

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 11-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the year ended December 31, 2013

OR

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file numbers: 333-107872, 333-136461, 333-170139

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

**Amended and Restated
Airgas, Inc. 2003 Employee Stock Purchase Plan**

B. Name of the issuer of the securities held pursuant to the plan and the address of its principal executive office:

**Airgas, Inc.
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283**

**AMENDED and RESTATED
AIRGAS, INC. 2003 EMPLOYEE STOCK PURCHASE PLAN**

ANNUAL REPORT ON FORM 11-K

December 31, 2013

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Report of Independent Registered Public Accounting Firm

The Governance and Compensation Committee of the
Airgas, Inc. Board of Directors:

We have audited the accompanying statements of financial position of the Amended and Restated Airgas, Inc. 2003 Employee Stock Purchase Plan (the “Plan”) as of December 31, 2013 and 2012, and the related statements of changes in participants' equity for each of the years in the three-year period ended December 31, 2013. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Plan as of December 31, 2013 and 2012, and the changes in participants' equity for each of the years in the three-year period ended December 31, 2013, in conformity with U.S. generally accepted accounting principles.

/s/ KPMG LLP

Philadelphia, Pennsylvania
March 26, 2014

**AMENDED and RESTATED
AIRGAS, INC. 2003 EMPLOYEE STOCK PURCHASE PLAN**

STATEMENTS OF FINANCIAL POSITION

	December 31, 2013	December 31, 2012
ASSETS		
Participants' payroll deductions receivable from Airgas, Inc.	\$ 4,338,247	\$ 4,307,830
PARTICIPANTS' EQUITY		
Participants' equity	\$ 4,338,247	\$ 4,307,830

See accompanying notes to financial statements.

**AMENDED and RESTATED
AIRGAS, INC. 2003 EMPLOYEE STOCK PURCHASE PLAN**

STATEMENTS OF CHANGES IN PARTICIPANTS' EQUITY

	Year Ended December 31, 2013	Year Ended December 31, 2012	Year Ended December 31, 2011
Participants' contributions	\$ 17,441,278	\$ 17,196,061	\$ 15,351,607
Cost of 226,621 shares in 2013, 273,422 shares in 2012 and 284,909 shares in 2011 of Airgas, Inc. common stock issued to participants under the terms of the Plan (including \$128,728 in 2013, \$112,099 in 2012 and \$107,910 in 2011 of cash refunded to employees as required by Internal Revenue Service contribution limitations)	(17,410,861)	(16,782,382)	(15,440,583)
Net change in participants' equity	30,417	413,679	(88,976)
Participants' equity, balance at beginning of period	4,307,830	3,894,151	3,983,127
Participants' equity, balance at end of period	<u>\$ 4,338,247</u>	<u>\$ 4,307,830</u>	<u>\$ 3,894,151</u>

See accompanying notes to financial statements.

**AMENDED and RESTATED
AIRGAS, INC. 2003 EMPLOYEE STOCK PURCHASE PLAN**

NOTES TO FINANCIAL STATEMENTS

(1) Description of the Plan

The following description of the Amended and Restated Airgas, Inc. 2003 Employee Stock Purchase Plan (the "Plan") provides general information only. Participants should refer to the Plan prospectus for more complete information.

The purpose of the Plan is to encourage and assist employees of Airgas, Inc. and its subsidiaries (the "Company") to acquire an equity interest in the Company through the purchase of shares of the Company's common stock (the "Common Stock") at a discount. Generally, employees may elect to have up to 15% of their annual gross compensation (including base salary, commissions and overtime) withheld to purchase the Company's Common Stock at 85% of its market value. The maximum market value of shares purchased by a Plan participant in any calendar year is limited to \$25,000. Market value as defined under the Plan is the lesser of the closing market price of the Common Stock as of an employee's enrollment date in the Plan or the closing market price on the quarterly purchase date. The quarterly purchase date is the first business day of each calendar quarter. Employees lock in a purchase price under the Plan for up to 12 months. If the closing market price of the Common Stock on the quarterly purchase date is less than an employee's existing 12-month purchase price, the employee is considered to re-enroll in the Plan and is granted a new purchase price for the remainder of the 12-month period. In addition, Plan participants are automatically re-enrolled in the Plan on the first business day of April of each year and are granted a new enrollment purchase price.

The Board of Directors approved an amendment to the Plan effective July 1, 2009 that places a restriction on the sale of Common Stock purchased through the Plan. Employees may not sell shares purchased with contributions made on or after July 1, 2009 until after the first trading day on the New York Stock Exchange ("NYSE") that occurs at least one year after the purchase date. The limitation on the sale will not apply if the closing price of the Common Stock on the NYSE for five consecutive trading days after the purchase date is less than the purchase price for those shares. Following the completion of the one-year period or expiration of the restriction, if earlier, shares may be sold at any time.

On January 29, 2013, the Board of Directors approved an additional amendment to the Plan that allows employees to sell shares purchased with contributions made on or after April 1, 2012, at the earlier of the close of business on the last day of employment with the Company, or, the close of business one year after the employee's enrollment date.

At any time, the Board of Directors may amend, alter or terminate the Plan and/or outstanding options to purchase Common Stock under the Plan. The Governance and Compensation Committee (the "Committee") of the Board of Directors serves as the Plan Administrator.

The Plan was adopted by the Board of Directors in May 2003 and was approved by the stockholders of the Company in July 2003. An amendment to the Plan to increase the number of available shares by 2,000,000 was approved by the stockholders of the Company in August 2006, and in September 2010 another amendment was approved by the stockholders of the Company to increase the number of available shares by an additional 2,000,000 shares. A maximum of 5,500,000 shares of Common Stock may be issued under the Plan. From the Plan's inception (July 29, 2003) through December 31, 2013, 4,104,315 shares have been issued under the Plan.

The Plan is accounted for on the accrual basis of accounting. Purchases and sales of shares of Common Stock are recorded on a trade date basis.

The Plan is not subject to the provisions of the Employee Retirement Income Security Act of 1974.

**AMENDED and RESTATED
AIRGAS, INC. 2003 EMPLOYEE STOCK PURCHASE PLAN**

NOTES TO FINANCIAL STATEMENTS (continued)

(2) Purchase and Distribution of Shares

Purchases are made by the Plan quarterly. The Common Stock is purchased as described in Note (1). Shares purchased are deposited into individual brokerage firm accounts maintained for the participants. ETRADE Financial Corporate Services serves as the custodian of the participant brokerage accounts.

(3) Participants' Payroll Deductions Receivable

At December 31, 2013 and 2012, participants' payroll deductions receivable from Airgas, Inc. represents a receivable for participant contributions, which were subsequently collected and used to purchase shares on behalf of Plan participants on the first business day of the next calendar year. The carrying value of the participants' payroll deductions receivable from Airgas, Inc. approximates fair value.

(4) Administrative Expenses of the Plan

All administrative expenses of the Plan are paid by the Company. Any brokerage fees for the purchase of shares on behalf of Plan participants are paid by the Company, but brokerage fees for the sale of shares by participants are paid by the participants.

(5) Federal Income Tax

The Plan qualifies as an "employee stock purchase plan" under Sections 421 and 423 of the Internal Revenue Code of 1986, as amended. Under existing federal income tax laws, the Plan is not subject to federal income tax. However, when any shares of stock purchased through the Plan are sold by a participant, income taxes on any gain or loss must be recognized by that participant.

Accounting principles generally accepted in the United States of America require Plan management to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain tax position that more likely than not would not be sustained upon examination by the Internal Revenue Service. The Plan Administrator has analyzed the tax positions taken by the Plan, and has concluded that as of December 31, 2013, there are no uncertain tax positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress. The Plan Administrator believes the Plan is no longer subject to income tax examinations for years prior to 2011.

(6) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of participants' equity and changes therein. Actual results could differ from those estimates.

SIGNATURES

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

AMENDED AND RESTATED AIRGAS, INC. 2003 EMPLOYEE STOCK PURCHASE PLAN
(Name of Plan)

BY: Governance and Compensation Committee
of the Airgas, Inc. Board of Directors
as Plan Administrator

/s/ James W. Hovey

James W. Hovey

/s/ Richard C. III

Richard C. III

/s/ Paula A. Sneed

Paula A. Sneed

/s/ David M. Stout

David M. Stout

/s/ Lee M. Thomas

Lee M. Thomas

DATED: March 26, 2014

EXHIBIT INDEX

Exhibit

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