

Zelibor Thomas Edward
 Form 4
 December 14, 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 *
 Zelibor Thomas Edward

2. Issuer Name and Ticker or Trading Symbol
 Lightwave Logic, Inc. [LWGL]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)
 121 CONTINENTAL
 DRIVE, SUITE 110
 (Street)

3. Date of Earliest Transaction
 (Month/Day/Year)
 12/13/2010

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

NEWARK, DE 19713

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

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 Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|--|
| | | | | (A) or (D) | Code V Amount (D) Price | | |

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

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 control number.

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 | 2. Conversion or Exercise | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any | 4. Transaction Code | 5. Number of Derivative Securities | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Securities (Instr. 3 and 4) |
|---------------------------------|---------------------------|--------------------------------------|-----------------------------------|---------------------|------------------------------------|--|---|
|---------------------------------|---------------------------|--------------------------------------|-----------------------------------|---------------------|------------------------------------|--|---|

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| (Instr. 3) | Price of Derivative Security | (Month/Day/Year) | (Instr. 8) | Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | Code | V | (A) | (D) | Date Exercisable | Expiration Date | Title | Amount Number Shares |
|--|------------------------------------|------------------|------------|---|------|---|---------|-----|---------------------|--------------------|-----------------|----------------------------|
| Employee Stock Option (Right to Buy) | \$ 1 | 12/13/2010 | | | A | | 100,000 | | <u>(1)</u> | 12/12/2015 | Common Stock | 100,000 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|---|---------------|-----------|---------|-------|
| | Director | 10% Owner | Officer | Other |
| Zelibor Thomas Edward 121 CONTINENTAL DRIVE SUITE 110 NEWARK, DE 19713 | | X | | |

Signatures

/s/Thomas E.
Zelibor

12/13/2010

**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) Employee Stock Option granted pursuant to the issuer's 2007 Employee Stock Plan. 25,000 shares vest immediately and 25,000 shares vest at the end of every 12 month period commencing November 4, 2010.

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.