
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 8-K

CURRENT REPORT

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

Date of report (Date of earliest event reported): February 7, 2011

Mercury Computer Systems, Inc.

(Exact Name of Registrant as Specified in Charter)

Massachusetts
(State or Other Jurisdiction
of Incorporation)

000-23599
(Commission
File Number)

04-2741391
(IRS Employer
Identification No.)

201 Riverneck Road, Chelmsford, Massachusetts 01824
(Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code: (978) 256-1300

Not Applicable

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 7.01 Regulation FD Disclosure.

On February 7, 2011, Mercury Computer Systems, Inc. (the “Company”) issued a press release announcing that it intends to offer shares of the Company’s common stock in an underwritten public offering. The press release is furnished as Exhibit 99.1 hereto.

The information provided in Item 7.01 of this Current Report on Form 8-K and in the attached Exhibit 99.1 shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934 (the “Exchange Act”) or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release, dated February 7, 2011, of Mercury Computer Systems, Inc.

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.

Dated: February 7, 2011

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Robert E. Hult

Robert E. Hult
Senior Vice President, Chief Financial
Officer, and Treasurer

Exhibit Index

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release, dated February 7, 2011, of Mercury Computer Systems, Inc.



News Release

FOR IMMEDIATE RELEASE

Mercury Computer Systems Announces Proposed Offering of 4,000,000 Common Shares

CHELMSFORD, Mass. – February 7, 2011 – Mercury Computer Systems, Inc. (NASDAQ: MRCY) announced today that it intends to offer 4,000,000 shares of its common stock in an underwritten public offering. Jefferies & Company, Inc. and Lazard Capital Markets LLC are acting as joint book-running managers for the offering. Gleacher & Company Securities, Inc., Merriman Capital, Inc. and Morgan Keegan & Company, Inc. are acting as co-managers for the offering.

The Company expects to grant the underwriters an option to purchase up to an additional 15% of the shares of common stock offered to cover overallocments of shares, if any. The offering is subject to market conditions and there can be no assurance as to whether or when the offering may be completed, or as to the actual size or terms of the offering.

The Company intends to use the net proceeds of the offering for general corporate purposes, which may include the acquisition of other companies or businesses, working capital and capital expenditures.

The securities described above are being offered by the Company pursuant to a shelf registration statement previously filed with and declared effective by the U.S. Securities and Exchange Commission ("SEC"). A preliminary prospectus supplement relating to the offering has been filed with the SEC and is available on the SEC's website located at www.sec.gov. Copies of the preliminary prospectus supplement and the accompanying prospectus relating to this offering may be obtained from the Equity Syndicate Prospectus Department, Jefferies & Company, 520 Madison Avenue, 12th Floor, New York, NY 10022, at 877-547-6340, and at Prospectus_Department@Jefferies.com or Lazard Capital Markets LLC at 30 Rockefeller Plaza, 60th Floor, New York, NY 10020, via telephone at (800) 542-0970.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such jurisdiction.

201 Riverneck Road, Chelmsford, Massachusetts 01824-2820 U.S.A. 978-256-1300 • Fax 978-256-3599 • www.mc.com

Mercury Computer Systems, Inc. – Where Challenges Drive Innovation®

Mercury Computer Systems (www.mc.com, NASDAQ: MRCY) is a best of breed provider of open, application-ready, multi-INT subsystems for the ISR market. With 25+ years' experience in embedded computing, superior domain expertise in radar, EW, EO/IR, C4I, and sonar applications, and more than 300 successful program deployments including Aegis, Global Hawk, and Predator, Mercury's Services and Systems Integration team leads the industry in partnering with customers to design and integrate system-level solutions that minimize program risk, maximize application portability, and accelerate customers' time to market.

Mercury is based in Chelmsford, Massachusetts, and serves customers worldwide through a broad network of direct sales offices, subsidiaries, and distributors.

Forward-Looking Safe Harbor Statement

This press release contains certain forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995, including those relating to the proposed offering of shares of common stock described herein. You can identify these statements by the use of the words "may," "will," "should," "plans," "expects," "anticipates," "continue," "estimate," "project," "intend," "likely," "probable," and similar expressions. These forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. Such risks and uncertainties include, but are not limited to, changes in equity capital markets, general economic and business conditions, including unforeseen weakness in the Company's markets, effects of continued geopolitical unrest and regional conflicts, competition, changes in technology and methods of marketing, delays in completing engineering and manufacturing programs, changes in customer order patterns, changes in product mix, continued success in technological advances and delivering technological innovations, continued funding of defense programs, the timing of such funding, changes in the U.S. Government's interpretation of federal procurement rules and regulations, market acceptance of the Company's products, shortages in components, production delays due to performance quality issues with outsourced components, inability to fully realize the expected benefits from acquisitions and divestitures or delays in realizing such benefits, challenges in integrating acquired businesses and achieving anticipated synergies, changes to export regulations, increases in tax rates, changes to generally accepted accounting principles, difficulties in retaining key employees and customers, unanticipated costs under fixed-price service and system integration engagements, and various other factors beyond our control. These risks and uncertainties also include such additional risk factors as are discussed in the Company's filings with the U.S. Securities and Exchange Commission, including its Annual Report on Form 10-K for the fiscal year ended June 30, 2010. The Company cautions readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. The Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made.

Contact:

Robert Hult, CFO
Mercury Computer Systems, Inc.
978-967-1990

Challenges Drive Innovation is a registered trademark of Mercury Computer Systems, Inc. Other product and company names mentioned may be trademarks and/or registered trademarks of their respective holders.

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