FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| 1. Name and Address of Reporting Person [®] SMITH-PILKINGTON KAREN A | | | | | MC | 2. Issuer Name and Ticker or Trading Symbol MONOLITHIC POWER SYSTEMS INC [MPWR] | | | | | | | | elationship ck all appl Direct | licable) or | | erson(s) to Issuer 10% Owner | |
|---|----|-----------------|--|-----------------------------------|--|--|--|--|--------|--|---|-------|---|---|---|--|--|---|
| (Last) (First) (Middle) 79 GREAT OAKS BLVD | | | | | 3. Date of Earliest Transaction (Month/Day/Year) 10/25/2013 | | | | | | | | Officer (give title below) | | | Other (specify below) | | |
| (Street) | | | | _ 4. If | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | | 6. Individual or Joint/Group Filing (Check Applicable Line) | | | | | |
| SAN JOSE CA 95119 | | |) | _ | | | | | | | | X | Form | Form filed by One Reporting Person Form filed by More than One Reporting | | | | |
| (City) | (S | tate) (| (Zip) | | | | | | | | | | | Perso | 'n | | | |
| | | Tab | le I - | Non-Deri | vative | Secur | ities Ac | quired | , Dis | sposed o | of, or E | enefi | ciall | y Owne | d | | | |
| Date | | | | 2. Transact Date (Month/Day | | 2A. Deemed Execution Date, ') if any (Month/Day/Year) | | Transaction Dispose Code (Instr. 5) | | Disposed | ities Acquired (A) o d Of (D) (Instr. 3, 4 | | | Securi Benefi Owned | cially | Form: (D) or Indire | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
| | | | | | | | | Code | v | Amount | (A) or (D) Prio | | ce | Report Transa | Following Reported Transaction(s) (Instr. 3 and 4) | | 4) | (Instr. 4) |
| Common Stock | | | | 10/25/2013 | | | | M ⁽¹⁾ | | 25,000 |) A | \$1 | 9.29(| (2) 39,789 | | | D | |
| Common Stock 10/25/2 | | | | 013 | 13 | | S ⁽¹⁾ | | 25,000 |) D | \$ | 31.75 | 14 | 14,789 | | D | | |
| | | Т | able | II - Deriva (e.g., p | | | | | | osed of converti | | | | Owned | | | | |
| Derivative Conversion Date Ex Security or Exercise (Month/Day/Year) if a | | Execu if any | Veemed 4. ution Date, Transa / Code (th/Day/Year) 8) | | instr. D Instr. D A (A D of (In | Number erivative ecurities cquired) or isposed f (D) nstr. 3, 4 nd 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) Amoun or | | 3 | 8. Price of Derivative Security (Instr. 5) Owned Following Reported Transacti (Instr. 4) | | 0 F(D (1) (1) (1) | wnership orm: irect (D) r Indirect) (Instr. | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | |

(right to buy)

\$20.2⁽²⁾

Non-Qualified Stock

Option

Explanation of Responses:

1. In accordance with the reporting person's 10b5-1 trading plan.

10/25/2013

2. On December 11, 2012, the Company's Board declared a special cash dividend of \$1.00 per common share, which was paid on December 28, 2012 to all shareholders of record as of the close of business on December 21, 2012. The Board approved a modification whereby each outstanding option as of December 28, 2012 was increased by a ratio of 1.0471 with a corresponding reduction in the exercise price.

Date

Exercisable

02/02/2011

(D)

25,000

V (A)

Code

M⁽¹⁾

Expiration

02/09/2017

Date

Title

Comm

Stock

| By: Saria Tseng For: Karen | 10/29 |
|----------------------------|-------|
| Bogart | 10/2 |

Number

Shares

25.000

\$<mark>0.0</mark>

of

10/29/2013

0

D

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.