

Lightwave Logic, Inc.  
Form NT 10-K  
March 31, 2010

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

FORM 12b-25  
NOTIFICATION OF LATE FILING

(Check one):  Form 10-K     Form 20-F     Form 11-K     Form 10-Q     Form 10-D     Form N-SAR     Form N-CSR

For Period Ended:    December 31, 2009

Transition Report on Form 10-K

Transition Report on Form 20-F

Transition Report on Form 11-K

Transition Report on Form 10-Q

Transition Report on Form N-SAR

For the Transition Period Ended:

Read Instructions (on back page) Before Preparing Form. Please Print or Type.

Nothing in this form shall be construed to imply that the Commission has verified any information contained herein.

If the notification relates to a portion of the filing checked above, identify the Item(s) to which the notification relates:

PART I REGISTRANT INFORMATION

Lightwave Logic, Inc.  
Full Name of Registrant

Former Name if Applicable

121 Continental Drive, Suite 110  
Address of Principal Executive Office (Street and Number)

Newark, Delaware 19713  
City, State and Zip Code

PART II RULES 12b-25(b) AND (c)

If the subject report could not be filed without unreasonable effort or expense and the registrant seeks relief pursuant to Rule 12b-25(b), the following should be completed. (Check box if appropriate)

(a)

The reason described in reasonable detail in Part III of this form could not be eliminated without unreasonable effort or expense;

(b)

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The subject annual report, semi-annual report, transition report on Form 10-K, Form 20-F, Form 11-K, Form N-SAR or Form N-CSR, or portion thereof, will be filed on or before the fifteenth calendar day following the prescribed due date; or the subject quarterly report or transition report on Form 10-Q or subject distribution report on Form 10-D, or portion thereof, will be filed on or before the fifth calendar day following the prescribed due date; and

x

(c)

The accountant's statement or other exhibit required by Rule 12b-25(c) has been attached if applicable.

**PART III NARRATIVE**

State below in reasonable detail the reasons why Forms 10-K, 20-F, 11-K, 10-Q, 10-D, N-SAR, N-CSR, or the transition report or portion thereof, could not be filed within the prescribed time period. (Attach extra Sheets if Needed)

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The registrant requires additional time to complete the presentation of its financials in the Form 10-K. The registrant intends to file its Form 10-K Annual Report on or prior to the prescribed extended date.

PART IV OTHER INFORMATION

(1) Name and telephone number of person to contact in regard to this notification

James S. Marcelli	(302)	356-2717
(Name)	(Area Code)	(Telephone Number)

(2) Have all other periodic reports required under Section 13 or 15(d) of the Securities Exchange Act of 1934 or Section 30 of the Investment Company Act of 1940 during the preceding 12 months or for such shorter period that the registrant was required to file such report(s) been filed? If answer is no, identify report(s).

Yes  No

(3) Is it anticipated that any significant change in results of operations from the corresponding period for the last fiscal year will be reflected by the earnings statements to be included in the subject report or portion thereof?

Yes No

If so, attach an explanation of the anticipated change, both narratively and quantitatively, and, if appropriate, state the reasons why a reasonable estimate of the results cannot be made.

Lightwave Logic, Inc.

(Name of Registrant as Specified in Charter)

has caused this notification to be signed on its behalf by the undersigned hereunto duly authorized.

Date: March 29, 2010

By: /s/ James S. Marcelli