and was not pre-authorized by the Board of Directors (except in the case where the person is bringing suit against the Corporation to enforce such person's right to indemnification). The Bylaws provide that to the extent required by law, the payment of expenses incurred by an officer or director in advance of the final disposition of a proceeding may only be made upon receipt of an undertaking by or on behalf of such person to repay all amounts so advanced if it is ultimately determined that such person is not entitled to be indemnified. The Bylaws also state that the right to indemnification, including the right to advancement of expenses, is a contract right which will continue as to a person who has ceased to be a director or officer or trustee, and inure to the benefit of the heirs, executors and administrators of such person.

As permitted by PBCL Section 1713, Kennametal's Bylaws provide that directors generally will not be liable for monetary damages for any action taken or failure to take any action unless the director has breached or failed to perform their duties as fiduciaries (the standard of care established by the PBCL), and such failure constitutes self-dealing, willful misconduct or recklessness; provided, however, that the foregoing provision shall not eliminate or limit the liability of a director (i) for any responsibility or liability of such director pursuant to any criminal statute, or (ii) for any liability of a director for the payment of taxes pursuant to local, State or Federal law.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

The following exhibits are hereby filed as part of this Registration Statement:

| Exhibit No. | Description |
|-------------|---|
| 5.01 | Opinion of Buchanan Ingersoll & Rooney PC. |
| 10.01 | Stock and Incentive Plan of 2010 (incorporated by reference to Appendix A of the Corporation's Definitive Proxy Statement filed on September 13, 2010). |
| 23.01 | Consent of Independent Registered Public Accounting Firm. |
| 23.02 | Consent of Buchanan Ingersoll & Rooney PC (contained in opinion filed as Exhibit 5.01 hereto). |
| | |

24.01 Powers of Attorney (contained herein on the signature page to this Registration Statement on Form S-8).

Item 9. Undertakings.

The Corporation hereby undertakes:

(a) (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) to reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) above shall not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed by or furnished to the Commission by the Corporation pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) That, for purposes of determining any liability under the Securities Act, each filing of the Corporation's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this Registration Statement shall be deemed to be a new Registration Statement relating

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to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Corporation pursuant to the foregoing provisions, or otherwise, the Corporation has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Corporation of expenses incurred or paid by a director, officer or controlling person of the Corporation in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Corporation will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Latrobe, Pennsylvania, on November 4, 2010.

KENNAMETAL INC.

By: /s/ Kevin G. Nowe Kevin G. Nowe Vice President, Secretary and General Counsel

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS that each person whose signature appears below constitutes and appoints Carlos M. Cardoso and Kevin G. Nowe, and each of them, such person's true and lawful attorneys-in-fact and agents, with full power of substitution and revocation, for such person and in such person's name, place and stead, in any and all capacities to sign any and all amendments (including post-effective amendments to this Registration Statement) and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agent or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities indicated on this 4th day of November, 2010.

| Signature | Capacity |
|-------------------------|---|
| /s/ Carlos M. Cardoso | Chairman, President and Chief Executive Officer |
| Carlos M. Cardoso | |
| /s/ Frank P. Simpkins | Vice President and Chief Financial Officer |
| Frank P. Simpkins | |
| /s/ Martha A. Bailey | Vice President Finance and Corporate Controller |
| Martha A. Bailey | |
| /s/ Ronald M. DeFeo | Director |
| Ronald M. DeFeo | |
| /s/ Philip A. Dur | Director |
| Philip A. Dur | |
| /s/ Timothy R. McLevish | Director |
| Timothy R. McLevish | |
| | -7- |
| | |

| Signature | Capacity |
|--|----------|
| /s/ William R. Newlin William R. Newlin | Director |
| /s/ Lawrence W. Stranghoener Lawrence W. Stranghoener | Director |
| /s/ Steven H. Wunning Steven H. Wunning | Director |
| /s/ Larry D. Yost Larry D. Yost | Director |
| | -8- |

| Exhibit No. | Description | | |
|-------------|---|--|--|
| 5.01 | Opinion of Buchanan Ingersoll & Rooney PC. | | |
| 10.01 | Stock and Incentive Plan of 2010 (incorporated by reference to Appendix A of the Corporation's Definitive Proxy Statement filed on September 13, 2010). | | |
| 23.01 | Consent of Independent Registered Public Accounting Firm. | | |
| 23.02 | Consent of Buchanan Ingersoll & Rooney PC (contained in opinion filed as Exhibit 5.01 hereto). | | |
| 24.01 | Powers of Attorney (contained herein on the signature page to this Registration Statement on Form S-8). | | |

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Board of Directors Kennametal Inc. 1600 Technology Way P.O. Box 231 Latrobe, PA 15650

Gentlemen:

We have acted as counsel to Kennametal Inc., a Pennsylvania corporation (the "Corporation"), in connection with the proposed issuance by the Corporation of up to 3,500,000 shares (the "Shares") of the Corporation's capital stock, par value \$1.25 per share, pursuant to the terms of the Kennametal Inc. Stock and Incentive Plan of 2010 (the "Plan").

In connection with such proposed issuance, we have examined the Plan, the Amended and Restated Articles of Incorporation of the Corporation, the By-Laws of the Corporation, as amended, the relevant corporate proceedings of the Corporation, the Registration Statement on Form S-8 covering the issuance of the Shares (the "Registration Statement"), and such other documents, records, certificates of public officials, statutes and decisions as we consider necessary to express the opinions contained herein. In the examination of such documents, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity to those original documents of all documents submitted to us as certified or photostatic copies.

Based on the foregoing, we are of the opinion that when the Registration Statement shall have been declared effective by order of the Securities and Exchange Commission and when the Shares have been duly issued and delivered pursuant to the terms of the Plan, the Shares will be validly issued, fully paid and non-assessable.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission. It is understood that this opinion is to be used only in connection with the sale of the Shares while the Registration Statement is in effect.

BUCHANAN INGERSOLL & ROONEY PC

By: /s/ Ronald Basso Ronald Basso

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated August 12, 2010 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in Kennametal Inc.'s Annual Report on Form 10-K for the year ended June 30, 2010.

/s/ PricewaterhouseCoopers LLP Pittsburgh, Pennsylvania November 4, 2010