SIMONET HELENE

Form 4

February 16, 2010

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB Number:

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OMB APPROVAL

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if no longer subject to Section 16. Form 4 or Form 5 obligations

may continue.

See Instruction

Check this box

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

1(b).

(Print or Type Responses)

| 1. Name and Address of Reporting Person * SIMONET HELENE | | | 2. Issuer Name and Ticker or Trading Symbol COHERENT INC [COHR] | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) | | |
|--|---------|----------|--|--|--|--|
| (Last) | (First) | (Middle) | 3. Date of Earliest Transaction | (Check an applicable) | | |
| | | | (Month/Day/Year) | Director 10% Owner | | |
| P. O. BOX 54980 | | | 02/11/2010 | _X_ Officer (give title Other (specify below) | | |
| | | | | Exec VP and CFO | | |
| (Street) | | | 4. If Amendment, Date Original | 6. Individual or Joint/Group Filing(Check | | |
| SANTA CLARA, CA 95056-0980 | | | Filed(Month/Day/Year) | Applicable Line) _X_ 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 2. Transaction Date 2A. Deemed 3. 4. Securities Acquired (A) 5. Amount of 7. Nature of (Month/Day/Year) Security Execution Date, if Transaction Disposed of (D) Securities Ownership Indirect (Instr. 3) Code (Instr. 3, 4 and 5) Beneficially Form: Beneficial Ownership (Month/Day/Year) Owned Direct (D) (Instr. 8) (Instr. 4) Following or Indirect Reported (A) Transaction(s) (Instr. 4) (Instr. 3 and 4) Code V Amount Price Common 02/11/2010 M 40,000 Α \$ 26.41 60,123 D Stock (1) \$ Common 02/11/2010 S 40,000 30.2672 20,123 D D Stock (2) Common 02/12/2010 M 5,000 A \$ 26.41 25,123 D Stock (1) Common 02/12/2010 S 5,000 D \$ 30.2 D 20,123 Stock Common 02/16/2010 M 21.214 A \$ 26.41 41,377 D Stock (1)

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| Common Stock | 02/16/2010 | S | 21,214 | D | \$ 30.3555 (3) | 20,123 | D |
|------------------|------------|---|--------|---|----------------|--------|---|
| Common Stock (1) | 02/16/2010 | M | 3,786 | A | \$ 26.41 | 23,909 | D |
| Common Stock | 02/16/2010 | S | 3,786 | D | \$ 30.3555 (3) | 20,123 | D |

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

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SEC 1474

(9-02)

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. Transactic Code (Instr. 8) | 5. Number of orDerivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amou Underlying Secur (Instr. 3 and 4) | |
|---|---|---|---|--|---|--|--------------------|---|-------------------------|
| | | | | Code V | (A) (D) | Date Exercisable | Expiration Date | Title | Am or Nui of S |
| Non-Qualified Stock Option (right to buy) | \$ 26.41 | 02/11/2010 | | M | 40,000 | 03/25/2007 | 03/25/2010 | Common Stock | 40 |
| Non-Qualified Stock Option (right to buy) | \$ 26.41 | 02/12/2010 | | M | 5,000 | 03/25/2007 | 03/25/2010 | Common Stock | 5, |
| Non-Qualified Stock Option (right to buy) | \$ 26.41 | 02/16/2010 | | M | 21,214 | 03/25/2007 | 03/25/2010 | Common Stock | 21 |
| Incentive Stock Option (right to buy) | \$ 26.41 | 02/16/2010 | | M | 3,786 | 03/25/2007 | 03/25/2010 | Common Stock | 3, |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | | | |
|--------------------------------|---------------|-----------|---------|-------|--|--|
| | Director | 10% Owner | Officer | Other | | |

Reporting Owners 2

SIMONET HELENE P. O. BOX 54980 SANTA CLARA, CA 95056-0980

Exec VP and CFO

Signatures

Helene Simonet 02/16/2010

**Signature of Date

Reporting Person

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) This option was set to expire in March 2010.
- (2) Represents the weighted average sales price for the shares. The range of prices for such sales was \$30.24 to \$30.38.
- (3) Represents the weighted average sales price for the shares. The range of prices for such sales was \$30.35 to \$30.43.

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.

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