

Neely Rick
Form 4
April 15, 2010

FORM 4

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

OMB APPROVAL

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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 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 *
Neely Rick

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)
6409 GUADALUPE MINES ROAD
(Street)

3. Date of Earliest Transaction (Month/Day/Year)
04/14/2010

____ Director _____ 10% Owner
 Officer (give title below) _____ Other (specify below)
Sr. VP and CFO

SAN JOSE, CA 95120

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 Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|--|
| | | | Code | V Amount (A) or (D) Price | | | |
| Common Stock | 04/14/2010 | | M ⁽¹⁾ | 4,000 A \$ 8.41 | 38,555 | D | |
| Common Stock | 04/14/2010 | | S ⁽¹⁾ | 4,000 D \$ 24.5193 | 34,555 | D | |

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

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(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 Securities (Instr. 3 and 4) | Amount or Number of Shares |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|----------------------------|
| Incentive Stock Option (right to buy) | \$ 8.41 | 04/14/2010 | | M ⁽¹⁾ | 4,000 | 09/06/2006 09/22/2015 | Common Stock | 4,000 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|---|---------------|-----------|----------------|-------|
| | Director | 10% Owner | Officer | Other |
| Neely Rick 6409 GUADALUPE MINES ROAD SAN JOSE, CA 95120 | | | Sr. VP and CFO | |

Signatures

Rick Neely 04/15/2010

 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.

The price is the weighted average sale price for the transactions reported on this line. The prices for the transactions reported on this line range from \$24.50 to \$24.53. The reporting person undertakes to provide, upon request by the staff of the Securities and Exchange Commission, the issuer, or a security holder of the issuer, full information regarding the number of shares sold at each separate price

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.