

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 or
Section 30(h) of the Investment Company Act of 1940

| | | |
|---|---|---|
| 1. Name and Address of Reporting Person * RHOADES CHARLES S (Last) (First) (Middle) 1625 SHARP POINT DRIVE (Street) FORT COLLINS, CO US (City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol ADVANCED ENERGY INDUSTRIES INC [AEIS] | 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) SVP and GM of CSI |
| 3. Date of Earliest Transaction (MM/DD/YYYY) 7/20/2004 | | 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person |
| 4. If Amendment, Date Original Filed (MM/DD/YYYY) | | |

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Trans. Date | 2A. Deemed Execution Date, if any | 3. Trans. 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 |
| Common Stock | | | | | | 205 | D |

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

| 1. Title of Derivate Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Trans. Date | 3A. Deemed Execution Date, if any | 4. Trans. 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 | | 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 of Derivative Security: 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 | | | | |
| Employee Stock Option (right to buy) | \$7.70 | | | | | | | 10/17/2003 (1) | 10/17/2012 | Common Stock | 30000 | | 30000 | D | |
| Employee Stock Option (right to buy) | \$14.50 | | | | | | | 12/11/2003 (1) | 12/11/2012 | Common Stock | 10000 | | 40000 | D | |
| Employee Stock Option (right to buy) | \$9.12 | | | | | | | 2/12/2004 (1) | 2/12/2013 | Common Stock | 5000 | | 45000 | D | |
| Employee Stock Option (right to buy) | \$7.61 | | | | | | | 4/16/2004 (1) | 4/16/2013 | Common Stock | 5000 | | 50000 | D | |
| Employee Stock Option (right to buy) | \$19.24 | | | | | | | 7/23/2004 (1) | 7/23/2013 | Common Stock | 5000 | | 55000 | D | |
| Employee Stock Option (right to buy) | \$22.52 | | | | | | | 10/15/2004 (1) | 10/15/2013 | Common Stock | 5000 | | 60000 | D | |
| Employee Stock Option (right to buy) | \$22.30 | | | | | | | 2/11/2005 (1) | 2/11/2014 | Common Stock | 3750 | | 63750 | D | |
| Employee Stock Option (right to buy) | \$20.81 | | | | | | | 4/14/2005 (1) | 4/14/2014 | Common Stock | 3750 | | 67500 | D | |
| Employee Stock Option (right to buy) | \$12.80 | 7/20/2004 | | A | | 3750 | | 7/20/2005 (1) | 7/20/2014 | Common Stock | 3750 | \$12.80 | 71250 (2) | D | |

Explanation of Responses:

- (1) Stock options dated 10/17/2002, 12/11/2002, 02/12/2003, 04/16/2003, 07/23/2003, 10/15/2003, 02/11/2004, 04/14/2004 and 07/20/2004 are such that 1/4 of the shares become exercisable on the first anniversary following the date of grant, and the remaining shares become exercisable in equal increments each quarter for 3 years thereafter.
- (2) Mr. Rhoades additional Employee Stock Options (right to buy) for a total of 71,250 shares of Common Stock.

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|-------------------|-------|
| | Director | 10% Owner | Officer | Other |
| RHOADES CHARLES S 1625 SHARP POINT DRIVE FORT COLLINS, CO US | | | SVP and GM of CSI | |

Signatures

Michael El-Hillow - Attorney-in-Fact

7/21/2004

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.

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