UNITED STATES SECURITIES AND EXCHANGE COMMISSION washington, d.c. 20549

FORM 8-K

CURRENT REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of earliest event reported): July 23, 2012

CRYOLIFE, INC.

(Exact name of registrant as specified in its charter)

Florida (State or Other Jurisdiction of Incorporation) 1-13165 (Commission File Number) **59-2417093** (IRS Employer Identification No.)

1655 Roberts Boulevard, N.W., Kennesaw, Georgia 30144 (Address of principal executive office) (zip code)

Registrant's telephone number, including area code: (770) 419-3355

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

□ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

□ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Section 5 Corporate Governance and Management

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

Amendment of Fiscal 2012 Bonus Agreements

On July 23, 2012, the Compensation Committee (the "Committee") of the Board of Directors (the "Board") of CryoLife, Inc. ("CryoLife") approved an amendment of the outstanding fiscal 2012 bonus agreements with its named executive officers issued under CryoLife's 2007 Executive Incentive Plan. The agreements were amended in order to cap the maximum payout for each named executive officer under the adjusted revenues component and the adjusted net income component of the 2012 bonus program and to reduce payouts under the adjusted revenues component and the adjusted net income component of each agreement to target levels if the bonus formula should result in an above-target payout and CryoLife's total shareholder return for 2012 is negative.

The 2012 bonus program provides for bonuses of a percentage of each participant's weighted average 2012 base salary, varying among participants, based on CryoLife's adjusted revenues for 2012, its adjusted net income for 2012, and each participant's personal performance rating for 2012. Prior to the amendment, the 2012 bonus program did not have a maximum performance level for the adjusted revenues and adjusted net income components. As a result, the amount of the bonus payable to each named executive officer with respect to these components was not capped. In addition, the Committee had, and continues to have, general discretion to reduce bonus levels under the 2012 bonus program.

On July 24, 2012, the Board, upon recommendation of the Committee, also approved the amendments described above. The form of grant agreement used with respect to each named executive officer's 2012 bonus agreement is filed as Exhibit 10.1 to CryoLife's Form 10-Q for the quarter ended March 31, 2010, along with a correction to the form of grant agreement that is filed as Exhibit 10.48 to CryoLife's Form 10-K for the year ended December 31, 2010.

Amendment of 2007 Executive Incentive Plan

On July 24, 2012, upon recommendation of the Committee, the Board amended the CryoLife, Inc. 2007 Executive Incentive Plan in order to extend its term to December 31, 2016. A description of the material terms of the 2007 Executive Incentive Plan is contained in CryoLife's Form 8-K filed on February 20, 2007, and is incorporated herein by reference.

-2-

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, CryoLife, Inc. has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

CRYOLIFE, INC.

Date: July 26, 2012

By: /s/ D.A. Lee

Name: D. Ashley Lee Title: Executive Vice President, Chief Operating Officer and Chief Financial Officer

-3-