

SMITH- PILKINGTON KAREN A
 Form 4
 August 29, 2012

FORM 4

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

OMB APPROVAL

OMB Number: 3235-0287
 Expires: January 31, 2015
 Estimated average burden hours per response... 0.5

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 OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 SMITH- PILKINGTON KAREN A

2. Issuer Name and Ticker or Trading Symbol
 MONOLITHIC POWER SYSTEMS INC [MPWR]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)
 79 GREAT OAKS BLVD
 (Street)

3. Date of Earliest Transaction (Month/Day/Year)
 08/27/2012

Director 10% Owner
 Officer (give title below) Other (specify below)

SAN JOSE, CA 95119

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|---|
| | | | Code | V | Amount | (A) or (D) | Price |
| Common Stock | 08/27/2012 | | M ⁽¹⁾ | | 25,000 | A | \$ 12.86 |
| Common Stock | 08/27/2012 | | S ⁽¹⁾ | | 25,000 | D | \$ 23 |
| | | | | | 10,535 | D | |

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

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SEC 1474 (9-02)

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Security (Instr. 3 and 4) | | |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--------------|----------------------------|
| | | | | Code | V (A) (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares |
| Non-Qualified Stock Option (right to buy) | \$ 12.86 | 08/27/2012 | | M ⁽¹⁾ | 25,000 | 02/18/2010 | 02/18/2016 | Common Stock | 25,000 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|---|---------------|-----------|---------|-------|
| | Director | 10% Owner | Officer | Other |
| SMITH- PILKINGTON KAREN A 79 GREAT OAKS BLVD SAN JOSE, CA 95119 | | X | | |

Signatures

By: Saria Tseng For: Karen Smith Bogart
Date: 08/29/2012

**Signature of Reporting Person

Date

Explanation of Responses:

* 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).

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

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

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