

**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 N-SAR
 Form N-CSR

For the quarterly period ended: March 31, 2011

- 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:

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:

Not applicable

PART I — REGISTRANT INFORMATION

InfuSystem Holdings, Inc.

Full Name of Registrant

Former Name if Applicable

31700 Research Park Drive

Address of Principal Executive Officer (Street and Number)

Madison Heights, Michigan 48071

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 reasons described in reasonable detail in Part II 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, 11-K, Form N-SAR, 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 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 the reasons why the Form 10-K, 11-K, 10-Q, N-SAR, N-CSR or the transition report or portion thereof, could not be filed within the prescribed time period.

Filing of the subject Form 10-Q for the quarterly period ended March 31, 2011 (the "Subject Form 10-Q"), could not be accomplished by InfuSystem Holdings, Inc.. (the "Company") by the prescribed filing date without unreasonable effort or expense because of delays in compiling and preparing the financial statements required by Item 1 of Form 10-Q. The Subject Form 10-Q will be filed as soon as reasonably practicable and in no event later than the fifth calendar day following the prescribed filing date.

PART IV — OTHER INFORMATION

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

James M. Froisland
(Name)

(248)
(Area Code)

291-1210, ext. 2255
(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 reports) been filed? If answer is no, identify reports). 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 reasonably estimate of the results cannot be made.

InfuSystem Holdings, Inc.
(Name of Registrant as Specified in Charter)

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

InfuSystem Holdings, Inc.

Date: May 17, 2011

By: /s/ James M. Froisland
James M. Froisland
Chief Financial Officer