

**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: **September 30, 2016**

- 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 Instruction (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

RESPIRERX PHARMACEUTICALS INC.
Full Name of Registrant

N/A
Former Name if Applicable

126 Valley Road, Suite C
Address of Principal Executive Office (*Street and Number*)

Glen Rock, New Jersey, 07452
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) 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
- (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 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.

RespireRx Pharmaceuticals Inc. (the "Company") was unable to file its Quarterly Report on Form 10-Q for the quarter ended September 30, 2016 (the "**Quarterly Report**") within the prescribed time period because of technical connectivity difficulties between the filing server and the EDGAR server of the Securities and Exchange Commission (the "Commission"). The Quarterly Report was completed, executed and ready to be filed with the Commission prior to the 5:30 p.m. Eastern time deadline for acceptance of filings on November 14, 2016, the due date for the filing, and the Company attempted to commence transmission of the Quarterly Report on the Commission's EDGAR system prior to such deadline. In spite of the Company's best efforts to submit the Quarterly Report with the Commission on a timely basis, the filing server was unable to do so due to such connectivity issues. The Company intends to submit a written request for a date adjustment for the filing date to the Commission for the acceptance date to be changed from November 15, 2016 to November 14, 2016. However, as a precautionary matter, the Company is submitting this Form 12b-25 to ensure that it remains timely in its periodic filings under the Securities Exchange Act of 1934, as amended. The Company intends to file the Quarterly Report on Form 10-Q later today, November 15, 2016, but in any event no later than the fifth calendar day following the prescribed due date.

SEC 1344 (04-09) 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 control number.

(Attach extra Sheets if Needed)

PART IV — OTHER INFORMATION

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

Jeff E. Margolis

(Name)

(917)

(Area Code)

834-7206

(Telephone No)

- (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 reasons why a reasonable estimate of the results cannot be made.

The changes in the Company's result of operations from the corresponding period in 2015 are set forth in the quarterly report on Form 10-Q for the quarterly period ending September 30, 2016, which the Company intends to file today, November 15, 2016, but in any event no later than the fifth calendar day following the prescribed due date, and reflect results for the Company's ordinary course of business during this period.

RESPIRERX PHARMACEUTICALS 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: **November 15, 2016**

By: /s/ Jeff E. Margolis

Jeff E. Margolis

Vice President, Treasurer and Secretary

INSTRUCTION: The form may be signed by an executive officer of the registrant or by any other duly authorized representative. The name and title of the person signing the form shall be typed or printed beneath the signature. If the statement is signed on behalf of the registrant by an authorized representative (other than an executive officer), evidence of the representative's authority to sign on behalf of the registrant shall be filed with the form.

ATTENTION

Intentional misstatements or omissions of fact constitute Federal Criminal Violations (See 18 U.S.C. 1001).