

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

Post-Effective Amendment No. 2
to
Form S-1
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

EMCORE Corporation

New Jersey

(State or other jurisdiction of
incorporation or organization)

3674

(Primary Standard Industrial
Classification Code Number)

22-2746503

(I.R.S. Employer
Identification Number)

EMCORE Corporation
10420 Research Road, SE
Albuquerque, New Mexico 87123
(505-332-5000)

Agent For Service
KEITH J. KOSCO, ESQ.
EMCORE Corporation
10420 Research Road, SE
Albuquerque, New Mexico 87123
(505-332-5000)

With Copies To:
TOBIAS L. KNAPP, ESQ.
Jenner & Block LLP
919 Third Avenue
37th Floor
New York, New York 10022
(212-891-1600)

Approximate date of commencement of proposed sale to the public: Not applicable.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box: ☐

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box: ☐

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

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

Large accelerated filer ☐ **x Accelerated filer** ☐ Non-accelerated filer ☐ Smaller reporting company

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. ☐

This Post-Effective Amendment No. 2 to Registration Statement on Form S-1 (Reg. No. 333-149860) shall hereafter become effective in accordance with the provisions of Section 8(c) of the Securities Act of 1933, as amended.

DEREGISTRATION OF SECURITIES

EMCORE Corporation (the “Registrant”) filed with the Securities and Exchange Commission on March 21, 2008, a Registration Statement on Form S-1 (Reg. No. 33-~~149860~~) (the “Registration Statement”), which originally registered 9,400,003 shares of common stock, no par value, of the Registrant for resale by the selling stockholders named therein. The Registrant’s contractual obligation to maintain the effectiveness of the Registration Statement has terminated. Pursuant to the undertaking contained in the Registration Statement, the Registrant is filing this Post-Effective Amendment No. 2 to Form S-1 to deregister such number of shares originally registered by the Registration Statement as remain unsold as of the termination of the offering.

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 this Post-Effective Amendment No. 2 to Form S-1 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Albuquerque, State of New Mexico, on the 21st day of April, 2009.

EMCORE CORPORATION

Date: April 21, 2009

By: /s/ Reuben F. Richards, Jr.
Reuben F. Richards, Jr.
Executive Chairman & Chairman of the Board
(Principal Executive Officer)

Date: April 21, 2009

By: /s/ Hong Q. Hou
Hong Q. Hou, Ph.D.
Chief Executive Officer
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1933, this Registration Statement has been signed by the following persons on behalf of the registrant in the capacities indicated, on April 21, 2009.

Signature	Title
<u>/s/ Reuben F. Richards, Jr.</u>	
Reuben F. Richards, Jr.	Executive Chairman and Chairman of the Board (Principal Executive Officer)
<u>/s/ Hong Q. Hou</u>	
Hong Q. Hou, Ph.D.	President, Chief Executive Officer, and Director (Principal Executive Officer)
<u>/s/ John M. Markovich</u>	
John M. Markovich	Chief Financial Officer (Principal Financial and Accounting Officer)
*	
Thomas J. Russell, Ph.D.	Director
*	
Charles T. Scott	Director
*	
John Gillen	Director
*	
Robert Bogomolny	Director
* By: Reuben F. Richards Attorney in Fact	