

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

FORM 12b-25

NOTIFICATION OF LATE FILING

SEC FILE NUMBER: 0-22175

CUSIP NUMBER: 290846104

(Check One) Form 10-K Form 20-F Form 11-K Form 10-Q Form 10-D Form N-SAR Form N-CSR

For Period Ended: September 30, 2010

- Transition Report on Form 10-K
 Transition Report on Form 20-F
 Transition Report on Form 11-K
 Transition Report on Form 10-Q
 Transition Report on Form N-SAR

For the Transition Period Ended: _____

If the notification relates to a portion of the filing checked above, identify the Item(s) to which the notification relates: Not applicable

PART I - REGISTRANT INFORMATION

Full Name of Registrant: **EMCORE Corporation**
Former Name if Applicable: **Not applicable**
Address of Principal Executive Office (Street and Number): **10420 Research Road, SE**
City, State, and Zip Code: **Albuquerque, NM 87123**

PART II - RULES 12b-25(b) AND (c)

If the subject report could not be filed without unreasonable effort or expense and the registrant seeks relief pursuant to Rule 12b-25(b), the following should be completed. (Check box if appropriate)

- (a) The reasons described in reasonable detail in Part III of this form could not be eliminated without unreasonable effort or expense;
- (b) The subject annual report, semi-annual report, transition report on Form 10-K, Form 20-F, Form 11-K, Form N-SAR or Form N-CSR, or portion thereof, will be filed on or before the fifteenth calendar day following the prescribed due date; or the subject quarterly report of transition report on Form 10-Q, or subject distribution report on Form 10-D, or portion thereof, will be filed on or before the fifth calendar day following the prescribed due date; and
- (c) The accountant's statement or other exhibit required by Rule 12b-25(c) has been attached if applicable.

PART III - NARRATIVE

State below in reasonable detail the reasons why Forms 10-K, 20-F, 11-K, 10-Q, 10-D, N-SAR, N-CSR, or the transition report or portion thereof, could not be filed within the prescribed time period.

As a result of the time necessary to complete the compilation and audit of the Company's financial statements, the Company was unable to complete the filing of its Form 10-K for the fiscal year ended September 30, 2010 by the due date of December 14, 2010, without unreasonable effort or expense. The Company believes that it will be able to file its Form 10-K for the fiscal year ended September 30, 2010 on or before the fifteenth calendar day following the prescribed due date provided under Rule 12b-25(b).

PART IV - OTHER INFORMATION

- (1) Name and telephone number of person to contact in regard to this notification:

Mr. Mark Weinswig
(Name)

(505) 332-5000
(Telephone Number)

- (2) Have all other periodic reports required under Section 13 or 15(d) of the Securities Exchange Act of 1934 or Section 30 of the Investment Company Act of 1940 during the preceding 12 months or for such shorter period that the registrant was required to file such report(s) been filed? If answer is no, identify report(s). Yes No

(3) Is it anticipated that any significant change in results of operations from the corresponding period for the last fiscal year will be reflected by the earnings statements to be included in the subject report or portion thereof? Yes No

If so, attach an explanation of the anticipated change, both narratively and quantitatively, and, if appropriate, state the reasons why a reasonable estimate of the results cannot be made.

During the fiscal year ended September 30, 2010, the Company expects to report improvement in its results of operations when compared to the prior year. The amount of such improvement is still being determined because the compilation and audit of the Company's financial statements is not completed. In the prior year, the Company recorded expense in its results of operations due primarily to adverse changes in the macroeconomic environment. In particular, in fiscal 2009 the Company recorded impairment of goodwill and other long-lived assets of \$60.8 million, excess and obsolete inventory reserves of \$16.1 million, losses on firm purchase agreements of \$8.5 million, and provisions for bad debt of \$5.1 million.

This notification of late filing on Form 12b-25 contains forward-looking statements regarding the Company's expectations concerning the filing of its Annual Report on Form 10-K for the fiscal year ended September 30, 2010. These forward-looking statements are based on the Company's current expectations and are subject to risks and uncertainties that could cause actual results to differ materially from those expressed in the forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof, and the Company undertakes no obligation to update these forward-looking statements to reflect subsequent events or circumstances.

EMCORE Corporation

(Name of Registrant as Specified in Charter)

has caused this notification to be signed on its behalf by the undersigned hereunto duly authorized.

Date: **December 14, 2010**

By: **/s/ Mark Weinswig**

Name: Mark Weinswig

Title: Chief Financial Officer

ATTENTION

Intentional misstatements or omissions of fact constitute Federal Criminal Violations (See 18 U.S.C. 1001).