

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

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* <u>BUFE UWE-ERNST</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>08/11/2009</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 Officer (give title below) Other (specify below) 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	08/11/2009		M		1,000	A	\$0	2,624	D	
Class A Common Stock	08/11/2009		F		300	D	\$30.11	2,324	D	
Class A Common Stock	08/11/2009		M		826	A	\$0	3,150	D	
Class A Common Stock	08/11/2009		F		248	D	\$30.11	2,902	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		Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Restricted Stock Units (RSUs)	(1)	08/11/2009		M		1,000	(2)	(2)	Class A Common Stock	1,000	\$0	3,000	D	
Restricted Stock Units (RSUs)	(1)	08/11/2009		A		826	(3)	(3)	Class A Common Stock	826	\$0	826	D	
Restricted Stock Units (RSUs)	(1)	08/11/2009		M		826	(3)	(3)	Class A Common Stock	826	\$0	0	D	

Explanation of Responses:

1. Each RSU represents a contingent right to receive one share of the Registrant's Class A Common Stock once vested.
2. The RSUs shall vest in equal quarterly installments over a one-year period on each of August 11, 2009, November 11, 2009, February 11, 2010 and May 11, 2010.
3. The RSUs shall vest immediately.

Remarks:

Donald T. Rozak, Jr., CP, as
attorney-in-fact for Uwe-Ernst 08/13/2009
Bufe

** 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.