Registration No. 333-217735

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

POST-EFFECTIVE AMENDMENT NO. 4 TO

FORM S-8

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

MERCURY SYSTEMS, INC.

(Exact Name of Registrant as Specified in its Charter)

Massachusetts (State of Incorporation) 04-2741391

50 Minuteman Road Andover, Massachusetts 01810 (978) 256-1300

(Address of Principal Executive Offices)

MERCURY SYSTEMS, INC. Amended and Restated 2005 Stock Incentive Plan (Full Title of the Plan)

Christopher C. Cambria Executive Vice President, General Counsel, and Secretary Mercury Systems, Inc. 50 Minuteman Road Andover, Massachusetts 01810 (978) 256-1300

(Name, Address and Telephone Number, Including Area Code, of Agent for Service)

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

Large accelerated filer [X]

Non-accelerated filer

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

(I.R.S. Employer Identification Number)

Accelerated filer

Smaller reporting company

EXPLANATORY NOTE

Mercury Systems, Inc. (the "Company") is filing this post-effective amendment to deregister certain of the securities originally registered pursuant to the registration statement on Form S-8 (File No. 333-217735), filed with the Securities and Exchange Commission on May 5, 2017 (the "Registration Statement") with respect to shares of the Company's common stock, par value \$0.01 per share ("Common Stock"), thereby registered for issuance under the Company's Amended and Restated 2005 Stock Incentive Plan (the "2005 Plan"). An aggregate of 1,100,000 shares of Common Stock were registered for issuance under the 2005 Plan pursuant to the Registration Statement.

On October 24, 2018, the Company's shareholders approved the Company's 2018 Stock Incentive Plan (the "2018 Plan"), which replaced the 2005 Plan. Following the approval of the 2018 Plan, no future awards were made under the 2005 Plan. The maximum number of shares of Common Stock reserved and available for issuance under the 2018 Plan includes the shares underlying any grants previously made under the 2005 Plan that are forfeited, canceled, or terminated (other than by exercise) from and after the effective date of the 2018 Plan. The total number of shares available for grant under the 2005 Plan as of the effective date of the 2018 Plan was 710,687 shares, and such number of shares were deregistered pursuant to Post-Effective Amendment No. 1 to the Registration Statement filed on November 30, 2018. Additional shares (the "Additional Carried Forward Shares") have been included in the shares reserved for issuance under the 2018 Plan as a result of the forfeiture, cancellation, or termination (other than by exercise) of previously-made grants under the 2005 Plan. The Additional Carried Forward Shares registered under the Registration Statement, which were deregistered pursuant to Post-Effective Amendment No. 3 to the Registration Statement filed on November 12, 2020, and an additional 28,775 shares registered under the Registration Statement, which are being deregistered hereby.

Contemporaneously with the filing of this Post-Effective Amendment No. 4 to the Registration Statement, the Company is filing a registration statement on Form S-8 to register an additional 28,775 shares of Common Stock for issuance pursuant to the 2018 Plan which are hereby deregistered from the 2005 Plan.

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 Post-Effective Amendment No. 4 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Town of Andover, the Commonwealth of Massachusetts on this 9th day of November, 2021.

MERCURY SYSTEMS, INC.

By: <u>/s/ Michael D. Ruppert</u> Michael D. Ruppert Executive Vice President, Chief Financial Officer, and Treasurer

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS that each person whose signature appears below constitutes and appoints Mark Aslett, Christopher C. Cambria, and Michael D. Ruppert as his or her true and lawful attorneys-in-fact and agents, each acting alone, with full powers of substitution and resubstitution, for him or her or in his or her name, place and stead, in any and all capacities to sign any and all amendments or post-effective amendments to this registration statement (or any registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), 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, each acting alone, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, each acting alone, or his or her 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
<u>/s/ Mark Aslett</u> Mark Aslett	President, Chief Executive Officer, and Director (Principal Executive Officer)	November 9, 2021
<u>/s/ Michael D. Ruppert</u> Michael D. Ruppert	Executive Vice President, Chief Financial Officer, and Treasurer (Principal Financial Officer)	November 9, 2021
<u>/s/ Michelle M. McCarthy</u> Michelle M. McCarthy	Vice President, Chief Accounting Officer (Principal Accounting Officer)	November 9, 2021
<u>/s/ William K. O'Brien</u> William K. O'Brien	Chairman of the Board of Directors	November 9, 2021
<u>/s/ James K. Bass</u> James K. Bass	Director	November 9, 2021
<u>/s/ Orlando P. Carvalho</u> Orlando P. Carvalho	Director	November 9, 2021
<u>/s/ Michael A. Daniels</u> Michael A. Daniels	Director	November 9, 2021
<u>/s/ Lisa S. Disbrow</u> Lisa S. Disbrow	Director	November 9, 2021
<u>/s/ Mary Louise Krakauer</u> Mary Louise Krakauer	Director	November 9, 2021
<u>/s/ Barry R. Nearhos</u> Barry R. Nearhos	Director	November 9, 2021
<u>/s/ Debora A. Plunkett</u> Debora A. Plunkett	Director	November 9, 2021