

RUDOLPH TECHNOLOGIES INC

Form DEFR14A

May 08, 2009

Table of Contents

**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**

(Amendment No. 1)

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 (S) 240.11 or (S) 240.14a-12

Rudolph Technologies, Inc.
(Exact 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:

- o Fee paid previously with preliminary materials.
- o 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:

Table of Contents

Explanatory Note

On February 2, 2009, the Company filed a Form 8-K with the U.S. Securities and Exchange Commission which disclosed that the Company's Board of Directors had approved an amendment to the Company's Bylaws to provide that the election of directors to the Board shall be by a majority of the votes cast for each director in uncontested elections as opposed to the plurality standard previously reflected in the Bylaws. This change was not identified in the preparation of the Proxy Statement and therefore the document incorrectly cited to a plurality standard in the text. The purpose of this Amendment is to correct the applicable statements contained in the Proxy Statement.

TABLE OF CONTENTS

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS To be held May 19, 2009

RUDOLPH TECHNOLOGIES, INC.

PROXY STATEMENT

INFORMATION CONCERNING SOLICITATION AND VOTING

CORPORATE GOVERNANCE PRINCIPLES AND PRACTICES

ELECTION OF DIRECTORS

PROPOSAL 2 APPROVAL OF RUDOLPH TECHNOLOGIES, INC. 2009 STOCK PLAN

PROPOSAL 3 APPROVAL OF RUDOLPH TECHNOLOGIES, INC. 2009 EMPLOYEE STOCK

PURCHASE PLAN

PROPOSAL 4 RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC

ACCOUNTANTS

AUDIT COMMITTEE REPORT

EXECUTIVE COMPENSATION

COMPENSATION COMMITTEE REPORT ON EXECUTIVE COMPENSATION

SECURITY OWNERSHIP

EQUITY COMPENSATION PLAN INFORMATION

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

OTHER MATTERS

Table of Contents

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
To be held May 19, 2009**

TO THE STOCKHOLDERS:

NOTICE IS HEREBY GIVEN that the 2009 Annual Meeting of Stockholders of Rudolph Technologies, Inc. (the Company), a Delaware corporation, will be held on May 19, 2009 at 10:00 a.m., local time, at the Company's corporate headquarters, located at One Rudolph Road, Flanders, New Jersey, 07836, for the following purposes:

1. To elect two Class I directors to serve for three-year terms expiring upon the 2012 Annual Meeting of Stockholders or until their successors are elected;
2. To approve the Rudolph Technologies, Inc. 2009 Stock Plan;
3. To approve the Rudolph Technologies, Inc. 2009 Employee Stock Purchase Plan;
4. To ratify the appointment of Ernst & Young LLP as our independent registered public accountants for the year ending December 31, 2009; and
5. To transact such other business as may properly come before the meeting and any adjournment or postponement thereof.

The foregoing items of business are more fully described in the Proxy Statement accompanying this Notice. Included in the mailing of this Proxy Statement is a copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2008.

Only stockholders of record at the close of business on March 31, 2009 are entitled to notice of and to vote at the meeting and any adjournment thereof.

All stockholders are cordially invited to attend the meeting in person. However, to ensure your representation at the meeting, you are urged to mark, sign, date and return the enclosed proxy card as promptly as possible in the postage-prepaid envelope enclosed for that purpose. Any stockholder attending the meeting may vote in person even if such stockholder has returned a proxy.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD MAY 19, 2009:

The enclosed proxy statement and 2008 Annual Report to Stockholders are available at www.proxydocs.com/rtec.

FOR THE BOARD OF DIRECTORS

Steven R. Roth
Secretary

Flanders, New Jersey
April 17, 2009

Table of Contents

RUDOLPH TECHNOLOGIES, INC.

PROXY STATEMENT

INFORMATION CONCERNING SOLICITATION AND VOTING

General

The enclosed Proxy is solicited on behalf of the Board of Directors of Rudolph Technologies, Inc. (the Company) for use at the 2009 Annual Meeting of Stockholders to be held May 19, 2009 at 10:00 a.m., local time (the Annual Meeting), or at any adjournment thereof, for the purposes set forth herein and in the accompanying Notice of Annual Meeting of Stockholders. The Annual Meeting will be held at the Company's corporate headquarters, located at One Rudolph Road, Flanders, New Jersey, 07836. The Company's telephone number is (973) 691-1300.

These proxy solicitation materials and the Company's Annual Report to Stockholders for the year ended December 31, 2008, including financial statements, were mailed on or about April 17, 2009 to stockholders entitled to vote at the meeting.

Record Date and Voting Securities

Stockholders of record at the close of business on March 31, 2009 (the Record Date) are entitled to notice of and to vote at the meeting. At the Record Date, 30,811,170 shares of the Company's Common Stock, \$0.001 par value, were issued and outstanding.

Revocability of Proxies

Any proxy given pursuant to this solicitation may be revoked by the person giving it at any time before its use by delivering to the Secretary of the Company at the Company's principal executive offices a written notice of revocation or a duly executed proxy bearing a later date or by attending the meeting and voting in person.

Voting and Solicitation

Each stockholder of record is entitled to one vote for each share of Common Stock owned by such stockholder on all matters presented at the Annual Meeting. Stockholders do not have the right to cumulate their votes in the election of directors.

The Company will bear the cost of soliciting proxies. In addition, the Company may reimburse brokerage firms and other persons representing beneficial owners of shares for their expenses in forwarding solicitation material to such beneficial owners. Solicitation of proxies by mail may be supplemented by telephone, telegram, facsimile or personal solicitation by directors, officers or regular employees of the Company. No additional compensation will be paid to such persons for such services.

Quorum; Abstentions; Broker Non-votes

The required quorum for the transaction of business at the Annual Meeting is a majority of the votes eligible to be cast by holders of shares of Common Stock issued and outstanding on the Record Date.

If you return a signed and dated Proxy but do not indicate how the shares are to be voted, those shares will be voted as recommended by the Board. A valid Proxy also authorizes the individuals named as proxies to vote your shares in their discretion on any other matters which, although not described in the Proxy Statement, are properly presented for action at our Annual Meeting. If you indicate on your Proxy that you wish to

Table of Contents

abstain from voting on an item, your shares will not be voted on that item. Abstentions and broker non-votes are not counted in determining the number of shares voted for or against any nominee for Director or any other proposal, but will be counted to determine whether there is a quorum present. There is no right to cumulative voting.

In order to have a quorum present at the Annual Meeting, a majority of our shares of common stock that are outstanding and entitled to vote at the Annual Meeting must be represented in person or by proxy. If a quorum is not present, the Annual Meeting will be rescheduled for a later date.

Vote Required

Each director shall be elected by the vote of the majority of the votes cast. This means that the number of shares cast for a director's election exceeds the number of votes cast against that director's election (with abstentions and broker non-votes not counted as a vote cast either for or against that director's election, although abstentions count for quorum purposes). All of the other proposals require the affirmative vote of the majority of shares present in person or represented by proxy at the meeting and entitled to vote on the subject matter. For the other proposals, abstentions are counted for quorum purposes, but in effect count as negative votes because they are shares represented by proxy that are not voted in the affirmative. Broker non-votes are not shares represented by proxy and are not counted as part of the vote total and have no effect on the outcome.

Deadlines for Submission of Stockholder Proposals for 2010 Annual Meeting

Stockholders of the Company are entitled to present proposals for consideration at forthcoming stockholder meetings provided that they comply with the proxy rules promulgated by the Securities and Exchange Commission (the SEC) and the Bylaws of the Company. Stockholders wishing to present a proposal at the Company's 2010 Annual Stockholder Meeting must submit such proposal in writing to the Company no later than by December 22, 2009 if they wish for it to be eligible for inclusion in the proxy statement and form of proxy relating to that meeting. In addition, under the Company's Bylaws, a stockholder wishing to make a proposal at the 2010 Annual Stockholder Meeting must submit such a proposal in writing to the Company no later than March 12, 2010. The Nominating and Governance Committee will consider qualified director nominees recommended by stockholders. Our process for receiving and evaluating Board member nominations from our stockholders is described below under the caption Nominating and Governance Committee.

No Appraisal Rights

Stockholders have no dissenters' rights of appraisal with respect to any of the matters to be voted upon at the Annual Meeting.

CORPORATE GOVERNANCE PRINCIPLES AND PRACTICES

Rudolph Technologies is committed to sound and effective corporate governance practices. Having such principles is essential to running our business efficiently and to maintaining our integrity in the marketplace. The major components of our corporate governance practices are described below.

Codes of Ethics

We have adopted a Code of Business Conduct and Ethics and a Financial Code of Ethics that set forth principles to guide all employees, executive officers and directors and establish procedures for reporting any violations of these principles. These may be found on our website at <http://www.rudolphtech.com/CodesEthics.aspx> or may be requested by writing to Rudolph Technologies, Inc., Attention: Investor Relations, One Rudolph Road, P.O. Box 1000, Flanders,

New Jersey 07836. The Company will disclose any amendment to its codes of ethics or waiver of a provision of its codes of ethics applicable to its officers, including the name of the officer to whom the waiver was granted, on our website at www.rudolphtech.com, on the Investor Relations page.

Table of Contents

Board Meetings and Committees

The Board of Directors of the Company held a total of four meetings during 2008. No director attended fewer than 100% of the meetings of the Board of Directors, except Carl E. Ring, Jr. who resigned from the Board in August 2009 and Michael W. Wright who resigned from the Board in May 2009. In addition, no director attended fewer than 88.9% of the committee meetings upon which such director served, except for the directors as cited above. While the Company does not currently have a formal policy regarding the attendance of directors at the annual meeting of stockholders, directors are encouraged to attend. All then current members of the Board of Directors attended the 2008 Annual Meeting of Stockholders. The Board of Directors has an Audit Committee, a Compensation Committee and a Nominating and Governance Committee, each of which has adopted a written charter. The charters of these committees are in compliance with rules adopted by the SEC and the NASDAQ Global Select Market® on which our stock is listed (Nasdaq).

Board Independence

The Board makes an annual determination as to the independence of each of our Board members under the current standards for independence established by Nasdaq and the SEC. The Board has determined that the following members of the current Board, consisting of a majority of the Board, satisfy these independence standards: Daniel H. Berry, Leo Berlinghieri, Richard F. Spanier, Thomas G. Greig, Aubrey C. Tobey and John R. Whitten. In addition, on four occasions during 2008, our Board met in executive sessions in which solely the independent Board members were present.

Audit Committee

We have an Audit Committee that assists the Board in fulfilling its responsibilities for general oversight of the integrity of our financial statements and with our compliance with legal and regulatory requirements. Specifically, the Audit Committee recommends engagement of the Company's independent registered public accountants, and is primarily responsible for approving the services performed by the Company's independent registered public accountants and for reviewing and evaluating the Company's accounting principles and its system of internal accounting controls. The report of our Audit Committee is found below under the caption Audit Committee Report.

The Audit Committee is governed by its own charter that sets forth its specific responsibilities and the qualifications for membership to the committee. The charter of the Audit Committee is available on our website at www.rudolphtech.com, on the Investor Relations page. The Audit Committee held nine meetings in 2008. There was a change to the composition to the Audit Committee in which Richard F. Spanier and Thomas G. Greig were appointed to the Audit Committee, replacing Paul Craig and Aubrey C. Tobey in October 2008. Consistent with the foregoing, the Audit Committee is currently composed of Directors, Thomas G. Greig, Richard F. Spanier and John R. Whitten. The Board has determined that Thomas G. Greig, Richard F. Spanier and John R. Whitten meet the requirements for membership to the Audit Committee set forth by Nasdaq and the SEC, including that they be independent.

The Board has determined that John R. Whitten meets the definition of an Audit Committee Financial Expert under SEC rules, and also has the level of financial sophistication required of at least one member of the Audit Committee under Nasdaq rules.

Compensation Committee

The Compensation Committee has its own charter that sets forth its specific responsibilities, including the establishment of the policies upon which compensation of and incentives for the Company's executive officers will be based, the review and approval of the compensation of the Company's executive officers, and the administration of the

Company's stock and stock purchase plans. The charter of the Compensation Committee is available on our website at www.rudolphtech.com, on the Investor Relations page.

The Compensation Committee held 14 meetings during the last year including four meetings held prior to the Board of Directors meeting where all Compensation Committee members attended in person. This

Table of Contents

Committee is currently composed of Directors Daniel H. Berry, Leo Berlinghieri and Aubrey C. Tobey. There was a change to the composition to the Compensation Committee in which Leo Berlinghieri and Aubrey C. Tobey were appointed to the Compensation Committee, replacing Carl E. Ring, Jr. and Paul Craig in October 2008. The Board has determined that Daniel H. Berry, Leo Berlinghieri and Aubrey C. Tobey meet the requirements for membership on the Compensation Committee, including the independence requirements of Nasdaq. For a complete discussion of the Compensation Committee, please refer to the Executive Compensation section of the Compensation, Discussion and Analysis (CD&A).

Nominating and Governance Committee

Like the other committees of the Board, the Nominating and Governance Committee has its own charter that outlines its responsibilities. These responsibilities include identifying prospective director nominees and recommending to the Board director nominees for the next annual meeting of stockholders and replacements of a director in the event a director steps down. The Nominating and Governance Committee also recommends to the Board director nominees for the Audit and Compensation Committees. The charter of the Nominating and Governance Committee is available on our website at www.rudolphtech.com, on the Investor Relations page.

The Nominating and Governance Committee is currently composed of Directors Thomas G. Greig, Richard F. Spanier and Aubrey C. Tobey and held five meetings during the last year. Michael W. Wright was a member of the Nominating and Governance Committee until his resignation from the Board in May 2008. The Board has determined that all of these directors meet the requirements for membership to the Nominating and Governance Committee, including the independence requirements of Nasdaq.

The Nominating and Governance Committee determines the required selection criteria and qualifications of director nominees based upon the needs of the Company at the time nominees are considered. A candidate must possess the ability to apply good business judgment and must be in a position to properly exercise his or her duties of loyalty and care. Candidates should also exhibit proven leadership capabilities, high integrity and experience with a high level of responsibilities within their chosen fields, and have the ability to grasp complex principles of business, finance, international transactions and semiconductor inspection and metrology technologies. When current Board members are considered for nomination for reelection, the Nominating and Governance Committee also takes into consideration their prior contributions to and performance on the Board and their record of attendance.

The Nominating and Governance Committee will consider the above criteria for nominees identified by the Nominating and Governance Committee itself, by stockholders, or through some other source. The Nominating and Governance Committee uses the same process for evaluating all nominees, regardless of the original source of nomination. The Nominating and Governance Committee may use the services of a third party search firm to assist in the identification or evaluation of Board member candidates.

The Nominating and Governance Committee has a formal policy with regard to consideration of director candidates recommended by the Company's stockholders. In accordance with the policy, the Committee will consider recommendations and nominations for candidates to the Board of Directors from stockholders of the Company holding no less than 1% of the Company's securities for at least twelve months prior to the date of the submission of the recommendation or nomination. Stockholders wishing to recommend persons for consideration by the Nominating and Governance Committee as nominees for election to the Company's Board of Directors can do so by writing to the Office of the General Counsel of the Company at its principal executive offices giving each such person's name, biographical data and qualifications. Any such recommendation should be accompanied by a written statement concerning the eligibility and qualifications from the person recommended and of his or her consent to be named as a nominee and, if nominated and elected, to serve as a director. The Company's Bylaws also contain a procedure for stockholder nomination of directors.

Communications with the Board of Directors

We have a formal policy regarding communications with the Board of Directors. Stockholders may communicate with the Board of Directors by writing to them at c/o Rudolph Technologies, Inc., Office of the

Table of Contents

General Counsel, One Rudolph Road, P.O. Box 1000, Flanders, New Jersey 07836 and such communications will be forwarded to the Board of Directors. Stockholders who would like their submission directed to a member of the Board of Directors may so specify, and the communication will be forwarded to such specific directors, as appropriate.

PROPOSAL 1**ELECTION OF DIRECTORS****Nominees**

The authorized number of directors is currently established at seven. The Company's Certificate of Incorporation provides that the directors shall be divided into three classes, with the classes serving for staggered, three-year terms. Currently there are two directors in each of Class I and Class III and three directors in Class II. Each of the two Class I directors are to be elected at this Annual Meeting and will hold office until the 2012 Annual Meeting or until their successors have been duly elected and qualified. Each of the three Class II directors will hold office until the 2010 Annual Meeting or until their successors have been duly elected and qualified and each of the two Class III directors will hold office until the 2011 Annual Meeting or until their successors have been duly elected and qualified. These directors were approved by the Board for inclusion on this Proxy Statement based on the recommendation of the Nominating and Governance Committee.

Unless otherwise instructed, the proxy holders will vote the proxies received by them for the Company's two nominees named below, each of whom is currently a director of the Company. In the event that any nominee of the Company becomes unable or declines to serve as a director at the time of the Annual Meeting, the proxy holders will vote the proxies for any substitute nominee who is designated by the current Board of Directors to fill the vacancy. It is not expected that any nominee listed below will be unable or will decline to serve as a director.

The names of the two Class I nominees for director and certain information about each of them are set forth below. The names of, and certain information about, the current Class II and Class III directors with unexpired terms are also set forth below. All information is as of the Record Date.

| Name | Age | Position | Director Since |
|--|------------|---|-----------------------|
| <i>Nominee Class I Directors:</i> | | | |
| Leo Berlinghieri(1) | 55 | Chief Executive Officer and President, MKS Instruments, Inc. | 2008 |
| Paul F. McLaughlin | 63 | Chairman and Chief Executive Officer, Rudolph Technologies, Inc. | 1996 |
| <i>Continuing Class II Directors:</i> | | | |
| Daniel H. Berry | 63 | Operating Partner, Riverside Partners, LLC | 1998 |
| Thomas G. Greig | 61 | Managing Director, Liberty Capital Partners, Inc. | 2003 |
| Richard F. Spanier | 69 | Retired, Chairman Emeritus | 1966 |
| <i>Continuing Class III Directors:</i> | | | |
| Aubrey C. Tobey | 83 | President, ACT International | 1998 |
| John R. Whitten | 62 | Former Chief Financial Officer, Vice President and Treasurer, Applied Industrial Technologies, Inc. | 2006 |

(1) Mr. Berlinghieri was appointed to the Board of Directors on September 18, 2008.

Table of Contents

Except as indicated below, each nominee or incumbent director has been engaged in the principal occupation set forth above during the past five years. There are no family relationships between any directors or executive officers of the Company.

Paul F. McLaughlin has served as the Company's Chairman since January 2000 and Chief Executive Officer and as a director of the Company since June 1996. Mr. McLaughlin holds a B.S. in Metallurgical Engineering from Rensselaer Polytechnic Institute, an M.S. in Metallurgy and Materials Science from Lehigh University and an M.B.A. from Harvard University Graduate School of Business Administration.

Daniel H. Berry has served as one of the Company's directors since October 1998. Since January 2002, Mr. Berry has been an Operating Partner of Riverside Partners, LLC, a private equity investment firm. From July 2004 to August 2007, Mr. Berry also served as Executive Vice President of Applied Precision, a Riverside portfolio company. He was employed by Ultratech Stepper, Inc. (presently Ultratech, Inc.), an equipment supplier to the semiconductor industry, from 1990 to 2001 in various positions including President and Chief Operating Officer from May 1999 to November 2001. Prior to this, Mr. Berry held positions at General Signal, Perkin Elmer and Bell Laboratories. Mr. Berry holds a B.S. in Electrical Engineering from the Polytechnic Institute of Brooklyn.

Leo Berlinghieri has served as one of the Company's directors since September 2008. Since July 2005, Mr. Berlinghieri has served as Chief Executive Officer and President of MKS Instruments, Inc., an equipment supplier to the semiconductor industry. From April 2004 to July 2005, Mr. Berlinghieri served as President and Chief Operating Officer and prior to that he served as Vice President and Chief Operating Officer from July 2003 to April 2004 for MKS Instruments, Inc. Mr. Berlinghieri is currently a board member of MKS Instruments, Inc.

Thomas G. Greig has served as one of the Company's directors since January 2003. Since July 1998, Mr. Greig has been a Managing Director of Liberty Capital Partners, Inc., a private equity investment firm. From December 1985 to July 1998, Mr. Greig was a Managing Director of Donaldson, Lufkin, & Jenrette, Inc., an investment banking firm. Mr. Greig holds a B.S. in Engineering from Princeton University, an M.S.E. in Electrical Engineering from New York University and an M.B.A. from Harvard University Graduate School of Business Administration. Mr. Greig is currently the Non-Executive Chairman of the Board of Black Box Corporation.

Richard F. Spanier has served as Chairman Emeritus of the Company's Board of Directors since January 2000 and prior to that as the Company's Chairman of the Board of Directors since September 1966. From September 1966 to June 1996, Dr. Spanier served as the Company's President and Chief Executive Officer. Dr. Spanier holds a B.S. in Physics, an M.S. in Physical Chemistry and a Ph.D. in Chemical Physics from Stevens Institute of Technology.

Aubrey C. Tobey has served as one of the Company's directors since October 1998. Since May 1987, Mr. Tobey has served as President of ACT International, a company which provides marketing and management services for high technology companies. Mr. Tobey holds a B.S. in Mechanical Engineering from Tufts University and an M.S. in Mechanical Engineering from the University of Connecticut. Mr. Tobey served as a director of Chartered Semiconductor Manufacturing, Ltd. until May 2003.

John R. Whitten has served as one of the Company's directors since July 2006 upon his appointment to the Company's Board of Directors. From November 1995 to December 2003, Mr. Whitten served as Chief Financial Officer, Vice President and Treasurer of Applied Industrial Technologies, Inc., an industrial supply distributor. Mr. Whitten is a C.P.A. and holds a B.B.A. in Accounting from Cleveland State University. Mr. Whitten is currently an independent director overseeing 70 portfolios in the fund complex of American Century Companies, Inc., a registered investment company, or its wholly owned subsidiaries.

Compensation of Directors

Directors who are employees of the Company receive no compensation for their services as members of the Board of Directors. In 2008, directors were not paid to serve on the committees of the Board of Directors with the exception of those directors serving as committee chairmen. John R. Whitten received cash

Table of Contents

compensation of \$2,500 each quarter for his services as the Chairman of the Audit Committee. Daniel H. Berry and Aubrey C. Tobey each received cash compensation of \$2,500 for the 2008 fourth quarter for their services as the Chairman of the Compensation Committee and as the Chairman of the Nominating and Governance Committee, respectively. From time to time directors may be compensated for work performed as members of special subcommittees of the Board of Directors. No fees were paid to directors for special subcommittee work in 2008.

Directors who are not employees of the Company received cash compensation of \$5,000 for attendance at each quarterly meeting of the Board of Directors in 2008. Through July 2008, as new non-employee directors commence serving on the Board of Directors, they are first awarded an initial grant (Initial Grant) of 10,000 stock options at an exercise price equal to the fair market value per share of the Common Stock on the date of the Board meeting at which the Initial Grant was awarded or the equivalent in restricted stock units subject to the terms of the Rudolph Technologies, Inc. 1999 Stock Plan (1999 Plan). Further, annually, each non-employee director who continued to serve as a non-employee director through the anniversary date of the Initial Grant was automatically granted an option to purchase 5,000 shares of Common Stock at an exercise price equal to the fair market value per share of the Common Stock on the date of the Board meeting following such anniversary or was awarded the equivalent in restricted stock units subject to the terms of the 1999 Plan. Since 2005, the above mentioned share-based compensation grants have been restricted stock units instead of stock option awards. Effective as of July 2008, the equity component of a non-employee director's compensation was revised to reflect an Annual Grant of RSU's to be awarded annually as of the third quarter Board of Directors Meeting, the date of which varies year-to-year, in an amount of shares calculated by dividing \$50,000 by the Company Common Stock closing stock price on the date of such Annual Grant, rounded to the nearest 100 shares. In addition, Initial Grants issued to a new non-employee director as of the first Board of Directors Meeting after the election of such non-employee directors (First Meeting) shall be calculated in accordance with the Annual Grant formula set forth above and prorated by the number of quarters between such First Meeting and the date on which the next Annual Grant is scheduled to be awarded. Any Initial Grants and/or Annual Grants so awarded shall be issued at the closing price of the Company Common Stock as of the date of the respective grants.

For the year ended December 31, 2008, the directors, excluding the director who is a named executive officer, of the Company (ten individuals) received the following total compensation:

| Name | Fees Earned | | | All Other Compensation | Total |
|-----------------------|-----------------|-----------------|------------------|------------------------|------------|
| | or Paid in Cash | Stock Awards(1) | Option Awards(2) | | |
| Leo Berlinghieri(3) | \$ 10,000 | \$ 12,607 | \$ | \$ | \$ 22,607 |
| Daniel H. Berry | \$ 22,500 | \$ 35,552 | \$ | \$ 4,497 | \$ 62,549 |
| Paul Craig(4) | \$ 15,000 | \$ 73,006 | \$ | \$ | \$ 88,006 |
| Thomas G. Greig | \$ 20,000 | \$ 35,552 | \$ | \$ | \$ 55,552 |
| Jeff L. O Dell(5) | \$ 15,000 | \$ 73,006 | \$ | \$ | \$ 88,006 |
| Carl E. Ring, Jr. | \$ | \$ 22,945 | \$ | \$ | \$ 22,945 |
| Richard F. Spanier(6) | \$ 20,000 | \$ 35,552 | \$ | \$ 10,000 | \$ 65,552 |
| Aubrey C. Tobey | \$ 22,500 | \$ 35,552 | \$ | \$ 6,000 | \$ 64,052 |
| John R. Whitten | \$ 30,000 | \$ 73,021 | \$ | \$ | \$ 103,021 |
| Michael W. Wright(7) | \$ | \$ 39,207 | \$ | \$ | \$ 39,207 |

(1) The amounts in this column reflect the dollar amounts recognized for financial statement reporting purposes for the fiscal year ended December 31, 2008, in accordance with Statement of Financial Accounting Standards

No. 123(R), *Share-based Payments* (SFAS No. 123R). For more information regarding the Company's assumptions made in the valuation of restricted stock units, see Note 11 to the financial statements included in the Company's Form 10-K for the year ended December 31, 2008. For stock awards granted to non-employee directors in 2008, the total grant date fair value of these awards was as follows: Mr. Berlinghieri (\$50,061), Mr. Berry (\$50,061), Mr. Craig (\$50,061), Mr. Greig (\$50,061), Mr. O Dell

Table of Contents

(\$50,061), Mr. Ring (\$0), Mr. Spanier (\$50,061), Mr. Tobey (\$50,061), Mr. Whitten (\$50,061) and Mr. Wright (\$0).

- (2) As of December 31, 2008 directors had the following stock options outstanding and exercisable: Mr. Berlinghieri (0 shares), Mr. Berry (16,783 shares), Mr. Craig (15,000 shares), Mr. Greig (15,000 shares), Mr. O Dell (1,525 shares), Mr. Ring (0 shares), Mr. Spanier (15,000 shares), Mr. Tobey (15,000 shares), Mr. Whitten (0 shares) and Mr. Wright (15,353 shares). As these directors were fully vested in their options prior to 2008, no expense is shown in this column.
- (3) Mr. Berlinghieri was appointed to the Board of Directors in September 2008.
- (4) Mr. Craig resigned from the Board of Directors in September 2008.
- (5) Mr. O Dell resigned from the Board of Directors in October 2008.
- (6) Mr. Spanier is paid \$10,000 per year under a 10 year deferred compensation plan, related to his sale of the Company in 1996, that commenced in January 1999.
- (7) Mr. Wright resigned from the Board of Directors in May 2008.

Vote Required

Each Class I Director shall be elected by the vote of the majority of the votes cast. This means that the number of shares cast for a director's election exceeds the number of votes cast against that director's election (with abstentions and broker non-votes not counted as a vote cast either for or against that director's election, although abstentions count for quorum purposes).

**The Company's Board of Directors unanimously recommends voting
FOR the nominees set forth herein.**

PROPOSAL 2

APPROVAL OF RUDOLPH TECHNOLOGIES, INC. 2009 STOCK PLAN

The Board of Directors is requesting that our stockholders approve a new stock plan, the 2009 Stock Plan (the 2009 Plan). The Board has adopted the 2009 Plan, subject to stockholder approval at the Annual Meeting. If approved by our stockholders, the 2009 Plan will become effective as of November 1, 2009 and will expire 10 years from such date, unless terminated earlier. The 2009 Plan is intended to replace the Rudolph Technologies, Inc. 1999 Stock Plan (the 1999 Plan), which expires on or about November 6, 2009; provided, however, if the stockholders approve this Proposal Two, the 1999 Plan will expire on October 31, 2009.

The 2009 Plan is structured to allow the Board to create equity incentives in order to assist the Company in attracting, retaining and motivating the best available personnel for the successful conduct of the Company's business. The Company believes that linking compensation to corporate performance motivates employees and consultants to improve stockholder value. The Company has, therefore, consistently included equity incentives as a significant component of compensation for its employees and consultants. With the high demand for highly skilled employees and consultants, especially in the technology industries, management believes it is critical to the Company's success to maintain competitive compensation programs. The Board believes that the approval of the 2009 Plan would be in the best interests of the Company and its stockholders.

Summary of Material Changes Made in the 2009 Stock Plan from the 1999 Plan

Below is a summary of some of the material differences between the 2009 Plan and the 1999 Plan. This summary is qualified in its entirety by reference to the 2009 Plan itself set forth in Appendix A.

The Company recognizes that evergreen provisions have the potential for built-in dilution to stockholder value. Therefore to address potential stockholder concerns, the evergreen provision which provided for an automatic annual increase in the number of shares available under the 1999 Plan is being eliminated under the 2009 Plan. Instead, the 2009 Plan limits the number of shares authorized for grant under the 2009 Plan to 5,000,000 shares, subject to adjustment in connection with certain equity

Table of Contents

restructuring events. Upon the effective date of the 2009 Plan, no additional grants will be made under the 1999 Plan.

The 1999 Plan allows for the grant of stock options and stock purchase rights (e.g., restricted stock and restricted stock units). The 2009 Plan permits, in addition to awards of stock options, restricted stock and restricted stock units, the award of stock appreciation rights (SARs), performance units and performance shares as determined by the 2009 Plan Administrator.

In the 2009 Plan, the power of the administrator to accelerate vesting or waive forfeiture restrictions for awards has been limited to circumstances involving the death, disability or retirement of the employee, director or consultant or in the event of a Change in Control of the Company.

The exercise price for an option or SAR granted under the 2009 Plan may not be reduced without the prior consent of the Company's stockholders.

The 1999 Plan will be terminated as of the date the effective date of the 2009 Plan, meaning that while all options and awards then outstanding under the 1999 Plan will remain in effect, no additional option grants or awards may thereafter be issued under the 1999 Plan. As of December 31, 2008, 1,561,555 shares remained available for grant under the 1999 Plan.

Required Vote

The approval of the adoption of the 2009 Plan requires the affirmative vote of a majority of the votes cast on the proposal at the Annual Meeting.

Recommendation of the Board of Directors

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS
THAT STOCKHOLDERS VOTE FOR THE ADOPTION OF THE RUDOLPH
TECHNOLOGIES, INC. 2009 STOCK PLAN AND THE NUMBER OF SHARES
RESERVED FOR ISSUANCE THEREUNDER.**

Summary of the 2009 Stock Plan

The following is a summary of the principal features of the 2009 Plan and its operation. This summary is qualified in its entirety by reference to the 2009 Plan itself set forth in Appendix A.

General. The 2009 Plan provides for the grant of equity awards to employees, directors and consultants. Options granted under the 2009 Plan may either be incentive stock options as defined in Code Section 422 or nonstatutory stock options, as determined by the Board.

Purpose. The general purposes of the 2009 Plan are to attract and retain the best available personnel for positions of substantial responsibility, to provide additional incentive to the employees, directors and consultants of the Company and to promote the success of the Company's business.

Administration. The 2009 Plan will be administered by the Board or a committee (Committee) designated by the Board (in either case, the Administrator).

Eligibility. The 2009 Plan provides that nonstatutory stock options, SARs, restricted stock, restricted stock units, performance units and performance shares may be granted to employees, directors and consultants of the Company and any parent or subsidiary. Incentive stock options may be granted only to employees. The Administrator will determine which eligible persons will be granted awards.

Shares Available under the 2009 Plan. The maximum aggregate number of shares that may be awarded and sold under the 2009 Plan is 5,000,000 shares plus any shares subject to any outstanding options or similar awards granted under the 1999 Plan that subsequently expire or otherwise terminate without having been exercised in full and shares issued pursuant to awards granted under the 1999 Plan that are forfeited to or repurchased by the Company. The shares may be authorized, but unissued, or reacquired common stock. No awards have been granted under the 2009 Plan.

Table of Contents

If an award expires without being exercised in full, or, with respect to restricted stock or restricted stock units, is forfeited to or repurchased by the Company due to its failure to vest, the unpurchased or unissued shares (or forfeited or repurchased shares) which were subject to such awards will become available for future grant under the 2009 Plan (unless the 2009 Plan has terminated).

Upon exercise of a SAR settled in shares, the net number of shares issued pursuant to the award will cease to be available under the 2009 Plan. Shares actually issued under the 2009 Plan will not be returned to the 2009 Plan, except that if unvested shares subject to restricted stock, restricted stock units, performance shares or performance units are repurchased by the Company or forfeited to the Company due to their failure to vest, such shares will become available for future grant under the 2009 Plan. Shares used to pay the exercise price of an award or to satisfy the tax withholding obligations related to an award will become available for future grant or sale under the 2009 Plan. To the extent that an award under the 2009 Plan is paid out in cash, rather than shares, such cash payment will not result in reduction of the shares available for issuance under the 2009 Plan.

Prohibition on Repricing of Options or SARs. The exercise price for an option or SAR granted under the 2009 Plan may not be reduced without the prior consent of the Company's stockholders.

Option Exercise Price. The exercise price of options granted under the 2009 Plan is determined by the Administrator and must not be less than 100% of the fair market value of the Company's common stock (Common Stock) at the time of grant. Options granted under the 2009 Plan expire as determined by the Administrator, but in no event later than 10 years from date of grant. No option may be exercised by any person after its expiration. Incentive stock options granted to stockholders owning more than 10% of the voting stock of the Company must have an exercise price per share no less than 110% of the fair market value at the time of grant and the term of such option may be no more than five years from the date of grant. The fair market value of the Common Stock is generally determined with reference to the closing sale price for the Common Stock (or the closing bid if no sales were reported) on the day of determination.

Exercise of Options. Options become exercisable at such times as are determined by the Administrator and are set forth in the individual award agreements. An option is exercised by giving notice to the Company in the form determined by the Administrator, specifying the number of full shares of Common Stock to be purchased and tendering payment of the purchase price. The method of payment of the exercise price for the shares purchased upon exercise of an option will be determined by the Administrator. The 2009 Plan permits payment to be made by cash, check, other shares of Common Stock, cashless exercise, promissory note (to the extent permitted by applicable law) or any other form of consideration permitted by applicable law, or any combination thereof.

Grant of Restricted Stock. Restricted stock awards may be granted to employees, directors or consultants of the Company at any time and from time to time as will be determined by the Administrator, in its sole discretion. Subject to the terms of the Plan, the Administrator will have complete discretion to determine (i) the number of shares subject to a restricted stock award granted to any participant, and (ii) any conditions that must be satisfied. Restricted stock awards shall have a minimum vesting period of three years from the date of the grant for any time-based vesting award and a minimum of one year from the date of the grant for any performance-based award, provided that a maximum of 10% of the Plan shares shall not be subject to such minimum vesting requirements and shall be determined by the Administrator, in its sole discretion.

Restricted Stock Agreement. Each restricted stock grant will be evidenced by an award agreement that will specify the number of shares granted and such other terms and conditions as the Administrator, in its sole discretion, will determine.

Grant of Restricted Stock Units. Restricted stock units may be granted to employees, directors or consultants of the Company at any time and from time to time as determined by the Administrator. Restricted stock units result in a payment to a participant only if the vesting criteria the Administrator establishes are satisfied. The Administrator may set vesting criteria based on the achievement of Company-wide, business unit, or individual goals (including continued employment), or any other basis determined by the Administrator in its discretion. The restricted stock units will vest at a rate determined by the Administrator; provided,

Table of Contents

however, restricted stock unit awards shall have a minimum vesting period of three years from the date of the grant for any time-based vesting award and a minimum of one year from the date of the grant for any performance-based award, provided that a maximum of 10% of the Plan shares shall not be subject to such minimum vesting requirements and shall be determined by the Administrator, in its sole discretion. Upon satisfying the applicable vesting criteria, the participant will be entitled to the payout specified in the award agreement. The Administrator, in its sole discretion, may pay earned restricted stock units in cash, shares, or a combination thereof. On the date set forth in the award agreement, all unearned restricted stock units will be forfeited to the Company.

Restricted Stock Unit Agreement. Each restricted stock unit grant will be evidenced by an award agreement that will specify such terms and conditions as the Administrator, in its sole discretion, will determine.

Grant of Stock Appreciation Rights. Subject to the terms and conditions of the Plan, a Stock Appreciation Right may be granted to employees, directors or consultants of the Company at any time and from time to time as will be determined by the Administrator, in its sole discretion.

Exercise Price and Other Terms of Stock Appreciation Rights. The Administrator, subject to the provisions of the 2009 Plan, will have complete discretion to determine the terms and conditions of SARs granted under the 2009 Plan; provided that no SAR may have a term of more than 10 years from the date of grant and that the exercise price of a SAR may not have an exercise price below 100% of the fair market value of the Common Stock on the grant date. No SAR can be exercised by any person after its expiration.

Payment of Stock Appreciation Right Amount. Upon exercise of a SAR, the holder of the SAR will be entitled to receive payment from us in an amount determined by multiplying (i) the difference between the fair market value of a share on the date of exercise over the exercise price; times (ii) the number of shares with respect to which the SAR is exercised.

Payment upon Exercise of Stock Appreciation Right. At the discretion of the Administrator and as set forth in the applicable award agreement, payment to the holder of a SAR may be in cash, shares of Common Stock or a combination thereof.

Stock Appreciation Right Agreement. Each SAR grant will be evidenced by an award agreement that will specify the exercise price, the term of the SAR, the conditions of exercise, and such other terms and conditions as the Administrator, in its sole discretion, will determine.

Grant of Performance Units/Shares. Performance units and performance shares may be granted to employees, directors or consultants of the Company at any time and from time to time, as will be determined by the Administrator, in its sole discretion. The Administrator will have complete discretion in determining the number of performance units/shares granted to each participant.

Value of Performance Units/Shares. Each performance unit will have an initial value that is established by the Administrator on or before the date of grant. Each performance share will have an initial value equal to the fair market value of a share on the date of grant.

Performance Objectives and Other Terms. The Administrator will set performance objectives or other vesting provisions (including, without limitation, continued status as a service provider to the Company) in its discretion which, depending on the extent to which they are met, will determine the number or value of performance units/shares that will be paid out. Each award of performance units/shares will be evidenced by an award agreement that will specify the time period during which the performance objectives or other vesting provisions must be met (Performance Period), and such other terms and conditions as the Administrator, in its sole discretion, will determine.

The Administrator may set performance objectives based upon the achievement of Company-wide, divisional, or individual goals, applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion.

Vesting Period. The performance units/shares will vest at a rate determined by the Administrator; provided, however, performance units/shares awards shall have a minimum vesting period of three years from the date of the grant for any time-based vesting award and a minimum of one year from the date of the grant

Table of Contents

for any performance-based award, provided that a maximum of 10% of the Plan shares shall not be subject to such minimum vesting requirements and shall be determined by the Administrator, in its sole discretion.

Earning of Performance Units/Shares. After the applicable Performance Period has ended, the holder of performance units/shares will be entitled to receive a payout of the number of performance units/shares earned by the participant over the Performance Period, to be determined as a function of the extent to which the corresponding performance objectives or other vesting provisions have been achieved. After the grant of a performance unit/share, the Administrator, in its sole discretion, may reduce or waive any performance objectives or other vesting provisions for such performance unit/share.

Form and Timing of Payment of Performance Units/Shares. The Administrator, in its sole discretion, may pay earned performance unit/share in the form of cash, in shares (which have an aggregate fair market value equal to the value of the earned performance unit/share at the close of the applicable Performance Period) or in a combination thereof.

Cancellation of Performance Units/Shares. On the date set forth in the award agreement, all unearned or unvested performance unit/share will be forfeited to the Company, and will be available for grant under the Plan.

Formula Awards to Outside Directors. Under the Plan, outside Directors will be entitled to receive all types of awards except Incentive Stock Options. All such grants of awards to outside Directors will be automatic, nondiscretionary and in accordance with the following provisions. No person will have any discretion to select which outside Directors will be granted awards or to determine the number of shares to be covered by such awards except as otherwise provided in the Plan. If options are granted to an outside Director, they will be Nonstatutory Stock Options and will be subject to the other terms and conditions of the Plan. Options granted to outside Directors shall have a term of 10 years and the exercise price for the shares subject to the options granted will be one hundred percent (100%) of the fair market value on the grant date. Outside Director awards will vest at a rate determined by the Administrator; provided, however, restricted stock unit awards shall have a minimum vesting period of three years from the date of the grant for any time-based vesting award and a minimum of one year from the date of the grant for any performance-based award, provided that a maximum of 10% of the Plan shares shall not be subject to such minimum vesting requirements and shall be determined by the Administrator, in its sole discretion. Restricted stock awarded to outside Directors will be issued for no cash consideration and will be forfeited and automatically transferred to and reacquired by the Company at no cost to the Company upon the date the Director ceases to provide services as a member of the Board. This forfeiture provision will lapse on the earlier of the date of the next annual meeting following the date of grant of the award or the December 31st of the calendar year following the calendar year in which the award is granted, provided that the participant continues to serve as a Director through such date. The Administrator in its discretion may change and otherwise revise the terms of awards granted to outside Directors, including, without limitation, the number of shares and exercise prices thereof, for awards granted on or after the date the Administrator determines to make any such change or revision.

Termination of Employment. The 2009 Plan gives the Administrator the authority to vary the terms of the individual award agreements. However, generally, if a participant ceases to provide ongoing service as an employee, director or consultant for any reason other than death or disability, then the participant will generally have the right to exercise his or her outstanding options and SARs for three months after the date of termination, but only to the extent that the participant was entitled to exercise such option or SAR at the date of such termination. If such termination is due to death or disability, the participant (or the participant's legal representative) will have the right to exercise an existing unexercised option or SAR at any time within 12 months following the termination date, but only to the extent that the participant was entitled to exercise such option or SAR at the date of such termination. In no event will an option or SAR be exercisable beyond its term.

Compliance with Code Section 409A. Awards will be designed and operated in such a manner that they are either exempt from the application of, or comply with, the requirements of Code Section 409A such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Code Section 409A, except as otherwise determined in the sole discretion of the Administrator. The Plan and

Table of Contents

each award Agreement under the Plan is intended to meet the requirements of Code Section 409A and will be construed and interpreted in accordance with such intent, except as otherwise determined in the sole discretion of the Administrator.

Non-Transferability of Awards. Unless determined otherwise by the Administrator, an award granted under the 2009 Plan may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution and may be exercised, during the lifetime of the participant, only by the participant. If the Administrator makes an award granted under the 2009 Plan transferable, such award will contain such additional terms and conditions as the Administrator deems appropriate. Notwithstanding the foregoing, under no circumstance may unvested or unexercised awards be transferred for value or consideration.

Adjustments. In the event that any dividend or other distribution (whether in the form of cash, shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of shares or other securities of the Company, or other change in the corporate structure of the Company affecting the shares occurs, the Administrator, in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the Plan, will adjust the number and class of shares that may be delivered under the Plan and/or the number, class, and price of shares covered by each outstanding award, the numerical share limits set forth in the Plan, and the number of shares issuable pursuant to awards to be granted to outside Directors under the Plan.

Dissolution or Liquidation. In the event of a liquidation or dissolution, the Administrator will notify each participant as soon as practicable prior to the effective date of such proposed transaction. To the extent that an award has not been previously exercised (with respect to options and SARs) or vested (with respect to other awards), an award will terminate immediately prior to the consummation of such proposed action.

Change in Control. In the event of a merger or Change in Control, each outstanding award shall be treated as the Administrator determines without a participant's consent, including, without limitation, that awards shall be assumed, or substantially equivalent awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof) with appropriate adjustments as to the number and kind of shares and prices; upon written notice to a participant, the participant's awards will terminate immediately prior to the consummation of such merger or Change in Control; outstanding awards will vest and become exercisable, realizable, or payable, or restrictions applicable to an award will lapse, in whole or in part prior to or upon consummation of such merger or Change in Control, and, to the extent the Administrator determines, terminate upon the effectiveness of such merger or Change in Control; the termination of an award in exchange for an amount of cash and/or property, if any, equal to the amount that would have been attained upon the exercise of such award or realization of the participant's rights as of the date of the occurrence of the transaction; the replacement of such award with other rights or property selected by the Administrator in its sole discretion; or any combination of the foregoing.

Options and SARs. In the event that the successor corporation does not assume or substitute for options and SAR awards, the participant shall fully vest in and have the right to exercise all of his or her outstanding options and SARs, including Shares as to which it would not otherwise be vested or exercisable. In addition, if an option or SAR is not assumed or substituted in the event of a Change in Control, the Administrator shall notify the participant in writing or electronically that the option or SAR shall be exercisable for a period of time determined by the Administrator in its sole discretion, and the option or SAR shall terminate upon the expiration of such period.

Restricted Stock and Restricted Stock Units. In the event that the successor corporation does not assume or substitute for a restricted stock, restricted stock unit, performance unit or performance share award, all restrictions on restricted stock and restricted stock units will lapse, and, with respect to awards with performance-based vesting, all performance goals or other vesting criteria will be deemed achieved at one hundred percent (100%) of target levels

and all other terms and conditions met.

Table of Contents

Outside Director Awards. With respect to awards granted to an outside Director that are assumed or substituted for, if on the date of or following such assumption or substitution the participant's status as a Director or a director of the successor corporation, as applicable, is terminated other than upon a voluntary resignation by the participant (unless such resignation is at the request of the acquirer), then the participant will fully vest in and have the right to exercise options and/or SARs as to all of the shares underlying such award, including those shares which would not otherwise be vested or exercisable, all restrictions on restricted stock and restricted stock units will lapse, and, with respect to performance units and performance shares, all performance goals or other vesting criteria will be deemed achieved at 100%) of target levels and all other terms and conditions met.

Amendment or Termination of the 2009 Plan. The Board may amend, alter, suspend or terminate the 2009 Plan or any part thereof from time to time, except that stockholder approval will be required for any amendment to the 2009 Plan to the extent required by any applicable laws; to materially increase the benefits accruing to participants under the Plan; to materially increase the number of securities which may be issued under the Plan; or to materially modify the requirements for participation in the Plan. No amendment, alteration, suspension or termination of the 2009 Plan may impair the rights of any participant without their written consent. In any event, the 2009 Plan will terminate 10 years from its effective date.

Federal Income Tax Information

Nonstatutory Stock Options. No taxable income is reportable by the recipient when a nonstatutory stock option with an exercise price equal to the fair market value of the underlying stock on the date of grant is granted to a participant. Upon exercise, the participant will recognize ordinary income in an amount equal to the excess of the fair market value (on the exercise date) of the shares purchased over the exercise price of the option. Any taxable income recognized in connection with an option exercise by an employee of the Company is subject to tax withholding by the Company. Any additional gain or loss recognized upon any later disposition of the shares would be capital gain or loss.

Incentive Stock Options. No taxable income is reportable by the recipient when an incentive stock option is granted or exercised (except for purposes of the alternative minimum tax, in which case taxation is generally similar to nonstatutory stock options). If the participant exercises the option and then later sells or otherwise disposes of the shares more than two years after the grant date and more than one year after the exercise date, the difference between the sale price and the exercise price will be taxed as capital gain or loss. If the participant exercises the option and then later sells or otherwise disposes of the shares before the end of the two or one year holding periods described above, he or she generally will have ordinary income at the time of the sale equal to the fair market value of the shares on the exercise date (or the sale price, if less) minus the exercise price of the option.

Stock Appreciation Rights. No taxable income is reportable by the recipient when a stock appreciation right with an exercise price equal to the fair market value of the underlying stock on the date of grant is granted to a participant. Upon exercise, the participant will recognize ordinary income in an amount equal to the amount of cash received and the fair market value of any shares received. Any additional gain or loss recognized upon any later disposition of the shares would be capital gain or loss.

Restricted Stock and Restricted Stock Units. A participant generally will not have taxable income at the time an award of restricted stock or restricted stock units are granted. Instead, he or she will recognize ordinary income in the first taxable year in which his or her interest in the shares underlying the Award becomes either (i) freely transferable, or (ii) no longer subject to substantial risk of forfeiture. However, the recipient of a restricted stock award may elect to recognize income at the time he or she receives the award in an amount equal to the fair market value of the shares underlying the award (less any cash paid for the shares) on the date the award is granted.

Performance Units and Performance Shares. A participant generally will not have taxable income at the time an award of performance units or performance shares are granted. Instead, he or she will recognize ordinary income in the first taxable year in which his or her interest in the shares underlying the award becomes either (i) freely transferable, or (ii) no longer subject to substantial risk of forfeiture. However, the

Table of Contents

recipient of a performance unit or performance share award may elect to recognize income at the time he or she receives the award in an amount equal to the fair market value of the shares underlying the award (less any cash paid for the shares) on the date the award is granted.

Tax Effect for the Company. The Company generally will be entitled to a tax deduction in connection with an award under the 2009 Plan in an amount equal to the ordinary income realized by a participant and at the time the participant recognizes such income (for example, the exercise of a nonstatutory stock option). Special rules limit the deductibility of compensation paid to the Company's Chief Executive Officer (i.e., its principal executive officer) and to each of its three most highly compensated executive officers for the taxable year (other than the principal executive officer or principal financial officer).

Code Section 409A. Section 409A, which was added by the American Jobs Creation Act of 2004, provides certain new requirements on non-qualified deferred compensation arrangements. These include new requirements with respect to an individual's election to defer compensation and the individual's selection of the timing and form of distribution of the deferred compensation. Section 409A also generally provides that distributions must be made on or following the occurrence of certain events (e.g., the individual's separation from service, a predetermined date, or the individual's death). Section 409A imposes restrictions on an individual's ability to change his or her distribution timing or form after the compensation has been deferred. For certain individuals who are officers, subject to certain exceptions, Section 409A requires that such individual's distribution commence no earlier than six months after such officer's separation from service.

Awards granted under the 2009 Plan with a deferral feature will be subject to the requirements of Section 409A. If an award is subject to and fails to satisfy the requirements of Section 409A, the recipient of that award may recognize ordinary income on the amounts deferred under the award, to the extent vested, which may be prior to when the compensation is actually or constructively received. Also, if an award that is subject to Section 409A fails to comply with the provisions of Section 409A, Section 409A imposes an additional 20% federal income tax on compensation recognized as ordinary income, as well as interest on such deferred compensation. In addition, certain states such as California have adopted similar provisions.

THE FOREGOING IS ONLY A SUMMARY OF THE EFFECT OF FEDERAL INCOME TAXATION UPON THE PARTICIPANT AND THE COMPANY AS OF THE DATE HEREOF WITH RESPECT TO AWARDS UNDER THE 2009 PLAN AND DOES NOT PURPORT TO BE COMPLETE, AND REFERENCE SHOULD BE MADE TO THE APPLICABLE PROVISIONS OF THE INTERNAL REVENUE CODE. IN ADDITION, THIS SUMMARY DOES NOT DISCUSS THE TAX CONSEQUENCES OF A PARTICIPANT'S DEATH OR THE PROVISIONS OF THE INCOME TAX LAWS OF ANY MUNICIPALITY, STATE OR FOREIGN COUNTRY IN WHICH THE PARTICIPANT MAY RESIDE.

PROPOSAL 3

APPROVAL OF RUDOLPH TECHNOLOGIES, INC. 2009 EMPLOYEE STOCK PURCHASE PLAN

The Board of Directors is requesting that our stockholders approve a new employee stock purchase plan, the 2009 Employee Stock Purchase Plan, as amended (the "2009 ESPP"). The Board has adopted the 2009 ESPP, subject to stockholder approval at the Annual Meeting. If approved by our stockholders, the 2009 ESPP will become effective as of November 1, 2009 and will expire 20 years from such date, unless terminated earlier. The 2009 ESPP is intended to replace the Rudolph Technologies, Inc. 1999 Employee Stock Purchase Plan, as amended (the "1999 ESPP"), which otherwise expires on or about November 6, 2009; provided, however, if the stockholders approve this Proposal Three, the 1999 ESPP will expire after the final share purchase is made on October 31, 2009. The Board has determined that it is still in the best interests of the Company and its stockholders to have an employee stock purchase plan and is

asking the Company's stockholders to approve the 2009 ESPP.

Table of Contents

Changes Being Made to the 2009 ESPP

The principal difference between the 2009 ESPP and the 1999 ESPP is the update and clarification of various provisions within the 2009 ESPP as well as the term of the 2009 ESPP shall be 20 years as compared to the 10 year term of the 1999 ESPP

Required Vote

The approval of the 2009 ESPP requires the affirmative vote of a majority of the votes cast on the proposal at the Annual Meeting.

Recommendation of the Board of Directors

**THE BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS
VOTE FOR THE ADOPTION OF THE RUDOLPH TECHNOLOGIES, INC.
2009 EMPLOYEE STOCK PURCHASE PLAN AND THE NUMBER OF SHARES
RESERVED FOR ISSUANCE THEREUNDER**

Summary of the 2009 Employee Stock Purchase Plan

The following is a summary of the principal features of the 2009 ESPP and its operation. The summary is qualified in its entirety by reference to the 2009 ESPP as set forth in Appendix B.

General. The 2009 ESPP was adopted by the Board in January 2009, subject to stockholder approval at the Annual Meeting. The purpose of the 2009 ESPP is to provide eligible employees with an opportunity to purchase shares of the Company's common stock (Common Stock) through payroll deductions, to enhance the employees' sense of participation in the Company and its participating subsidiaries, and to provide an incentive for continued employment.

Shares Available for Issuance. If the Company's stockholders approve this proposal, the maximum number of shares of the Company's Common Stock to be reserved for issuance under the 2009 ESPP for sale under the Plan shall be 300,000 Shares, plus an annual increase to be added on the first day of the Company's fiscal year, beginning in 2011, equal to the lesser of (i) 300,000 Shares; (ii) two percent (2%) of the outstanding shares of Common Stock on such date; or (iii) a lesser amount determined by the Board.

Administration. The 2009 ESPP will be administered by the Board or a committee of members of the Board (in either case, the Administrator). Subject to the provisions of the 2009 ESPP, all questions of interpretation or application of the 2009 ESPP are determined by the Administrator and its decisions are final and binding upon all participants.

Eligibility. Each of the Company's (or the Company's participating subsidiaries) employees, being one who is customarily employed for at least 20 hours per week and more than five months in a calendar year by the Company or a designated subsidiary, provided that, in certain jurisdictions outside the United States employees employed for less than 20 hours per week or less than five months in a calendar year if so required by local laws (as determined by the Company), on the first trading day of the applicable offering period is eligible to participate in the 2009 ESPP. Notwithstanding the foregoing, no employee will be granted an option under the 2009 ESPP (i) to the extent that, immediately after the grant, such employee would own 5% or more of the total combined voting power of all classes of the Company's capital stock or the capital stock of any Company parent or subsidiary, or (ii) to the extent that his or her rights to purchase stock under all of the Company's employee stock purchase plans accrues at a rate which exceeds \$25,000 worth of stock (determined at the fair market value of the shares at the time such option is granted) for each calendar year.

Offering Period. Each offering period under the 2009 ESPP will have a duration of approximately six months, commencing on the first trading day on or after May 1st and November 1st of each year of the 2009 ESPP and terminating on the last trading day of the applicable period ending six months later. During each offering period, shares of Common Stock may be purchased on behalf of the participant in accordance with the terms of the 2009 ESPP.

Table of Contents

Eligible employees may participate in the 2009 ESPP by delivering a subscription agreement as provided by the Company prior to the beginning of an offering period authorizing payroll deductions pursuant to the 2009 ESPP. Such payroll deductions may not be less than 1% or exceed 15% of a participant's compensation during the offering period. For purposes of the 2009 ESPP, compensation shall mean the total compensation paid to an employee, including all salary, wages, overtime pay, commissions, bonuses, and other remuneration paid directly to the employee, but exclusive of reimbursements, income derived from equity grants and other compensation. Once an employee becomes a participant in the 2009 ESPP, the employee automatically will participate in each successive offering period until the employee withdraws from the 2009 ESPP or the employee's employment with the Company or one of the Company's participating subsidiaries terminates. On the first trading day of each offering period (the enrollment date), each participant automatically is granted an option to purchase shares of the Common Stock. The option expires at the end of the offering period or upon termination of employment, whichever is earlier, but is exercised on the last trading day of an offering period to the extent of the payroll deductions accumulated during such offering period.

Purchase Price. The purchase price for an offering period shall be equal to 95% of the fair market value of the Common Stock on the last day of the offering period.

Payment of Purchase Price. The purchase price of the shares is accumulated by payroll deductions made during each offering period. The number of whole shares that a participant may purchase in each offering period will be determined by dividing the total amount of payroll deductions withheld from the participant's compensation during that offering period by the purchase price; provided, however, that in no event will a participant be permitted to purchase during each offering period more than 3,000 shares, subject to automatic adjustment upon certain changes in capitalization. No fractional shares will be purchased under the 2009 ESPP and any payroll deductions accumulated in a participant's account which are not sufficient to purchase a full share will be retained in a participant's account for the subsequent offering period.

Payroll Deductions. All payroll deductions made for a participant are credited to the participant's account under the 2009 ESPP, are withheld in whole percentages only and are included with the Company's general funds. Funds received by the Company pursuant to exercises under the 2009 ESPP are used for general corporate purposes. A participant may not make any additional payments into his or her account.

Withdrawal. A participant may withdraw all but not less than all of his or her payroll deductions from an offering period no less than 21 days prior to the end of such offering period by giving notice to the Company in accordance with the withdrawal procedures then in effect. A participant's withdrawal from the 2009 ESPP will not affect his or her eligibility to participate in future offering periods. Once a participant withdraws from a particular offering period, however, that participant may not participate again in the same offering period. To participate in a subsequent offering period, the participant must re-enroll in the 2009 ESPP in accordance with the 2009 ESPP's enrollment procedures.

Termination of Employment. Upon termination of a participant's employment for any reason, his or her participation in the 2009 ESPP will immediately terminate and the payroll deductions credited to the participant's account will be returned to him or her and such participant's option will automatically terminate.

Changes in Capitalization. The number and class of Common Stock deliverable under the 2009 ESPP, the purchase price per share and the number of shares covered by each option under the 2009 ESPP will be proportionately and automatically adjusted for any increase or decrease in the number of issued and outstanding shares of the Company resulting from a stock split or the payment of a stock dividend on the Common Stock, or any other similar change in the corporate structure of the Company affecting the Common Stock.

Dissolution or Liquidation. In the event of the Company's proposed dissolution or liquidation, the offering period will be shortened by setting a new exercise date and the 2009 ESPP will terminate immediately prior to such proposed

dissolution or liquidation, unless otherwise provided by the Administrator. If a participant's option is terminated pursuant to the preceding, the contributions then credited to such participant's account will be paid to him or her in cash without interest.

Table of Contents

Merger or Asset Sale. In the event of a proposed sale of all or substantially all of the assets of the Company, or the merger of the Company with or into another corporation, each outstanding option under the 2009 ESPP will be assumed or an equivalent option will be substituted by the successor corporation or a parent or subsidiary of such successor corporation. In the event the successor corporation refuses to assume or substitute for the options, any offering period then in progress will be shortened by setting a new exercise date on which such offering period will end. The new exercise date will be prior to the proposed sale or merger. The Administrator will notify each participant in writing at least 10 business days prior to the new exercise date that the purchase date for the participant's option has been changed to the new exercise date and that the participant's option will be exercised automatically on the new exercise date unless the participant withdraws from the 2009 ESPP prior to such date.

Amendment and Termination of the 2009 ESPP. The Administrator may amend, terminate or suspend the 2009 ESPP at any time and for any reason. Generally, no such termination can adversely affect options previously granted and stockholder approval will be sought for certain changes as required by applicable law.

Upon its approval by the stockholders, the 2009 ESPP will continue until the earlier to occur of (i) the termination of the 2009 ESPP by the Board, or (ii) November 1, 2029 (the date which is 20 years from the effective date of the 2009 ESPP).

Federal Income Tax Consequences Relating to the 2009 ESPP

The federal income tax consequences of an employee's purchases under the 2009 ESPP will vary. The following discussion is only a summary of the general federal income tax rules applicable to the 2009 ESPP. Employees should consult their own tax advisors since a taxpayer's particular situation may be such that some variation of the rules described below will apply.

The 2009 ESPP and the right of participants to make purchases thereunder are intended to qualify under the provisions of Section 421 and 423 of the Code. Under those provisions, no income will be taxable to a participant at the time of grant of the option or purchase of shares. However, a participant may become liable for tax upon dispositions of shares acquired under the 2009 ESPP (or if he or she dies holding such shares), and the tax consequences will depend on how long a participant has held the shares prior to disposition.

If the shares are disposed of at least one year after the shares were acquired under the 2009 ESPP and at least two years after the first day of the offering period to which the shares relate, or if the employee dies while holding the shares, the following tax consequences will apply. The lesser of (a) the excess of fair market value of the shares at the time of such disposition over the purchase price of the shares (the option price) or (b) the excess of the fair market value of the shares at the time the option was granted over the option price will be treated as ordinary income to the participant. Any further gain upon disposition generally will be taxed at long-term capital gain rates. If the shares are sold and the sales price is less than the option price, there is no ordinary income and the participant has a long-term capital loss equal to the difference. No deduction in respect of the disposition of such shares will be allowed to the Company.

If the shares are sold or disposed of (including by way of gift) before the expiration of either the two-year or the one-year holding period described above, the following tax consequences will apply. The amount by which the fair market value of the shares on the date the option is exercised (which is the last business day of the offering period and which is hereafter referred to as the termination date) exceeds the option price will be treated as ordinary income to the participant. This excess will constitute ordinary income in the year of sale or other disposition even if no gain is realized on the sale or a gratuitous transfer of the shares is made. The balance of any gain will be treated as capital gain and will qualify for long-term capital gain treatment if the shares have been held for more than one year following the exercise of the option. Even if the shares are sold for less than their fair market value on the termination

date, the same amount of ordinary income is attributed to a participant and a capital loss is allowed equal to the difference between the sales price and the value of such shares on such termination date. The Company, in the event of an early disposition, will be allowed a deduction for federal income tax purposes equal to the ordinary income realized by the disposing employee.

Table of Contents

THE FOREGOING IS ONLY A SUMMARY OF THE EFFECT OF FEDERAL INCOME TAXATION UPON THE PARTICIPANT AND THE COMPANY AS OF THE DATE HEREOF WITH RESPECT TO THE 2009 ESPP AND DOES NOT PURPORT TO BE COMPLETE, AND REFERENCE SHOULD BE MADE TO THE APPLICABLE PROVISIONS OF THE INTERNAL REVENUE CODE. IN ADDITION, THIS SUMMARY DOES NOT DISCUSS THE TAX CONSEQUENCES OF A PARTICIPANT'S DEATH OR THE PROVISIONS OF THE INCOME TAX LAWS OF ANY MUNICIPALITY, STATE OR FOREIGN COUNTRY IN WHICH THE PARTICIPANT MAY RESIDE.

PROPOSAL 4

RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS

Although ratification by stockholders is not required by law, the Board of Directors is submitting the selection of Ernst & Young LLP for ratification as a matter of good corporate governance. The Audit Committee of the Board of Directors has recommended, and the Board of Directors has approved, the selection of Ernst & Young LLP as independent registered public accountants, to audit the financial statements of the Company for the year ending December 31, 2009 and recommends that the stockholders vote for ratification of such appointment. In the event of a negative vote on such ratification, the Board of Directors will reconsider its selection. Even if the selection is ratified, the Audit Committee may appoint a new independent registered public accounting firm at any time during the year if they believe that such a change would be in the best interests of the Company and its stockholders.

KPMG LLP had served as the Company's independent registered public accounting firm since 2002. Effective March 18, 2008, the Company, pursuant to the approval of the Company's Audit Committee, dismissed KPMG LLP as the Company's independent registered public accounting firm and effective March 19, 2008, engaged Ernst & Young LLP as the Company's independent registered public accounting firm.

The reports of KPMG LLP on the Company's financial statements for the year ended December 31, 2007 do not contain an adverse opinion or a disclaimer of opinion and are not qualified or modified as to uncertainty, audit scope or accounting principles, except as follows: KPMG LLP's report on the consolidated financial statements of the Company as of and for the year ended December 31, 2007 contained the following separate paragraph: As discussed in Note 12 to the consolidated financial statements, the Company adopted Financial Accounting Standards Board Interpretation No. 48, Accounting for Uncertainties in Income Taxes, effective January 1, 2007.

During the year ended December 31, 2007 and through March 18, 2008, there were no disagreements with KPMG LLP on any matters of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to KPMG LLP's satisfaction, would have caused KPMG LLP to make reference to the subject matter of the disagreement in connection with its audit report on the Company's financial statements for such year, and there were no reportable events as defined in Item 304(a)(1)(v) of Regulation S-K, except as follows:

As previously reported in the Company's Annual Report on Form 10-K filed on March 3, 2008, the Company's Management's Report on the Internal Control over Financial Reporting stated, and KPMG LLP's report on internal controls stated, that the process and procedures surrounding the preparation and review of the income tax provision did not include adequate management oversight and review controls as of December 31, 2007. Specifically, the Company did not ensure that effective oversight of the work performed by their outside tax advisor, Deloitte Tax LLP was exercised. Management is re-evaluating the design of the income tax accounting process and controls, implementing new and improved processes and controls, and increasing the level of review and discussion of significant tax matters and supporting documentation with the Company's outside advisor and senior finance management to address the material weakness identified and to enhance its internal controls.

During the year ended December 31, 2007 and through March 18, 2008, the Company did not consult with Ernst & Young LLP regarding any of the matters or events set forth in Item 304(a)(2)(i) and (ii) of Regulation S-K.

Table of Contents

The Company provided KPMG LLP with a copy of its Current Report on Form 8-K filed on March 24, 2008 and requested that KPMG LLP furnish it with a letter addressed to the Securities and Exchange Commission stating whether it agrees with the statements made by the Company herein and, if not, stating the respects in which it does not agree. The letter from KPMG LLP to the Securities and Exchange Commission dated as of March 24, 2008 was attached as Exhibit 16.1 to the Company's Current Report on Form 8-K filed on March 24, 2008.

Representatives of Ernst & Young LLP are expected to be present at the Annual Meeting and will have the opportunity to make a statement or be available to respond to any questions.

Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accountants

The Audit Committee pre-approves all audit and permissible non-audit services provided by the Company's independent registered public accountants. These services may include audit services, audit-related services, tax and other services. Pre-approval is generally provided for up to one year, and any pre-approval is detailed as to the particular service or category of services and is generally subject to a specific budget. The independent registered public accountants and management are required to periodically report to the Audit Committee regarding the extent of services provided by the independent registered public accountants in accordance with this pre-approval and the fees for the services performed to date. The Audit Committee may also pre-approve particular services on a case-by-case basis. During 2008 and 2007, all services provided by Ernst & Young LLP and KPMG LLP were pre-approved by the Audit Committee in accordance with this policy.

Fees billed to the Company by Ernst & Young LLP during 2008

Audit Fees:

Audit fees billed to the Company by Ernst & Young LLP during the Company's 2008 year for review of the Company's annual financial statements and those financial statements included in the Company's quarterly reports on Form 10-Q and services that are normally provided by the independent registered public accountants in connection with statutory and regulatory filings or engagements for that calendar year totaled \$854,225.

Audit Related Fees:

Audit related fees billed to the Company by Ernst & Young LLP during the Company's 2008 year for assurance and related services that are reasonably related to the performance of the audit or review of the Company's annual financial statements and are not reported under "Audit Fees" included fees for an employee benefit plan audit totaling \$30,000.

Tax Fees:

Tax fees include fees for tax compliance, tax planning and tax advice. No such fees were billed to the Company by Ernst & Young LLP during 2008.

All Other Fees:

All other fees consist of fees for products and services other than the services described above. No such fees were billed to the Company by Ernst & Young LLP during 2008.

All of the fees listed in the chart above were pre-approved by the Audit Committee, which concluded that the provisions of such services by Ernst & Young LLP was compatible with the maintenance of that firm's independence

in the conduct of its audit functions.

Table of Contents

Fees billed to the Company by KPMG LLP during 2007

Audit Fees:

Audit fees billed to the Company by KPMG LLP during the Company's 2007 year for review of the Company's annual financial statements and those financial statements included in the Company's quarterly reports on Form 10-Q and services that are normally provided by the independent registered public accountants in connection with statutory and regulatory filings or engagements for that calendar year totaled \$785,600.

Audit Related Fees:

Audit related fees billed to the Company by KPMG LLP during the Company's 2007 year for assurance and related services that are reasonably related to the performance of the audit or review of the Company's annual financial statements and are not reported under "Audit Fees" included fees for an employee benefit plan audit, fees for accounting consultations and services related to acquisition matters and merger due diligence totaling \$18,500.

Tax Fees:

Tax fees include fees for tax compliance, tax planning and tax advice. Tax fees billed to the Company by KPMG LLP during 2007 totaled \$12,000.

All Other Fees:

All other fees consist of fees for products and services other than the services described above. No such fees were billed to the Company by KPMG LLP during 2007.

All of the fees listed in the chart above were pre-approved by the Audit Committee, which concluded that the provisions of such services by KPMG LLP was compatible with the maintenance of that firm's independence in the conduct of its audit functions.

Vote Required

The affirmative vote of a majority of the Votes Cast will be required to ratify Ernst & Young LLP as the Company's independent registered public accountants.

The Company's Board of Directors unanimously recommends voting FOR the ratification of the appointment of Ernst & Young LLP as the Company's independent registered public accountants for the year ending December 31, 2009.

AUDIT COMMITTEE REPORT

The following is the Audit Committee's report submitted to the Board of Directors for the year ended December 31, 2008.

The Audit Committee of the Board of Directors has:

Reviewed and discussed with management and the independent registered public accounting firm, together and separately, the Company's audited consolidated financial statements contained in its Annual Report on Form 10-K for the year ended December 31, 2008;

Discussed with Ernst & Young LLP, the Company's independent registered public accountants, the matters required to be discussed by Statement on Auditing Standards No. 61;

Received the written disclosures and the letter from Ernst & Young LLP required by Independence Standards Board Standard No. 1 and has discussed with Ernst & Young LLP its independence; and

Table of Contents

Based on the foregoing review and discussion, the Audit Committee recommended to the Board of Directors that the audited financial statements be included in the Company's 2008 Annual Report on Form 10-K.

THE AUDIT COMMITTEE

John R. Whitten (Chairman)
Thomas G. Greig
Richard F. Spanier

EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

Introduction/Corporate Governance

Compensation Committee Members and Charter

The Compensation Committee of the Rudolph Technologies Board of Directors is comprised solely of outside directors. In general, the Compensation Committee is responsible for reviewing and recommending for approval by the Board of Directors the Company's compensation practices, including executive salary levels and variable compensation programs, both cash-based and equity-based. With respect to the compensation of the Company's Chief Executive Officer, the Compensation Committee reviews and approves the various elements of the Chief Executive Officer's compensation. With respect to other executive officers, the Compensation Committee reviews the recommendations for compensation for such individuals presented to the Committee by the Chief Executive Officer and the reasons thereof and approves such recommendations or, in its discretion, modifies the compensation packages for any such individuals. Base salary levels for executive officers of the Company have been generally established at or near the start of each year, and final bonuses for executive officers have been determined subsequent to the end of the fiscal year based upon such individual's performance and the audited financial performance of the Company.

The Compensation Committee of Rudolph Technologies, Inc. is currently composed of Directors Daniel Berry who is the Chairman of the Committee, Aubrey C. Tobey and Leo Berlinghieri, each of whom meet the requirements for membership on the Compensation Committee, including the independence requirements of Nasdaq.

The Compensation Committee has its own charter that sets forth its specific responsibilities, including the establishment of the policies upon which compensation of and incentives for the Company's executive officers will be based, the review and approval of the performance and compensation of the Company's executive officers, and review and approval of compensation for the Company's Directors. In addition, the charter designates that the Compensation Committee has the authority to secure the services of both internal and external advisers and consultants, including budgetary oversight thereof, establish subcommittees and administrate any of the Company's equity compensation plans adopted by the Board. The charter of the Compensation Committee is available on the Company's website at www.rudolphtech.com, on the Investor Relations page.

Compensation Consultants

From time to time the Compensation Committee has engaged the services of outside compensation consultants to provide advice on compensation plans and issues related to the Company's executive and non-executive employees. In 2008, the Committee engaged Towers Perrin as an independent consultant to conduct a comprehensive review of the Company's executive compensation program during the fall of 2008. Towers Perrin continued to provide assistance to

the Committee in early 2009. Towers Perrin has performed no other work for the Company.

Table of Contents

Role of Executives in Establishing Compensation

The Committee makes all decisions regarding executive compensation. With regard to compensation for executives other than the Chief Executive Officer (CEO), the Committee seeks input from the CEO. Each year, the CEO is responsible for establishing personal and corporate objectives for each of the Company executives. These objectives are reviewed and agreed upon by the CEO and the executive subject to the approval of the Compensation Committee. In addition, as part of the annual performance review of the Company's executives, the CEO assesses the performance of his direct reports and determined the merit increase, if any, that would be proposed for each individual. These merit increase proposals, along with each executive's personal and corporate objectives and their bonus target levels (based on a percentage of their fiscal year compensation), are then compiled by the CEO and submitted to the Compensation Committee for their review and consideration for approval. At the Compensation Committee meeting during which the executive compensation plans (bonuses and merit increases) were to be reviewed, the CEO attends the initial session to present the proposed plans and to answer questions. Thereafter, the Compensation Committee meet without the CEO being present to review, discuss and approve all executive compensation plans subject to any modifications made by the Compensation Committee.

Other than set forth above, no other executives attended the Compensation Committee meetings in 2008. Further, no executives of the Company attended any of the Board's Executive sessions.

Compensation Committee Activity

During 2008, the Compensation Committee of the Company met 14 times. As discussed above, the Company's Chairman and CEO, Paul McLaughlin met with the Compensation Committee in early 2008 in order to present the proposed compensation plans for each of the Company's executives as well as the Employee Cash Bonus Program for the non-executive employees. At each of its meetings held during 2008, the Compensation Committee met in executive session, without the presence of Mr. McLaughlin, any other Company executives or advisors, to review the relevant compensation matters at such times.

In 2008, the Compensation Committee took a number of actions. These included:

Reviewing and approving the annual compensation of the Company CEO;

Reviewing and approving the annual compensation for each executive of the Company;

Reviewing and approving the Key Executive Bonus Plan;

Reviewing and approving the Employee Cash Bonus Program;

Reviewing and approving the equity incentive awards issued to the Company's executives; and

Reviewing market compensation assessment prepared by Towers Perrin regarding the executive compensation program.

In reviewing and setting the annual compensation for each executive of the Company, the Compensation Committee reviewed the amounts payable under each of the elements of their respective compensation plans including their base salary, annual bonus and perquisites, as well as the equity grants for the individuals. In doing so, the Committee took into consideration both the Company's internal pay equity as well as the competitive environment within which the Company operates. In each instance, the Committee determined that the base salary for the individual executives was at an acceptable level, the bonus objectives were measurable and their achievement would result in appropriate value

to the Company and that the perquisites were suitable for the related positions. The Compensation Committee assessed the contribution to the Company of each executive and made determinations of equity incentive awards for the executives consistent with their conclusions.

In early 2009, prior to the filing hereof, the Compensation Committee met to review the annual compensation of the Company CEO, the annual compensation for each executive officer, the Key Executive Bonus Plan, and the Employee Cash Bonus Program. In addition, the Committee reviewed the equity incentive awards for the Company's executives and other personnel. Given the current economic conditions, the

Table of Contents

Committee elected to forego base salary increases to the executive team. Cash bonus awards were earned and paid for 2008 performance under the Key Executive Bonus Plan in accordance with the terms of the plan. The Committee suspended the Key Executive Bonus Plan for 2009. Similar to 2008, the Committee granted equity awards to the executive team in the form of time-vesting restricted stock and performance-vesting restricted stock, but valued at a reduced level relative to prior year grants.

Objectives of Compensation Programs

Compensation Philosophy

The Company's Compensation Committee believes that the most effective executive compensation program is one that is designed to reward the achievement of specific annual, long-term and strategic goals by the Company, and which aligns executives' interests with those of the stockholders by compensating executives based on specified financial performance, with the objective of improving stockholder value. The Compensation Committee evaluates both performance and compensation to ensure that the Company maintains its ability to attract and retain superior employees in key positions and that compensation provided to key employees remains competitive relative to the compensation paid to similarly situated executives at competitor companies. This is accomplished by obtaining third party compensation studies from time to time and by reviewing executive compensation programs of comparable, publicly held, high technology companies at the start of each year.

The Compensation Committee believes executive compensation packages provided by the Company to its executives, including the named executive officers, should include cash, selected perquisites and stock-based compensation that reward performance as measured against established goals. In addition, the Company strives to promote an ownership mentality among its key leadership and the Board of Directors; the Company's corporate policy provides that all directors and executives are required to maintain an outright investment in the Company equal to at least 1,000 shares within one year of the assumption of his or her position with the Company.

Benchmarking

As discussed in foregoing sections, the Company has engaged compensation consultants at various times in the development and evaluation of its compensation programs. When consultants aren't engaged, the Committee obtains market compensation information from internal resources at the Company. The Committee reviews data related to compensation levels and programs of other similar companies prior to making its decisions. In the fall of 2008, Towers Perrin was engaged to perform a comprehensive assessment of compensation levels provided to executives. Data representing company proxy disclosures and industry compensation surveys was used in conducting this assessment. Towers Perrin developed a peer group of industry related companies based on the following criteria:

Semiconductor equipment industry (publicly traded companies);

Revenues ranging from approximately half to double the recent revenues of the Company;

Market capitalization of less than \$1 billion; and

Competitors for business and employee talent.

Table of Contents

The peer group, approved by the Committee, consists of the following 20 companies:

| | |
|---------------------------------|-------------------------|
| Advanced Energy Industries Inc. | FEI Co. |
| ATMI Inc. | FormFactor Inc. |
| Axcelis Technologies Inc. | LTX-Credence Corp. |
| AXT Inc. | Mattson Technology Inc. |
| Brooks Automation Inc. | MKS Instruments Inc. |
| Cabot Microelectronics Corp. | Nanometrics Inc. |
| Cohu Inc. | PDF Solutions Inc. |
| Cymer Inc. | Semitoool Inc. |
| Eagle Test Systems Inc. | Ultratech Inc. |
| EMCORE Corp. | Veeco Instruments Inc. |

Peer group pay practices are analyzed for base salary and short- and long-term incentives. Periodically, peer groups are used to evaluate other programs such as executive retirement, perquisites and severance policies. The peer group data is supplemented by broader technology industry data from compensation surveys to further facilitate the evaluation of compensation levels and design. Compensation levels are developed at the low (25th percentile), middle (50th percentile) and high (75th percentile) end of the market for each pay element and in total. A similar process has been followed by consultants engaged by the Committee in prior years.

Compensation Policies

The Company has not established formal written policies regarding its compensation programs or the elements thereof with the exception of a set of guidelines that address stock ownership by executives and directors. These guidelines, which are discussed in detail below, were adopted to further align the interest of the directors and executives with the interests of shareholders, establish a stake in the long-term financial future of the Company for these individuals and further promote the Company's commitment to sound corporate governance. The Nominating and Governance Committee of the Company proposed the establishment of these guidelines which were approved and adopted by the Board of Directors. In the absence of a formal written policy, the Committee does believe in a set of core objectives and principles that it has used to develop the executive compensation program. The specific objectives of our compensation program are to:

- Attract and retain executive talent;
- Align compensation with Company and individual performance; and
- Foster an ownership mentality and create alignment with shareholders.

The following principles support the objectives and design of the compensation program:

The compensation program will be fair and competitive, from an internal and external perspective, taking into account the role, unique qualifications and distinct responsibilities of each executive;

A substantial portion of an executive's compensation will be at risk and linked to the achievement of both corporate and individual goals and changes in shareholder value;

Retirement benefits will provide financial stability following employment but will not be the focal point of why executives choose to work for the Company;

The use of perquisites and other executive benefits will serve a business purpose; and

All compensation program elements taken as a whole will help focus executives to achieve the Company's financial goals.

Compensation Programs Design

Based on the objectives discussed in the foregoing section, the Compensation Committee has structured the Company's annual cash and long-term equity incentive compensation to motivate executives to achieve the

Table of Contents

business goals set by the Company and reward the executives for achieving such goals. Compensation of the Company's executive officers is comprised of four parts, each selected to address different objectives: cash base salary, annual cash performance incentive bonuses, long-term incentives in the form of both time-vesting and performance restricted stock unit (RSU) grants and fringe benefits (including perquisites).

In establishing these components of the executive compensation package, it is the Compensation Committee's intention to set total executive cash compensation at a sufficient level to attract and retain a strong motivated leadership team, but while remaining reasonable and in line with stockholder perception of overall fairness of executive compensation. The cash incentive bonus is included in compensation to align the financial incentives of the executives with the interests of the shareholders.

The Company's annual executive cash incentive bonuses are administered through its Key Executive Cash Bonus Plan program. The program provides guidelines for the calculation of annual non-equity incentive based compensation, subject to Compensation Committee oversight and modification. At its first meeting of each year, the Compensation Committee reviews the plan established for the succeeding year and approves the group of employees eligible to participate in the plan for that year.

In addition to the foregoing, each of the Company's executive officers is eligible to receive equity compensation in the form of stock option and/or RSU grants under the Company's 1999 Stock Plan. All full-time and part-time employees are eligible for stock option or RSU grants. It is believed that through the Company's broad-based plan, the economic interests of all employees, including the executives, are more closely aligned to those of the shareholders. It is also believed that this approach will allow the Company to use equity as an incentive in a balanced manner that supports the recruitment and retention of top talent. With the implementation of stock option expensing under SFAS No. 123R in 2006, the Company shifted its equity compensation grants away from stock options and toward RSUs, in accordance with the provisions set forth later herein. In doing so, the Company has retained the employee incentive associated with such grants while lessening the dilution to the Company's stock in light of the reduced number of shares granted.

Impact of Performance on Compensation

The performance of an executive has a direct impact on the compensation which he/she receives at the Company. On an annual basis, the Company's CEO reviews the performance and compensation for the Company's executive employees to determine any potential salary adjustment for the individual. This assessment takes into consideration a number of factors, including the Company's profitability; the business unit's performance, as applicable; the executive's individual performance and measurable contribution to the Company's success; and pay levels of similar positions with comparable companies in the industry. The CEO's recommendations for salary adjustments are reviewed by the Compensation Committee and presented to and approved by the Board of Directors prior to their implementation typically in the first quarter of each year.

At this same time, the Company's and the individual's performance to the Key Executive Cash Bonus Plan targets for the preceding year are assessed by the CEO and a proposed bonus payout, if any, is prepared. The Key Executive Cash Bonus Plan includes various incentive levels based on the participant's accountability and impact on Company operations, with target award opportunities that are established as a percentage of base salary. In 2008, these targets range from 10% of base salary to 80% of base salary for the executives in the plan. Payout is based upon achievement of the corporate and personal objectives with no payout being awarded unless the Company meets 80% of Board approved revenue target established as part of the plan. Personal objectives are awarded on an all or nothing basis. Failure to meet the personal objectives thereby has a negative impact on the ultimate bonus payout. In addition to a review of the prior year's objectives, the CEO and the executive also confer to propose new individual performance bonus targets for the coming year which are combined with the projected corporate targets into a discretionary

incentive bonus proposal. The personal targets which are established are designed to ensure the addition of incremental value to the Company if they are achieved and are of sufficient challenge that the executive must dedicate focused effort to achieve them. The corporate component to the bonus goals are set based on the Company's then current strategic and financial plans. The preparation of these goals is performed annually to meet the changing nature of the Company's business. In 2008, the corporate performance targets were established based on the Company's

Table of Contents

2008 revenues. Upon completion of the prior year's results and the upcoming year's proposed Key Executive Cash Bonus Plan for each participating executive employee, they are then submitted to and reviewed by the Compensation Committee. Thereafter, they are presented to and approved by the Board of Directors in order to issue the payment of the bonus, if any, and implement the new plans for the coming year. If, during the year, there are changes to the Key Executive Cash Bonus Plan that may be proposed, such are presented to the Compensation Committee to render a decision as to their implementation. The Compensation Committee may exercise positive or negative discretion in relation to an individual's compensation based upon their review.

For example, in 2007 the Key Executive Cash Bonus Plan was established such that 50% of a named executive officer's plan award was based upon achievement of corporate financial objectives relating to Company revenue and EPS. The remaining 50% of a named executive's plan award was based upon individual performance. During the third quarter of 2007, the Compensation Committee modified the performance targets for all participants in the Key Executive Cash Bonus Plan, including the named executives, due to a severe downturn in the industry. The Board modified the executive's plan awards to a maximum of 25% of the original award amount provided that the Company met certain fourth quarter corporate goals related to revenue and backlog. Individual performance goals were removed as a component of the 2007 bonus calculation at this time. These changes were implemented in order to incentivize and focus all employees to achieve the Company's near term goals for 2007 in light of the challenging industry conditions that were being faced. The Company achieved 50% of the modified target and the amounts due for 2007 were paid out in 2008. Therefore, for 2007, the named executive officers realized 12.5% of their original targeted bonus payout amount per the modified plan.

Finally, an executive's individual performance is a factor in the size of any discretionary equity grant that may be awarded by the Compensation Committee and Board of Directors as further long term incentive to the individual.

Based upon the foregoing, the compensation which an executive may realize in the course of a year can be impacted by the positive or negative performance of such individual. This relationship between performance and compensation is the objective with regard to the Key Executive Cash Bonus Plan under which the individual's compensation is proportionate to their performance to established, measurable goals. However, this relationship is more subjective when applied to salary adjustments and equity grants. In these cases, the executive's performance is evaluated by taking into consideration their contribution to the Company, the significance of the individual's achievements in relation to the overall corporate goals and mission, and their effectiveness in their roles and then weighed against the performance of other executives. Thus, there is no formula per se which is applied in determining relative salary adjustments or equity grants, however, industry norms and reference to comparative company data are considered as appropriate.

Elements of Compensation Section

Elements of Executive Compensation

Compensation for the Company's executives, including its named executive officers, includes the following basic components: base salary, discretionary incentive bonus and discretionary equity awards as well as a benefit package and certain perquisites. This design was adopted for executives by the Compensation Committee taking into consideration a number of parameters including the Company's compensation consultant's advice, comparable practices within the industry and the desire to achieve the goals discussed herein underlying the compensation plan. It is believed that as a result of this program the Company can attract, retain and motivate employees and reward the achievement of strategic corporate goals, thereby enhancing shareholder value.

Annually, the Compensation Committee reviews the elements of the compensation package as well as the overall package afforded to the executives. At this time, the Compensation Committee, in its discretion, can recommend

adjustments to the elements of the program to the Board of Directors for their review and approval. This review would typically be performed coincident with the evaluation of the individual executive s performance in relation to their Key Executive Cash Bonus Plan goals, salary adjustment and equity grants, if any, as discussed above.

Table of Contents

It is believed that each of the elements as well as the entire compensation package for Company executives is appropriate for the Company given its performance, industry, current challenges and environment. A discussion of the individual components of the Company's executive compensation package follows.

Base Salary

The Compensation Committee believes that the annual cash compensation paid to executives should be commensurate with both the executive's and the Company's performance. For this reason, the Company's executive cash compensation consists of base compensation (salary) and variable incentive compensation (annual bonus and equity awards).

The Company provides executives and other employees with base salary to compensate them for services rendered during the fiscal year. Base salaries for executive officers are established considering a number of factors, including the executive's individual performance, unique qualifications, role and responsibilities, measurable contribution to the Company's profitability and success; and the base salary levels of similar positions with comparable companies in the industry. The Compensation Committee supports the Company's compensation philosophy of moderation for elements such as base salary and benefits. Base salary decisions are made as part of the Company's formal annual review process and are influenced by the performance of the Company and the individual.

On an annual basis, the CEO reviews the performance and compensation for the Company's executive employees to determine any salary adjustment for the individual. This assessment takes into consideration a number of factors, including the Company's profitability; the executive's individual performance and measurable contribution to the Company's success; and pay levels of similar positions with comparable companies in the industry and within similar technology industries. The CEO's recommendations for salary adjustments are reviewed by the Compensation Committee and presented to and approved by the Board of Directors prior to their implementation typically in the first quarter of each year.

In 2009, the Committee decided to forego base salary increases for each executive officer in light of the challenging economic conditions.

Short-Term Bonus Plan

An executive's annual performance award under the Key Executive Cash Bonus Plan generally depends on the financial performance of the Company relative to profit, revenue or other financial targets and the executive's individual performance. The incentive portion is generally set at a higher percentage for more senior officers, with the result that such officers have a higher percentage of their potential total cash compensation at risk. For 2008, the cash bonus opportunity for each named executive officer at target was as follows:

| Named Executive | Target Bonus Opportunity as % of Base Salary |
|------------------------|---|
| Paul F. McLaughlin | 80% |
| Steven R. Roth | 40% |
| Nathan H. Little | 45% |
| Michael Plisinski | 45% |
| D. Mason Brooks(1) | 0% |

- (1) D. Mayson Brooks does not participate in the Key Executive Cash Bonus Plan because he has a sales commission plan.

Most executive employees participate in the Company's Key Executive Cash Bonus Plan which is designed to generate additional incentive for maximizing the employee's performance in realizing the corporate strategic goals and mission. This plan is individualized to each participating executive employee and generally is based upon the financial performance of the Company relative to profit and revenue targets and the executive's individual performance. For 2008, the Company used a corporate revenue target to determine cash bonus awards. Goals are developed and reviewed annually to meet the changing nature of the Company's business. The Key Executive Bonus Plan of each participating executive employee is submitted to and

Table of Contents

reviewed by the Compensation Committee and then presented to and approved by the Board of Directors prior to their implementation each year.

An executive may earn a short-term incentive award due to success as it relates to the executive's individual goals, even though the Company's performance falls below the threshold of the corporate performance goal. The Committee has the ability to use its discretion in determining the size of any bonus award and has done so in recent years. The plan is not administered to comply with IRC 162(m) at the current time, although the Committee is aware of this rule and its potential benefits.

During the course of the year, the Company accrues for the Key Employee Cash Bonus. If, during the year, there are changes to the plan that may be proposed, such are presented to the Compensation Committee and then the Board or the Compensation Committee, as appropriate, renders a decision as to their implementation. Upon completion of the year, the individual's and the Company's results with respect to the performance targets are then assessed and presented to the Compensation Committee of the Board of Directors along with the proposed Plans for the next year. The Compensation Committee reviews the submitted payouts and suggests changes if necessary. Key Executive Cash Bonus Plan awards are paid out following completion of the annual audit by the Company's independent registered public accountants. This occurs usually in the first quarter of each year and an executive must still be on the payroll to receive payment.

In 2008, the Company exceeded the threshold level performance for corporate revenue. Based on this performance, participating executives realized 9.5% of their targeted corporate performance goal payout amounts.

In 2009, the Committee suspended the Key Executive Cash Bonus Plan for the fiscal year in light of the challenging business conditions. No award under this plan is available to executives in 2009. The Committee will likely reinstate this plan for 2010. For 2009, performance-based compensation will be provided through equity compensation plan.

Equity Compensation Plan

The Compensation Committee administers the Company's 1999 Stock Plan which was adopted by the Board of Directors on August 31, 1999 and approved by shareholder vote on November 6, 1999. Pursuant to this plan, employees and members of management, including the Company's executive officers, may receive annual grants of incentive stock options, non-qualified stock options and/or RSUs (collectively, "Grants") at or about the time of their performance reviews each year from a pool of shares previously approved by Rudolph shareholders. The Company's long-term incentive compensation program seeks to align the executives' interests with the Company's shareholders by rewarding successes in shareholder returns. Additionally, the Committee desires to foster an ownership mentality among executives by providing stock-based incentives as a portion of compensation. In determining which type of stock vehicles to include in the program, the Committee considers the following attributes:

Increases in total shareholder return;

Stock price appreciation; and

Continued loyalty to and employment with the Company.

Over the past several years, the Committee has awarded executives with grants of stock options or time-vesting RSUs. In 2008, the Committee granted executives performance-vesting RSUs.

The purpose of the Grant program is to provide incentive to executives and other key employees of the Company to work to maximize long-term return to the Company's stockholders. The number of Grants awarded to each executive

officer is made on a discretionary rather than formula basis by the Compensation Committee. Similarly, the allocation of shares from the Grant pool to the CEO is determined by the Compensation Committee. Regarding the Grant process, the Compensation Committee does not delegate any related function, and the named executive officers are not treated differently from other executive members.

In awarding Grants to the executive officers, the CEO and the Compensation Committee consider a number of subjective factors, including the executive's position and responsibilities at the Company, such executive's individual performance, the number of Grants held (if any) and other factors that they may deem relevant. Regarding equity grants to the Company's executives, the timing of each Grant typically coincides with each

Table of Contents

year's first scheduled meeting of the Board of Directors and its Compensation Committee or upon completion of the Compensation Committee's review and approval process. Except in highly unusual circumstances or in the case of a newly hired executive, the Company does not engage in making Grants at other dates. The Grant date is established when the Company's Compensation Committee approves the Grant and all key terms have been determined which is typically the first Board meeting date of the calendar year. The value of an RSU grant is based on the closing market price of the Company's stock on the date of such grant.

In 2009, in conjunction with the freezing of executive salaries and the suspension of the Key Executive Cash Bonus Plan, the Committee awarded executives with a grant of RSU's valued at a level below previous year's awards. The Committee deemed this discount appropriate given the significant decrease in the stock price at the time of grant. The award is allocated equally between time-vesting and performance-vesting RSU's. Each executive will receive half of their award in RSU's that time-vest equally in 20% increments beginning in February 2010. The remaining half of the RSUs will be subject to attaining performance goals in two phases based on achieving revenue goals in two six month increments as established by the Committee. Eighty percent (80%) of these shares will be awarded upon achieving 80% of the revenue goal and will increase in a linear fashion to the awarding of 100% of the performance based RSU's for achieving 100% of the goal. No additional RSU's can be earned for exceeding the goal. The performance based RSU's which are ultimately awarded, if any, will time-vest equally in 20% increments beginning in February 2010.

Personal Benefits and Perquisites

All employees of the Company, including its executives, receive a benefit package (Benefit Package) which includes the following components: health and dental insurance, elective vision care program, life insurance and accidental death and dismemberment coverage, 401(k) savings plan, short and long term disability insurance with supplemental income continuation, health care and dependent care flexible spending account programs, employee assistance program (EAP), tuition reimbursement plan, employee stock purchase plan, employee referral bonus program, and length of service awards. These benefits are consistent with industry practice and are necessary in recruiting and retaining qualified employees. In addition to the Benefit Package, executive employees receive the following perquisites: a car allowance of \$500 per month, Company paid tax preparation services and Company paid membership in one airline executive club. The foregoing perquisites were determined based on a review of comparable company offerings performed by the Company and its compensation consultant and are evaluated annually as part of the Company's compensation review. It is believed that these perquisites are reasonable and consistent with the Company's overall compensation program to better enable the Company to attract and retain superior employees for key positions.

Employee Stock Purchase Plan

The Company established an Employee Stock Purchase Plan (the ESPP) which was adopted by the Board of Directors on August 31, 1999 and approved by shareholder vote on November 6, 1999 and was amended on May 1, 2005. Under the terms of the ESPP, eligible employees may elect to have up to 15% of eligible compensation deducted from their pay and applied to the purchase of shares of Company common stock. The price the employee must pay for each share of stock is 95% of the fair market value of the Company common stock at the end of the applicable six month purchase period. The ESPP qualifies as a non-compensatory plan under section 423 of the Internal Revenue Code. The amendments to the ESPP of May 1, 2005 removed the look back provision that was previously a part of the ESPP and reduced the discount for purchasing shares of the Company's stock to five percent. These modifications to the ESPP were made at the time as a result of the Company's anticipated adoption of SFAS No. 123R.

Other Material Elements

The Company does not have any deferred compensation plans and there are no other material elements related to the Company's compensation of its executives that are not otherwise specified herein.

Employment Agreements

The Company utilizes employment agreements on a limited basis. In 2000, the Company entered into management agreements with Paul F. McLaughlin and Steven R. Roth each effective as of July 24, 2000. These individuals previously had employment agreements with the Company at the time when it was a private

Table of Contents

entity. Then, at the time the Company went public, each executive's respective agreement was redrafted to reflect terms consistent with a public company (e.g. rights in equity holdings) and were executed. Mr. McLaughlin's management agreement provides for an initial term of two years with automatic renewals for additional two-year terms while Mr. Roth's provide for a term of one year with automatic renewals for additional one-year terms unless the Company or the executive delivers a notice of non-renewal to the other party. Mr. McLaughlin's agreement prohibits him from competing with the Company in any way or soliciting its employees during the term of his employment and for two years after termination of his employment. Mr. Roth's agreement prohibits him from competing with the Company in any way or soliciting its employees during their terms of employment and for one year after termination of their employment.

The management agreements provide that if the Company terminates an executive's employment without cause or if the executive terminates with good cause, the Company will be required to pay Mr. McLaughlin his base salary for two years, and in the case of Mr. Roth, one year, as well as a bonus amount equal to the amount earned in the year prior to the date of termination. Good cause is defined in the agreements as: (a) a material reduction in the duties and responsibilities of the executive; (b) the relocation of the executive outside of the Flanders, New Jersey area; (c) requiring the executive to make a material misstatement or omission in any financial report or governmental filing; or (d) a material breach of the agreement that is not corrected within 15 days of notice to the Board.

The agreements also provide that in the event of the termination of an executive's employment upon a change in control, which results in the executive not being offered a management agreement on comparable terms, Mr. McLaughlin will be entitled to receive his base salary for two years, or one year in the case of Mr. Roth. In this context, a change of control would occur if, among other events, the Company was sold to an independent third party and that independent third party acquired enough of the Company's stock to elect a majority of the Company's Board of Directors, or that independent third party acquired all, or substantially all, of the Company's assets. The management agreements with these executives provide that in the event the individual is terminated without cause or for good cause by the executive, the executive is entitled to continue group health or other group benefits as allowed by the Consolidated Omnibus Budget Reconciliation Act (COBRA) after the individual's termination. The Committee believes that providing severance in a change-in-control situation is beneficial to shareholders so that executives may remain indifferent when evaluating a transaction that may be beneficial to shareholders yet could negatively impact the continued employment of the executive.

Upon the merger with August Technology Corporation, the Company assumed certain executive employment agreements into which August Technology had entered. These included the agreements with following executives currently employed by the Company: D. Mayson Brooks effective March 1, 2002, Ardelle Johnson effective August 18, 2003, Jeffrey Nelson effective January 17, 2005 and Michael Plisinski effective April 22, 2005. Pursuant to these agreements, each executive has a set annual base salary that may be adjusted upward or downward by the Chief Executive Officer or Board of Directors. Further, the agreements set forth that the employment of each of these executives may be terminated by mutual written agreement, by either party with thirty days written notice, or by the Company for cause as defined therein. In the event the Company terminates the executive's employment without cause, or by mutual agreement, the individual is entitled to severance equal to a standard severance period, except where change in control provisions are met whereby the severance is equal to a change in control severance period. All of the agreements are identical in nature except for the specific terms set forth in the exhibit to the respective employment agreements defining employee title, manager, base salary, severance period, change in control severance and other special provisions. The severance period for Messrs. Brooks and Johnson is twelve months of base salary and the change in control severance is eighteen months of base salary. For Mr. Plisinski, the severance period is six months of base salary and the change in control severance is six months of base salary, while for Mr. Nelson they are three months and three months, respectively. The employment agreements with each of these executives provide that in the event the individual is terminated with or without cause upon 30 days notice or upon a change in control, the executive may elect to continue group health or other group benefits as allowed by COBRA, and the Company

shall make the COBRA payments for the duration of the individual's severance period.

In addition to the foregoing, upon the hiring of Nathan Little, the Company agreed to include a severance stipulation as part of his respective employment package. Mr. Little has not entered into an employment

Table of Contents

agreement with the Company. However, upon hiring Mr. Little it was agreed that in the event of his termination without cause or a change in control of the Company after which he did not receive an offer of equivalent job, title, responsibility, salary, benefits including no change in residency, he would receive severance in the amount of six months of his base salary. This stipulation was agreed to as an additional incentive negotiated by Mr. Little and the Company prior to commencing his employment.

Elements of Post-Termination Compensation

The Company does not have a practice of providing retirement benefits, including any supplemental executive retirement plans (SERPs), to its executives. Further, the Company does not have any policy which obligates it to provide severance benefits to its executives or directors. As discussed above, however, for the executives who have entered into employment agreements with the Company, these agreements each contain a severance and change-in-control provision. In addition, the Company retains the discretion to utilize the offer of severance and/or change-in-control protection as an incentive in its hiring of executives.

The Company maintains a policy of entering into an agreement with each of its new employees, including executives which contain both non-solicitation and non-competition provisions. The non-solicitation provisions apply for one year after termination of the individual's employment while the non-competition provisions are in effect during the individual's employment and for one year thereafter. Each of the Company's executives has entered into these covenants on the stated terms with the Company except Mr. McLaughlin whose non-solicitation and non-competition provisions are in place during and extend for two years after the end of his employment with the Company. In each case, these covenants have been implemented to protect the confidential information, goodwill and other assets of the Company that are transferred to the individual during his/her employment and to preclude possible unfair competition against the Company through the use of such information. For those individuals with employment agreements, should a breach of the non-solicitation or non-competition terms of their agreements occur, this could give rise to the Company declaring a breach under the agreement and terminating all severance payments thereunder.

Upon termination of an executive's employment with the Company, the individual is entitled to receive his or her base salary earned through the termination date, prorated on a daily basis, along with a payout for all accrued but unused vacation time earned through such date. Thereafter, further cash compensation to the executives is discontinued, except to the extent that severance or change-in-control payments must be made per the discussions above. This includes the removal of any obligation by the Company to pay any unpaid bonuses, except in the cases of Messrs. McLaughlin and Roth per their management agreements. In addition to the foregoing, upon termination, all perquisites and benefits cease. As discussed above, certain executives with the Company who have entered into employment agreements are entitled to elect to continue group health or other group benefits as allowed by COBRA. The Company retains the right to offer severance and/or payment of COBRA benefits to any individual who is terminated from the Company at its discretion.

In the event an individual who has received RSU grants from the Company ceases in their employment or engagement to provide services to the Company, under the Company's Restricted Stock Purchase Agreement and in accordance with the Company's 1999 Stock Plan, any RSU grants which are not vested as of the individual's termination date are forfeited immediately, without any further action by the Company. As Administrator of the Company's 1999 Stock Plan, the Compensation Committee retains the right to waive or amend such forfeiture of any unvested RSU grants at its discretion.

Stock Ownership/Retention Guidelines

The Company has established guidelines related to stock ownership and retention for its executives and its outside directors. The guidelines require that each executive, including the named executive officers, own at least 1,000 shares

of Company common stock within one year of their date of hire and thereafter maintain such ownership status during the course of their employment with the Company. Similarly, each outside director of the Company is required to own at least 1,000 shares of Company common stock within one year of the date of their election to the Board of Directors and thereafter maintain such ownership status during their service as a Director of the Company. For those executives employed by the Company and outside directors serving on the Board at the time of the enactment of these policies, the one year timeframe extended from the date of the Board approval of the subject resolution. The Company has no other stock retention

Table of Contents

policies applicable to its employees, including the named executive officers and other executives, or directors. The Company adopted these policies in order to further align the interest of the executives and outside directors with the interests of shareholders, have a stake in the long-term financial future of the Company and to further promote the Company's commitment to sound corporate governance while allowing them to prudently manage their personal financial affairs.

In assessing compliance with the foregoing guidelines, the Company takes into consideration only the ownership of common stock in the Company. To that end, restricted stock units and vested stock options do not qualify as shares in meeting the Company's stock ownership and retention guidelines.

The Company's stock ownership and retention guidelines are reviewed annually by the Nominating and Governance Committee of the Company. At their last review on May 19, 2008, the Nominating and Governance Committee reviewed the compliance of the Company's executives and directors with the terms of the policies. It was determined that all executives and directors who were with the Company and acting in their executive/ director capacities for over one year were in compliance with the ownership requirement of 1,000 shares of Company common stock then in effect. In the event that an individual were to not meet or drop below the requisite number of shares, the Company would inform the individual of the discrepancy and thereafter he/she would be required to acquire sufficient shares to reach the threshold amount. Should such individual continue to not own the required number of shares, additional action, including possible removal from the executive/director role would be considered by the Board. At this meeting, the Nominating and Governance Committee recommended to the Board and the Board approved adjusting the ownership and retention requirements as follows:

Each outside Director of the Company is to own at least 2,500 shares of common stock in the Company within one year of their election to the Board and thereafter maintain such ownership status during their service as a Director of the Company;

Each executive of the Company who is a direct report to the Chief Executive Officer is to own at least 2,500 shares of common stock in the Company within one year of their date of hire and thereafter maintain such ownership status during the course of their employment with the Company; and

Each executive of the Company who is at the Vice President level but not a direct report of the Chief Executive Officer is to own at least 1,250 shares of common stock in the Company within one year of their date of hire and thereafter maintain such ownership status during the course of their employment with the Company.

The Nominating and Governance Committee has scheduled review of the Company's stock ownership and retention guidelines for its May 2009 meeting and at this annual review will evaluate the appropriateness of the foregoing stock ownership levels on the trailing three year weighted average of the Company's stock price.

The Company has no other policies regarding stock ownership or retention and does not have a policy which addresses hedging of company stock ownership by executives except for the Company's policy relating to insider trading.

Adjustments or Recovery of Prior Compensation

The Company does not presently have any policies or practices that provide for the recovery or adjustment of amounts previously awarded or paid to a named executive officer in the event that financial results or other performance measures on which an award or payment were based were to be restated or adjusted. However, the Sarbanes-Oxley Act of 2002 requires the Chief Executive Officer and Chief Financial Officer to disgorge any awards received that would not have been received but for any error that resulted in a restatement of financial results.

Impact of Regulatory Requirements

The Company's equity grant policies have been impacted by the implementation of SFAS No. 123R, which was adopted on January 1, 2006. Under this accounting pronouncement, the Company is generally required to value equity granted after adoption of SFAS No. 123R under the fair value method and expense those amounts in the income statement over the awards vesting period. Because of the financial impact of SFAS No. 123R, the current intent of the Company is to limit the number of shares granted. It is believed that

Table of Contents

this strategy is best aligned with the Company's stakeholder philosophy because it is intended to limit future earnings dilution from options while at the same time retains the broad-based stock option plan, which the Company believes is important to employee commitment.

The Company's equity compensation program is shareholder approved and is structured to comply with Internal Revenue Code Sections 162(m). Under Section 162(m) of the Internal Revenue Code, a limitation was placed on tax deductions of any publicly-held corporation for individual compensation to certain executives of such corporation exceeding \$1,000,000 in any taxable year, unless the compensation is performance-based. The Company has no individuals with non-performance based compensation paid in excess of the Internal Revenue Code Section 162(m) tax deduction limit.

Conclusion

In reviewing its compensation programs, the Company has concluded that each element of compensation as well as the total compensation delivered to its named executive officers as well as its other executives are reasonable, appropriate and in the best interests of the Company and its shareholders. This is due to the fact that the programs meet the Company's goals of establishing a compensation package that attracts and retains a strong motivated leadership team, aligns the financial incentives of the executives with the interests of the shareholders, and rewards the achievement of specific annual, long-term and strategic goals by the Company. At the same time, the compensation package remains consistent with those offered by competitive companies within the industry. It is believed that the compensation programs established by the Company have enabled it to recruit and secure a talented and motivated leadership team by which the Company drives toward the ultimate objective of improving stockholder value.

COMPENSATION COMMITTEE REPORT ON EXECUTIVE COMPENSATION

We, the Compensation Committee of the Board of Directors, have reviewed and discussed the Compensation Discussion and Analysis (CD&A) within the Executive Compensation section of this Proxy Statement with the management of the Company. Based on such review and discussion, we are of the opinion that the executive compensation policies and plans provide appropriate compensation to properly align Rudolph Technologies, Inc.'s performance and the interests of its stockholders through the use of competitive and equitable executive compensation in a balanced and reasonable manner, for both the short and long-term. Accordingly, we have recommended to the Board of Directors that the CD&A be included as part of this proxy filing.

THE COMPENSATION COMMITTEE

Daniel H. Berry (Chairman)
Leo Berlinghieri
Aubrey C. Tobey

Table of Contents**Summary Compensation Table**

The table below sets forth information for the most recently completed year concerning the compensation of the Chief Executive Officer, the Chief Financial Officer, the other most highly compensated executive officers and the most highly compensated non-executive officer of the Company who were serving as such at the end of the fiscal year ended December 31, 2008 (together, the Named Executive Officers):

| Name and Principal Position | Year | Salary | Stock Awards (1) | Option Awards (1) | Non-Equity Incentive Plan Compensation (2) | All Other Compensation (3) | Total |
|---|-------------|---------------|-------------------------|--------------------------|---|-----------------------------------|--------------|
| Paul F. McLaughlin | 2008 | \$ 565,456 | \$ 594,877 | | \$ 125,556 | \$ 22,064 | \$ 1,307,953 |
| Chairman and Chief Executive Officer | 2007 | \$ 532,980 | \$ 540,803 | | \$ 40,541 | \$ 18,889 | \$ 1,133,213 |
| Steven R. Roth | 2008 | \$ 272,370 | \$ 143,011 | | \$ 47,984 | \$ 18,014 | \$ 481,379 |
| Senior Vice President, Finance and Administration and Chief Financial Officer | 2007 | \$ 257,465 | \$ 132,672 | | \$ 13,013 | \$ 17,714 | \$ 420,864 |
| Nathan H. Little | 2008 | \$ 259,719 | \$ 179,258 | | \$ 44,737 | \$ 18,564 | \$ 502,278 |
| Executive Vice President and General Manager of Inspection Business Unit | 2007 | \$ 245,023 | \$ 169,272 | | \$ 14,068 | \$ 18,708 | \$ 447,071 |
| Michael P. Plisinski | 2008 | \$ 247,188 | \$ 98,680 | \$ 27,073 | \$ 21,544 | \$ 6,832 | \$ 401,317 |
| Vice President and General Manager of Data, Analysis & Review Business Unit | 2007 | \$ 233,192 | \$ 84,171 | \$ 79,675 | \$ 13,303 | \$ 6,710 | \$ 417,051 |
| D. Mayson Brooks | 2008 | \$ 338,234 | \$ 55,178 | \$ 30,713 | | \$ 5,581 | \$ 429,706 |
| Vice President, Global Sales | 2007 | \$ 307,149 | \$ 45,610 | \$ 34,125 | | \$ 5,595 | \$ 392,479 |

(1) For more information regarding the Company's assumptions made in the valuation of restricted stock units and stock options, see Note 11 to the financial statements included in the Company's Form 10-K for the year ended December 31, 2008.

(2) Represents performance bonus awards under the key executive cash bonus plan. With respect to the 2007 amounts, the performance bonus awards were earned in 2007, but paid in 2008. With respect to the 2008 amounts, the performance bonus awards were earned in 2008, but paid in 2009.

(3) The table below details the 2008 components of this column.

| Name | Matching Contribution to 401(k) | Insurance(a) | Perquisites | Total All Other Compensation |
|-------------|--|---------------------|--------------------|-------------------------------------|
|-------------|--|---------------------|--------------------|-------------------------------------|

| | | | | |
|----------------------|----------|--------|--------------|-----------|
| Paul F. McLaughlin | \$ 6,900 | \$ 864 | \$ 14,300(b) | \$ 22,064 |
| Steven R. Roth | \$ 6,900 | \$ 864 | \$ 10,250(c) | \$ 18,014 |
| Nathan H. Little | \$ 6,900 | \$ 864 | \$ 10,800(d) | \$ 18,564 |
| Michael P. Plisinski | \$ 5,968 | \$ 864 | \$ * | \$ 6,832 |
| D. Mayson Brooks | \$ 4,717 | \$ 864 | \$ * | \$ 5,581 |

* Less than \$10,000 of perquisites in the aggregate, and therefore, zero perquisites disclosed.

- (a) Insurance is defined as the premium associated with coverage under the group term life insurance and accidental death and dismemberment insurance plans provided by the Company to its employees. Coverage is equal to the lesser of two times salary or \$450,000.
- (b) Perquisites include automobile allowance (\$6,000), tax return preparation (\$8,000), and reimbursement of executive airline club membership.
- (c) Perquisites include automobile allowance (\$6,000), tax return preparation (\$3,900) and reimbursement of executive airline club membership.

Table of Contents

- (d) Perquisites include automobile allowance (\$6,000), tax return preparation (\$4,000) and the amount paid by the Company for opting out of health insurance coverage.

Grants of Plan-Based Awards

The following table sets forth information with respect to plan-based restricted stock awards granted in 2008 to the Named Executive Officers. The dollar amounts indicated under the Grant Date Fair Value is the full fair value of each grant, in accordance with the applicable accounting literature, which is greater than the amortization costs the Company recognized on its fiscal year 2008 financial statements with respect to such grant.

| Name | Grant Date | Estimated Future Payouts Under Non-Equity Incentive Plan Awards | | | All Other Stock Awards | |
|----------------------|--------------|---|------------|------------|---------------------------|--------------------------|
| | | Threshold | Target | Maximum | Number of Units(1) | Grant Date Fair Value |
| Paul F. McLaughlin | | | | | | |
| Performance-based | May 27, 2008 | | \$ 333,518 | \$ 444,691 | 3,800 | \$ 38,000 |
| Time-based | May 27, 2008 | | | | 40,000 | \$ 400,000 |
| Steven R. Roth | | | | | | |
| Performance-based | May 27, 2008 | | \$ 107,226 | \$ 107,226 | 832 | \$ 8,320 |
| Time-based | May 27, 2008 | | | | 8,750 | \$ 87,500 |
| Nathan H. Little | | | | | | |
| Performance-based | May 27, 2008 | | \$ 112,545 | \$ 112,545 | 950 | \$ 9,500 |
| Time-based | May 27, 2008 | | | | 10,000 | \$ 100,000 |
| Michael P. Plisinski | | | | | | |
| Performance-based | May 27, 2008 | | \$ 109,086 | \$ 109,086 | 713 | \$ 7,130 |
| Time-based | May 27, 2008 | | | | 7,500 | \$ 75,000 |
| D. Mayson Brooks | | | | | | |
| Performance-based | May 27, 2008 | | | | 475 | \$ 4,750 |
| Time-based | May 27, 2008 | | | | 5,000 | \$ 50,000 |

- (1) These restricted stock units will vest 20% on January 31, 2009 and each of the subsequent four anniversaries of that vest date. For additional information, see Compensation Discussion and Analysis.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth information with respect to outstanding equity awards held by the Named Executive Officers as of December 31, 2008. The aggregate dollar values indicated in the table below for equity incentive plan awards are the market or payout values and not the SFAS No. 123R values or the compensation expense recognized by the Company on its financial statements for fiscal year 2008 with respect to its long-term equity incentive plan awards. Such compensation expenses amounts, or the amortization pursuant to the applicable accounting literature is provided in the Summary Compensation Table and the table under Grants of Plan Based Awards above.

| Name | Grant Date(1) | Option Awards(2) | | | Stock Awards | | |
|--------------------|---------------|---|---|----------------|------------------------|--|--|
| | | Number of Securities Underlying Unexercised Options Exercisable | Number of Securities Underlying Unexercised Options Unexercisable | Exercise Price | Option Expiration Date | Number of Units of Stock That Have Not Vested(3) | Market Value of Units of Stock That Have Not Vested(4) |
| Paul F. McLaughlin | 11/11/1999 | 125,000 | | \$ 16.00 | 11/10/2009 | | |
| | 1/26/2001 | 125,000 | | \$ 40.13 | 1/25/2011 | | |
| | 10/19/2001 | 30,000 | | \$ 23.40 | 10/18/2011 | | |
| | 10/18/2002 | 35,000 | | \$ 14.62 | 10/17/2012 | | |
| | 1/29/2003 | 150,000 | | \$ 16.41 | 1/28/2013 | | |
| | 1/29/2004 | 75,000 | | \$ 26.20 | 1/28/2014 | | |
| | 1/27/2005 | | | | | 20,000 | \$ 70,600 |
| | 2/16/2006 | | | | | 21,000 | \$ 74,130 |
| | 2/1/2007 | | | | | 64,000 | \$ 225,920 |
| | 5/27/2008 | | | | | 40,000 | \$ 141,200 |

Table of Contents

| Name | Grant Date(1) | Option Awards(2) | | | | Stock Awards | |
|---------------------------|---------------|---|---|-----------------------|------------------------|--|--|
| | | Number of Securities Underlying Unexercised Options Exercisable | Number of Securities Underlying Unexercisable | Option Exercise Price | Option Expiration Date | Number of Units of Stock That Have Not Vested(3) | Market Value of Units of Stock That Have Not Vested(4) |
| Steven R. Roth | 5/27/2008 | | | | | 38,000 | \$ 134,140 |
| | 11/11/1999 | 68,269 | | \$ 16.00 | 11/10/2009 | | |
| | 1/26/2001 | 50,000 | | \$ 40.13 | 1/25/2011 | | |
| | 10/19/2001 | 15,000 | | \$ 23.40 | 10/18/2011 | | |
| | 10/18/2002 | 10,000 | | \$ 14.62 | 10/17/2012 | | |
| | 1/29/2003 | 45,000 | | \$ 16.41 | 1/28/2013 | | |
| | 1/29/2004 | 25,000 | | \$ 26.20 | 1/28/2014 | | |
| | 1/27/2005 | | | | | 5,800 | \$ 20,474 |
| | 2/16/2006 | | | | | 4,800 | \$ 16,944 |
| | 2/1/2007 | | | | | 14,000 | \$ 49,420 |
| Nathan H. Little | 5/27/2008 | | | | | 8,750 | \$ 30,888 |
| | 5/27/2008 | | | | | 832 | \$ 2,937 |
| | 5/22/2001 | 25,000 | | \$ 50.30 | 5/21/2011 | | |
| | 10/19/2001 | 15,000 | | \$ 23.40 | 10/18/2011 | | |
| | 1/29/2003 | 75,000 | | \$ 16.41 | 1/28/2013 | | |
| | 1/29/2004 | 35,000 | | \$ 26.20 | 1/28/2014 | | |
| | 1/27/2005 | | | | | 8,200 | \$ 28,946 |
| | 2/16/2006 | | | | | 6,000 | \$ 21,180 |
| | 2/1/2007 | | | | | 16,000 | \$ 56,480 |
| | 5/27/2008 | | | | | 10,000 | \$ 35,300 |
| Michael P Plisinski(5) | 5/27/2008 | | | | | 950 | \$ 3,354 |
| | 7/3/2003 | 30,500 | | \$ 9.32 | 8/1/2010 | | |
| | 2/6/2004 | 1,324 | | \$ 24.20 | 2/6/2014 | | |
| | 10/22/2004 | 921 | | \$ 10.00 | 10/22/2014 | | |
| | 12/30/2004 | 7,624 | | \$ 13.62 | 12/30/2014 | | |
| | 3/7/2005 | 2,329 | | \$ 15.87 | 3/7/2015 | | |
| | 4/29/2005 | 26,687 | | \$ 15.48 | 4/29/2015 | | |
| | 7/21/2005 | 735 | | \$ 16.71 | 7/21/2015 | | |
| | 1/25/2006 | 7,150 | 4,764 | \$ 14.81 | 1/25/2016 | | |
| | 5/23/2006 | | | | | 6,000 | \$ 21,180 |
| | 2/1/2007 | | | | | 14,000 | \$ 49,420 |
| | 5/27/2008 | | | | | 7,500 | \$ 26,475 |
| | 5/27/2008 | | | | | 713 | \$ 2,517 |
| 4/5/2002 | 5,718 | | \$ 18.68 | 4/5/2009 | | | |

D. Mayson
Brooks(6)

| | | | | | | |
|-----------|-------|-------|----------|-----------|-------|-----------|
| 2/6/2004 | 4,766 | | \$ 24.20 | 2/6/2014 | | |
| 4/30/2004 | 1,467 | | \$ 17.19 | 4/30/2014 | | |
| 3/7/2005 | 1,926 | | \$ 15.87 | 3/7/2015 | | |
| 7/21/2005 | 377 | | \$ 16.71 | 7/21/2015 | | |
| 1/25/2006 | 2,704 | 5,404 | \$ 14.81 | 1/25/2016 | | |
| 5/23/2006 | | | | | 3,000 | \$ 10,590 |
| 2/1/2007 | | | | | 8,000 | \$ 28,240 |
| 5/27/2008 | | | | | 5,000 | \$ 17,650 |
| 5/27/2008 | | | | | 475 | \$ 1,677 |

(1) For better understanding of this table, we have included an additional column showing the grant date of stock options and restricted stock units.

Table of Contents

(2) Stock options became exercisable in accordance with the vesting schedule below:

| Grant Date | Vesting |
|-------------------|--|
| 11/11/1999 | 1/5 per year on the anniversary of the grant date |
| 1/26/2001 | 1/5 per year on the anniversary of the grant date |
| 5/22/2001 | 1/5 per year on the anniversary of the grant date |
| 10/19/2001 | 1/5 per year on the anniversary of the grant date |
| 4/5/2002 | Full vesting at grant date |
| 10/18/2002 | 1/5 per year on the anniversary of the grant date |
| 1/29/2003 | 1/5 per year on the anniversary of the grant date |
| 7/3/2003 | 1/5 per year on the anniversary of the grant date and vesting accelerated on 2/15/06 |
| 1/29/2004 | 1/5 per year on the anniversary of the grant date |
| 2/6/2004 | Full vesting at grant date |
| 4/30/2004 | Full vesting at grant date |
| 10/22/2004 | Full vesting at 120 days |
| 12/30/2004 | 1/3 at grant date and in years 2 and 3 |
| 3/7/2005 | Full vesting at grant date |
| 4/29/2005 | 1/3 at grant date and in years 2 and 3 |
| 7/21/2005 | Full vesting at grant date |
| 1/25/2006 | 1/5 at grant date and in years 2, 3, 4 and 5 |

(3) Restricted stock units vest in accordance with the schedule below:

| Grant Date | Vesting |
|-------------------|---|
| 1/27/2005 | 1/5 per year on the anniversary of the grant date |
| 2/16/2006 | 1/5 per year on the anniversary of the grant date |
| 2/1/2007 | 1/5 per year on the anniversary of the grant date |
| 5/27/2008 | 1/5 on January 31, 2009 and 1/5 per year on the anniversary of that vest date |

(4) Based on the Company's common stock closing price of \$3.53 on December 31, 2008.

(5) Mr. Plisinski's outstanding stock options were assumed through the merger of the Company with August Technology on February 15, 2006.

(6) Mr. Brooks' outstanding stock options were assumed through the merger of the Company with August Technology on February 15, 2006.

Option Exercises and Stock Vested

The Company has not granted stock option awards to the Named Executive Officers with respect to a fiscal year after 2004, excluding the stock options assumed in the August Technology merger on February 15, 2006. No other options were granted in 2005 or any subsequent year. The following table sets forth information with respect to the exercise of

stock options and vesting of restricted stock by the Named Executive Officers during 2008:

| Name | Option Awards | | Stock Awards | |
|----------------------|--|-------------------------------------|---|---------------------------------|
| | Number of Shares Acquired on Exercise | Value Realized on Exercise | Number of Shares Acquired on Vesting | Value Realized on Vesting |
| Paul F. McLaughlin | | \$ | 33,000 | \$ 322,450 |
| Steven R. Roth | | \$ | 8,000 | \$ 78,133 |
| Nathan H. Little | | \$ | 10,100 | \$ 98,557 |
| Michael P. Plisinski | | \$ | 5,500 | \$ 55,160 |
| D. Mayson Brooks | | \$ | 3,000 | \$ 30,080 |

Table of Contents

The Company does not have a pension program nor does it offer non-qualified deferred compensation.

Executive Officers

Set forth below is certain information regarding the executive officers of the Company and their ages as of March 31, 2008. Information relating to Paul F. McLaughlin is set forth above under the caption PROPOSAL 1 ELECTION OF DIRECTORS Nominees.

Nathan H. Little, age 57, has served as the Company's Executive Vice President and General Manager, Inspection Business Unit since February 2006. From July 2004 to February 2006, Mr. Little served as Executive Vice President responsible for global sales, marketing and new business development. From January 2003 to July 2004, Mr. Little served as the Company's Senior Vice President of Operations responsible for engineering and manufacturing. Mr. Little has been a Vice President since he joined the Company in May 2001. From 1986 through 2001, Mr. Little held various positions with Philips Electronics where he last served as Vice President, NPR Purchasing for Philips Electronics North America. Mr. Little received a B.S. in Mechanical Engineering from Northwestern University, an M.S. in Mechanical Engineering from the University of Minnesota and an M.B.A. from Harvard University Graduate School of Business.

Steven R. Roth, age 48, has served as the Company's Senior Vice President, Finance and Administration and Chief Financial Officer since February 2002. From September 1996 to February 2002, Mr. Roth served as the Company's Vice President, Finance and Administration and Chief Financial Officer. From August 1991 to August 1996, Mr. Roth served as a Director of Corporate Finance for Bell Communications Research, now called Telcordia, a research and development company serving the telecommunications industry. Mr. Roth is a C.P.A. and holds a B.S. in Accounting from Villanova University.

D. Mayson Brooks, age 50, has served as the Company's Vice President of Global Sales since December 2006 and prior to that as the Company's Vice President of Global Sales, Inspection from February 2006 when the Company merged with August Technology Corporation to December 2006. From July 1999 to February 2006, Mr. Brooks served in various Vice President positions in the areas of sales, marketing and field operations for August Technology. Mr. Brooks holds a B.S. in Engineering from the United States Naval Academy and an M.B.A. from the University of North Carolina.

Scott Danciak, age 39, has served as the Company's Vice President of Engineering for the Inspection Business Unit since June 2006. From March 2005 to June 2006, Mr. Danciak served as the Company's Director of Thin Film Development and from September 2004 to March 2005 he served as the Senior Manager for Thin Film Development. From September 2003 to September 2004, Mr. Danciak served as the Company's Manager of Hardware Engineering. Prior to that, he served the Company in various engineering management and staff positions since 1997. Mr. Danciak holds a B.S. in Electrical Engineering from Johns Hopkins University.

Robert DiCrosta, age 61, has served as the Company's Vice President of Global Customer Support since February 2002. From July 2000 to February 2002, Mr. DiCrosta served as the Director of Global Customer Support. Prior to that, he served in various positions in Customer Support and Finance with other high tech equipment manufacturers. Mr. DiCrosta received a B.S. in Marketing from the University of Bridgeport and an M.B.A. in Finance and International Finance from New York University.

Ajay Khanna, age 49, has served as the Company's Vice President of International Accounts since December 2006 and prior to that as the Company's Vice President of International Sales, Metrology from February 2006 to December 2006. Mr. Khanna also served as Vice President of International Sales from February 2002 to February 2006. Prior to that, he served in various international sales positions and has been with the Company since 1986. Mr. Khanna

received a B.S. in Electrical Engineering from Clarkson University and an M.B.A. from the University of Michigan Business School.

Robert A. Koch, age 47, has served as the Company's Vice President and General Counsel since May 2003. From April 1986 to May 2003, Mr. Koch was employed by Howmedica Osteonics Corp., the orthopaedic implant subsidiary of Stryker Corporation, where he was their in-house counsel for 12 years and last served as their Director of Legal Affairs. Mr. Koch holds a B.S. in Chemical Engineering and an M.S. in

Table of Contents

Biomedical Engineering, both from Rutgers University. Mr. Koch earned his J.D. from Rutgers School of Law Newark in 1991 and is admitted to practice in New Jersey and New York.

John R. Kurdock, age 64, has served as the Company's Vice President and General Manager, Metrology Business Unit since July 2007. From November 2006 to July 2007, Mr. Kurdock served as the Company's Assistant General Manager and Vice President, Metrology Business Unit and prior to that as the Company's Vice President of Manufacturing, Metrology from February 2006 to November 2006. Mr. Kurdock joined the Company as Vice President of Manufacturing in January 2005. From June 2003 to January 2005, Mr. Kurdock was an independent consultant specializing in the semiconductor capital equipment industry. From January 1997 to June 2003, Mr. Kurdock was the Vice President of Operations for Electro Scientific Industries, a semiconductor capital equipment manufacturer. Mr. Kurdock holds a B.S. in Mechanical Engineering from Carnegie Mellon University.

Ardelle R. Johnson, age 54, has served as the Company's Vice President of Corporate Marketing since February 2006 when the Company merged with August Technology Corporation. From August 2003 to February 2006, Mr. Johnson served as Vice President of Marketing for August Technology. From June 1980 to April 2003, Mr. Johnson was employed by FSI International Inc., a semiconductor capital equipment company, serving most recently as Vice President of Sales and Marketing. He holds a B.S. in Chemistry from the University of Minnesota and an M.S. from the University of Wisconsin.

Christopher J. Morath, age 40, has served as the Company's Vice President of Operations, Metrology Business Unit, since August 2007. From November 2006 to August 2007, Mr. Morath served as the Company's Director of Manufacturing Operations, Metrology Business Unit. From January 2004 to November 2006, Mr. Morath served as the Company's Director of Marketing and prior to that served for three years as Director of Product Development in Engineering. Mr. Morath received a B.A. in Physics from Boston University, an M.S. and Ph.D. in Condensed Matter Physics from Brown University, and an M.B.A. from the Wharton School of the University of Pennsylvania.

Jeffrey T. Nelson, age 53, has served as the Company's Vice President of Manufacturing, Inspection since February 2006 when the Company merged with August Technology Corporation. From August 2004 to February 2006, Mr. Nelson served as August Technology's Vice President of Manufacturing. From September 1998 to March 2004, he served as Director of Manufacturing at Elkay Corp, a supplier of sinks, plumbing and cabinetry to retailers. Mr. Nelson received a B.S. in Business Administration from the University of Minnesota.

Michael P. Plisinski, age 39, has served as the Company's Vice President and General Manager, Data Analysis and Review Business Unit since February 2006 when the Company merged with August Technology Corporation. From February 2004 to February 2006, he was August Technology's Vice President of Engineering and its Director of Strategic Marketing for review and analysis products from July 2003 to February 2004. Mr. Plisinski joined August Technology as part of the acquisition of Counterpoint Solutions, a semiconductor review and analysis company, where he was both President and sole founder from June 1999 to July 2003. Mr. Plisinski has a B.S. in Computer Science from the University of Massachusetts.

Rajiv Roy, age 50, has served as the Vice President of Business Development and Director of Back-End Product Management since June 2008. From February 2006 to June 2008, Mr. Roy served as the Company's Director of Marketing. Prior to the Company's merger with August Technology in February 2006, Mr. Roy served as the Director of Strategic Marketing for August Technology from April 2003 to February 2006. Mr. Roy joined August Technology as part of the acquisition of Semiconductor Technologies and Instruments, Inc., a supplier to the semiconductor industry, where he was President from August 2000 to March 2003. Mr. Roy has a Bachelor of Technology in Electrical Engineering from Indian Institute of Technology, Kanpur, and from the University of Texas at Dallas, an M.S. in Math Sciences and a M.A. in Marketing.

Compensation Committee Interlocks and Insider Participation

The Compensation Committee consists of Directors Daniel H. Berry, Leo Berlinghieri and Aubrey C. Tobey, none of whom has interlocking relationships as defined by the SEC.

Table of Contents**SECURITY OWNERSHIP**

The following table sets forth certain information with respect to beneficial ownership of the Company's Common Stock as of March 31, 2009 (except as otherwise indicated), by: (i) each person who is known by the Company to own beneficially more than five percent of the Common Stock, (ii) each of the Named Executive Officers, (iii) each of the Company's directors, and (iv) all directors and executive officers as a group. Except as indicated in the footnotes to this table, the persons named in the table have sole voting and investment power with respect to all shares of Common Stock shown as beneficially owned by them, subject to community property laws where applicable.

| Beneficial Owner | Number of Shares(1) | Percentage(2) |
|--|--------------------------------|----------------------|
| FMR LLC(3) 82 Devonshire Street Boston, MA 02109 | 3,211,088 | 10.42% |
| Artisan Investment Corporation(4) 875 East Wisconsin Avenue, Suite 800 Milwaukee, WI 53202 | 3,115,400 | 10.11% |
| Wellington Management Company, LLP(5) 75 State Street Boston, MA 02109 | 2,806,219 | 9.11% |
| Dimensional Fund Advisors LP(6) 1299 Ocean Avenue Santa Monica, CA 90401 | 2,479,899 | 8.05% |
| Barclays Global Investors, NA and affiliates(7) 400 Howard Street San Francisco, CA 94105 | 2,181,287 | 7.08% |
| Paul F. McLaughlin | 793,341 | 2.53% |
| Steven R. Roth | 249,905 | * |
| Nathan H. Little | 184,704 | * |
| Michael P. Plisinski | 167,480 | * |
| D. Mayson Brooks | 24,753 | * |
| Daniel H. Berry(8) | | |
| Direct Beneficial Ownership | 29,783 | * |
| Indirect Beneficial Ownership c/o Riverside Partners LLC One Exeter Plaza Boston, MA 02116 | 552,667 | 1.79% |
| Thomas G. Greig(9) | | |
| Direct Beneficial Ownership | 23,000 | * |
| Indirect Beneficial Ownership c/o Liberty Capital Partners, Inc. 1370 Avenue of the Americas New York, NY 10019 | 1,219,040 | 3.96% |
| Richard F. Spanier(10) | 80,750 | * |
| Aubrey C. Tobey | 20,700 | * |
| John R. Whitten | 12,500 | * |

| | | |
|--|-----------|--------|
| All directors and executive officers as a group (twenty persons)(11) | 3,768,756 | 11.69% |
|--|-----------|--------|

* Less than 1%.

(1) Includes the number of shares subject to options which are exercisable and restricted stock units vesting within 60 days of March 31, 2009 by the following persons: Mr. McLaughlin, (540,000 shares), Mr. Roth (213,269 shares), Mr. Little (150,000 shares), Mr. Plisinski (81,652 shares), Mr. Brooks (20,660),

Table of Contents

Mr. Berry (16,783 shares), Mr. Greig (15,000 shares), Mr. Spanier (15,000 shares), Mr. Tobey (15,000 shares) and all directors and executive officers as a group (1,420,477 shares).

- (2) Applicable percentage ownership is based on 30,811,170 shares of Common Stock outstanding as of March 31, 2009. Beneficial ownership of shares is determined in accordance with the rules of the SEC and generally includes shares as to which a person holds sole or shared voting or investment power. Shares of Common Stock subject to options that are presently exercisable or exercisable within 60 days of March 31, 2009 are deemed to be beneficially owned by the person holding such options for the purpose of computing the percentage ownership of such person, but are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise noted the address for the stockholders named in this table is c/o Rudolph Technologies, Inc., One Rudolph Road, P.O. Box 1000, Flanders, NJ 07836.
- (3) Information provided herein is based on the Schedule 13G/A that was filed on February 17, 2009 by FMR LLC.
- (4) Information provided herein is based on the Schedule 13G/A that was filed on February 13, 2009 by Artisan Partners Limited Partnership, Artisan Investment Corporation, ZFIC, Inc., Andrew A. Ziegler, Carlene M. Ziegler and Artisan Funds, Inc.
- (5) Information provided herein is based on the Schedule 13G/A that was filed on February 17, 2009 by Wellington Management Company, LLP.
- (6) Information provided herein is based on the Schedule 13G/A that was filed on February 9, 2009 by Dimensional Fund Advisors LP.
- (7) Information provided herein is based on the Schedule 13G that was filed on February 5, 2009 by Barclays Global Investors, NA (which reported ownership of 798,901 shares), Barclays Global Fund Advisors (which reported ownership of 1,362,961 shares), and Barclays Global Investors, Ltd (which reported ownership of 19,425 shares) located at Murray House, 1 Royal Mint Court, London, England EC3N 4HH.
- (8) The number of shares of Common Stock beneficially owned by Mr. Berry includes indirect beneficial ownership in 552,667 shares of Rudolph Technologies Common Stock held by the Riverside Fund II, LP, an affiliate of Riverside Partners, LLC. Mr. Berry is an Operating Partner of Riverside Partners, LLC and disclaims beneficial ownership except to the extent of his pecuniary interest therein.
- (9) The number of shares of Common Stock beneficially owned by Mr. Greig includes indirect beneficial ownership in 1,219,040 shares of Rudolph Technologies Common Stock held by Liberty Partners Holdings 11, L.L.C. Liberty Partners, L.P. is the managing member of Liberty Partners Holdings 11, L.L.C. and PEB Associates, Inc. d/b/a Liberty Capital Partners, Inc. is the general partner of Liberty Partners, L.P. Mr. Greig is an officer, director and shareholder of Liberty Capital Partners, Inc. Mr. Greig disclaims beneficial ownership of all shares to the extent it exceeds his pecuniary interest in the securities.
- (10) Includes 7,671 shares held by Dr. Spanier's wife.
- (11) The number of shares of Common Stock beneficially owned by our directors and executive officers as a group includes 1,219,040 shares of our Common Stock held by Liberty Partners Holdings 11, L.L.C. and 552,667 shares of our Common Stock held by the Riverside Fund II, LP, an affiliate of Riverside Partners, LLC.

Table of Contents**EQUITY COMPENSATION PLAN INFORMATION**

The following table sets forth information with respect to the Company's equity compensation plans as of December 31, 2008.

| | (a) | (b) | (c) |
|--|---|--|--|
| Plan Category | Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights(1) | Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights | Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) |
| Equity compensation plans approved by security holders | 2,306,729 | \$ 21.16 | 1,561,555 |
| Equity compensation plans not approved by security holders | N/A | N/A | N/A |
| Total | 2,306,729 | \$ 21.16 | 1,561,555 |

(1) Includes only options outstanding under the 1996 Stock Plan, 1997 Stock Plan and the 1999 Stock Plan. Excludes 729,428 shares issuable upon vesting of outstanding Restricted Stock Units.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934 requires the Company's executive officers and directors and persons who own more than 10% of a registered class of the Company's equity securities to file an initial report of ownership on Form 3 and changes in ownership on Form 4 or Form 5 with the SEC. Such persons are also required by SEC rules to furnish the Company with copies of all Section 16(a) forms they file. Based solely on its review of the copies of such forms received by it, or written representations from certain reporting persons, the Company believes that, during the year ended December 31, 2008, all officers, directors and greater than 10% beneficial owners complied with all Section 16(a) filing requirements, except Thomas G. Greig filed a late Form 4 on October 28, 2008 with respect to one transaction on October 23, 2008.

OTHER MATTERS

The Company knows of no other matters to be submitted to the Annual Meeting. If any other matters properly come before the Annual Meeting, it is the intention of the persons named in the enclosed Proxy to vote the shares they

represent as the Board of Directors may recommend.

BY ORDER OF THE BOARD OF DIRECTORS

Steven R. Roth
Secretary

Dated: April 17, 2009

Table of Contents

Appendix A

RUDOLPH TECHNOLOGIES, INC.

2009 STOCK PLAN

1. Purposes of the Plan. The purposes of this 2009 Stock Plan are:

- to attract and retain the best available personnel for positions of substantial responsibility,
- to provide additional incentive to Employees, Directors and Consultants, and
- to promote the success of the Company's business.

The Plan permits the grant of Incentive Stock Options, Nonstatutory Stock Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Units and Performance Shares.

2. Definitions. As used herein, the following definitions shall apply:

- (a) Administrator means the Board or any of its Committees as shall be administering the Plan, in accordance with Section 4 of the Plan.
- (b) Affiliate means any corporation or any other entity (including, but not limited to, partnerships and joint ventures) controlling, controlled by, or under common control with the Company.
- (c) Applicable Laws means the requirements relating to the administration of equity-based awards under U.S. state corporate laws, U.S. federal and state securities laws, the Code, any stock exchange or quotation system on which the Common Stock is listed or quoted and the applicable laws of any foreign country or jurisdiction where Options or Stock Purchase Rights are, or will be, granted under the Plan.
- (d) Award means, individually or collectively, a grant under the Plan of Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Units or Performance Shares.
- (e) Award Agreement means the written or electronic agreement setting forth the terms and provisions applicable to each Award granted under the Plan. The Award Agreement is subject to the terms and conditions of the Plan.
- (f) Board means the Board of Directors of the Company.
- (g) Cause means, in the absence of any employment agreement between a Participant and the Company (or the Affiliate employing Participant) otherwise defining Cause:
 - (i) acts of personal dishonesty, gross negligence or willful misconduct on the part of a Participant in the course of his or her employment or services,
 - (ii) a Participant's engagement in conduct that results, or could reasonably be expected to result, in material injury to the reputation or business of the Company or its Affiliates,
 - (iii) misappropriation by a Participant of the assets or business opportunities of the Company or its Affiliates;

(iv) embezzlement or fraud committed by a Participant, at his or her direction, or with his or her personal knowledge;

(v) a Participant's conviction by a court of competent jurisdiction of, or pleading guilty or no contest to:

(A) a felony; or

(B) any other criminal charge (other than minor traffic violations) that has, or could be reasonably expected to have, an adverse impact on the performance of the Participant's duties to the Company or its Affiliates; or

A-1

Table of Contents

(vi) failure by a Participant to follow the lawful directions of a superior officer or the Board.

In the event there is an employment agreement between a Participant and the Company or Affiliate employing Participant defining Cause, Cause will have the meaning provided in such agreement.

(h) Change in Control means the occurrence of any of the following events:

(i) A change in the ownership of the Company which occurs on the date that any one person, or more than one person acting as a group (Person), acquires ownership of the stock of the Company that, together with the stock held by such Person, constitutes more than fifty percent (50%) of the total voting power of the stock of the Company; provided, however, that for purposes of this subsection 2(h)(i), the acquisition of additional stock by any one Person, who is considered to own more than fifty percent (50%) of the total voting power of the stock of the Company will not be considered a Change in Control; or

(ii) A change in the effective control of the Company which occurs on the date that a majority of members of the Board is replaced during any twelve (12) month period by Directors whose appointment or election is not endorsed by a majority of the members of the Board prior to the date of the appointment or election. For purposes of this subsection 2(h)(ii), if any Person is considered to be in effective control of the Company, the acquisition of additional control of the Company by the same Person will not be considered a Change in Control; or

(iii) A change in the ownership of a substantial portion of the Company's assets which occurs on the date that any Person acquires (or has acquired during the twelve (12) month period ending on the date of the most recent acquisition by such person or persons) assets from the Company that have a total gross fair market value equal to or more than fifty percent (50%) of the total gross fair market value of all of the assets of the Company immediately prior to such acquisition or acquisitions; provided, however, that for purposes of this subsection 2(h)(iii), the following will not constitute a change in the ownership of a substantial portion of the Company's assets:

(A) a transfer to an entity that is controlled by the Company's stockholders immediately after the transfer; or

(B) a transfer of assets by the Company to:

(1) a stockholder of the Company (immediately before the asset transfer) in exchange for or with respect to the Company's stock;

(2) an entity, fifty percent (50%) or more of the total value or voting power of which is owned, directly or indirectly, by the Company;

(3) a Person, that owns, directly or indirectly, fifty percent (50%) or more of the total value or voting power of all the outstanding stock of the Company; or

(4) an entity, at least fifty percent (50%) of the total value or voting power of which is owned, directly or indirectly, by a Person described in subsection 2(h)(iii)(B)(3).

For purposes of this subsection 2(h)(iii), gross fair market value means the value of the assets of the Company, or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.

For purposes of this definition, persons will be considered to be acting as a group if they are owners of a corporation that enters into a merger, consolidation, purchase or acquisition of stock, or similar business transaction with the Company.

In the event that this Section 2(h) is inconsistent with the definition of Change in Control under Section 409A of the Code and the Regulations thereunder, the definition under the aforesaid mentioned Code and Regulations shall supersede.

A-2

Table of Contents

- (i) Code means the Internal Revenue Code of 1986, as amended. Any reference to a section of the Code herein will be a reference to any successor or amended section of the Code.
- (j) Committee means a committee of Directors or of other individuals satisfying Applicable Laws appointed by the Board in accordance with Section 4 hereof.
- (k) Common Stock means the common stock of the Company.
- (l) Company means Rudolph Technologies, Inc., a Delaware corporation, or any successor thereto.
- (m) Consultant means any person, including an advisor, engaged by the Company or its Affiliates to render services to such entity.
- (n) Director means a member of the Board.
- (o) Disability means that the Participant or Service Provider is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than twelve (12) months.
- (p) Employee means any person, including Officers and Directors, employed by the Company or its Affiliates. Neither service as a Director nor payment of a director's fee by the Company shall be sufficient to constitute employment by the Company.
- (q) Exchange Act means the Securities Exchange Act of 1934, as amended.
- (r) Exchange Program means a program under which:
- (i) outstanding Awards are surrendered or cancelled in exchange for Awards of the same type (which may have higher or lower exercise prices and different terms), Awards of a different type, and/or cash;
 - (ii) Participants would have the opportunity to transfer for estate planning purposes only any outstanding Awards to a financial institution or other person or entity; and/or
 - (iii) the exercise price of an outstanding Award is reduced.
- (s) Fair Market Value means, as of any date, the value of Common Stock determined as follows:
- (i) If the Common Stock is listed on any established stock exchange or a national market system, including without limitation the Nasdaq Global Market or Nasdaq Global Select Market, its Fair Market Value shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or system on the day of determination, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable;
 - (ii) If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, the Fair Market Value of a Share of Common Stock shall be the mean between the high bid and low asked prices for the Common Stock on the day of determination, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable; or
 - (iii) In the absence of an established market for the Common Stock, the Fair Market Value shall be determined in good faith by the Administrator.

(t) Family Member means any child, stepchild, grandchild, parent, stepparent, grandparent, spouse, former spouse, sibling, niece, nephew, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law (including adoptive relationships) of the Employee, any person sharing the Employee's household (other than a tenant or employee), a trust in which these persons (or the Employee) have more than fifty percent (50%) of the beneficial interest, a foundation in which these persons (or the Employee) control the management of assets, and any other entity in which these persons (or the Employee) own more than fifty percent (50%) of the voting interests.

(u) Fiscal Year means the fiscal year of the Company.

A-3

Table of Contents

- (v) Incentive Stock Option means an Option intended to qualify as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.
- (w) Inside Director means a Director who is an Employee.
- (x) Nonstatutory Stock Option means an Option not intended to qualify or is not intended to qualify as an Incentive Stock Option.
- (y) Officer means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.
- (z) Option means a stock option granted pursuant to the Plan.
- (aa) Outside Director means a Director who is not an Employee.
- (bb) Parent means a parent corporation, whether now or hereafter existing, as defined in Section 424(e) of the Code.
- (cc) Participant means the holder of an outstanding Award.
- (dd) Performance Share means an Award denominated in Shares which may be earned in whole or in part upon attainment of performance goals or other vesting criteria as the Administrator may determine pursuant to Section 10.
- (ee) Performance Unit means an Award which may be earned in whole or in part upon attainment of performance goals or other vesting criteria as the Administrator may determine and which may be settled for cash, Shares or other securities or a combination of the foregoing pursuant to Section 10.
- (ff) Period of Restriction means the period during which the transfer of Shares of Restricted Stock are subject to restrictions and therefore, the Shares are subject to a substantial risk of forfeiture. Such restrictions may be based on the passage of time, the achievement of target levels of performance, or the occurrence of other events as determined by the Administrator.
- (gg) Plan means this 2009 Stock Plan.
- (hh) Restricted Stock means shares of Common Stock issued pursuant to a Restricted Stock award under Section 7 of the Plan, or issued pursuant to the early exercise of an Option.
- (ii) Restricted Stock Unit means a bookkeeping entry representing an amount equal to the Fair Market Value of one Share, granted pursuant to Section 8. Each Restricted Stock Unit represents an unfunded and unsecured obligation of the Company.
- (jj) Rule 16b-3 means Rule 16b-3 of the Exchange Act or any successor to Rule 16b-3, as in effect when discretion is being exercised with respect to the Plan.
- (kk) Section 16(b) means Section 16(b) of the Exchange Act.
- (ll) Service Provider means an Employee, Director or Consultant.

(mm) Share means a share of the Common Stock, as adjusted in accordance with Section 15 of the Plan.

(nn) Specified Employee is a Participant or Service Provider who, as of the Participant's or Service Provider's date of termination, is a key employee of the Company within the meaning of Section 416(i)(1)(A)(i), (ii), or (iii) of the Code (applied in accordance with the regulations thereunder and disregarding Section 416(i)(5)) at any time during the twelve (12) month period ending on a Specified Employee Identification Date. If a Participant or Service Provider is a key employee as of a Specified Employee Identification Date, the Participant or Service Provider is treated as a key employee for purposes of the Plan for the entire twelve (12) month period beginning on the Specified Employee Effective Date.

Table of Contents

- (oo) Specified Employee Effective Date is the date as set forth in Treasury Regulation Section 1.409A-1(i)(4).
- (pp) Specified Employee Identification Date shall mean December 31 of each year.
- (qq) Stock Appreciation Right means an Award, granted alone or in connection with an Option, that pursuant to Section 9 is designated as a Stock Appreciation Right.
- (rr) Subsidiary means a subsidiary corporation, whether now or hereafter existing, as defined in Section 424(f) of the Code.

3. Stock Subject to the Plan.

(a) Subject to the provisions of Section 15 of the Plan, the maximum aggregate number of Shares that may be issued under the Plan is 5,000,000 Shares, plus

(i) any Shares that have been reserved but not issued pursuant to any awards granted under the Company 1999 Stock Plan (the Existing Plan) and are not subject to any awards granted thereunder, and

(ii) any Shares subject to stock options or similar awards granted under the Existing Plan that expire or otherwise terminate without having been exercised in full and Shares issued pursuant to awards granted under the Existing Plan that are forfeited to or repurchased by the Company.

The Shares may be authorized, but unissued, or reacquired Common Stock.

(b) If an Award expires or becomes unexercisable without having been exercised in full, is surrendered pursuant to an Exchange Program, or, with respect to Restricted Stock, Restricted Stock Units, Performance Units or Performance Shares, is forfeited to or repurchased by the Company due to failure to vest, the unpurchased Shares (or for Awards other than Options or Stock Appreciation Rights the forfeited or repurchased Shares) which were subject thereto shall become available for future grant or sale under the Plan (unless the Plan has terminated). With respect to Stock Appreciation Rights, only Shares actually issued (i.e., the net Shares issued) pursuant to a Stock Appreciation Right will cease to be available under the Plan; all remaining Shares under Stock Appreciation Rights will remain available for future grant or sale under the Plan (unless the Plan has terminated). Shares that have actually been issued under the Plan under any Award shall not be returned to the Plan and shall not become available for future distribution under the Plan; provided, however, that if Shares issued pursuant to Awards of Restricted Stock, Restricted Stock Units, Performance Shares or Performance Units are repurchased by the Company or are forfeited to the Company, such Shares shall become available for future grant under the Plan. Shares used to pay the exercise price of an Award or to satisfy the tax withholding obligations related to an Award will become available for future grant or sale under the Plan. To the extent an Award under the Plan is paid out in cash rather than Shares, such cash payment will not result in reducing the number of Shares available for issuance under the Plan. Notwithstanding the foregoing and, subject to adjustment as provided in Section 15, the maximum number of Shares that may be issued upon the exercise of Incentive Stock Options will equal the aggregate Share number stated in subsection 3(a) above, plus, to the extent allowable under Section 422 of the Code and the Treasury Regulations promulgated thereunder, any Shares that become available for issuance under the Plan pursuant to subsections 3(b) and 3(c) hereof.

(c) Share Reserve. The Company, during the term of this Plan, will at all times reserve and keep available such number of Shares as will be sufficient to satisfy the requirements of the Plan.

4. Administration of the Plan.

(a) Procedure.

(i) Multiple Administrative Bodies. The Plan may be administered by different Committees with respect to different groups of Service Providers.

(ii) Section 162(m). To the extent that the Administrator determines it to be desirable to qualify Awards granted hereunder as performance-based compensation within the meaning of Section 162(m)

Table of Contents

of the Code, the Plan shall be administered by a Committee of two (2) or more outside directors within the meaning of Section 162(m) of the Code.

(iii) Rule 16b-3. To the extent desirable to qualify transactions hereunder as exempt under Rule 16b-3, the transactions contemplated hereunder shall be structured to satisfy the requirements for exemption under Rule 16b-3.

(iv) Other Administration. Other than as provided above, the Plan shall be administered by:

(A) the Board; or

(B) a Committee, which committee shall be constituted to satisfy Applicable Laws.

(b) Powers of the Administrator. Subject to the provisions of the Plan, and in the case of a Committee, subject to the specific duties delegated by the Board to such Committee, the Administrator shall have the authority, in its discretion:

(i) to determine the Fair Market Value;

(ii) to select the Service Providers to whom Awards may be granted hereunder;

(iii) to determine the number of Shares to be covered by each Award granted hereunder;

(iv) to approve forms of Award Agreements for use under the Plan;

(v) to determine the terms and conditions, not inconsistent with the terms of the Plan, of any Award granted hereunder. Such terms and conditions include, but are not limited to, the exercise price, the time or times when Awards may be exercised (which may be based on performance criteria), any vesting acceleration or waiver of forfeiture restrictions based solely on the Service Provider death, disability or retirement or a Change in Control, and any restriction or limitation regarding any Award or the Shares relating thereto, based on such factors as the Administrator, in its sole discretion, shall determine;

(vi) to determine the terms and conditions of any, and to institute any Exchange Program;

(vii) to construe and interpret the terms of the Plan and Awards granted pursuant to the Plan;

(viii) to prescribe, amend and rescind rules and regulations relating to the Plan, including rules and regulations relating to sub-plans established for the purpose of satisfying applicable foreign laws;

(ix) to modify or amend each Award (subject to subsection 20(c) of the Plan), including, but not limited to, the discretionary authority to extend the post-termination exercisability period of Awards and to extend the maximum term of an Option (subject to subsection 6(b) regarding Incentive Stock Options), in each case to a maximum of twenty (20) years;

(x) to allow Participants to satisfy withholding tax obligations in such a manner as prescribed in Section 16;

(xi) to authorize any person to execute on behalf of the Company any instrument required to effect the grant of an Award previously granted by the Administrator;

(xii) to allow a Participant to defer the receipt of the payment of cash or the delivery of Shares that would otherwise be due to such Participant under an Award; and

(xiii) to make all other determinations deemed necessary or advisable for administering the Plan.

(c) Notwithstanding the foregoing, the exercise price of Options and/or SARs under the Plan may not be repriced by the Administrator without the prior approval of the Company's stockholders.

(d) Effect of Administrator's Decision. The Administrator's decisions, determinations and interpretations shall be final and binding on all Participants and any other holders of Awards.

(e) No Liability. Under no circumstances shall the Company, its Affiliates, the Administrator, or the Board incur liability for any indirect, incidental, consequential or special damages (including lost profits) of

Table of Contents

any form incurred by any person, whether or not foreseeable and regardless of the form of the act in which such a claim may be brought, with respect to the Plan or the Company, its Affiliates, the Administrator or the Board's roles in connection with the Plan.

5. Eligibility. Nonstatutory Stock Options, Restricted Stock, Restricted Stock Units, Performance Units, and Performance Shares may be granted to Service Providers. Incentive Stock Options may be granted only to employees of the Company or any Parent or Subsidiary of the Company.

6. Stock Options.

(a) Limitations. Each Option shall be designated in the Award Agreement as either an Incentive Stock Option or a Nonstatutory Stock Option. However, notwithstanding such designation, to the extent that the aggregate Fair Market Value of the Shares with respect to which Incentive Stock Options are exercisable for the first time by the Participant during any calendar year (under all plans of the Company and any Parent or Subsidiary) exceeds one hundred thousand dollars (\$100,000), such Options shall be treated as Nonstatutory Stock Options. For purposes of this subsection 6(a), Incentive Stock Options shall be taken into account in the order in which they were granted. The Fair Market Value of the Shares shall be determined as of the time the Option with respect to such Shares is granted but in no case will it be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of the grant.

(b) Term of Option. The term of each Option shall be stated in the Award Agreement. In the case of an Incentive Stock Option, the term shall be ten (10) years from the date of grant or such shorter term as may be provided in the Award Agreement. Moreover, in the case of an Incentive Stock Option granted to a Participant who, at the time the Incentive Stock Option is granted, owns stock representing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Parent or Subsidiary, the term of the Incentive Stock Option shall be five (5) years from the date of grant or such shorter term as may be provided in the Award Agreement. In the case of a Nonqualified Stock Option, the term shall be ten (10) years from the date of grant or such shorter term as may be provided in the Award Agreement.

(c) Option Exercise Price and Consideration.

(i) Exercise Price. The per share exercise price for the Shares to be issued pursuant to exercise of an Option shall be determined by the Administrator, but will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of the grant. In addition, in the case of an Incentive Stock Option: granted to an employee of the Company or any Parent or Subsidiary of the Company who, at the time the Incentive Stock Option is granted, owns stock representing more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the per Share exercise price shall be no less than one hundred ten percent (110%) of the Fair Market Value per Share on the date of grant.

Notwithstanding the foregoing provisions of this subsection 6(c)(i), Options may be granted with a per Share exercise price of less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant pursuant to a transaction described in, and in a manner consistent with, Code Section 424(a).

(ii) Waiting Period and Exercise Dates. At the time an Option is granted, the Administrator shall fix the period within which the Option may be exercised and shall determine any conditions that must be satisfied before the Option may be exercised.

(iii) Form of Consideration. The Administrator shall determine the acceptable form of consideration for exercising an Option, including the method of payment. In the case of an Incentive Stock Option, the Administrator shall determine the acceptable form of consideration at the time of grant. Such consideration may consist entirely of:

(A) cash;

(B) check;

(C) promissory note, to the extent permitted by Applicable Law;

A-7

Table of Contents

(D) other Shares provided that such Shares have a Fair Market Value on the date of surrender equal to the aggregate exercise price of the Shares as to which said Option shall be exercised and provided further that accepting such Shares will not result in any adverse accounting consequences to the Company, as the Administrator determines in its sole discretion;

(E) consideration received by the Company under a cashless exercise program (whether through a broker or otherwise) implemented by the Company in connection with the Plan;

(F) by net exercise;

(G) such other consideration and method of payment for the issuance of Shares to the extent permitted by Applicable Laws; or

(H) .any combination of the foregoing methods of payment.

(d) Exercise of Option.

(i) Procedure for Exercise; Rights as a Stockholder. Any Option granted hereunder shall be exercisable according to the terms of the Plan and at such times and under such conditions as determined by the Administrator and set forth in the Award Agreement. An Option may not be exercised for a fraction of a Share.

An Option shall be deemed exercised when the Company receives:

(A) notice of exercise (in such form as the Administrator may specify from time to time) from the person entitled to exercise the Option, and

(B) full payment for the Shares with respect to which the Option is exercised (together with applicable withholding taxes).

Full payment may consist of any consideration and method of payment authorized by the Administrator and permitted by the Award Agreement and the Plan. Shares issued upon exercise of an Option shall be issued in the name of the Participant or, if requested by the Participant, in the name of the Participant and his or her spouse. Until the Shares are issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company), no right to vote or receive dividends or any other rights as a stockholder shall exist with respect to the Shares subject to an Option, notwithstanding the exercise of the Option. The Company shall issue (or cause to be issued) such Shares promptly after the Option is exercised. No adjustment will be made for a dividend or other right for which the record date is prior to the date the Shares are issued, except as provided in Section 15 of the Plan.

Exercising an Option in any manner shall decrease the number of Shares thereafter available, both for purposes of the Plan and for sale under the Option, by the number of Shares as to which the Option is exercised.

(ii) Termination of Relationship as a Service Provider. If a Participant ceases to be a Service Provider, other than upon the Participant's death or Disability, the Participant may exercise his or her Option within such period of time as is specified in the Award Agreement to the extent that the Option is vested on the date of termination (but in no event later than the expiration of the term of such Option as set forth in the Award Agreement). In the absence of a specified time in the Award Agreement, the Option shall remain exercisable for three (3) months following the Participant's termination. Unless otherwise provided by the Administrator, if on the date of termination the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option shall revert to the Plan. If after termination the Participant does not exercise his or her Option within the time specified by the Administrator, the

Option shall terminate, and the Shares covered by such Option shall revert to the Plan.

(iii) Disability of Participant. If a Participant ceases to be a Service Provider as a result of the Participant's Disability, the Participant may exercise his or her Option within such period of time as is specified in the Award Agreement to the extent the Option is vested on the date of termination (but in no event later than the expiration of the term of such Option as set forth in the Award Agreement). In the

A-8

Table of Contents

absence of a specified time in the Award Agreement, the Option shall remain exercisable for twelve (12) months following the Participant's termination. Unless otherwise provided by the Administrator, if on the date of termination the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option shall revert to the Plan. If after termination the Participant does not exercise his or her Option within the time specified herein, the Option shall terminate, and the Shares covered by such Option shall revert to the Plan.

(iv) Death of Participant. If a Participant dies while a Service Provider, the Option may be exercised following the Participant's death within such period of time as is specified in the Award Agreement to the extent that the Option is vested on the date of death (but in no event later than the expiration of the term of such Option as set forth in the Award Agreement). In the absence of a specified time in the Award Agreement, the Option shall remain exercisable for twelve (12) months following the Participant's death. The Option may be exercised by the Participant's designated beneficiary, provided such beneficiary has been designated prior to Participant's death in a form acceptable by the Administrator. If no such beneficiary has been designated by the Participant, then such Option may be exercised by the personal representative of the Participant's estate or by the person or persons to whom the Option is transferred pursuant to the Participant's will or in accordance with the laws of descent and distribution. Unless otherwise provided by the Administrator, if at the time of death the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option shall immediately revert to the Plan. If the Option is not so exercised within the time specified herein, the Option shall terminate, and the Shares covered by such Option shall revert to the Plan.

(v) Termination for Cause. If a Participant's status as a Service Provider is terminated for Cause, then the Option will immediately terminate, and the Shares covered by such Option will revert to and again become available for issuance under the Plan.

7. Restricted Stock.

(a) Grant of Restricted Stock. Subject to the terms and provisions of the Plan, the Administrator, at any time and from time to time, may grant Shares of Restricted Stock to Service Providers in such amounts as the Administrator, in its sole discretion, will determine.

(b) Vesting Period. Restricted Stock granted hereunder shall be subject to the following minimum vesting requirements:

(i) For time-based vesting Awards, not less than three (3) years from the date of the grant;

(ii) For performance-based Awards, not less than one (1) year from the date of the grant;

(iii) Notwithstanding the foregoing, a maximum of ten percent (10%) of the Plan Shares shall not be subject to the minimum vesting requirements set forth above and shall be determined by the Administrator, in its sole discretion.

(c) Restricted Stock Agreement. Each Award of Restricted Stock will be evidenced by an Award Agreement that will specify the Period of Restriction, the number of Shares granted, and such other terms and conditions as the Administrator, in its sole discretion, will determine. Unless the Administrator determines otherwise, the Company as escrow agent will hold Shares of Restricted Stock until the restrictions on such Shares have lapsed.

(d) Transferability. Except as provided in this Section 7, Shares of Restricted Stock may not be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated until the end of the applicable Period of Restriction.

(e) Other Restrictions. The Administrator, in its sole discretion, may impose such other restrictions on Shares of Restricted Stock as it may deem advisable or appropriate.

(f) Removal of Restrictions. Except as otherwise provided in this Section 7, Shares of Restricted Stock covered by each Restricted Stock grant made under the Plan will be released from escrow as soon as practicable after the last day of the Period of Restriction or at such other time as the Administrator may

Table of Contents

determine. In the event of the death, disability or retirement of a Service Provider or a Change in Control, the Administrator, in its discretion, may accelerate the time at which any restrictions will lapse or be removed.

(g) Voting Rights. During the Period of Restriction, Service Providers holding Shares of Restricted Stock granted hereunder may exercise full voting rights with respect to those Shares, unless the Administrator determines otherwise.

(h) Dividends and Other Distributions. During the Period of Restriction, Service Providers holding Shares of Restricted Stock will be entitled to receive all dividends and other distributions paid with respect to such Shares, unless the Administrator provides otherwise. If any such dividends or distributions are paid in Shares, the Shares will be subject to the same restrictions on transferability and forfeitability as the Shares of Restricted Stock with respect to which they were paid.

(i) Return of Restricted Stock to Company. On the date set forth in the Award Agreement, the Restricted Stock for which restrictions have not lapsed will revert to the Company and again will become available for grant under the Plan.

8. Restricted Stock Units

(a) Grant. Restricted Stock Units may be granted at any time and from time to time as determined by the Administrator. After the Administrator determines that it will grant Restricted Stock Units under the Plan, it will advise the Participant in an Award Agreement of the terms, conditions, and restrictions related to the grant, including the number of Restricted Stock Units.

(b) Vesting Criteria and Other Terms. The Administrator will set vesting criteria in its discretion, which, depending on the extent to which the criteria are met, will determine the number of Restricted Stock Units that will be paid out to the Participant. The Administrator may set vesting criteria based upon the achievement of Company-wide, business unit, or individual goals (including, but not limited to, continued employment), or any other basis determined by the Administrator in its discretion. Restricted Stock Units granted hereunder shall be subject to the following minimum vesting requirements:

(i) For time-based vesting Awards, not less than three (3) years from the date of the grant;

(ii) For performance-based Awards, not less than one (1) year from the date of the grant;

(iii) Notwithstanding the foregoing, a maximum of ten percent (10%) of the Plan Shares shall not be subject to the minimum vesting requirements set forth above and shall be determined by the Administrator, in its sole discretion.

(c) Earning Restricted Stock Units. Upon meeting the applicable vesting criteria, the Participant will be entitled to receive a payout as determined by the Administrator. Notwithstanding the foregoing, In the event of the death, disability or retirement of a Service Provider or a Change in Control at any time after the grant of Restricted Stock Units, the Administrator, in its sole discretion, may reduce or waive any vesting criteria that must be met to receive a payout.

(d) Form and Timing of Payment. Payment of earned Restricted Stock Units will be made as soon as practicable after the date(s) determined by the Administrator and set forth in the Award Agreement. The Administrator, in its sole discretion, may only settle earned Restricted Stock Units in cash, Shares, or a combination of both.

(e) Cancellation. On the date set forth in the Award Agreement, all unearned Restricted Stock Units will be forfeited to the Company.

9. Stock Appreciation Rights.

(a) Grant of Stock Appreciation Rights. Subject to the terms and conditions of the Plan, a Stock Appreciation Right may be granted to Service Providers at any time and from time to time as will be determined by the Administrator, in its sole discretion.

A-10

Table of Contents

(b) Number of Shares. The Administrator will have complete discretion to determine the number of Stock Appreciation Rights granted to any Service Provider.

(c) Exercise Price and Other Terms. The per share exercise price for the Shares to be issued pursuant to exercise of a Stock Appreciation Right will be determined by the Administrator and will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant. Otherwise, the Administrator, subject to the provisions of the Plan, will have complete discretion to determine the terms and conditions of Stock Appreciation Rights granted under the Plan.

(d) Stock Appreciation Right Agreement. Each Stock Appreciation Right grant will be evidenced by an Award Agreement that will specify the exercise price, the term of the Stock Appreciation Right, the conditions of exercise, and such other terms and conditions as the Administrator, in its sole discretion, will determine.

(e) Expiration of Stock Appreciation Rights. A Stock Appreciation Right granted under the Plan will expire upon the date determined by the Administrator, in its sole discretion, and set forth in the Award Agreement. Notwithstanding the foregoing, Stock Appreciation Rights shall be subject to a maximum term of ten (10) years and to the provisions of subsection 6(d) relating to exercise.

(f) Payment of Stock Appreciation Right Amount. Upon exercise of a Stock Appreciation Right, a Participant will be entitled to receive payment from the Company in an amount determined by multiplying:

- (i) The difference between the Fair Market Value of a Share on the date of exercise over the exercise price; times; and
- (ii) The number of Shares with respect to which the Stock Appreciation Right is exercised.

At the discretion of the Administrator, the payment upon Stock Appreciation Right exercise may be in cash, in Shares of equivalent value, or in some combination thereof.

10. Performance Units and Performance Shares.

(a) Grant of Performance Units/Shares. Performance Units and Performance Shares may be granted to Service Providers at any time and from time to time, as will be determined by the Administrator, in its sole discretion. The Administrator will have complete discretion in determining the number of Performance Units and Performance Shares granted to each Participant.

(b) Value of Performance Units/Shares. Each Performance Unit will have an initial value that is established by the Administrator on or before the date of grant. Each Performance Share will have an initial value equal to the Fair Market Value of a Share on the date of grant.

(c) Performance Objectives and Other Terms. The Administrator will set performance objectives or other vesting provisions (including, without limitation, continued status as a Service Provider) in its discretion which, depending on the extent to which they are met, will determine the number or value of Performance Units/Shares that will be paid out to the Service Providers. The time period during which the performance objectives or other vesting provisions must be met will be called the Performance Period. Each Award of Performance Units/Shares will be evidenced by an Award Agreement that will specify the Performance Period, and such other terms and conditions as the Administrator, in its sole discretion, will determine. The Administrator may set performance objectives based upon the achievement of Company-wide, divisional, or individual goals, applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion.

(d) Vesting Period. Performance Units and Performance Shares granted hereunder shall be subject to the following minimum vesting requirements:

- (i) For time-based vesting Awards, not less than three (3) years from the date of the grant;
- (ii) For performance-based Awards, not less than one (1) year from the date of the grant;

A-11

Table of Contents

(iii) Notwithstanding the foregoing, a maximum of ten percent (10%) of the Plan Shares shall not be subject to the minimum vesting requirements set forth above and shall be determined by the Administrator, in its sole discretion.

(e) Earning of Performance Units/Shares. After the applicable Performance Period has ended, the holder of Performance Units/Shares will be entitled to receive a payout of the number of Performance Units/Shares earned by the Participant over the Performance Period, to be determined as a function of the extent to which the corresponding performance objectives or other vesting provisions have been achieved. After the grant of a Performance Unit/Share, the Administrator, in its sole discretion, may reduce or waive any performance objectives or other vesting provisions for such Performance Unit/Share.

(f) Form and Timing of Payment of Performance Units/Shares. Payment of earned Performance Units/Shares will be made as soon as practicable after the expiration of the applicable Performance Period. The Administrator, in its sole discretion, may pay earned Performance Units/Shares in the form of cash, in Shares (which have an aggregate Fair Market Value equal to the value of the earned Performance Units/Shares at the close of the applicable Performance Period) or in a combination thereof.

(g) Cancellation of Performance Units/Shares. On the date set forth in the Award Agreement, all unearned or unvested Performance Units/Shares will be forfeited to the Company, and again will be available for grant under the Plan.

11. Formula Awards to Outside Directors.

(a) General. Outside Directors will be entitled to receive all types of Awards (except Incentive Stock Options) under this Plan, including discretionary Awards not covered under this Section 11. All grants of Awards to Outside Directors pursuant to this section will be automatic and nondiscretionary, except as otherwise provided herein, and will be made in accordance with the following provisions.

(b) Type of Option. If Options are granted pursuant to this section they will be Nonstatutory Stock Options and, except as otherwise provided herein, will be subject to the other terms and conditions of the Plan.

(c) No Discretion. No person will have any discretion to select which Outside Directors will be granted Awards under this section or to determine the number of Shares to be covered by such Awards (except as provided in Sections 11 and 14).

(d) Terms. The terms of each Award granted pursuant to this section will be as follows:

(i) The term of an Option granted under this Section 11 will be ten (10) years.

(ii) The exercise price for Shares subject to Options granted under this Section 11 will be one hundred percent (100%) of the Fair Market Value on the grant date.

(iii) Awards granted in accordance with this Section 11 shall be subject to the following minimum vesting requirements:

(A) For time-based vesting Awards, not less than three (3) years from the date of the grant;

(B) For performance-based Awards, not less than one (1) year from the date of the grant;

(C) Notwithstanding the foregoing, a maximum of ten percent (10%) of the Plan Shares shall not be subject to the minimum vesting requirements set forth above and shall be determined by the Administrator, in its sole discretion.

(iv) Restricted Stock awarded under this Section 11 will be issued for no cash consideration and will be forfeited and automatically transferred to and reacquired by the Company at no cost to the Company upon the date the Director ceases to provide services as a member of the Board (the Forfeiture Provision). The Forfeiture Provision will lapse on the earlier of:

(A) the date of the next annual meeting following the date of grant of the Award; or

A-12

Table of Contents

(B) the December 31st of the calendar year following the calendar year in which the Award is granted, provided that the Participant continues to serve as a Director through such date.

(e) *Adjustments.* The Administrator in its discretion may change and otherwise revise the terms of Awards granted under this Section 11, including, without limitation, the number of Shares and exercise prices thereof, for Awards granted on or after the date the Administrator determines to make any such change or revision.

12. Compliance With Code Section 409A.

(a) Awards will be designed and operated in such a manner that they are either exempt from the application of, or comply with, the requirements of Code Section 409A such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Code Section 409A, except as otherwise determined in the sole discretion of the Administrator. The Plan and each Award Agreement under the Plan is intended to meet the requirements of Code Section 409A and will be construed and interpreted in accordance with such intent, except as otherwise determined in the sole discretion of the Administrator. To the extent that an Award or payment, or the settlement or deferral thereof, is subject to Code Section 409A the Award will be granted, paid, settled or deferred in a manner that will meet the requirements of Code Section 409A, such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Code Section 409A.

(b) Anything in this Plan to the contrary notwithstanding, if at the time of the Participant's or Service Provider's date of termination, the Participant or Service Provider is considered a specified employee within the meaning of Section 409A(a)(2)(B)(i) of the Code, and if any payment that the Participant or Service Provider becomes entitled to under this Plan is considered deferred compensation subject to interest and additional tax imposed pursuant to Section 409A(a) of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, then no such payment shall be payable prior to the date that is the earlier of (i) six months after the Participant's or Service Provider's separation from service, or (ii) the Participant's or Service Provider's death. The parties agree that this Plan may be amended, as reasonably requested by either party, and as may be necessary to fully comply with Section 409A of the Code and all related rules and regulations in order to preserve the payments and benefits provided hereunder without additional cost to either party.

13. Leaves of Absence/Transfer Between Locations. Vesting of Awards granted hereunder will continue in accordance with the terms of the Plan with the exception of any sabbatical, furlough or any unpaid leave of absence requested by the Employee, unless the Administrator provides otherwise. A Participant will not cease to be an Employee in the case of:

(a) any leave of absence approved by the Company; or

(b) transfers between locations of the Company or between the Company, its Parent, or any Subsidiary.

For purposes of Incentive Stock Options, no such leave may exceed three (3) months, unless reemployment upon expiration of such leave is guaranteed by statute or contract. If reemployment upon expiration of a leave of absence approved by the Company is not so guaranteed, then six (6) months following the first day of such leave, any Incentive Stock Option held by the Participant will cease to be treated as an Incentive Stock Option and will be treated for tax purposes as a Nonstatutory Stock Option.

14. Transferability of Awards. Unless determined otherwise by the Administrator, an Award may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution and may be exercised, during the lifetime of the Participant, only by the Participant. If the Administrator makes an Award transferable, including, without limitation, by instrument to an inter vivos or

testamentary trust in which the Awards are to be passed to beneficiaries upon the death of the trustor (settlor) or by gift to Family Members, such Award shall contain such additional terms and conditions as the Administrator deems appropriate. Notwithstanding the foregoing, under no circumstance may unvested or unexercised Awards be transferred for value or consideration.

A-13

Table of Contents

15. Adjustments; Dissolution or Liquidation; Merger or Change in Control.

(a) Adjustments. In the event that any dividend or other distribution (whether in the form of cash, Shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of Shares or other securities of the Company, or other change in the corporate structure of the Company affecting the Shares occurs, the Administrator, in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the Plan, will adjust the number and class of Shares that may be delivered under the Plan and/or the number, class, and price of Shares covered by each outstanding Award, the numerical Share limits in Section 3 of the Plan, and the number of Shares issuable pursuant to Awards to be granted under Section 11 of the Plan.

(b) Dissolution or Liquidation. In the event of the proposed dissolution or liquidation of the Company, the Administrator shall notify each Participant as soon as practicable prior to the effective date of such proposed transaction. To the extent it has not been previously exercised, an Award will terminate immediately prior to the consummation of such proposed action.

(c) Change in Control. In the event of a merger or Change in Control, each outstanding Award shall be treated as the Administrator determines without a Participant's consent, including, without limitation, that:

(i) Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof) with appropriate adjustments as to the number and kind of shares and prices;

(ii) upon written notice to a Participant, that the Participant's Awards will terminate immediately prior to the consummation of such merger or Change in Control;

(iii) outstanding Awards will vest and become exercisable, realizable, or payable, or restrictions applicable to an Award will lapse, in whole or in part prior to or upon consummation of such merger or Change in Control, and, to the extent the Administrator determines, terminate upon the effectiveness of such merger or Change in Control;

(iv) (A) the termination of an Award in exchange for an amount of cash and/or property, if any, equal to the amount that would have been attained upon the exercise of such Award or realization of the Participant's rights as of the date of the occurrence of the transaction (and, for the avoidance of doubt, if as of the date of the occurrence of the transaction the Administrator determines in good faith that no amount would have been attained upon the exercise of such Award or realization of the Participant's rights, then such Award may be terminated by the Company without payment), or

(B) the replacement of such Award with other rights or property selected by the Administrator in its sole discretion; or

(v) any combination of the foregoing.

In taking any of the actions permitted under this subsection 15(c), the Administrator will not be obligated to treat all Awards, all Awards held by a Participant, or all Awards of the same type, similarly.

In the event that the successor corporation does not assume or substitute for the Award, the Participant shall fully vest in and have the right to exercise all of his or her outstanding Options and Stock Appreciation Rights, including Shares as to which it would not otherwise be vested or exercisable, all restrictions on Restricted Stock and Restricted Stock Units will lapse, and, with respect to Awards with performance-based vesting, all performance goals or other vesting criteria will be deemed achieved at one hundred percent (100%) of target levels and all other terms and conditions met. In addition, if an Option or Stock Appreciation Right is not assumed or substituted in the event of a Change in

Control, the Administrator shall notify the Participant in writing or electronically that the Option or Stock Appreciation Right shall be exercisable for a period of time determined by the Administrator in its sole discretion, and the Option or Stock Appreciation Right shall terminate upon the expiration of such period.

A-14

Table of Contents

For the purposes of this subsection 15(c), the Award shall be considered assumed if, following the Change in Control, the Award confers the right to purchase or receive, for each Share subject to the Award immediately prior to the Change in Control, the consideration (whether stock, cash, or other securities or property) received in the Change in Control by holders of Common Stock for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the Change in Control is not solely common stock of the successor corporation or its Parent, the Administrator may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of an Option or Stock Appreciation Right or upon the payout of a Restricted Stock Unit, Performance Unit or Performance Share, for each Share subject to the Award, to be solely common stock of the successor corporation or its Parent equal in fair market value to the per share consideration received by holders of Common Stock in the Change in Control.

Notwithstanding anything in this subsection 15(c) to the contrary, an Award that vests, is earned or paid-out upon the satisfaction of one or more performance goals will not be considered assumed if the Company or its successor modifies any of such performance goals without the Participant's consent; provided, however, a modification to such performance goals only to reflect the successor corporation's post-Change in Control corporate structure will not be deemed to invalidate an otherwise valid Award assumption.

(d) Outside Director Awards. With respect to Awards granted to an Outside Director that are assumed or substituted for, if on the date of or following such assumption or substitution the Participant's status as a Director or a director of the successor corporation, as applicable, is terminated other than upon a voluntary resignation by the Participant (unless such resignation is at the request of the acquirer), then the Participant will fully vest in and have the right to exercise Options and/or Stock Appreciation Rights as to all of the Shares underlying such Award, including those Shares which would not otherwise be vested or exercisable, all restrictions on Restricted Stock and Restricted Stock Units will lapse, and, with respect to Performance Units and Performance Shares, all performance goals or other vesting criteria will be deemed achieved at one hundred percent (100%) of target levels and all other terms and conditions met.

16. Tax Withholding.

(a) Withholding Requirements. Prior to the delivery of any Shares or cash pursuant to an Award (or exercise thereof), the Company will have the power and the right to deduct or withhold, or require a Participant to remit to the Company, an amount sufficient to satisfy federal, state, local, foreign or other taxes (including the Participant's FICA obligation) required to be withheld with respect to such Award (or exercise thereof).

(b) Withholding Arrangements. The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit a Participant to satisfy such tax withholding obligation, in whole or in part by (without limitation):

(i) paying cash;

(ii) electing to have the Company withhold otherwise deliverable cash or Shares having a Fair Market Value equal to the minimum statutory amount required to be withheld; or

(iii) delivering to the Company already-owned Shares having a Fair Market Value equal to the minimum statutory amount required to be withheld.

The Fair Market Value of the Shares to be withheld or delivered will be determined as of the date that the taxes are required to be withheld.

17. *No Effect on Employment or Service.* Neither the Plan nor any Award shall confer upon a Participant any right with respect to continuing the Participant's relationship as a Service Provider with the Company, nor shall they interfere in any way with the Participant's right or the Company's right to terminate such relationship at any time, with or without cause, to the extent permitted by Applicable Laws.

A-15

Table of Contents

18. Date of Grant. The date of grant of an Award shall be, for all purposes, the date on which the Administrator makes the determination granting such Award, or such other later date as is determined by the Administrator. Notice of the determination shall be provided to each Participant within a reasonable time after the date of such grant.

19. Term of Plan. Subject to Section 23 of the Plan, the Plan will become effective upon its adoption by the Board. It will continue in effect for a term of ten (10) years from the date adopted by the Board, unless terminated earlier under Section 20 of the Plan.

20. Amendment and Termination of the Plan.

(a) Amendment and Termination. The Board may at any time amend, alter, suspend or terminate the Plan.

(b) Stockholder Approval. The Company shall obtain stockholder approval of any Plan amendment:

(i) to the extent necessary and desirable to comply with Applicable Laws;

(ii) to materially increase the benefits accruing to Participants under the Plan;

(iii) to materially increase the number of securities which may be issued under the Plan; or

(iv) to materially modify the requirements for participation in the Plan.

(c) Effect of Amendment or Termination. No amendment, alteration, suspension or termination of the Plan shall impair the rights of any Participant, unless mutually agreed otherwise between the Participant and the Administrator, which agreement must be in writing and signed by the Participant and the Company. Termination of the Plan shall not affect the Administrator's ability to exercise the powers granted to it hereunder with respect to Awards granted under the Plan prior to the date of such termination.

21. Conditions Upon Issuance of Shares.

(a) Legal Compliance. Shares shall not be issued pursuant to the exercise of an Award unless the exercise of such Award and the issuance and delivery of such Shares shall comply with Applicable Laws and shall be further subject to the approval of counsel for the Company with respect to such compliance.

(b) Investment Representations. As a condition to the exercise of an Award, the Company may require the person exercising such Award to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required.

22. Inability to Obtain Authority. The inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.

Stockholder Approval. The Plan shall be subject to approval by the stockholders of the Company within twelve (12) months after the date the Plan is adopted by the Board. Such stockholder approval shall be obtained in the manner and to the degree required under Applicable Laws.

Table of Contents

Appendix B

RUDOLPH TECHNOLOGIES, INC.

2009 EMPLOYEE STOCK PURCHASE PLAN

The following constitute the provisions of the 2009 Employee Stock Purchase Plan of Rudolph Technologies, Inc.

1. *Purpose.* The purpose of the Plan is to provide employees of the Company and its Designated Subsidiaries with an opportunity to purchase Common Stock of the Company. It is the intention of the Company to have the Plan qualify as an Employee Stock Purchase Plan under Section 423 of the Internal Revenue Code of 1986, as amended. The provisions of the Plan shall, accordingly, be construed so as to extend and limit participation in a manner consistent with the requirements of that section of the Code.

2. *Definitions.*

- (a) *Board* shall mean the Board of Directors of the Company.
- (b) *Code* shall mean the Internal Revenue Code of 1986, as amended.
- (c) *Common Stock* shall mean the common stock of the Company.
- (d) *Company* shall mean Rudolph Technologies, Inc., a Delaware corporation.
- (e) *Compensation* shall mean the total compensation paid to an Employee, including all salary, wages (including amounts elected to be deferred by the Employee, that would otherwise have been paid, under any cash or deferred arrangement or other deferred compensation program established by the Company or the Employer), overtime pay, commissions, bonuses, and other remuneration paid directly to the Employee, but excluding referral and hiring bonuses, profit sharing, the cost of employee benefits paid for by the Company or the Employer, education, tuition or other similar reimbursements, imputed income arising under any Company group insurance or benefit program, traveling expenses, business and moving expense reimbursements, income received in connection with stock options, restricted stock grants, or other equity based awards, contributions made by the Company or the Employer under any employee benefit plan, and similar items of compensation.
- (f) *Continuous Status as an Employee* shall mean the absence of any interruption or termination of service as an Employee. Continuous Status as an Employee shall not be considered interrupted in the case of sick leave or other leave of absence agreed to in writing by the Company or the Employer, provided that such leave is for a period of not more than ninety (90) days or reemployment upon the expiration of such leave is guaranteed by contract, statute or as a matter of local law.
- (g) *Contributions* shall mean all amounts credited to the account of a participant pursuant to the Plan.
- (h) *Designated Subsidiary* shall mean any Subsidiary that has been designated by the Board, or a committee named by the Board, from time to time in its sole discretion as eligible to participate in the Plan.
- (i) *Employee* shall mean any person, including an Officer, who is customarily employed for at least twenty (20) hours per week and more than five (5) months in a calendar year by the Company or a Designated Subsidiary, provided that, in certain jurisdictions outside the United States, the term Employee may, if so provided by the

Company in writing, also include a person employed for less than twenty (20) hours per week or less than five (5) months in a calendar year if such person must be permitted to participate in the Plan pursuant to local laws (as determined by the Company).

- (j) Employer shall mean the Designated Subsidiary that employs a participant, if the employer is not the Company.
- (k) Enrollment Date shall mean the first Trading Day of each Offering Period.
- (l) Exchange Act shall mean the U.S. Securities Exchange Act of 1934, as amended.

B-1

Table of Contents

- (m) Exercise Date shall mean the last Trading Day of each Offering Period.
- (n) Fair Market Value shall mean, as of any date, the value of Common Stock determined as follows:
- (i) If the Common Stock is listed on any established stock exchange or a national market system, including without limitation the Nasdaq Global Market or The Nasdaq Global Select Market, its Fair Market Value shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or system on the date of determination, as reported in *The Wall Street Journal* or such other source as the Board deems reliable;
- (ii) If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, its Fair Market Value shall be the mean of the closing bid and asked prices for the Common Stock on the date of determination, as reported in *The Wall Street Journal* or such other source as the Board deems reliable; or
- (iii) In the absence of an established market for the Common Stock, the Fair Market Value thereof shall be determined in good faith by the Board.
- (o) Offering Periods shall mean the periods of approximately six (6) months during which an option granted pursuant to the Plan may be exercised, commencing on the first Trading Day on or after May 1st and November 1st of each year and terminating on the last Trading Day in the periods ending six (6) months later. The duration and timing of Offering Periods may be changed pursuant to Section 4 of this Plan.
- (p) Officer shall mean a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.
- (q) Parent shall mean a parent corporation, domestic or foreign, whether now or hereafter existing, as defined in Section 424(e) of the Code.
- (r) Plan shall mean this 2009 Employee Stock Purchase Plan.
- (s) Purchase Price shall mean an amount equal to 95% of the Fair Market Value of a Share of Common Stock on the Exercise Date; provided however that Purchase Price may be adjusted by the Board pursuant to Section 19.
- (t) Reserves shall mean the number of Shares covered by each option under the Plan which have not yet been exercised and the number of Shares which have been authorized for issuance under the Plan but not yet placed under option.
- (u) Share shall mean a share of Common Stock, as adjusted in accordance with Section 19 of the Plan.
- (v) Subsidiary shall mean a subsidiary corporation, domestic or foreign, whether now or hereafter existing, as defined in Section 424(f) of the Code.
- (w) Trading Day shall mean a day on which national stock exchanges and the Nasdaq System are open for trading.

3. Eligibility.

- (a) Any person who is an Employee as of the beginning of any given Offering Period shall be eligible to participate in such Offering Period under the Plan, subject to the requirements of Section 5(a) and the limitations imposed by Section 423(b) of the Code.

(b) Any provisions of the Plan to the contrary notwithstanding, no Employee shall be granted an option under the Plan:

(i) if, immediately after the grant, such Employee (or any other person whose stock would be attributed to such Employee pursuant to Section 424(d) of the Code) would own stock and/or hold outstanding options to purchase stock possessing five percent (5%) or more of the total combined voting power or value of all classes of stock of the Company, any Subsidiary or any Parent; or

B-2

Table of Contents

(ii) if such option would permit his or her rights to purchase stock under all employee stock purchase plans (described in Section 423 of the Code) of the Company, any Subsidiary or any Parent to accrue at a rate which exceeds Twenty-Five Thousand Dollars (\$25,000) of Fair Market Value of such stock (determined at the time such option is granted) for each calendar year in which such option is outstanding at any time.

4. *Offering Periods.* The Plan shall be implemented by consecutive Offering Periods with a new Offering Period commencing on the first Trading Day on or after May 1st and November 1st each year, or on such other date as the Board shall determine, and continuing thereafter. The Plan shall continue until terminated in accordance with Section 19 hereof. The Board shall have the power to change the duration and/or the frequency of Offering Periods (including the commencement dates thereof) with respect to future offerings without shareholder approval if such change is announced prior to the scheduled beginning of the first Offering Period to be affected.

5. *Participation.*

(a) An eligible Employee may become a participant in the Plan by completing a subscription agreement on the form provided by the Company and filing it with the Company's payroll office prior to the applicable Enrollment Date, unless a later time for filing the subscription agreement is set by the Board for all eligible Employees with respect to a given offering. The subscription agreement shall set forth the percentage of the participant's Compensation (subject to Section 6(a) below) to be paid as Contributions pursuant to the Plan.

(b) An eligible Employee may contribute to the Plan by means of payroll deductions, unless payroll deductions are not permitted under local law, as determined by the Company, in which case eligible Employees may be permitted to contribute to the Plan by an alternative method, as determined by the Company. Payroll deductions, or, if payroll deductions are not permitted under local law, payments made under an alternative method, shall commence as of the first payday following the Enrollment Date and shall end on the last payday paid on or prior to the Exercise Date of the Offering Period to which the subscription agreement is applicable, unless the Employee's participation is sooner terminated as provided in Section 10.

6. *Method of Payment of Contributions.*

(a) Where permitted under local law, the participant shall elect to have payroll deductions made on each payday during the Offering Period in an amount not less than one percent (1)% and not more than fifteen percent (15)% of such participant's Compensation on each such payday (or such other maximum percentage as the Board may establish from time to time before an Enrollment Date). Where payroll deductions are not permitted under local law, the participant may be permitted to contribute to the Plan by an alternative method, as determined by the Company. All payroll deductions or other payments made by a participant shall be credited to his or her account under the Plan. A participant may not make any additional payments into such account.

(b) A participant may discontinue his or her participation in the Plan as provided in Section 10, or, during an Offering Period, may decrease the rate of his or her Contributions during the applicable Period by completing and filing with the Company a new subscription agreement. The Board may, in its discretion, limit the number of participation rate changes during any Offering Period. The change in rate shall be effective as soon as administratively practicable following the date of filing of the new subscription agreement; provided that any change elected on a new subscription agreement filed within twenty-one (21) days of the end of any Offering Period shall not take effect earlier than the beginning of the first new Offering Period to commence after the date of that filing. A participant may change the rate of his or her Contributions effective as of the beginning of any Offering Period by filing a new subscription agreement prior to the beginning of such Offering Period; provided that any change elected within twenty-one (21) days prior to the beginning of that Offering Period shall be given effect as soon as administratively practicable on or after the first day of that Offering Period. A participant's subscription agreement shall remain in effect for successive Offering

Periods unless terminated as provided in Section 10 hereof.

(c) Notwithstanding the foregoing, to the extent necessary to comply with Section 423(b)(8) of the Code and Section 3(b) herein, a participant's payroll deductions or other payments may be decreased to zero percent

B-3

Table of Contents

(0)% at any time during an Offering Period, as applicable. Payroll deductions or other payments shall re-commence at the rate provided in such participant's subscription agreement at the beginning of the first Offering Period, as applicable, which is scheduled to end in the following calendar year, unless the participant's participation is terminated as provided in Section 10. In addition, a participant's payroll deductions or other payments may be decreased by the Company to zero percent (0)% at any time during an Offering Period in order to avoid unnecessary contributions as a result of application of the maximum Share limit set forth in Section 7(a), or as a result of the limitations set forth in Section 3(b), in which case payroll deductions or payments shall re-commence at the rate provided in such participant's subscription agreement at the beginning of the next Offering Period, unless terminated by the participant as provided in Section 10.

(d) As may be further specified in the subscription agreement, at the time the option is exercised, in whole or in part, or at the time some or all of the Company's Common Stock issued under the Plan is disposed of, the participant must make adequate provision for the Company's and/or the Employer's federal, state, or other tax and social insurance withholding obligations, if any, which arise upon the exercise of the option or the disposition of the Common Stock. At any time, the Company and the Employer may, but shall not be obligated to, withhold from the participant's compensation the amount necessary for the Company and/or the Employer to meet applicable withholding obligations, including any withholding required to make available to the Company or the Employer any tax deductions or benefits attributable to sale or early disposition of Common Stock by the participant.

7. Grant of Option. On the Enrollment Date of each Offering Period, each eligible Employee participating in such Offering Period shall be granted an option to purchase on each Exercise Date occurring within the Offering Period a number of Shares determined by dividing such Employee's Contributions accumulated prior to such Exercise Date and retained in the participant's account as of the Exercise Date by the applicable Purchase Price; provided however, that the maximum number of Shares an Employee may purchase during any one Offering Period shall be 3,000 Shares, subject to adjustment as provided in Section 18, and provided further that such purchase shall be subject to the limitations set forth in Sections 3(b) and 12. The Board may, for future Offering Periods, increase or decrease, in its absolute discretion, the maximum number of shares of the Company's Common Stock an Employee may purchase during such Offering Period. The option shall expire on the last day of the Offering Period.

8. Exercise of Option.

(a) Unless a participant's participation is terminated as provided in Section 10, his or her option for the purchase of Shares will be exercised automatically on the Exercise Date of an Offering Period, and the maximum number of full Shares subject to the option will be purchased at the applicable Purchase Price with the accumulated Contributions in his or her account (subject to such limitations as are specified in the Plan). The Shares purchased upon exercise of an option hereunder shall be deemed to be transferred to the participant on the Exercise Date. During his or her lifetime, a participant's option to purchase Shares hereunder is exercisable only by him or her.

(b) No fractional Shares shall be purchased. Any payroll deductions or other payments accumulated in a participant's account which are not sufficient to purchase a full Share shall be retained in the participant's account for the subsequent Offering Period, subject to earlier withdrawal by the participant or termination of such participant's participation as provided in Section 10 below. Any other amounts left over in a participant's account after an Exercise Date shall be returned to the participant.

9. Delivery. As promptly as practicable after each Exercise Date of each Offering Period, the Company shall arrange the delivery to each participant (by electronic or other means), as appropriate, of a certificate representing the Shares purchased upon exercise of his or her option. Notwithstanding the foregoing, the Board may require that all Shares purchased under the Plan be held in an account (the participant's ESPP Stock Account) established in the name of the participant (or in the name of the participant and his or her spouse, as designated by the participant on his or her

subscription agreement), subject to such rules as determined by the Board and uniformly applied to all participants, including designation of a brokerage or other financial services firm (an ESPP Broker) to hold such Shares for the participant s ESPP Stock Account with registration of such Shares in the name of such ESPP Broker for the benefit of the participant (or for the

B-4

Table of Contents

benefit of the participant and his or her spouse, as designated by the participant on his or her subscription agreement).

10. Voluntary Withdrawal: Termination of Employment.

(a) A participant may withdraw all but not less than all the Contributions credited to his or her account under the Plan, by giving notice of withdrawal from the Plan in accordance with the withdrawal procedures then in effect, not less than twenty-one (21) days prior to the last day of the Offering Period for which such election is to be given effect. All of the participant's Contributions credited to his or her account will be paid to him or her promptly after receipt of his or her notice of withdrawal and his or her option for that Offering Period will be automatically terminated, and no further Contributions for the purchase of Shares may be made by the participant for that Offering Period.

(b) Upon termination of the participant's Continuous Status as an Employee prior to the last day of an Offering Period for any reason, including retirement or death, the Contributions credited to his or her account will be promptly returned to him or her or, in the case of his or her death, to the person or persons entitled thereto under Section 14, if any, his or her option for that Offering Period will be automatically terminated, and no further Contributions for the purchase of Shares may be made by the participant for that Offering Period. If a Subsidiary ceases to be a Subsidiary, each person employed by that Subsidiary will be deemed to have terminated employment for purposes of the Plan, unless the person continues as an employee of the Company or another Subsidiary.

(c) In the event an Employee fails to remain in Continuous Status as an Employee for at least twenty (20) hours per week during an Offering Period in which the Employee is a participant, unless such Employee is on an approved leave of absence or a temporary reduction of hours, or unless otherwise required by local law, he or she will be deemed to have elected to withdraw from the Plan, the Contributions credited to his or her account will be returned to him or her, his or her option for that Offering Period will be automatically terminated, and no further Contributions for the purchase of Shares may be made by the participant for that Offering Period.

(d) A participant's withdrawal from an Offering Period will not have any effect upon his or her eligibility to participate in a succeeding Offering Period or in any similar plan which may hereafter be adopted by the Company.

11. Interest. No interest shall accrue on the Contributions of a participant in the Plan, unless required by local law.

12. Stock.

(a) Subject to adjustment as provided in Section 18, the maximum number of Shares of the Company's Common Stock which shall be made available for sale under the Plan shall be 300,000 Shares, plus an annual increase to be added on the first day of the Company's fiscal year, beginning in 2011, equal to the lesser of:

(i) 300,000 Shares;

(ii) two percent (2%) of the outstanding shares of Common Stock on such date; or

(iii) a lesser amount determined by the Board.

(b) If the Board determines that, on a given Exercise Date, the number of Shares with respect to which options are to be exercised may exceed:

(i) the number of Shares that were available for sale under the Plan on the Enrollment Date of the applicable Offering Period; or

(ii) the number of Shares available for sale under the Plan on such Exercise Date,

the Board may in its sole discretion provide (x) that the Company shall make a pro rata allocation of the Shares of Common Stock available for purchase on such Enrollment Date or Exercise Date, as applicable, in as uniform a manner as shall be practicable and as it shall determine in its sole discretion to be equitable

B-5

Table of Contents

among all participants exercising options to purchase Common Stock on such Exercise Date, and continue the Offering Period then in effect, or (y) that the Company shall make a pro rata allocation of the Shares available for purchase on such Enrollment Date or Exercise Date, as applicable, in as uniform a manner as shall be practicable and as it shall determine in its sole discretion to be equitable among all participants exercising options to purchase Common Stock on such Exercise Date, and terminate the Offering Period then in effect pursuant to Section 19 below. The Company may make pro rata allocation of the Shares available on the Enrollment Date of any applicable Offering Period pursuant to the preceding sentence, notwithstanding any authorization of additional Shares for issuance under the Plan by the Company's stockholders subsequent to such Enrollment Date.

(c) The participant will have no interest or voting right in Shares covered by his or her option until such option has been exercised and such Shares have actually been delivered to and held of record by the participant. No adjustment will be made for dividends or other rights as a stockholder for which a record date is prior to such date of delivery.

(d) Shares to be delivered (by electronic or other means) to a participant under the Plan will be registered in the name of the participant or in the name of the participant and his or her spouse, as designated by the participant in his or her subscription agreement; provided that if the Board has determined that Shares shall be held in an ESPP Stock Account held by an ESPP Broker in accordance with Section 9, Shares shall be registered in the name of such ESPP Broker for the benefit of the participant or the participant and his or her spouse, as designated by the participant in his or her subscription agreement.

13. Administration.

(a) The Board, or a committee named by the Board, shall supervise and administer the Plan and shall have full power to adopt, amend and rescind any rules deemed desirable and appropriate for the administration of the Plan and not inconsistent with the Plan, to construe and interpret the Plan, and to make all other determinations necessary or advisable for the administration of the Plan. Any action taken by, or inaction of, the Company, any Subsidiary, the Board or a Board committee relating or pursuant to the Plan and within its authority hereunder or under applicable law shall be within the absolute discretion of that entity or body and shall be conclusive and binding upon all persons.

(b) The Board or Board committee has discretion to adopt any rules regarding administration of the Plan to conform to local laws. Without limiting the generality of the foregoing, the Board or a Board committee is specifically authorized to adopt rules and procedures regarding handling of payroll deductions, payment of interest and handling of stock certificates which vary according to local requirements. The Board or a Board committee has the authority to suspend or limit participation in the Plan by employees of any particular Subsidiary for any reason, including administrative or economic reasons. The Board or a Board committee may also adopt rules, procedures or sub-plans applicable to particular Subsidiaries or locations, which sub-plans may be designed to be outside the scope of Section 423 of the Code.

(c) In making any determination or in taking or not taking any action under the Plan, the Board or a Board committee may obtain and may rely upon the advice of experts, including professional advisors to the Company. No director, officer or agent of the Company or any Subsidiary shall be liable for any such action or determination taken or made or omitted in good faith. The Board or a Board committee may delegate ministerial, non-discretionary functions relating to the Plan to individuals who are officers or employees of the Company or a Subsidiary.

(d) Neither the Board nor any Board committee, nor any member thereof or person acting at the direction thereof, shall be liable for any act, omission, interpretation, construction or determination made in good faith in connection with the Plan, and all such persons shall be entitled to indemnification and reimbursement by the Company in respect of any claim, loss, damage or expense (including, without limitation, attorneys' fees) arising or resulting therefrom to the fullest extent permitted by law and/or under any directors and officers liability insurance coverage that may be in

effect from time to time.

B-6

Table of Contents

14. Designation of Beneficiary.

(a) Unless otherwise determined by the Company, a participant may file a written designation of a beneficiary who is to receive any Shares and cash, if any, from the participant's account under the Plan in the event of such participant's death subsequent to the end of an Offering Period, as applicable, but prior to delivery to him or her of such Shares and/or cash. In addition, unless otherwise determined by the Company, a participant may file a written designation of a beneficiary who is to receive any cash from the participant's account under the Plan in the event of such participant's death prior to the Exercise Date of an Offering Period. If a participant is married and the designated beneficiary is not the spouse, spousal consent shall be required for such designation to be effective.

(b) Unless otherwise determined by the Company, such designation of beneficiary may be changed by the participant (and his or her spouse, if any) at any time by written notice to the Company in a manner acceptable to the Company. In the event of the death of a participant and in the absence of a beneficiary validly designated under the Plan who is living at the time of such participant's death, the Company shall deliver such Shares and/or cash to the executor or administrator of the estate of the participant, or if no such executor or administrator has been appointed (to the knowledge of the Company), the Company, in its discretion, may deliver such Shares and/or cash to the spouse or to any one or more dependents or relatives of the participant, or if no spouse, dependent or relative is known to the Company, then to such other person as the Company may designate or determine to be the appropriate recipient of the Shares and/or cash under applicable local law.

15. Transferability. Neither Contributions credited to a participant's account nor any rights with regard to the exercise of an option or to receive Shares under the Plan may be assigned, transferred, pledged or otherwise disposed of in any way (other than by will, the laws of descent and distribution, or as provided in Section 14) by the participant. Any such attempt at assignment, transfer, pledge or other disposition shall be without effect, except that the Company may treat such act as an election to withdraw funds in accordance with Section 10.

16. Use of Funds. All Contributions received or held by the Company under the Plan may be used by the Company for any corporate purpose, and the Company shall not be obligated to segregate such Contributions, unless required by local law.

17. Reports. Individual accounts will be maintained for each participant in the Plan. Statements of account will be given to participating Employees as promptly as practically feasible following the Exercise Date, which statements will set forth the amounts of Contributions, the per Share Purchase Price, the number of Shares purchased and the remaining cash balance, if any.

18. Adjustments Upon Changes in Capitalization: Corporate Transactions.

(a) Adjustment. Subject to any required action by the stockholders of the Company, the Reserves, the maximum number of Shares an Employee may purchase during each Offering Period as well as the price per Share and the number of Shares covered by each option under the Plan which has not yet been exercised shall be proportionately adjusted for any increase or decrease in the number of issued Shares resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock, or any other increase or decrease in the number of Shares effected without receipt of consideration by the Company; provided, however, that conversion of any convertible securities of the Company shall not be deemed to have been effected without receipt of consideration. Such adjustment shall be made by the Board, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issue by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of Shares subject to an option.

(b) *Corporate Transactions*. In the event of the proposed dissolution or liquidation of the Company, the Plan, any Offering Period then in progress, and any outstanding option granted with respect to such Offering Period will terminate immediately prior to the consummation of such proposed action, unless otherwise provided by the Board. If a participant's option is terminated pursuant to the preceding sentence, the

B-7

Table of Contents

Contributions then credited to such participant's account will be paid to him or her in cash without interest. In the event of a proposed sale of all or substantially all of the assets of the Company, or the merger of the Company with or into another corporation, unless otherwise determined by the Board, each option under the Plan shall be assumed or an equivalent option shall be substituted by such successor corporation or a parent or subsidiary of such successor corporation, or, if not so assumed or substituted, the Offering Period then in progress shall be shortened and the Board shall set a new Exercise Date (the "New Exercise Date"). The New Exercise Date shall be on or before the date of consummation of the transaction and the Board shall notify each participant in writing, at least ten (10) days prior to the New Exercise Date, that the Exercise Date for his or her option (including for purposes of determining the Purchase Price of such option) has been changed to the New Exercise Date and that his or her option will be exercised automatically on the New Exercise Date, unless prior to such date he or she has withdrawn from the Offering Period as provided in Section 10. For purposes of this paragraph, an option granted under the Plan shall be deemed to be assumed if, following the sale of assets or merger, the option confers the right to purchase, for each Share subject to the option immediately prior to the sale of assets or merger, the consideration (whether stock, cash or other securities or property) received in the sale of assets or merger by holders of Common Stock for each Share held on the effective date of the transaction (and if such holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares of Common Stock); provided, however, that if such consideration received in the sale of assets or merger was not solely common stock of the successor corporation or its parent (as defined in Section 424(e) of the Code), the Board may, with the consent of the successor corporation and the participant, provide for the consideration to be received upon exercise of the option to be solely common stock of the successor corporation or its parent equal in Fair Market Value to the per Share consideration received by holders of Common Stock and the sale of assets or merger.

(c) The Board may, if it so determines in the exercise of its sole discretion, also make provision for adjusting the Reserves, as well as the price per Share covered by each outstanding option, in the event that the Company effects one or more reorganizations, recapitalizations, rights offerings or other increases or reductions of shares of its outstanding Common Stock, and in the event of the Company being consolidated with or merged into any other corporation.

19. Amendment or Termination.

(a) The Board may at any time and for any reason terminate or amend the Plan. Except as provided in Section 13(b) and 18, no such termination of the Plan may affect options previously granted, provided that the Plan or an Offering Period may be terminated by the Board on any Exercise Date or by the Board's setting a new Exercise Date with respect to an Offering Period then in progress if the Board determines that termination of the Plan and/or the Offering Period is in the best interests of the Company and the stockholders or if continuation of the Plan and/or the Offering Period would cause the Company to incur adverse accounting charges as a result of a change after the effective date of the Plan in the generally accepted accounting rules applicable to the Plan. Except as provided in Section 18 and in this Section 19, no amendment to the Plan shall make any change in any option previously granted which adversely affects the rights of any participant without such participant's written consent. In addition, to the extent necessary to comply with the requirements of Rule 16b-3 under the Exchange Act, Section 423 of the Code (or any successor rule or provision or any applicable law or regulation) or any stock exchange on which the Shares are then listed, the Company shall obtain stockholder approval in such a manner and to such a degree as so required.

(b) Without stockholder consent and without regard to whether any participant rights may be considered to have been adversely affected, the Board shall be entitled to change the Offering Periods, limit the frequency and/or number of changes in the amount withheld during an Offering Period, establish the exchange ratio applicable to amounts withheld in a currency other than U.S. dollars, permit payroll withholding in excess of the amount designated by a participant in order to adjust for delays or mistakes in the Company's processing of properly completed withholding elections, establish reasonable waiting and adjustment periods and/or accounting and crediting procedures to ensure that amounts applied toward the purchase of Shares for each participant properly correspond with amounts withheld

from the participant's Compensation, and establish such

B-8

Table of Contents

other limitations or procedures as the Board determines in its sole discretion advisable which are consistent with the Plan.

20. Notices. All notices or other communications by a participant to the Company under or in connection with the Plan shall be deemed to have been duly given when received in the form specified by the Company at the location, or by the person, designated by the Company for the receipt thereof.

21. Conditions Upon Issuance of Shares. The Company shall have no obligation to issue Shares with respect to an option unless the exercise of such option and the issuance and delivery of such Shares pursuant thereto shall comply with all applicable provisions of law, domestic or foreign, including, without limitation, the U.S. Securities Act of 1933, as amended, the Exchange Act, the rules and regulations promulgated thereunder, and the requirements of any stock exchange upon which the Shares may then be listed, and shall be further subject to the approval of counsel for the Company with respect to such compliance.

As a condition to the exercise of an option, the Company may require the person exercising such option to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required by any of the aforementioned applicable provisions of law.

22. Term of Plan; Effective Date. The Plan shall become effective upon the earlier to occur of its adoption by the Board or its approval by the stockholders of the Company. The Plan shall continue in effect for a term of twenty (20) years unless sooner terminated under Section 19.

23. Additional Restrictions of Rule 16b-3. The terms and conditions of options granted hereunder to, and the purchase of Shares by, persons subject to Section 16 of the Exchange Act shall comply with the applicable provisions of Rule 16b-3. This Plan shall be deemed to contain, and such options shall contain, and the Shares issued upon exercise thereof shall be subject to, such additional conditions and restrictions as may be required by Rule 16b-3 to qualify for the maximum exemption from Section 16 of the Exchange Act with respect to Plan transactions.

24. No Employment Rights. Nothing in the Plan (or in any subscription agreement or other document related to this Plan) will confer upon any Employee or participant any right to continue in the employ or other service of the Company or any Subsidiary, constitute any contract or agreement of employment or other service or effect an employee's status as an employee at will, nor shall interfere in any way with the right of the Company or any Subsidiary to change such person's compensation or other benefits or to terminate his or her employment or other service, with or without cause. Nothing contained in this Section 24, however, is intended to adversely affect any express independent right of any such person under a separate employment or service contract other than a subscription agreement.

25. No Right to Assets of the Company. No participant or other person will have any right, title or interest in any fund or in any specific asset (including Shares) of the Company or any Subsidiary by reason of any option hereunder. Neither the provisions of the Plan (or of any subscription agreement or other document related to the Plan), nor the creation or adoption of the Plan, nor any action taken pursuant to the provisions of the Plan will create, or be construed to create, a trust of any kind or a fiduciary relationship between the Company or any Subsidiary and any participant, beneficiary or other person. To the extent that a participant, beneficiary or other person acquires a right to receive payment pursuant to the Plan, such right will be no greater than the right of any unsecured general creditor of the Company.

26. Miscellaneous.

(a) The Plan, the options, subscription agreements and other documents related to the Plan shall be governed by, and construed in accordance with, the laws of the State of Delaware. If any provision of the Plan shall be held by a court of competent jurisdiction to be invalid and unenforceable, the remaining provisions of the Plan shall continue in effect.

(b) Captions and headings are given to the sections of the Plan solely as a convenience to facilitate reference. Such captions and headings shall not be deemed in any way material or relevant to the construction of interpretation of the Plan or any provision hereof.

B-9

Table of Contents

(c) The adoption of the Plan shall not affect any other Company or Subsidiary compensation or incentive plans in effect. Nothing in the Plan will limit or be deemed to limit the authority of the Board or a Board committee:

(i) to establish any other forms of incentives or compensation for employees of the Company or any Subsidiary (with or without reference to the Common Stock), or

(ii) to grant or assume options (outside the scope of and in addition to those contemplated by the Plan) in connection with any proper corporate purpose, to the extent consistent with any other plan or authority.

Benefits received by a participant under an option granted pursuant to the Plan shall not be deemed a part of the participant's compensation for purposes of the determination of benefits under any other employee welfare or benefit plans or arrangements, if any, provided by the Company or any Subsidiary, except where the Board or Board committee (or the Board of Directors of the Subsidiary that sponsors such plan or arrangement, as applicable) expressly otherwise provides or authorizes in writing.

Table of Contents

**Annual Meeting of Stockholders
RUDOLPH TECHNOLOGIES, INC.**

May 19, 2009

NOTICE OF INTERNET AVAILABILITY OF PROXY MATERIAL

The Notice of Meeting, Proxy Statement, Proxy Card
are available at www.proxydocs.com/rtec

Please sign, date and mail your proxy card in the envelope provided as soon as possible.

Ú Please Detach and Mail in the Envelope Provided Ú

RUDOLPH TECHNOLOGIES, INC.

PROXY

**THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD
OF DIRECTORS OF RUDOLPH TECHNOLOGIES, INC.**

The undersigned hereby constitutes and appoints Daniel H. Berry and Richard F. Spanier, or either of them, as and for his proxies, each with the power to appoint such proxy's substitute, and hereby authorizes them, or either of them, to vote all of the shares of Common Stock of Rudolph Technologies, Inc. held of record by the undersigned on March 31, 2009, at the Annual Meeting of Stockholders of Rudolph Technologies, Inc. to be held on Tuesday, May 19, 2009 and at any and all adjournments thereof as follows:

(Continued and to be signed on reverse side.)

**Signature of
stockholder**

**Signature if held
jointly**

Note: Please sign exactly as your name appears on this proxy card. When shares are held by joint tenants, both should sign. When signing as an attorney, executor, administrator, trustee or guardian, please give full title as such. If a corporation, please sign in full corporate name by President or other authorized officer. If a partnership, please sign in partnership name by authorized person.