

Misra Mohan
 Form 4
 August 03, 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 *
 Misra Mohan

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

5. Relationship of Reporting Person(s) to Issuer
 (Check all applicable)
 Director 10% Owner
 Officer (give title below) Other (specify below)
 Chief Strategy Officer

(Last) (First) (Middle)

C/O ASCENT SOLAR TECHNOLOGIES, INC., 12300 GRANT STREET

3. Date of Earliest Transaction (Month/Day/Year)
 08/01/2010

(Street)
 THORNTON, CO 80241

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

(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 (D) Price | | | |
| Common Stock | 08/01/2010 | | M | 50,000 A 11 | 479,993 | D | |
| Common Stock | | | | | 686,000 | I (2) | See Footnote 2 |

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)

| 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) | | |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--------------|----------------------------|
| | | | | Code | V (A) (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares |
| Restricted Stock Units | (1) | 08/01/2010 | | M | 50,000 (3) | 08/01/2010 | 08/01/2010 | Common Stock | 50,000 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Misra Mohan C/O ASCENT SOLAR TECHNOLOGIES, INC. 12300 GRANT STREET THORNTON, CO 80241 | X | | Chief Strategy Officer | |

Signatures

Mark A. von Bergen, as attorney-in-fact for Mohan Misra
08/03/2010

__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 common stock.
 - (2) Dr. Misra indirectly holds the shares of the Issuer's common stock held by ITN Energy Systems, Inc., which is wholly owned by Inica, Inc., a Colorado corporation that is owned by Dr. Misra and an immediate family member.
 - (3) Represents the remaining portion of an award of restricted stock units granted under the Issuer's Second Amended and Restated 2008 Restricted Stock Plan on June 29, 2009, and that fully vested on August 1, 2010.
- Dr. Misra also directly holds the following derivative securities: vested options to purchase 50,000 shares of common stock that expire on November 18, 2015; vested options to purchase 40,000 shares of common stock that expire on December 2, 2018; and unvested options to purchase 40,000 shares of common stock that expire on December 2, 2018.

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.