

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

SCHEDULE 14A

**Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934**

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

Preliminary Proxy Statement

Confidential, For Use of the Commission Only (as permitted by Rule 14a-6(e)(2))

Definitive Proxy Statement

Definitive Additional Materials

Soliciting Material Pursuant to § 240.14a-12

InfuSystem Holdings, Inc.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(4) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

Explanatory Note:

InfuSystem Holdings, Inc. (the “Company”) is hereby supplementing the definitive proxy statement on Schedule 14A filed with the Securities and Exchange Commission on July 30, 2013, as amended, (the “Proxy Statement”) in order to provide additional information regarding Proposal 3 of the Proxy Statement to approve a two million share increase in the number of available shares authorized for issuance under the Company’s 2007 Stock Incentive Plan. This amendment does not otherwise modify or update in any way the Proxy Statement as previously filed.

August 21, 2013

**SUPPLEMENTAL INFORMATION TO PROXY STATEMENT
REGARDING PROPOSAL 3: APPROVAL OF AN INCREASE IN THE NUMBER OF SHARES
AUTHORIZED FOR ISSUANCE UNDER THE COMPANY’S 2007 STOCK INCENTIVE PLAN**

In Proposal 3 in the Proxy Statement for the 2013 Annual Meeting of Stockholders to be held on August 29, 2013, we are asking stockholders to approve an increase in available shares authorized for issuance under the Company’s 2007 Stock Incentive Plan.

Proposal 3 to the Proxy Statement is hereby supplemented as follows:

Burn Rate Commitment

We commit that, with respect to the number of shares subject to stock awards granted under the Company’s 2007 Stock Incentive Plan over fiscal years 2013, 2014 and 2015, we will maintain an average annual burn rate over that period that does not exceed 9.92%. In calculating our compliance with this maximum burn rate commitment, we define “burn rate” as the number of shares subject to stock awards granted in a fiscal year divided by the weighted average number of shares of our common stock outstanding (basic) during that same fiscal year. For purposes of calculating the number of awards granted in each of the next three fiscal years, awards of stock options and stock appreciation rights will count as one share and awards of restricted stock, restricted stock units and other full value awards will count as two shares.

**OUR BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS
A VOTE “FOR” APPROVAL OF AN INCREASE IN THE NUMBER OF SHARES AUTHORIZED
FOR ISSUANCE UNDER THE COMPANY’S 2007 STOCK INCENTIVE PLAN.**