

Russell TW Fraser
 Form 4
 June 17, 2010

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549

OMB APPROVAL

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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 Russell TW Fraser

2. Issuer Name and Ticker or Trading Symbol
 Ascent Solar Technologies, Inc.
 [ASTI]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

3. Date of Earliest Transaction (Month/Day/Year)
 06/16/2010

Director 10% Owner
 Officer (give title below) Other (specify below)

C/O ASCENT SOLAR TECHNOLOGIES, INC., 8120 SHAFFER PARKWAY

(Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

LITTLETON, CO 80127

(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 Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)			
Common Stock	06/16/2010		M		5,376	A	35,950	D	

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

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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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 Underlying Securities (Instr. 3 and 4)	8. Price or Value of Underlying Securities (Instr. 3 and 4)
Restricted Stock Units	(1)	06/16/2010		M	5,376	(2) (2)	Common Stock	5,376

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Russell TW Fraser C/O ASCENT SOLAR TECHNOLOGIES, INC. 8120 SHAFFER PARKWAY LITTLETON, CO 80127	X			

Signatures

David C. Wang, as attorney-in-fact for TW Fraser Russell	06/17/2010
**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).
- (1) Each restricted stock unit represents a contingent right to receive one share of the Issuer's common stock.
- (2) The restricted stock units have fully vested pursuant to the Issuer's acceleration of all unvested restricted stock units held by the reporting person.
- (3) Dr. Russell holds vested options to purchase 8,000 shares of common stock that expire November 18, 2015.

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.