

AIRGAS INC  
Form 11-K  
June 27, 2012  
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 fiscal year ended December 31, 2011

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file numbers: 333-75256 and 333-175676

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

Airgas, Inc. 401(k) 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

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AIRGAS, INC. 401(k) PLAN

December 31, 2011

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Report of Independent Registered Public Accounting Firm

To Participants and the Plan Administrator of Airgas, Inc. 401(k) Plan:

We have audited the accompanying statements of net assets available for benefits of Airgas, Inc. 401(k) Plan (the "Plan") as of December 31, 2011 and 2010, and the related statements of changes in net assets available for benefits for the years then ended. 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 net assets available for benefits of the Plan as of December 31, 2011 and 2010, and the changes in net assets available for benefits for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Our audits were performed for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedule of Schedule H, Line 4i - Schedule of Assets (Held at End of Year) as of December 31, 2011 is presented for the purpose of additional analysis and is not a required part of the basic financial statements but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental schedule is the responsibility of the Plan's management. The supplemental schedule has been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

/s/ KPMG LLP

Philadelphia, Pennsylvania

June 27, 2012

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AIRGAS, INC. 401(k) PLAN  
 Statements of Net Assets Available for Benefits  
 Years Ended December 31, 2011 and 2010

	2011	2010
Assets:		
Investments at fair value (Note 3)	\$556,845,897	\$513,906,256
Receivables:		
Employee contributions	1,983,084	1,778,517
Employer contributions	559,768	518,778
Notes receivable from participants	19,252,786	17,860,376
Total receivables	21,795,638	20,157,671
Total assets	578,641,535	534,063,927
Liabilities:		
Refunds due to participants	—	(275,485 )
Total liabilities	—	(275,485 )
Net assets available for benefits before adjustment to contract value	578,641,535	533,788,442
Adjustment from fair value to contract value for fully benefit-responsive investment contracts	(4,401,995 )	(3,468,490 )
Net assets available for benefits	\$574,239,540	\$530,319,952

See accompanying notes to the financial statements.

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## AIRGAS, INC. 401(k) PLAN

## Statements of Changes in Net Assets Available for Benefits

Years Ended December 31, 2011 and 2010

	2011	2010
Additions:		
Additions to net assets attributable to:		
Investment income:		
Net appreciation in fair value of investments	\$17,877,753	\$61,564,015
Interest and dividends	12,491,924	11,207,245
Total investment income, net	30,369,677	72,771,260
Contributions:		
Employee	37,741,690	33,462,344
Employer	10,307,238	9,547,658
Rollovers	2,126,790	3,226,033
Total contributions	50,175,718	46,236,035
Transfers from other plans and other additions	4,483,252	33,766
Total additions	85,028,647	119,041,061
Deductions:		
Benefits paid to participants	(40,703,656 )	(34,572,435 )
Administrative fees	(405,403 )	(379,955 )
Total deductions	(41,109,059 )	(34,952,390 )
Net additions	43,919,588	84,088,671
Net assets available for benefits:		
Beginning of year	530,319,952	446,231,281
End of year	\$574,239,540	\$530,319,952

See accompanying notes to the financial statements.

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AIRGAS, INC. 401(k) PLAN

Notes to the Financial Statements

(1) Description of the Plan

The following description of the Airgas, Inc. 401(k) Plan (the “Plan”) provides general information only. Participants should refer to the Plan document for more complete information.

(a) General

The Plan is a defined contribution plan covering substantially all employees of Airgas, Inc. and subsidiaries (“Airgas” or the “Company”). Included in the assets of the Plan are rollovers and transfers from other plans of acquired companies, where applicable. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (“ERISA”). The Vanguard Fiduciary Trust Company serves as the trustee for the Plan.

(b) Contributions

Employee

The Plan permits a participant to defer up to 50% of eligible compensation, subject to the maximum dollar limitation in the calendar year as prescribed by the Internal Revenue Service (“IRS”). The Plan allows both 401(k) contributions, which are made from pre-tax earnings and are fully taxable as ordinary income at the time of distribution, as well as Roth 401(k) contributions. Under the Roth 401(k) contribution election, participants' contributions are made from after-tax earnings that will be tax-free at the time of distribution. Participants are allowed to make both 401(k) and Roth 401(k) contributions into the Plan. The employee contributions receivable at December 31, 2011 and 2010 represent payroll contributions withheld through the end of each calendar year that were received by the Plan in the subsequent year.

Employer

Contributions to the Plan by the Company are made on a matched basis at a rate of 50% of participant deferred compensation. The employer match is applied on employee contributions of up to 4% of eligible compensation (i.e., maximum employer match is 2% of eligible compensation). Although employees may participate in the Plan immediately upon joining the Company, Plan participants are not eligible for Company matching contributions until they have completed one year of service with the Company. The employer contributions receivable at December 31, 2011 and 2010 represent Company matching contributions through the end of each calendar year that were received by the Plan in the subsequent year.

Rollovers

Contributions in 2011 and 2010 include \$2,126,790 and \$3,226,033, respectively, of rollover contributions from newly hired employees and employees associated with businesses acquired by the Company. Rollovers reflect employee elections to rollover funds from their former plans into the Plan.

Refund of Excess Contributions

In accordance with rules prescribed by the Internal Revenue Code (“IRC”), the trustee performed certain tests of employee contributions to ensure that highly compensated employees do not contribute on average a higher percentage of their income than that of non-highly compensated employees. Additionally, the trustee performed a test of employee contributions to determine that individual participant contribution levels did not exceed the 2011 IRS contribution limit of \$16,500. An immaterial amount of refunds were required for the year ended December 31, 2011. The Plan distributed a total of \$275,485 in excess contributions to affected participants for the year ended December 31, 2010 as a result of the compliance testing.

(c) Participant Accounts

Contributions are invested as directed by each participant in 14 separate investment funds. Each participant may designate, by electronic monitoring, how the contributions to his or her account are to be allocated amongst the 14 funds. Participants are required to allocate contributions to the funds in increments of 1% of total contributions. In the event a participant fails to submit an allocation, contributions will be invested in the Vanguard LifeStrategy Conservative Growth Fund. In addition to the above initial election, participants may elect, by contacting the trustee, to transfer monies among the investment funds in 1% increments of the total funds credited to their account. Interest,

dividends and other income (losses) earned by the investment funds, net of administrative fees, are reinvested in the same fund. Such amounts are allocated to participants based upon the proportion of a participant's balance to the total fund balance.

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AIRGAS, INC. 401(k) PLAN

Notes to the Financial Statements (continued)

(d) Participant Loans

The Plan administrator may, upon the application of a participant, direct the trustee to make a loan to such a participant. The maximum the participant may borrow is limited to the lesser of 50% of the participant's Plan account balance or \$50,000. The minimum loan amount is \$1,000 and loans are secured by 50% of the participant's Plan account balance. Participant loans bear interest at a rate equal to prime (as of the date of the loan) plus 2% and provide for periodic repayment over a reasonable period of time not to exceed five years for general-purpose loans and 30 years for principal residence loans. The prime rate was 3.25% at December 31, 2011 and 2010. Interest rates on outstanding participant loans at December 31, 2011 ranged from 4% to 11%, with an average interest rate of 6%. Interest rates on outstanding participant loans at December 31, 2010 ranged from 5% to 11%, with an average interest rate of 6%.

When a participant defaults on a loan obtained from the Plan, the Plan administrator will report the amount of default to the IRS as a distribution from the Plan. The Plan participant may then be subject to taxes and penalties related to the distribution.

(e) Vesting

Participants are immediately vested in all contributions. In addition, all earnings (losses) on such investments are fully vested.

(f) Payment of Benefits

Upon retirement, death or termination of service, participants or beneficiaries are entitled to a distribution equal to the total value of their accounts. Such distributions are generally payable in cash.

Participants experiencing serious financial hardships may be entitled to a distribution upon approval by the Plan administrator.

(g) Administrative Expenses

Recordkeeping and loan administrative fees are paid by Plan participants. Loan origination fees are paid by Plan participants and included in notes receivable from participants on the Statements of Net Assets Available for Benefits. Stock administration, compliance testing, audit, legal, hardship withdrawal processing and company acquisition processing fees are paid by Airgas.

(2) Summary of Significant Accounting Policies

(a) Basis of Accounting

The accompanying financial statements of the Plan have been prepared on the accrual basis of accounting and present net assets available for benefits and changes in those net assets.

(b) New Accounting Pronouncements

In May 2011, the Financial Accounting Standards Board issued Accounting Standards Update ("ASU") No. 2011-04, Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs ("ASU 2011-04"), which amends existing U.S. generally accepted accounting principles ("GAAP") with respect to fair value measurements. The majority of the key provisions of ASU 2011-04 represent clarifications to existing fair value measurement guidance, including changes in the valuation premise and the application of premiums and discounts. However, new disclosures are required under ASU 2011-04, including more robust disclosures related to Level 3 fair value measurements, a broader scope related to the disclosure of transfers between Level 1 and Level 2 fair value measurements, and new disclosures around the fair value hierarchy related to assets and liabilities disclosed at fair value but not measured as such on the statement of net assets available for benefits. The new guidance is effective prospectively for annual periods beginning after December 15, 2011, with early adoption prohibited. The Plan administrator does not anticipate a material impact on the financial statements from the required adoption of this ASU due to the nature of the Plan's investments.

(c) Investments

Units of the Airgas Common Stock Fund are valued based on the combined quoted market prices of the underlying shares of Airgas common stock and a money market component. Investments in shares of registered investment companies (or mutual funds) are valued at the net asset values of shares held by the Plan at year-end. Units of the

Vanguard Retirement Savings Trust (the "Trust") are valued at the net asset value at year-end (discussed below).

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AIRGAS, INC. 401(k) PLAN

Notes to the Financial Statements (continued)

The Plan invests in fully benefit-responsive investment contracts through the Trust. In accordance with the accounting guidance for fully benefit-responsive investment contracts held by employee benefit plans, the Statements of Net Assets Available for Benefits present the fair value of the Trust and the adjustment from fair value to contract value. The fair value of the Plan's interest in the Trust is based on information reported by the Trust at year-end. Depending on the mix of investments, fair value is determined based on the expected future cash flows for each contract discounted to present value, and the aggregate market values of the underlying investments in mutual funds, bond trusts and other investments. The contract value of the Trust represents contributions plus earnings, less participant withdrawals and administrative expenses.

Purchases and sales of investments are recorded on a trade-date basis. The average cost method is followed in determining the cost of investments sold. Interest income is accrued when earned. Dividend income is recorded on the ex-dividend date. Capital gain distributions are included in dividend income.

Investment options as of December 31, 2011 and 2010 were as follows:

The Airgas Common Stock Fund invests in Airgas common stock to provide for the possibility of long-term growth through increases in the value of the stock, although a portion of the fund may be invested in cash or cash equivalents to maintain liquidity and avoid excessive turnover of Airgas common stock held in the fund. The fund value per unit was \$38.52 and \$30.88 at December 31, 2011 and 2010, respectively. The fair value per share of Airgas common stock was \$78.08 and \$62.46 at December 31, 2011 and 2010, respectively. At December 31, 2011, 3,495 Plan participants were invested in the fund.

The Vanguard Explorer Fund Investor Shares seeks to provide long-term growth of capital by investing in a diversified group of small-company stocks with prospects for above-average growth. The value per share was \$71.44 and \$72.90 at December 31, 2011 and 2010, respectively. At December 31, 2011, 2,418 Plan participants were invested in the fund.

The Vanguard International Growth Fund Investor Shares seeks to provide long-term growth of capital by investing in stocks of high-quality, seasoned companies based outside the United States. Stocks are selected from more than 15 countries. The value per share was \$16.35 and \$19.34 at December 31, 2011 and 2010, respectively. At December 31, 2011, 2,860 Plan participants were invested in the fund.

The Vanguard U.S. Growth Fund Investor Shares seeks to provide long-term growth of capital by investing in large, high-quality, seasoned U.S. companies with records of exceptional growth and above-average prospects for future growth. The value per share was \$18.05 and \$18.25 at December 31, 2011 and 2010, respectively. At December 31, 2011, 2,106 Plan participants were invested in the fund.

The Vanguard 500 Index Fund Investor Shares seeks to provide long-term growth of capital and income from dividends by holding each of the 500 stocks that make up the unmanaged Standard & Poor's 500 Composite Stock Price Index, a widely recognized benchmark of U.S. market performance. The value per share was \$115.80 and \$115.82 at December 31, 2011 and 2010, respectively. At December 31, 2011, 3,053 Plan participants were invested in the fund.

The Vanguard Wellington Fund Investor Shares seeks to provide income and long-term growth of capital, without undue risk to capital, by investing approximately 65% of its assets in stocks and the remaining 35% in bonds. The value per share was \$31.34 and \$31.10 at December 31, 2011 and 2010, respectively. At December 31, 2011, 2,606 Plan participants were invested in the fund.

The Vanguard Morgan Growth Fund Investor Shares seeks to provide long-term capital appreciation by investing in mid-sized and large companies that are expected to have above average growth in sales and profits. The value per share was \$17.47 and \$18.03 at December 31, 2011 and 2010, respectively. At December 31, 2011, 775 Plan participants were invested in the fund.

The Vanguard Windsor II Fund Investor Shares seeks to provide long-term capital appreciation and income by investing mainly in mid-sized and large companies whose stocks are considered by the fund's advisor to be undervalued. The value per share was \$25.78 and \$25.67 at December 31, 2011 and 2010, respectively. At December 31, 2011, 856 Plan participants were invested in the fund.

The Vanguard LifeStrategy Growth Fund seeks to provide long-term growth of capital and income by investing in four Vanguard funds: a domestic stock fund, an international stock fund, a bond fund and an asset allocation fund. The portfolio's asset allocation ranges are expected to be 80% stocks and 20% bonds. The value per share was \$21.10 and \$22.06 at December 31, 2011 and 2010, respectively. At December 31, 2011, 1,982 Plan participants were invested in

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AIRGAS, INC. 401(k) PLAN

Notes to the Financial Statements (continued)

the fund.

The Vanguard LifeStrategy Moderate Growth Fund seeks to provide income and long-term growth of capital and income by investing in four Vanguard funds: a domestic stock fund, an international stock fund, a bond fund and an asset allocation fund. The portfolio's asset allocation ranges are expected to be 60% stocks and 40% bonds. The value per share was \$19.16 and \$19.57 at December 31, 2011 and 2010, respectively. At December 31, 2011, 1,674 Plan participants were invested in the fund.

The Vanguard LifeStrategy Conservative Growth Fund seeks to provide income and moderate long-term growth of capital and income by investing in five Vanguard funds: a domestic stock fund, an international stock fund, two bond funds and an asset allocation fund. The portfolio's asset allocation ranges are expected to be 40% stocks and 60% bonds and short-term cash investments. The value per share was \$16.22 and \$16.36 at December 31, 2011 and 2010, respectively. At December 31, 2011, 7,541 Plan participants were invested in the fund.

The Vanguard LifeStrategy Income Fund seeks to provide a high level of income by investing in four Vanguard funds: a stock fund, two bond funds and an asset allocation fund. The portfolio's asset allocation ranges are expected to be 20% stocks, 60% bonds and 20% short-term cash reserves. The value per share was \$14.14 and \$14.06 at December 31, 2011 and 2010, respectively. At December 31, 2011, 915 Plan participants were invested in the fund.

The Vanguard Total Bond Market Index Fund Investor Shares seeks to provide a high level of interest income by attempting to match the performance of the unmanaged Barclay's Capital Aggregate Bond Index, a widely recognized measure of the entire taxable U.S. bond market. The value per share was \$11.00 and \$10.60 at December 31, 2011 and 2010, respectively. At December 31, 2011, 2,388 Plan participants were invested in the fund.

The Vanguard Retirement Savings Trust seeks stability of principal and a high level of current income consistent with a two-to-three year average maturity. The Trust is a tax-exempt common collective trust invested primarily in fully-benefit responsive investment contracts issued by insurance companies and commercial banks, and similar types of fixed-principal investments. The Trust intends to maintain a constant net asset value of \$1.00 per share. The principal and interest of these contracts are not guaranteed. At December 31, 2011, 3,511 Plan participants were invested in the Trust.

(d) Notes Receivable from Participants

Notes receivable from participants represent participant loans that are measured at their unpaid principal balance plus any accrued but unpaid interest. Subsequent to a remedy period that provides for the repayment of defaulted loans, uncollectible defaulted loans are treated as taxable distributions from the Plan to the respective participants.

(e) Use of Estimates

The preparation of the financial statements in accordance with GAAP requires the Plan administrator to make estimates that affect the reported amounts of assets and liabilities and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

(f) Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the Statement of Net Assets Available for Benefits.

(3) Investments

The following investments represent 5% or more of the net assets available for benefits at December 31, 2011 and 2010:

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AIRGAS, INC. 401(k) PLAN

Notes to the Financial Statements (continued)

	2011	2010	
Airgas Common Stock Fund	\$118,924,937	\$94,785,451	
Vanguard 500 Index Fund Investor Shares	43,332,245	42,782,578	
Vanguard Explorer Fund Investor Shares	25,992,117	27,424,455	(1)
Vanguard International Growth Fund Investor Shares	25,299,965	30,173,165	(1)
Vanguard LifeStrategy Conservative Growth Fund	63,702,549	50,490,461	
Vanguard Retirement Savings Trust	90,660,396	84,613,168	(2)
Vanguard Total Bond Market Index Fund Investor Shares	34,754,470	31,327,417	
Vanguard U.S. Growth Fund Investor Shares	26,145,791	26,966,630	(1)
Vanguard Wellington Fund Investor Shares	49,904,732	49,398,962	

(1)Represents 5% or more of net assets available for benefits at December 31, 2010 and less than 5% of net assets available for benefits at December 31, 2011.

(2)Stated at contract value.

During the years ended December 31, 2011 and 2010, the net appreciation (depreciation) in the fair value of investments (including realized gains and losses) was as follows:

	2011	2010
Airgas Common Stock Fund	\$24,206,044	\$30,713,693
Mutual funds	(6,328,291)	30,850,322
Net appreciation in fair value of investments	\$17,877,753	\$61,564,015

Plan participants may ordinarily direct the withdrawal or transfer of all or a portion of their investments in the Trust at contract value. Contract value represents contributions made plus interest accrued at the contract rate, less participant withdrawals and administrative expenses.

There are no reserves against the contract value for credit risk of the contract issuer or otherwise. The average yield was 3.09% for 2011 and 3.36% for 2010. The average crediting interest rate was 3.31% for 2011 and 3.58% for 2010. The crediting interest rate is based on a formula agreed upon with the issuer, but may not be less than zero. Such interest rates are reviewed on a quarterly basis for resetting.

The existence of certain conditions can limit the Trust's ability to transact at contract value with issuers of its investment contracts. Specifically, any event outside the normal operation of the Trust that causes a withdrawal from an investment contract may result in a negative market value adjustment with respect to the withdrawal. Examples of such events include, but are not limited to, partial or complete legal termination of the Trust or a unit holder, tax disqualification of the Trust or unit holder, and certain Trust amendments if issuers' consent is not obtained. As of December 31, 2011, the occurrence of an event outside the normal operation of the Trust that would cause a withdrawal from an investment contract is not considered to be probable.

Summarized below are the carrying and fair values of the Trust, which is reflected at its carrying value in the Plan's net assets available for benefits on the Statements of Net Assets Available for Benefits at December 31, 2011 and 2010. The computation of the fair value of the Trust is performed by the Company.

	2011	2011	2010	2010
	Carrying Value	Fair Value	Carrying Value	Fair Value
Vanguard Retirement Savings Trust	\$90,660,396	\$95,062,391	\$84,613,168	\$88,081,658

(4) Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Assets and liabilities recorded at fair value are classified based upon the level of judgment associated with the inputs used to measure their fair value. The hierarchical levels related to the subjectivity of the valuation inputs are defined as follows:

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AIRGAS, INC. 401(k) PLAN

Notes to the Financial Statements (continued)

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities at the measurement date.
- Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable, directly or indirectly through corroboration with observable market data at the measurement date.
- Level 3 inputs are unobservable inputs that reflect management's best estimate of the assumptions (including assumptions about risk) that market participants would use in pricing the asset or liability at the measurement date. The carrying values of employee contributions receivable, employer contributions receivable and refunds due to participants approximate fair value.

The following is a description of the valuation methodologies used for assets measured at fair value:

Airgas Common Stock Fund: Valued based on the combined quoted market prices in active markets of the underlying shares of Airgas common stock and a money market component.

Mutual funds: Valued at the net asset value of shares held by the Plan at year-end.

Vanguard Retirement Savings Trust: Valued, as reflected in the Plan's investments at fair value on the Statements of Net Assets Available for Benefits at December 31, 2011 and 2010, based on the expected future cash flows for each contract discounted to present value using observable market data as inputs, and the aggregate observable market values of the underlying investments in mutual funds, bond trusts and other investments.

The Plan's assets measured at fair value on a recurring basis at December 31, 2011 and 2010 are categorized in the table below based on the lowest level of significant input to the valuation:

	Balance at December 31, 2011	Quoted prices in active markets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Airgas Common Stock Fund	\$118,924,937	\$118,924,937	\$—	\$—
Mutual funds				
Equity	135,719,629	135,719,629	—	—
Balanced	172,302,059	172,302,059	—	—
Bond	34,754,470	34,754,470	—	—
Money Market	82,411	82,411	—	—
Vanguard Retirement Savings Trust	95,062,391	—	95,062,391	—
Total investments at fair value	\$556,845,897	\$461,783,506	\$95,062,391	\$—

	Balance at December 31, 2010	Quoted prices in active markets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Airgas Common Stock Fund	\$94,785,451	\$94,785,451	\$—	\$—
Mutual funds				
Equity	142,416,436	142,416,436	—	—
Balanced	157,222,746	157,222,746	—	—
Bond	31,327,417	31,327,417	—	—
Money Market	72,548	72,548	—	—
Vanguard Retirement Savings Trust	88,081,658	—	88,081,658	—
Total investments at fair value	\$513,906,256	\$425,824,598	\$88,081,658	\$—

The methods described above may produce a fair value calculation that may not be indicative of net realizable value or



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AIRGAS, INC. 401(k) PLAN

Notes to the Financial Statements (continued)

reflective of future fair values. Furthermore, while Plan Management believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

**(5) Tax Status**

The Plan document has been restated for recent law changes. The Plan sponsor adopted the restated version of a volume submitter plan as of January 1, 2010. In prior years, the Plan was filed as a non-standardized prototype plan document. The IRS has determined and informed the volume submitter Plan sponsor, by a letter dated March 31, 2008, that the Plan and related trust are designed in accordance with applicable sections of the IRC. The IRS determined that the Plan is qualified under IRC Section 401, by a letter dated May 21, 2012.

GAAP requires the Plan administrator to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination by the IRS. The Plan administrator has analyzed the tax positions taken by the Plan, and has concluded that as of December 31, 2011, there are no uncertain 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 it is no longer subject to income tax examinations for years prior to 2010.

The Plan administrator believes that the Plan is designed and is currently being operated in compliance with the applicable requirements of the IRC.

**(6) Related Party Transactions**

The Plan investments are managed by an affiliate of Vanguard Fiduciary Trust Company (the Plan trustee). The Airgas Common Stock Fund invests in common stock of the Company. Investment transactions of the Plan, therefore, qualify as party-in-interest transactions, but are not prohibited transactions.

**(7) Plan Termination**

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. Upon termination of the Plan, participants would remain fully vested in all amounts credited to their accounts under the Plan.

**(8) Transfers from Other Plans and Other Additions**

Transfers from other plans reflect the assumption by the Plan of entire benefit plans of certain companies acquired by Airgas.

**(9) Differences between Financial Statements and Form 5500**

The following is a reconciliation of net assets available for benefits per the financial statements to the Plan's Form 5500:

	2011	2010
Net assets available for benefits per the financial statements	\$574,239,540	\$530,319,952
Deemed loan activity	(96,339	) (117,625
Adjustment from contract value to fair value for fully benefit-responsive investment contracts	4,401,995	3,468,490
Net assets available for benefits per Form 5500	\$578,545,196	\$533,670,817

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AIRGAS, INC. 401(k) PLAN

Notes to the Financial Statements (continued)

The following is a reconciliation of net additions per the financial statements to the Plan's Form 5500:

	2011	2010
Net additions per the financial statements	\$43,919,588	\$84,088,671
Change in deemed loan activity	21,286	(64,193 )
Change in adjustment from contract value to fair value for fully benefit-responsive investment contracts	933,505	1,927,713
Net income per Form 5500	\$44,874,379	\$85,952,191

## AIRGAS, INC. 401(k) PLAN

Schedule H, Line 4i - Schedule of Assets (Held at End of Year)

December 31, 2011

Identity of Issue	Description of Investment	Current Value
* Airgas Common Stock Fund	Company Stock Fund	\$ 118,924,937
* Vanguard 500 Index Fund Investor Shares	Registered Investment Company	43,332,245
* Vanguard Explorer Fund Investor Shares	Registered Investment Company	25,992,117
* Vanguard International Growth Fund Investor Shares	Registered Investment Company	25,299,965
* Vanguard LifeStrategy Conservative Growth Fund	Registered Investment Company	63,702,549
* Vanguard LifeStrategy Growth Fund	Registered Investment Company	26,167,842
* Vanguard LifeStrategy Income Fund	Registered Investment Company	9,062,271
* Vanguard LifeStrategy Moderate Growth Fund	Registered Investment Company	23,464,665
* Vanguard Morgan Growth Fund Investor Shares	Registered Investment Company	6,293,186
* Vanguard Total Bond Market Index Fund Investor Shares	Registered Investment Company	34,754,470
* Vanguard U.S. Growth Fund Investor Shares	Registered Investment Company	26,145,791
* Vanguard Wellington Fund Investor Shares	Registered Investment Company	49,904,732
* Vanguard Windsor II Fund Investor Shares	Registered Investment Company	8,656,325
* Vanguard Prime Money Market Fund	Registered Investment Company	82,411
* Vanguard Retirement Savings Trust**	Common Collective Trust	90,660,396
* Notes Receivable from Participants	Interest ranging from 4% to 11%, maturing through November 2041	19,252,786
Total		\$571,696,688

\* Party-in-interest

\*\* Contract value

See accompanying Report of Independent Registered Public Accounting Firm.

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.

AIRGAS, INC.  
AIRGAS, INC. 401(k) PLAN  
(Name of Plan)

BY: /s/ Robert M. McLaughlin  
Robert M. McLaughlin  
Senior Vice President and  
Chief Financial Officer

BY: /s/ Dwight T. Wilson  
Dwight T. Wilson  
Senior Vice President - Human Resources

DATED: June 27, 2012