

Xiao Deming
Form 4
February 09, 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 *
Xiao Deming

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)
02/08/2010

____ Director _____ 10% Owner
 Officer (give title below) _____ Other (specify below)
Pres. of MPS Asia Operations

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 Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|
| | | | Code | V Amount (A) or (D) Price | | | |
| Common Stock | 02/08/2010 | | S ⁽¹⁾ | 665 D \$ 20.3 | 5,610 | I | by Spouse |
| Common Stock | | | | | 47,828 | D | |

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

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

Table with columns: 1. Title of Derivative Security, 2. Conversion or Exercise Price of Derivative Security, 3. Transaction Date, 3A. Deemed Execution Date, 4. Transaction Code, 5. Number of Derivative Securities, 6. Date Exercisable and Expiration Date, 7. Title and Amount of Underlying Securities, 8. Price of Derivative Security, 9. Number of Derivative Securities. Includes sub-headers for Date Exercisable and Expiration Date, and Amount or Number of Shares.

Reporting Owners

Table with columns: Reporting Owner Name / Address, Relationships (Director, 10% Owner, Officer, Other). Entry for Xiao Deming at 6409 GUADALUPE MINES ROAD, SAN JOSE, CA 95120, with relationships: Pres. of MPS, Asia Operations.

Signatures

By: Rick Neely For: Deming Xiao Date: 02/09/2010

**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) Shares sold to pay tax obligations resulting from the vesting of restricted stock.

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.