

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

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response:	0.5

1. Name and Address of Reporting Person* <u>WERNER THOMAS H</u>  (Last) (First) (Middle) <u>C/O SUNPOWER CORPORATION</u> <u>3939 NORTH FIRST STREET</u>  (Street) <u>SAN JOSE</u> <u>CA</u> <u>95134</u>  (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>SUNPOWER CORP [ SPWRA ]</u>  3. Date of Earliest Transaction (Month/Day/Year) <u>01/31/2010</u>  4. If Amendment, Date of Original Filed (Month/Day/Year)	5. Relationship of Reporting Person(s) to Issuer (Check all applicable)  <input checked="" type="checkbox"/> Director 10% Owner  <input checked="" type="checkbox"/> Officer (give title below) Other (specify below)  <u>Chief Executive Officer</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
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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	01/31/2010		M		14,878	A	\$0	88,911	D	
Class A Common Stock	02/01/2010		F		5,458	D	\$21.07	83,453	D	
Class A Common Stock	01/31/2010		M		5,549	A	\$0	89,002	D	
Class A Common Stock	02/01/2010		F		2,269	D	\$21.07	86,733	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)	(1)	01/31/2010		M			14,878	(2)	(2)	Class A Common Stock	14,878	\$0	14,879	D	
Restricted Stock Units (RSUs)	(3)	01/31/2010		M			5,549	(4)	(4)	Class A Common Stock	5,549	\$0	5,551	D	

Explanation of Responses:

1. Each PSU represents a contingent right to receive one share of the Issuer's Class A Common Stock upon vesting.
2. On January 31, 2008, 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 January 29, 2009 and, based on that assessment, determined the number of PSUs. The PSUs vest in three equal installments on each of January 31, 2009, January 31, 2010 and January 31, 2011.
3. Each RSU represents a contingent right to receive one share of the Issuer's Class A Common Stock upon vesting.
4. The RSUs vest in three equal installments on each of January 31, 2009, January 31, 2010 and January 31, 2011.

Remarks:

Donald T. Rozak, Jr., CP, as  
attorney-in-fact for Thomas H. Werner 02/02/2010

\*\* Signature of Reporting Person Date

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.

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.