

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

OMB APPROVAL	
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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* NEESE MARTY T (Last) (First) (Middle) C/O SUNPOWER CORPORATION 3939 NORTH FIRST STREET (Street) SAN JOSE CA 95134 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol SUNPOWER CORP [SPWRA]	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) Chief Operating Officer
	3. Date of Earliest Transaction (Month/Day/Year) 02/28/2011	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	

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			
Class A Common Stock	03/01/2011		M		16,366	A	\$0	28,501	D	
Class A Common Stock	03/01/2011		F ⁽¹⁾		6,004	D	\$17.23	22,497	D	
Class A Common Stock	03/01/2011		M		11,300	A	\$0	33,797	D	
Class A Common Stock	03/01/2011		F ⁽¹⁾		4,145	D	\$17.23	29,652	D	
Class A Common Stock	03/01/2011		M		13,333	A	\$0	42,985	D	
Class A Common Stock	03/01/2011		F ⁽¹⁾		4,891	D	\$17.23	38,094	D	

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	Title	Amount or Number of Shares				
Performance-Based Restricted Stock Units (PSUs)	(2)	02/28/2011		A		49,100		(3)	(3)	Class A Common Stock	49,100	\$0	49,100	D	
Performance-Based Restricted Stock Units (PSUs)	(2)	02/28/2011		A		11,300		(4)	(4)	Class A Common Stock	11,300	\$0	11,300	D	
Performance-Based Restricted Stock Units (PSUs)	(2)	03/01/2011		M		16,366		(3)	(3)	Class A Common Stock	16,366	\$0	32,734	D	
Performance-Based Restricted Stock Units (PSUs)	(2)	03/01/2011		M		11,300		(4)	(4)	Class A Common Stock	11,300	\$0	0	D	
Restricted Stock Units (RSUs)	(5)	03/01/2011		M		13,333		(6)	(6)	Class A Common Stock	13,333	\$0	26,667	D	

Explanation of Responses:

- Disposition of shares exempt under Rule 16b-3 as payment of tax liability to Company by delivery or withholding securities incident to vesting of restricted stock shares.
- Each PSU represents a contingent right to receive one share of the Issuer's Class A Common Stock upon vesting.
- On May 3, 2010, Reporting Person was awarded a number of PSUs within a preset range, with the actual number contingent upon the achievement of certain performance criteria. The Compensation Committee of the Issuer's Board of Directors confirmed achievement of the performance criteria on February 28, 2011 and, based on that assessment, determined the number of PSUs. The PSUs vest in three equal installments on each of March 1, 2011, March 1, 2012 and March 1, 2013.
- On August 5, 2010, Reporting Person was awarded a number of PSUs within a preset range, with the actual number contingent upon the achievement of certain performance criteria. The Compensation Committee of the Issuer's Board of Directors confirmed achievement of the performance criteria on February 28, 2011 and, based on that assessment, determined the number of PSUs. The PSUs vested on March 1, 2011.
- Each RSU represents a contingent right to receive one share of the Issuer's Class A Common Stock upon vesting.
- The RSUs shall vest in three equal installments on each of March 1, 2011, March 1, 2012 and March 1, 2013.

Remarks:

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

* 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.

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