Xiao Deming Form 4 February 25, 2010

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

OMB APPROVAL OMB

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Check this box

SECURITIES

Form 5 Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, obligations Section 17(a) of the Public Utility Holding Company Act of 1935 or Section may continue. 30(h) of the Investment Company Act of 1940 See Instruction

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * 5. Relationship of Reporting Person(s) to 2. Issuer Name and Ticker or Trading Xiao Deming

Issuer Symbol

MONOLITHIC POWER SYSTEMS INC [MPWR]

(Check all applicable)

Pres. of MPS Asia Operations

(Last) (First) (Middle) 3. Date of Earliest Transaction Director 10% Owner X_ Officer (give title Other (specify (Month/Day/Year) below)

below) 6409 GUADALUPE MINES ROAD 02/25/2010

> 4. If Amendment, Date Original 6. Individual or Joint/Group Filing(Check

Filed(Month/Day/Year) Applicable Line)

X Form filed by One Reporting Person Form filed by More than One Reporting

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

SAN JOSE, CA 95120

(City)

(Street)

(State)

(Zip)

1.Title of 2. Transaction Date 2A. Deemed 3. 4. Securities Acquired 5. Amount of 6. Ownership 7. Nature of Security (Month/Day/Year) Execution Date, if Transaction(A) or Disposed of Securities Form: Direct Indirect (Instr. 3) any Code (D) Beneficially (D) or Beneficial Indirect (I) Ownership (Month/Day/Year) (Instr. 8) (Instr. 3, 4 and 5) Owned Following (Instr. 4) (Instr. 4) Reported

(A) Transaction(s) (Instr. 3 and 4) Code V Amount (D) Price

Common 60,000 02/25/2010 Α A \$0 107,828 D (1) Stock

Common 15,610 I by Spouse Stock

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

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

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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	2. Conversion	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if	4. Transacti	5. orNumber	6. Date Exerc Expiration D		7. Title Amount		8. Price of Derivative	9. Nu Deriv
Security (Instr. 3)	or Exercise Price of Derivative Security	(any (Month/Day/Year)	Code (Instr. 8)	of	(Month/Day/Year)		Underlying Securities (Instr. 3 and 4)		Security (Instr. 5)	Secur Bene Owne Follo Repo Trans (Instr
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title N	Amount or Number of Shares		

Reporting Owners

Relationships Reporting Owner Name / Address

> Officer 10% Owner Other Director

Xiao Deming Pres. of MPS

6409 GUADALUPE MINES ROAD Asia SAN JOSE, CA 95120 **Operations**

Signatures

By: Saria Tseng For: 02/25/2010 Deming Xiao

**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).

Subject to accelerated vesting in certain circumstances, 25% of the Performance Units are subject to vest on the 12-month anniversary of the Vesting Commencement Date and 25% of the Performance Units are subject to vest on each of the next 3 yearly anniversaries of the Vesting Commencement Date, provided that the Grantee continues to be a Service Provider from the Grant Date through each applicable vesting date.

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.

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