As filed with the Securities and Exchange Commission on August 5, 2004 Registration No. 333-_____

SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

ESCO TECHNOLOGIES INC. (Exact name of registrant as specified in its charter)

MISSOURI (State of incorporation)

43-1554045 (I.R.S. Employer Identification No.)

8888 Ladue Road, Suite 200 St. Louis, MO 63124 (Address of registrant's principal executive offices)

ESCO TECHNOLOGIES INC. 2004 INCENTIVE COMPENSATION PLAN (Full title of the Plan)

Alyson S. Barclay, Esq.
Vice President, Secretary and General Counsel
ESCO Technologies Inc.
8888 Ladue Road, Suite 200
St. Louis, MO 63124
(314) 213-7200
(Name, address, and telephone number, including area code, of agent for service)

CALCULATION OF REGISTRATION FEE

Title of Securities to be registered	Amount to be registered	Proposed maximum offering price per share(1)	Proposed Maximum Aggregate offering price(1)	Amount of registration fee(1)
Common Stock and Preferred Stock Purchase Rights(2)	1,000,000	\$52.275	\$52,275,000	\$6,623.24

- (1) Computed pursuant to Rule 457(h) and (c) solely for the purpose of determining the registration fee. Proposed maximum offering price represents the average of the high and low market prices of the registrant's Common Stock, par value \$.01 per share ("Common Stock"), on August 2, 2004, as reported on the New York Stock Exchange.
- (2) Preferred Stock Purchase Rights are attached to and trade with the Common Stock. Value attributable to such Preferred Stock Purchase Rights, if any, is reflected in the market price of the Common Stock.

PART I INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Item 1. Plan Information.

Information required by Part I of Form S-8 to be contained in the Section 10(a) prospectus is omitted from this registration statement in accordance with Rule 428 under the Securities Act of 1933, as amended (Securities Act), and the Note to Part I of Form S-8.

Item 2. Registrant Information and Employee Plan Annual Information.

Information required by Part I of Form S-8 to be contained in the Section

10(a) prospectus is omitted from this registration statement in accordance with Rule 428 under the Securities Act and the Note to Part I of Form S-8.

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by ESCO Technologies Inc. (the "Company") with the Securities and Exchange Commission (File No. 1-10596) are incorporated by reference into this registration statement:

- (1) The Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2003, filed pursuant to Section 13(a) of the Securities Exchange Act of 1934 (the "1934 Act").
- (2) The Company's Quarterly Reports on Form 10-Q for the fiscal quarters ended December 31, 2003 and March 31, 2004, filed pursuant to Section 13(a) of the 1934 Act.
- (3) The Company's Current Reports on Form 8-K dated November 20, 2003, February 5, 2004, April 5, 2004 and May 11, 2004, filed pursuant to Section 13 of the 1934 Act.
- (4) The description of the Company's Common Stock and Preferred Stock Purchase Rights contained in the Company's Registration Statement on Form 10 filed under the 1934 Act, as amended under cover of Form 8 filed on September 27, 1990, as further amended under cover of Form 10/A on March 3, 2000.

All documents subsequently filed by the Company pursuant to Section 13(a), 13(c), 14 and 15(d) of the 1934 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, shall be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated herein by reference shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement.

Item 4. Description of Securities.

Not Applicable

Item 5. Interests of Named Experts and Counsel.

None.

Item 6. Indemnification of Directors and Officers.

The Company is a Missouri corporation. Section 351.355(1) of the Revised Statutes of Missouri provides that a corporation may indemnify an officer, director, employee or agent of the corporation in any action, suit or proceeding (other than an action by or in the right of the corporation) against expenses (including attorneys' fees), judgments, fines and settlement amounts actually and reasonably incurred by him in connection with such action, suit or proceeding if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action, had no reasonable cause to believe his conduct was unlawful. Section 351.355(2) provides that the corporation may indemnify any such person in any action or suit by or in the right of the corporation against expenses (including attorneys' fees) and settlement amounts actually and reasonably incurred by him in connection with the defense or settlement of the action or suit if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, except that no such person may be indemnified in respect of any matter in which he has been adjudged liable for negligence or misconduct in the performance of his duty to the corporation, unless authorized by the court. Section 351.355(3) provides that, except as otherwise provided in the articles of incorporation or the bylaws, the corporation shall indemnify any such person against expenses attorneys' fees) actually and reasonably incurred by him in (including connection with the action, suit or proceeding if he has been successful in defense of such action, suit or proceeding and if such action, suit or proceeding is one for which the corporation may indemnify him under Section 351.355(1) or (2). Section 351.355(7) provides that the corporation shall have the power to give any further indemnity to any such person, in addition to the

indemnity otherwise authorized under Section 351.355, provided such further indemnity is authorized, directed or provided for in (i) the articles of incorporation of the corporation, (ii) any duly adopted amendment thereof or (iii) any bylaw or agreement of the corporation which has been adopted by the shareholders of the corporation, and provided further that no such indemnity may indemnify any person from or on account of such person's conduct which was finally adjudged to have been knowingly fraudulent, deliberately dishonest or willful misconduct.

The Company's Articles of Incorporation (the "Articles") contain provisions indemnifying the Company's directors and officers (other than a director or officer suing on his own behalf or in the right of the Company) to the full extent permitted by law. The Articles provide that the Company will indemnify its directors and officers against all expenses (including attorneys' fees), judgments, fines and settlement amounts actually and reasonably incurred by them in any action, suit or proceeding, including any action by or on behalf of the Company, on account of their services as a director or officer of the Company, or their services as a director, officer, employee, member or agent of another corporation, partnership, joint venture, trust, trade or industry association or other enterprise when they are serving in such capacities at the request of the Company, excepting only cases where the conduct of such person is finally adjudged to be knowingly fraudulent, deliberately dishonest or willful misconduct. The Articles further provide that the Company shall pay or advance defense expenses to any director or officer of the Company upon receipt of an undertaking from such director or officer to repay those expenses if it is ultimately determined that he is not entitled to be indemnified. The Articles further provide that the Company may indemnify employees and agents of the Company to the same extent as provided in the previous sentence or to such lesser extent as the Company in its discretion may deem appropriate.

The Articles also authorize the Company to enter into indemnification agreements with any director, officer, employee or agent of the Company providing for indemnification rights to the maximum extent permitted by law. The Company has entered into an indemnification agreement with each member of its board of directors. Each indemnification agreement was approved by all members of the Board of Directors at meetings of the Board of Directors. In each agreement, the Company agreed to indemnify the director and hold him harmless to the full extent authorized or permitted by the General and Business Corporation Law of Missouri, or by any amendment thereof, or by any other statutory provision authorizing or permitting such indemnification which may be adopted, and specifically against any and all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the director in connection with certain threatened, pending or completed actions, suits or proceedings, to which the director is, was or becomes a party. Indemnification will not be provided under certain circumstances set forth in the indemnification agreements.

The directors and officers of the Company are covered by an insurance policy which indemnifies them against certain civil liabilities including, under certain circumstances, liabilities under the federal securities laws which might be incurred by them in such capacity.

Item 7. Exemption from Registration Claimed. Not applicable.

Rights Agreement, dated as of

Item 8. Exhibits.

4e.

Exhibit Number 4a.	Description	Filed Herewith or Incorporated by Reference Incorporated by reference to Form 10-K for fiscal year ended September 30, 1999, at Exhibit 3(a)
4b.	Amended Certificate of Designation, Preferences and Rights of Series A Participating Cumulative Preferred Stock of the Company	Incorporated by reference to Form 10-Q for the fiscal quarter ended March 31, 2000 at Exhibit 4(e)
4c.	Specimen Common Stock Certificate	Incorporated by reference to Form 10-Q for the fiscal quarter ended June 30, 2000 at Exhibit 4(a)
4d.	Specimen Rights Certificate	Incorporated by reference to Exhibit B to Exhibit 4.1 to Current Report on Form 8-K dated February 3, 2000

Incorporated by reference to

September 24, 1990 (amended and restated as of February 3, 2000) between the Company and Registrar and Transfer Company, as successor Rights Agent

Current Report on Form 8-K, dated February 3, 2000, at Exhibit 4.1

4f. Amended and Restated Credit
Agreement dated as of February
28, 2001 among the Company,
Bank of America, N.A.,
as agent and the lenders listed
therein

Incorporated by reference to Form 10-Q for the fiscal quarter ended March 31, 2001 at Exhibit 4(d)

4g. Amendment No. 1 dated as of April 5, 2002 to Credit Agreement listed as Exhibit 4(f) above

Incorporated by reference to Form 10-Q for the fiscal quarter ended June 30, 2002, at Exhibit 4(e)

4h. Amendment No. 2 and Consent dated as of September 5, 2003 to Credit Agreement listed as Exhibit 4(f) above

Incorporated by reference to Form 10-K for the fiscal year ended September 30, 2003, at Exhibit 4.6

4i. 2004 Incentive Compensation Plan

Incorporated by reference to Notice of Annual Meeting of Stockholders and Proxy Statement dated December 29, 2003, at Appendix B

- Opinion of Counsel
- 23a. Consent of Counsel (included in Exhibit 5)
- 23b. Consent of KPMG LLP
- 24. Power of Attorney (included on Page II-6)

Item 9. Undertakings.

- (a) The undersigned registrant hereby undertakes:
 - (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 of 1933;
 - (ii)To reflect in the prospectus any facts or events arising after the effective date of the 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 the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the Registration effective registration statement.
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;
 - (2) That, for the purpose of determining any liability under the Securities Act of 1933, 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) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement 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.
- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions or otherwise the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant 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 registrant 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 Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, 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 the County of St. Louis, State of Missouri, on August 4, 2004.

ESCO TECHNOLOGIES INC.

By: /s/G.E. Muenster
G.E. Muenster, Vice President
and Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS that each individual whose signature appears below constitutes and appoints G.E. Muenster, A.S. Barclay and T.B. Martin, and each of them, his true and lawful attorneys-in-fact and agents with full power of substitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement and any other documents and instruments incidental thereto, and to file the same, with all exhibits thereto, and all 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 in and about the premises, as fully to all intents and purposes as he might or could do in person, thereby ratifying and confirming all that said attorneys-in-fact and agents and/or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
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/s/V.L. Richey, Jr. V.L. Richey, Jr.	Chairman, Chief Executive Officer and Director	August 4, 2004
/s/C.J. Kretschmer C.J. Kretschmer	President, Chief Operating Officer and Director	August 4, 2004
/s/G.E. Muenster G.E. Muenster	Vice President and Chief Financial Officer (Principal Accounting Officer)	August 4, 2004
/s/W.S. Antle III W.S. Antle III	Director	August 4, 2004
/s/J.M. McConnell J.M. McConnell	Director	August 4, 2004
/s/L.W. Solley L.W. Solley	Director	August 4, 2004
J.M. Stolze	Director	August 4, 2004
/s/D.C. Trauscht D.C. Trauscht	Director	August 4, 2004
/s/J.D. Woods J.D. Woods	Director	August 4, 2004

INDEX TO EXHIBITS

Exhibits are listed by number corresponding to the Exhibit Table of Item 601 in Regulation S-K.

EXHIBIT NO. EXHIBIT

5. Opinion of Counsel

23a. Consent of Counsel (included in Exhibit 5)

23b. Consent of KPMG LLP

24. Power of Attorney (included on Page II-6)

See Item 8 for a list of exhibits incorporated by reference.

August 4, 2004

ESCO Technologies Inc. 8888 Ladue Road, Suite 200 St. Louis, MO 63124

Ladies and Gentlemen:

I am Assistant Secretary and Associate General Counsel of ESCO Technologies Inc., a Missouri corporation (the "Company"), and in such capacity I am familiar with the Registration Statement on Form S-8 (the "Registration Statement") relating to the Company's 2004 Incentive Compensation Plan (the "Plan") to which this letter is filed as an exhibit. The Registration Statement registers 1,000,000 shares of the Company's common stock, par value \$0.01 per share (the "Common Stock"), offered pursuant to stock options, stock appreciation rights, performance share awards, restricted stock awards and other stock-based awards, granted and which may be granted under the Plan, including the Preferred Stock Purchase Rights associated with such Common Stock (the Common Stock and its associated Preferred Stock Purchase Rights, the "Securities").

I have examined originals or copies, certified or otherwise identified to my satisfaction, of such documents, corporate records, certificates of public officials and other instruments as I deemed necessary for the purpose of the opinion expressed herein.

On the basis of the foregoing, I am of the opinion that the Securities, when sold in accordance with the provisions of the Plan, will be legally issued, fully paid and non-assessable.

I consent to the filing of this letter as an exhibit to the $\ensuremath{\mathsf{Registration}}$ Statement.

Very truly yours,

/s/ Thomas B. Martin Thomas B. Martin

Enclosures

Consent of Independent Registered Public Accounting Firm

The Board of Directors ESCO Technologies Inc.:

We consent to the use of our reports dated November 17, 2003, with respect to the consolidated balance sheets of ESCO Technologies Inc. as of September 30, 2003 and 2002, and the related consolidated statements of operations, shareholders' equity, and cash flows for each of the years in the three-year period ended September 30, 2003, and related financial statement schedule, incorporated herein by reference in this registration statement on Form S-8 of ESCO Technologies Inc.

Our reports refer to a change in accounting for goodwill and other intangible assets for the year ended September 30, 2002 and a change in accounting for the consolidation of variable interest entities on July 1, 2003.

St. Louis, Missouri August 5, 2004