

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* <u>Xiao Deming</u>			2. Issuer Name and Ticker or Trading Symbol <u>MONOLITHIC POWER SYSTEMS INC</u> <u>[MPWR]</u>			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>Pres. of MPS Asia Operations</u>		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <u>02/03/2015</u>			6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person		
<u>79 GREAT OAKS BLVD</u>			4. If Amendment, Date of Original Filed (Month/Day/Year)					
(Street) <u>SAN JOSE CA 95119</u>								
(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	02/03/2015 ⁽¹⁾		M ⁽¹⁾		43,200 ⁽¹⁾	A	\$0.0	285,512	D	
Common Stock	02/17/2015		J ⁽²⁾		474	A	\$37.451	258,375	D	
Common Stock	02/03/2015		A		569 ⁽³⁾	A	\$0.0	2,148	I	by Spouse
Common Stock	03/16/2015		S ⁽⁴⁾		9	D	\$53.16	2,139	I	by Spouse
Common Stock	03/16/2015		S ⁽⁴⁾		166	D	\$53.16	1,973	I	by Spouse
Common Stock	03/16/2015		S ⁽⁴⁾		84	D	\$53.16	1,889	I	by Spouse

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 Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date						Amount or Number of Shares
Performance Shares	(5)	02/03/2015 ⁽¹⁾		M ⁽¹⁾			43,200 ⁽¹⁾	(5)	(5)	Common Stock	43,200	\$0.0	86,400	D	

Explanation of Responses:

- Each performance share represents a contingent right to receive a restricted stock unit upon MPWR's common stock achieving a 20-day average closing price of \$47.00 per share from January 1, 2014 through December 31, 2018 (the "Performance Period"). Credited performance units are still subject to an additional, quarterly, five-year time-based vesting schedule beginning January 1, 2019, subject to acceleration under certain circumstances.
- Acquired through the Company's qualified ESPP program.
- 1/16 of the Restricted Stock Units shall vest quarterly following the Vesting Commencement Date, provided that the Grantee continues to be a Service Provider from the Grant Date through each applicable vesting date.
- Shares sold to pay tax obligations resulting from the vesting of restricted stock units.
- Each performance unit will vest as follows: one share of MPWR common stock will be credited for each performance unit if the price of MPWR common stock achieves a 20-day average closing price of \$40.00 per share from January 1, 2014 through December 31, 2018 (the "Performance Period"), and up to four additional shares will be credited for each performance unit if the 20-day average closing price reaches \$43.00, \$47.00, \$52.00 and \$56.00 (that is, one share per price level) during the Performance Period. Credited performance units are then subject to an additional, quarterly, five-year time-based vesting schedule beginning January 1, 2019, subject to acceleration under certain circumstances.

By: Saria Tseng For: Deming 03/18/2015

Xiao

** Signature of Reporting Person Date

* 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.