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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.)

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	Defi	nitive Additional Materials		
	Solid	citing Material Pursuant to §	?40.14a-12	
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			(Name of Person(s) Filing Proxy Statement, if other than the Registrant)	
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October 16, 2006

Dear Shareholder:

Mercury Computer Systems, Inc. will hold a Special Meeting in Lieu of the Annual Meeting of Shareholders on November 13, 2006 beginning at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, 53 State Street, Boston, Massachusetts 02109. We look forward to your attending either in person or by proxy, but please note that due to security procedures you will be required to show a form of picture identification to gain access to the offices of Goodwin Procter LLP if you plan to attend the special meeting. The enclosed notice of meeting, the proxy statement and the proxy card from the Board of Directors describe the proposal to be acted upon at the meeting.

This year's meeting will be a business meeting only, with no additional presentations from our business unit executives. The agenda for the meeting includes proposals regarding (1) the election of three Class III directors, and (2) the approval of an amendment and restatement of our 1997 Employee Stock Purchase Plan. The Board of Directors recommends that you vote FOR the election of its slate of nominees for director and FOR approval of the amendment and restatement of our 1997 Employee Stock Purchase Plan.

Please refer to the enclosed proxy statement for detailed information on each of the proposals. If you have any further questions concerning the meeting or the proposals, please feel free to contact us at (978) 256-1300. Your vote is important. Whether or not you expect to attend the meeting, your shares should be represented. Therefore, we urge you to complete, sign, date and promptly return the enclosed proxy card.

On behalf of the Board of Directors, we would like to express our appreciation for your continued interest in our company.

Sincerely yours,

JAMES R. BERTELLI

President and Chief Executive Officer

MERCURY COMPUTER SYSTEMS, INC. 199 RIVERNECK ROAD CHELMSFORD, MA 01824 (978) 256-1300

Notice of Special Meeting in Lieu of the 2006 Annual Meeting of Shareholders

To Be Held November 13, 2006

To Shareholders:

A Special Meeting in Lieu of the 2006 Annual Meeting of Shareholders of MERCURY COMPUTER SYSTEMS, INC. will be held on Monday, November 13, 2006 at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, 53 State Street, Boston, Massachusetts 02109, for the following purposes:

- 1. To elect three Class III directors, each to serve for a three-year term, as more fully described in the accompanying proxy statement.
- 2. To approve an amendment and restatement of Mercury's 1997 Employee Stock Purchase Plan.
- 3. To consider and act upon any other business that may properly come before the meeting or at any adjournments or postponements thereof.

The Board of Directors has fixed the close of business on September 15, 2006 as the record date for the meeting. All shareholders of record on that date are entitled to notice of and to vote at the meeting.

YOUR VOTE IS IMPORTANT. PLEASE COMPLETE AND RETURN THE ENCLOSED PROXY IN THE ENVELOPE PROVIDED WHETHER OR NOT YOU INTEND TO BE PRESENT AT THE MEETING IN PERSON. IF YOU ATTEND THE MEETING, YOU MAY CONTINUE TO HAVE YOUR SHARES VOTED AS INSTRUCTED IN THE PROXY OR YOU MAY WITHDRAW YOUR PROXY AND VOTE YOUR SHARES IN PERSON.

By Order of the Board of Directors

ANTHONY J. MEDAGLIA, JR.

Secretary

Chelmsford, Massachusetts October 16, 2006

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MERCURY COMPUTER SYSTEMS, INC. 199 RIVERNECK ROAD CHELMSFORD, MA 01824 (978) 256-1300

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Why am I receiving these materials?

We are mailing this proxy statement, with the accompanying proxy card, to you on or about October 16, 2006 in connection with the solicitation of proxies by the Board of Directors of Mercury Computer Systems, Inc. ("Mercury") for a special meeting in lieu of the 2006 annual meeting of shareholders to be held on November 13, 2006, and any adjournment or postponement of that meeting. The meeting will be held on Monday, November 13, 2006, beginning at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, 53 State Street, Boston, Massachusetts 02109. You are invited to attend the meeting, and we request that you vote on the proposals described in this proxy statement. You do not need to attend the meeting in person to vote your shares. You may simply complete, sign and return your proxy card in order to have your shares voted at the meeting on your behalf.

What am I voting on?

There are two matters scheduled for a vote:

- · Election of three Class III directors; and
- Approval of an amendment and restatement of our 1997 Employee Stock Purchase Plan.

Who can attend and vote at the meeting?

Shareholders of record at the close of business on September 15, 2006 are entitled to attend and vote at the meeting. Each share of our common stock is entitled to one vote on all matters to be voted on at the meeting, and can be voted only if the record owner is present to vote or is represented by proxy. The proxy card provided with this proxy statement indicates the number of shares of common stock that you own and are entitled to vote at the meeting.

What constitutes a quorum at the meeting?

The presence at the meeting, in person or represented by proxy, of the holders of a majority of our common stock outstanding on September 15, 2006, the record date, will constitute a quorum for purposes of the meeting. On the record date, 22,176,086 shares of our common stock were outstanding. For purposes of determining whether a quorum exists, proxies received but marked "abstain" and so-called "broker non-votes" (described below) will be counted as present.

How do I vote by proxy?

If you properly fill in your proxy card and our transfer agent receives it in time to vote at the meeting, your "proxy" (one of the individuals named on your proxy card) will vote your shares as you have directed. No postage is required if your proxy card is mailed in the United States in the return envelope that has been enclosed with this proxy statement.

If you sign, date and return the proxy card but do not specify how your shares are to be voted, then your proxy will vote your shares as follows:

- · FOR the election of the nominees for Class III director named below under "Election of Class III Directors;"
- FOR approval of the amendment and restatement of our 1997 Employee Stock Purchase Plan; and
- In their discretion as to any other business which may properly come before the meeting.

How do I vote if my shares are held by my broker?

If your shares are held by your broker in "street name," you will need to instruct your broker concerning how to vote your shares in the manner provided by your broker. If your shares are held in "street name" and you wish to vote them in person at the meeting, you must obtain from your broker a properly executed legal proxy, identifying you as a Mercury shareholder, authorizing you to act on behalf of the broker at the meeting and specifying the number of shares with respect to which the authorization is granted.

What discretion does my broker have to vote my shares held in "street name"?

A broker holding your shares in "street name" must vote those shares according to any specific instructions it receives from you. If specific instructions are not received, your broker generally may vote your shares in its discretion, depending on the type of proposal involved. Under NASDAQ Stock Market rules, there are certain matters on which brokers may not vote without specific instructions from you. If such a matter comes before the meeting and you have not specifically instructed your broker how to vote your shares, your shares will not be voted on that matter, giving rise to what is called a "broker non-vote." Shares represented by broker non-votes will be counted for purposes of determining the existence of a quorum for the transaction of business, but for purposes of determining the number of shares voting on a particular proposal broker non-votes will not be counted as votes cast or shares voting. Pursuant to NASDAQ Stock Market rules, brokers do not have discretion to vote your shares on the proposal to approve the amendment and restatement of our 1997 Employee Stock Purchase Plan without specific instructions from you, and your failure to instruct your broker how to vote on this proposal will result in a broker non-vote.

Can I change my vote after I return my proxy card?

Yes. You may change your vote at any time before your proxy is exercised. To change your vote, you may:

- Deliver to our corporate secretary a written notice revoking your earlier vote; or
- Deliver to our transfer agent a properly completed and signed proxy card with a later date; or
- Vote in person at the meeting.

Your attendance at the meeting will not be deemed to revoke a previously-delivered proxy unless you clearly indicate at the meeting that you intend to revoke your proxy and vote in person.

How are votes counted?

• **Election of directors.** The three nominees who receive the highest number of "For" votes will be elected. If you do not vote for a particular nominee, or you withhold authority for one or all nominees, your vote will have no effect on the outcome of the election.

• Other business. Approval of the amendment and restatement of our 1997 Employee Stock Purchase Plan and approval of all other business that may properly come before the meeting require the favorable vote of a majority of the votes cast on the matter. Abstentions and broker non-votes, which are described above, will have no effect on the outcome of voting on these matters.

How is Mercury soliciting proxies?

We bear the cost of preparing, assembling and mailing the proxy material relating to the solicitation of proxies by the Board of Directors for the meeting. In addition to the use of the mails, certain of our officers and regular employees may, without additional compensation, solicit proxies in person, by telephone or other means of communication. We will also request brokerage houses, custodians, nominees and fiduciaries to forward copies of the proxy material to those persons for whom they hold shares, and will reimburse those record holders for their reasonable expenses in transmitting this material.

PROPOSAL 1: ELECTION OF CLASS III DIRECTORS

Who sits on the Board of Directors?

Our by-laws provide for a Board of Directors of not fewer than three nor more than fifteen directors. Pursuant to Massachusetts law, the Board is divided into three classes, with each class nearly equal in number as possible. The Board of Directors currently consists of nine members, with Dr. Albert P. Belle Isle, Lee C. Steele and Dr. Richard P. Wishner serving as Class I directors; Dr. Gordon B. Baty, George W. Chamillard and Sherman N. Mullin serving as Class II directors; and James R. Bertelli, Russell K. Johnsen and Vincent Vitto serving as Class III directors.

The terms of the Class I, Class II and Class III directors expire in 2007, 2008 and 2006, respectively. With the expiration of its respective term, each class is nominated for election for a subsequent three-year term. We are proposing that the Class III nominees listed below, whose terms expire at this meeting, be elected to serve terms of three years and in each case until their successors are duly elected and qualified or until they sooner die, resign or are removed.

Recommendation

The Board recommends a vote "FOR" the election of the Class III nominees listed below.

Information About the Directors

The persons named as proxies in the accompanying proxy card will vote, unless authority is withheld, for the election of the Class III nominees named below. We have no reason to believe that any of the nominees will be unavailable for election. However, if any one of them becomes unavailable, the persons named as proxies in the accompanying proxy card have discretionary authority to vote for a substitute chosen by the Board. Any vacancies not filled at the meeting may be filled by the Board.

The following information was provided by the director nominees and by each of the incumbent directors whose term will continue after the meeting.

Name Class III Directors—Nominated for a Term Ending in 2009:	<u>Age</u>	Year First Elected a Director	Principal Occupation
James R. Bertelli	66	1981	Mr. Bertelli cofounded Mercury in 1981 and has served as our President and Chief Executive Officer since that time. He has also served as Chairman of our Board of Directors since 2002. Prior to founding Mercury, Mr. Bertelli founded a manufacturer's representative organization after a brief period at Analogic Corporation in sales management positions. Prior to that, Mr. Bertelli served as a marketing manager for Digital Equipment Corporation's telephone industry products group. After a tour of duty in the Army Signal Corps, Mr. Bertelli began his high-tech career with RCA Corporation as a computer systems analyst, and later moved into computer sales with RCA and Univac.
Russell K. Johnsen	52	2001	Mr. Johnsen has been Chief Executive Officer of the Occtane Group, a private company developing and operating a proprietary network of interactive display terminals, since 2005, and has also been President of Delumina, Inc., a strategic technology consulting and investment firm, since 2003. Prior to that he served as Vice President for Corporate Business Development at Analog Devices, Inc., a supplier of high-performance analog, mixed-signal and digital processing integrated circuits, from 2001 to 2002, and as Vice President and General Manager of Analog Devices' Communications Products Division from 1993 to 2001. Prior to that he served in various senior management capacities at National Semiconductor Corp. Mr. Johnsen is also a director of three private companies in the semiconductor field.
Vincent Vitto	65	2006	Mr. Vitto recently retired after serving as President and Chief Executive Officer of The Charles Stark Draper Laboratory, Inc., a research and development laboratory, since 1997. Prior to that he spent 32 years of increasing responsibility at MIT Lincoln Laboratory, a research and development laboratory, rising to Assistant Director for Surface Surveillance and Communications. Mr. Vitto also serves as Vice Chairman of the Defense Science Board.

Name Class I Directors—Serving a Term Ending in 2007:	<u>Age</u>	Year First Elected a Director	Principal Occupation
Dr. Albert P. Belle Isle	63	1986	Dr. Belle Isle has been a private investor in technology-based companies since 1990. He is a director of NetClarity, Inc. (formerly known as PredatorWatch, Inc.), a software company which he served as Chairman of the Board from 2003 to 2006. He was President of Custom Silicon, Inc., semiconductor company, from 1983 to 1990. He was previously Vice President in charge of a division of Wang Laboratories, Inc., a computer company, from 1980 to 1983. Prior to that he served in various technical and business management positions involving defense electronics during fifteen years with General Electric Company.
Lee C. Steele	57	2003	Mr. Steele has been a Financial Leadership Partner with Tatum LLC, an executive services and consulting firm, since 2002. Prior to that he was Senior Vice President, Chief Financial Officer and Treasurer of ARIAD Pharmaceuticals, Inc., a development stage biopharmaceuticals firm, from 2001 to 2002. Prior to that he was Vice President, Chief Financial Officer and Treasurer of American Science and Engineering, Inc., a manufacturer of high-technology security systems and medical devices, from 1994 to 2001. Prior to that he was a consulting partner with Deloitte & Touche.
Dr. Richard P. Wishner	72	2003	Dr. Wishner has been associated both directly and as a consultant with the Defense Advanced Research Projects Agency ("DARPA") since 1994, and served as Director of its Information Exploitation Office from 2001 through 2002 while employed by SRI International, an independent, nonprofit research institute. He has also served as an advisor to several government organizations including the Senate Select Committee on Intelligence Technical Advisory Group, the Defense Science Board, the Army Science Board, the National Geospatial-Intelligence Agency and the National Security Agency. Prior to joining DARPA, Dr. Wishner served briefly in the Office of the Secretary of Defense where he was Assistant Deputy Undersecretary of Defense (Advanced Technology) for Special Projects. He also served as Chief Executive Officer of Advanced Decision Systems, a privately-held artificial intelligence company, from 1979 to 1991.

Name Class II Directors—Serving a Term Ending in 2008:	<u>Age</u>	Year First Elected a Director	Principal Occupation
Dr. Gordon B. Baty	68	1983	Dr. Baty has been a partner of Zero Stage Capital Co., Inc., a venture capital firm, since 1986. Dr. Baty was the founder and Chief Executive Officer of Icon Corporation, Context Corporation, and Wormser Engineering, Inc. Dr. Baty is also a director of three private companies and a director of The Charles Stark Draper Laboratory, Inc. at the Massachusetts Institute of Technology.
Sherman N. Mullin	71	1994	Mr. Mullin served as President of Lockheed Advanced Development Company, a defense contractor, from 1990 to his retirement in 1994. Prior to that he served in various other engineering and management capacities at Lockheed Corporation, an aerospace company, from 1959 to 1990. He also served as an ad hoc advisor to the U.S. Air Force Scientific Advisory Board from 1994 to 2000. Mr. Mullin is a Fellow of the American Institute of Aeronautics and Astronautics.
George W. Chamillard	67	2004	Mr. Chamillard has served as Chairman of the Board of Directors of Teradyne, Inc., a supplier of automatic test equipment, since 2000. Mr. Chamillard served as Chief Executive Officer of Teradyne from 1997 to 2004, as President of Teradyne from 1996 to 2003, and has been a director of Teradyne since 1996. Prior to being named as President of Teradyne, Mr. Chamillard served in various executive capacities at Teradyne.

Independence

The Board of Directors has determined that a majority of the members of the Board should consist of "independent directors," determined in accordance with the applicable listing standards of the NASDAQ Stock Market as in effect from time to time. Directors who are also Mercury employees are not considered to be independent for this purpose. For a non-employee director to be considered independent, he or she must not have any direct or indirect material relationship with Mercury. A material relationship is one which, in the opinion of the Board, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In determining whether a material relationship exists, the Board considers the circumstances of any direct compensation received by a director or a member of a director's immediate family from Mercury; any professional relationship between a director or a member of a director's immediate family and Mercury executive officer in the compensation decisions of other companies employing a director or a member of a director's immediate family as an executive officer; and commercial relationships between Mercury and other entities with which a director is affiliated (as an executive officer, partner or controlling shareholder). In addition, the Board has determined that directors who serve on the Audit Committee must qualify as independent under applicable SEC rules, which limit the types of compensation an Audit Committee member may receive directly or indirectly from Mercury and require that Audit Committee members not be "affiliated persons" of Mercury or its subsidiaries.

Consistent with these considerations, the Board has determined that all of the members of the Board are independent directors, except Mr. Bertelli, who is also a Mercury executive officer.

How are nominees for the Board selected?

Our Nominating and Governance Committee is responsible for identifying and recommending nominees for election to the Board. The committee will consider nominees recommended by shareholders if the shareholder submits the nomination in compliance with applicable requirements. The committee did not receive any shareholder nominations for election of directors at this year's meeting. With respect to the three nominees for Class III director standing for election at the meeting, Dr. Baty and Mr. Bertelli were most recently re-elected as Class III directors at the special meeting in lieu of the 2003 annual meeting of shareholders. Mr. Vitto, who was first elected as a director by the Board on September 29, 2006, was initially recommended to the Nominating and Governance Committee for election to the Board by a non-management director.

When considering a potential candidate for membership on the Board, the Nominating and Governance Committee will consider any criteria it deems appropriate, including, among other things, the experience and qualifications of any particular candidate as well as such candidate's past or anticipated contributions to the Board and its committees. At a minimum, each nominee is expected to have high personal and professional integrity and demonstrated ability and judgment, and to be effective, with the other directors, in collectively serving the long-term interests of our shareholders. In addition to these minimum qualifications, when considering potential candidates for the Board, the committee seeks to ensure that the Board is comprised of a majority of independent directors and that the committees of the Board are comprised entirely of independent directors. The committee may also consider any other standards that it deems appropriate, including whether a potential candidate has direct experience in our industry and whether such candidate, if elected, would assist in achieving a mix of directors that represents a diversity of background and experience. In practice, the committee generally will evaluate and consider all candidates recommended by our directors, officers and shareholders. The committee intends to consider shareholder recommendations for directors using the same criteria as potential nominees recommended by members of the committee or others.

Shareholders who wish to submit director candidates for consideration should send such recommendations to our corporate secretary at Mercury's executive offices not fewer than 120 calendar days prior to the first anniversary of the date on which Mercury's proxy statement for the prior year was released. Such recommendations must include the following information: (1) the name and address of record of the shareholder submitting the recommendation; (2) a representation that the shareholder is a record holder of our common stock, or if the shareholder is not a record holder, evidence of ownership in accordance with Rule 14a-8(b)(2) under the Securities Exchange Act of 1934; (3) the name, age, business and residential address, educational background, current principal occupation or employment, and principal occupation or employment for the preceding five full fiscal years of the proposed director candidate; (4) a description of the qualifications of the proposed director candidate that address the minimum qualifications described above; (5) a description of all arrangements or understandings between the shareholder and the proposed director candidate; and (6) the consent of the proposed director candidate to be named in the proxy statement and to serve as a director if elected. Shareholders must also submit any other information regarding the proposed director candidate that is required to be included in a proxy statement filed pursuant to SEC rules. See also the information contained elsewhere in the proxy statement under the heading "Shareholder Proposals for the 2007 Annual Meeting."

Can I communicate with Mercury's directors?

Yes. Shareholders who wish to communicate with the Board or with a particular director may send a letter to Mercury Computer Systems, Inc., 199 Riverneck Road, Chelmsford, MA 01824, attention: General Counsel. The mailing envelope should contain a clear notation that the enclosed letter is a "Shareholder-Board Communication" or "Shareholder-Director Communication." All such letters should clearly state whether the intended recipients are all members of the Board or certain specified individual directors. The general counsel will make copies of all such letters and circulate them to the appropriate director or directors.

What committees has the Board established?

The Board of Directors has standing Audit, Compensation, and Nominating and Governance Committees. As described above under the heading "Independence," all of the members of the Audit, Compensation, and Nominating and Governance Committees are deemed to be independent directors. Each of these committees acts under a written charter, copies of which can be found on Mercury's website at www.mc.com on the Investors Relations page under "Corporate Governance."

The Audit Committee assists the Board in its oversight of management's conduct of our financial reporting process, including by overviewing the financial reports and other financial information provided by our systems of internal accounting and financial controls, and the annual audit of our financial statements. The Audit Committee also reviews the qualifications, independence and performance of our outside auditors, pre-approves all audit and non-audit services provided by the auditors and their fees, and discusses with management and the auditors the quality and adequacy of our internal control over financial reporting. During fiscal year 2006, members of the committee were Mr. Steele (Chairman), Drs. Baty and Belle Isle and Mr. Chamillard. The Board has also determined that Mr. Steele qualifies as an "audit committee financial expert" under SEC rules.

The Compensation Committee is responsible for administering and granting awards under Mercury's stock-based plans, reviewing and approving the senior management compensation policy, and annually recommending to the Board the compensation of the Chief Executive Officer. During fiscal year 2006, members of the committee were Messrs. Chamillard (Chairman), Johnsen and Mullin and Dr. Wishner.

The Nominating and Governance Committee assists the Board in identifying individuals qualified to become Board members, and recommends to the Board persons to be nominated for election as directors by the shareholders at the annual meeting of shareholders or by the Board to fill vacancies. The committee has recommended the nominees for election at the meeting. In addition, the committee oversees the process by which the Board assesses its effectiveness. During fiscal 2006, members of the committee were Drs. Belle Isle (Chairman) and Baty and Mr. Mullin.

How often did the Board and committees meet in fiscal year 2006?

The Board of Directors met or acted by unanimous written consent 13 times during the last fiscal year. The Audit, Compensation, and Nominating and Governance Committees met 11, 17 and two times, respectively, during the last fiscal year. All of the directors attended at least 75% of the meetings of the Board of Directors and committees of the Board on which they served.

The independent directors met four times during the last fiscal year in executive session without management present. All meetings, or portions of meetings, of the Board at which only independent directors were present were presided over by the lead independent director. The lead independent director is currently Russell K. Johnsen.

Does Mercury have a policy regarding director attendance at annual meetings of the shareholders?

Directors are strongly encouraged to attend the annual meeting of shareholders, or special meeting in lieu thereof; however, we do not have a formal policy with respect to attendance at shareholder meetings. All of the directors attended the special meeting in lieu of the 2005 annual meeting of shareholders.

How are the directors compensated?

Directors who are also Mercury employees receive no additional compensation for serving on the Board of Directors.

Prior to October 1, 2006, each non-employee director received an annual retainer of \$16,000, plus an additional \$2,500 for each Board meeting attended, as well as reimbursement for reasonable expenses incurred in connection with attendance at Board and committee meetings. Non-employee directors did not receive the additional payment for telephonic meetings that covered limited subject matter and were relatively brief in duration. In addition, the lead independent director and the chairmen of the Audit and Compensation Committees each received an additional annual retainer of \$9,000, and the chairman of the Nominating and Governance Committee received an additional annual retainer of \$7,500, and other members of the Nominating and Governance Committee received an additional annual retainer of \$3,000. All of these retainers were payable in quarterly installments. Non-employee directors also received annual stock option awards at the discretion of the Compensation Committee.

On September 29, 2006, the Board adopted a new compensation policy for non-employee directors. Effective on October 1, 2006, each non-employee director receives an annual retainer of \$55,000. In addition, the lead independent director and the chairman of the Audit Committee each receives an additional retainer of \$15,000, the chairman of the Compensation Committee receives an additional annual retainer of \$12,000, and the chairman of the Nominating and Governance Committee receives an additional annual retainer of \$6,000. All of these retainers are paid in cash in quarterly installments. Directors continue to be reimbursed for their reasonable expenses incurred in connection with attendance at Board and committee meetings, but additional amounts formerly paid to non-employee directors for attendance at Board meetings and for membership on a committee

were discontinued for service after October 1, 2006 (other than the additional annual retainers for committee chairmen described above).

New non-employee directors are granted stock options to purchase 30,000 shares of common stock in connection with their election to the Board. These awards will vest as to 50% of the shares covered by the award on each of the first two anniversaries of the date of grant, and will expire ten years after the date of grant. Non-employee directors may also receive annual stock option awards at the discretion of the Compensation Committee. Beginning with fiscal year 2007, non-employee directors will receive annual stock option awards to purchase 16,000 shares. These awards will vest as to 50% of the shares covered by the award on the date of grant and as to the remaining covered shares on the first anniversary of the date of grant, and will expire ten years after the date of grant. All or a portion of such awards will immediately vest upon the occurrence of a change in control of Mercury.

How were the directors compensated for fiscal year 2006?

The cash compensation paid to the members of our Board of Directors in their capacity as such with respect to fiscal year 2006 was as follows:

		Cash
Director	Cor	npensation
Dr. Gordon B. Baty	\$	54,000
Dr. Albert P. Belle Isle		56,000
George W. Chamillard		57,125
Russell K. Johnsen		60,000
Sherman N. Mullin		51,875
Lee C. Steele		52,500
Dr. Richard P. Wishner		51,000

In addition to cash compensation, each non-employee director was also granted stock options under our 2005 Stock Incentive Plan during fiscal year 2006. On February 20, 2006, each non-employee director was granted an option to purchase 12,000 shares of common stock at an exercise price of \$17.25 per share. These grants vest as to 50% of the shares covered by the award on the date of grant and 50% on the first anniversary of the date of grant, and expire ten years after the date of grant. All or a portion of such awards will immediately vest upon the occurrence of a change in control of Mercury.

Compensation Committee Interlocks and Insider Participation in Compensation Decisions

During fiscal year 2006, George W. Chamillard, Russell K. Johnsen, Sherman N. Mullin and Dr. Richard P. Wishner served on the Compensation Committee for the entire fiscal year. No member of the committee is a present or former officer or employee of Mercury or any of its subsidiaries or had any business relationship or affiliation with Mercury or any of its subsidiaries (other than his service as a director) requiring disclosure in this proxy statement.

Does Mercury have a Code of Business Conduct and Ethics?

Yes. We have adopted a Code of Business Conduct and Ethics applicable to our officers, directors and employees. This code is posted on our website at www.mc.com on the Investor Relations page under "Corporate Governance." We intend to satisfy our disclosure requirements regarding any amendment to, or waiver of, a provision of our Code of Business Conduct and Ethics by disclosing such matters on our website. Shareholders may request a copy of our Code of Business Conduct and Ethics free of charge by writing to Mercury Computer Systems, Inc., 199 Riverneck Road, Chelmsford, MA 01824, attention: General Counsel.

PROPOSAL 2: APPROVAL OF AMENDMENT AND RESTATEMENT OF OUR 1997 EMPLOYEE STOCK PURCHASE PLAN

There will be presented at the meeting a proposal to approve an amendment and restatement of our 1997 Employee Stock Purchase Plan (the "ESPP"), which was adopted by the Board on July 24, 2006.

Proposal

We offer eligible employees the opportunity to purchase shares of our common stock on a regular basis, through payroll deductions under the ESPP. The purpose of the ESPP is to encourage ownership of our common stock by our employees. The ESPP is intended to be an "employee stock purchase plan" within the meaning of Section 423(b) of the Internal Revenue Code of 1986, as amended (the "Code").

The Board believes that the number of shares currently remaining available for issuance under the ESPP (35,581 shares) is not sufficient for future granting needs. In addition, the ESPP is currently set to expire by its terms in June 2007. We believe that continuing to offer eligible employees an opportunity to purchase shares of our common stock under the ESPP enables us to attract and retain key personnel, and helps to align employee and shareholder interests by encouraging employee stock ownership. Accordingly, our Board of Directors has adopted, and is seeking shareholder approval of, an amendment and restatement of the ESPP that would increase the aggregate number of shares of our common stock reserved and available for issuance under the ESPP by 300,000 shares, and would extend the end date of the term of the ESPP from June 30, 2007 to December 31, 2016. If the proposed amendment and restatement of the ESPP is not approved by shareholders, it is likely that all currently remaining shares available for issuance under the ESPP will be purchased at the end of the current semi-annual purchase period and the ESPP will terminate on December 31, 2006.

Recommendation

The Board recommends a vote "FOR" approval of the amendment and restatement of the ESPP.

Summary of the ESPP

The following description of certain features of the ESPP is intended to be a summary only. The summary is qualified in its entirety by the full text of the ESPP that is attached to this proxy statement as Exhibit A.

Term of the Plan. The ESPP was adopted by our Board of Directors on November 19, 1997, and became effective upon receiving approval of our shareholders on December 18, 1997. The ESPP currently continues in effect until June 30, 2007. If the proposed amendment and restatement of the ESPP is approved by shareholders, the ESPP will continue in effect until December 31, 2016. Our Board may terminate the ESPP at any time. The ESPP will terminate in any case when all or substantially all of the unissued shares of our common stock reserved for the purposes of the ESPP have been purchased.

Plan Administration. The Compensation Committee of our Board of Directors administers the ESPP and has full authority to make, administer and interpret such equitable rules and regulations regarding the ESPP as it deems advisable.

Eligibility. Persons eligible to participate in the ESPP are full time employees of Mercury or any of its subsidiaries designated as a participating employer who work at least 20 hours per week and more than five months per year, except for persons who are deemed for purposes of Section 423(b)(3) of the Code to own five percent or more of our voting stock. Approximately 835 individuals are currently eligible to participate in the ESPP.

Purchase Periods; Exercise Price. The ESPP provides for two "purchase periods" within each calendar year, the first commencing on January 1 and ending on June 30, and the second commencing on July 1 and ending on December 31. Eligible employees may elect to become participants in the ESPP by enrolling prior to each semi-annual period. On the first day of each purchase period, subject to the terms of the ESPP, each eligible employee who is then a participant in the ESPP is granted an option to purchase on the last business day of the purchase period a number of shares of our common stock equal to (1) the aggregate payroll deductions in the purchase period authorized by the participant, divided by (2) the exercise price (as defined below). Shares are purchased through the accumulation of payroll deductions of not less than 1% nor more than 10% of each participant's compensation, subject to an overall annual maximum of \$25,000 per participant. The maximum number of shares that can be purchased by an individual participant in any purchase period is 833 shares (or such other number determined from time to time by the Compensation Committee).

The "exercise price" for each purchase period is equal to the lower of (1) 85% of the fair market value per share of our common stock on the first business day of the relevant purchase period or (2) 85% of the fair market value per share of our common stock on the last business day of the relevant purchase period. As of September 29, 2006, the closing price per share of our common stock as reported by the NASDAQ Global Select Market was \$11.85.

Options. Options granted under the ESPP are exercisable only by the participant during his or her lifetime and are not transferable by the participant. A participant may cancel his or her participation in the ESPP with respect to any purchase period so long as the participant's notice of cancellation is received by us at least 10 days prior to the last business day of the purchase period. Participation in the ESPP automatically terminates upon a participant's termination of employment for any reason. Upon any such cancellation or termination, all accumulated payroll deductions are refunded in cash.

Shares Subject to the Plan. Of the 500,000 shares of our common stock, par value \$.01 per share, authorized for issuance under the ESPP, there are currently only 35,581 shares remaining available for issuance. If the proposed amendment and restatement of ESPP is approved by shareholders, the aggregate number of shares reserved and available for issuance under the ESPP will be increased by 300,000 shares, and the total number of shares authorized for issuance under the ESPP from its inception will be increased from 500,000 shares to 800,000 shares. If our capital structure changes, because of a stock dividend, stock split or similar event, the number of shares that can be issued under the ESPP will be appropriately adjusted.

Amendments and Termination. Our Board of Directors may at any time amend or terminate the ESPP. However, any such termination by the Board will not affect options then outstanding under the ESPP, and any such amendment will not adversely affect any option then outstanding under the ESPP without the participant's consent. Certain amendments, such as an increase in the number of shares available for issuance under the ESPP, will not be effective without the approval of our shareholders.

Federal Income Tax Considerations

The ESPP is intended to qualify as an "employee stock purchase plan" as defined in Section 423(b) of the Code, which provides that an employee participating in the plan is not required to pay any federal income tax when joining the plan or when purchasing the shares of common stock at the end of the purchase period. The employee is, however, required to pay federal income tax on the difference, if any, between the price at which he or she sells the shares and the price he or she paid for them.

If shares acquired under the ESPP are sold more than two years after the first day of the purchase period pursuant to which the shares were purchased, no taxable income results if the sale price is equal to or less than the price paid for the shares and the employee will recognize a long-term capital loss for the difference between the sale price and the purchase price. If the proceeds of the sale are higher than the purchase price, the employee will recognize ordinary income for the year in which the sale occurs equal to the lesser of (a) fifteen percent (15%) of the fair market value of the common stock on the first day of the purchase period pursuant to which the shares were purchased or (b) the excess of the amount actually received for the shares over the amount paid. In addition, the employee will recognize a long-term capital gain in an amount equal to the difference between the proceeds of the sale and the employee's basis in the shares (i.e., the employee's purchase price plus the amount taxed to the employee as ordinary income). No deduction is allowed to Mercury.

If shares acquired under the ESPP are sold within two years of the first day of the purchase period pursuant to which the shares were purchased, the employee will recognize ordinary income equal to the difference between the fair market value of the shares on the last business day of the purchase period pursuant to which the shares were purchased and the employee's purchase price. This amount is reportable as ordinary income even if no profit was realized on the sale of shares or the shares were sold at a loss. Long-term or short-term (depending on the holding period for the shares) capital gain or loss will be recognized in an amount equal to the difference between the proceeds of sale and the employee's basis in the shares (*i.e.*, the fair market value of the shares on the last business day of the purchase period pursuant to which the shares were purchased). The amount reportable as ordinary income for a sale made within two years of the first day of the purchase period pursuant to which the shares were purchased will generally be allowed as a tax deduction to Mercury.

New Plan Benefits

Since participation in the ESPP is voluntary, the benefits or amounts that will be received by or allocated to any individual or group of individuals under the amended and restated ESPP are not determinable.

Equity Compensation Plans

The following table sets forth information as of June 30, 2006 with respect to existing compensation plans under which our equity securities are authorized for issuance.

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 the first column)
Equity compensation plans approved by shareholders(2)	4,836,595(3)	\$ 24.70	948,190(4)
Equity compensation plans not approved by shareholders	_	_	_
TOTAL	4,836,595	\$ 24.70	948,190

- (1) Does not include outstanding unvested restricted stock and deferred stock awards.
- (2) Consists of our 1991, 1997, 1998 and 2005 equity plans and the ESPP.
- (3) Does not include purchase rights under the ESPP, as the purchase price and number of shares to be purchased is not determined until the end of the relevant purchase period.

(4) Includes 35,581 shares available for future issuance under the ESPP and 912,609 shares available for future issuance under our 2005 Stock Incentive Plan. We are no longer permitted to grant awards under our 1991, 1997 and 1998 plans.

On September 11, 2006, we accepted for exchange and cancellation previously-granted options to purchase an aggregate of 1,889,886 shares pursuant to our shareholder-approved stock option exchange program. Cancellation of these options added 1,889,886 shares to the total number of shares available for issuance under our 2005 Stock Incentive Plan. Restricted stock and deferred stock awards were granted under the plan covering an aggregate of 472,485 shares in exchange for the cancelled options. Restricted stock and deferred stock awards reduce the number of shares available for issuance under the plan by 1.75 shares for each share actually subject to the award. Therefore, after giving effect to the cancellation of previously-granted options and the grant of replacement awards as described above, the stock option exchange program resulted in the net addition of 1,063,037 shares to the aggregate number of shares available for issuance under our 2005 Stock Incentive Plan.

VOTING SECURITIES

Who owns more than 5% of our stock?

On September 15, 2005, there were 22,176,086 shares of our common stock outstanding. On that date, to our knowledge there were four shareholders who owned beneficially more than 5% of our common stock. The table below contains information, as of that date (except as noted below), regarding the beneficial ownership of these persons or entities. Unless otherwise indicated, we believe that each of the persons or entities listed below has sole voting and investment power with respect to all the shares of common stock indicated.

	Number of	
	Shares	Percent
	Beneficially	of
Name and Address of Beneficial Owner	Owned	Class
FMR Corporation(1)	2,725,495	12.29%
Wells Fargo & Company(2)	2,094,468	9.44%
Barrow, Hanley, Mewhinney & Strauss, Inc.(3)	1,343,533	6.06%
James R. Bertelli(4)	1,123,185	5.01%

- (1) Based on a Schedule 13F filed with the SEC on August 14, 2006 reporting beneficial ownership as of June 30, 2006. The filing reported no voting power on non-routine matters with respect to 2,725,495 shares. The reporting entity's address is 82 Devonshire Street, Boston, Massachusetts 02109.
- 2) Based on a Schedule 13F filed with the SEC on August 3, 2006 reporting beneficial ownership as of June 30, 2006. The filing reported sole voting power with respect to 416,515 shares, and no voting power on non-routine matters with respect to 1,677,953 shares. The reporting entity's address is 420 Montgomery Street, San Francisco, California 94163.
- (3) Based on a Schedule 13F filed with the SEC on August 8, 2006 reporting beneficial ownership as of June 30, 2006. The filing reported sole voting power with respect to 608,300 shares, and no voting power on non-routine matters with respect to 735,233 shares. The reporting entity's address is 2200 Ross Avenue, Suite 3100, Dallas, Texas 75201.
- (4) Includes (a) 817,117 shares owned by Mr. Bertelli individually; (b) 258,774 shares which may be acquired by Mr. Bertelli within 60 days of September 15, 2006 through the exercise of stock options; (c) 34,894 restricted shares awarded under our stock-based plans (as to which Mr. Bertelli has sole voting power, but

no investment power); and (d) 12,400 shares owned by Mr. Bertelli's spouse, as to which Mr. Bertelli disclaims beneficial ownership. Mr. Bertelli's address is c/o Mercury Computer Systems, Inc., 199 Riverneck Road, Chelmsford, Massachusetts 01824.

How much stock do Mercury's directors and executive officers own?

The following information is furnished as of September 15, 2006, with respect to common stock beneficially owned by: (1) our directors (including our chief executive officer); (2) our four most highly compensated executive officers other than the chief executive officer; and (3) all directors and executive officers as a group. Unless otherwise indicated, the individuals named below held sole voting and investment power over the shares listed.

	Number of Shares Beneficially	Percent of
Name and Address of Beneficial Owner*	Owned	Class(1)
Dr. Gordon B. Baty(2)	111,816	**
Dr. Albert P. Belle Isle(3)	87,952	**
James R. Bertelli(4)	1,123,185	5.01%
George W. Chamillard(5)	21,000	**
Russell K. Johnsen(6)	47,520	**
Sherman N. Mullin(7)	66,962	**
Lee C. Steele(8)	32,500	**
Vincent Vitto	0	
Dr. Richard P. Wishner(9)	33,000	**
Robert E. Hult(10)	77,799	**
Marcelo G. Lima(11)	28,485	**
Craig Lund(12)	91,578	**
Didier M.C. Thibaud(13)	135,990	**
All directors and executive officers as a group (18 persons)(14)	2,114,010	9.17%

^{*} Unless otherwise indicated, the address is c/o Mercury Computer Systems, Inc., 199 Riverneck Road, Chelmsford, Massachusetts 01824.

- (3) Includes (a) 50,000 shares owned by Dr. Belle Isle individually; and (b) 37,952 shares which may be acquired by Dr. Belle Isle within 60 days of September 15, 2006 through the exercise of stock options.
- (4) Includes (a) 817,117 shares owned by Mr. Bertelli individually; (b) 258,774 shares which may be acquired by Mr. Bertelli within 60 days of September 15, 2006 through the exercise of stock options; (c) 34,894 restricted shares awarded under our stock-based plans (as to which Mr. Bertelli has sole voting power, but no investment power); and (d) 12,400 shares owned by Mr. Bertelli's spouse, as to which Mr. Bertelli disclaims beneficial ownership.
- (5) Includes 21,000 shares which may be acquired by Mr. Chamillard within 60 days of September 15, 2006 through the exercise of stock options.

^{**} Less than 1.0%

⁽¹⁾ The number and percent of the shares of common stock with respect to each beneficial owner are calculated by assuming that all shares which may be acquired by such person within 60 days of September 15, 2006 are outstanding.

⁽²⁾ Includes (a) 56,864 shares owned by Dr. Baty individually; (b) 37,952 shares which may be acquired within 60 days of September 15, 2006 through the exercise of stock options; and (c) 17,000 shares owned by Dr. Baty's spouse, as to which Dr. Baty disclaims beneficial ownership.

- (6) Includes (a) 3,000 shares owned by a family trust (as to which Mr. Johnsen has sole voting and investment power); and (b) 44,520 shares which may be acquired by Mr. Johnsen within 60 days of September 15, 2006 through the exercise of stock options.
- (7) Includes (a) 19,036 shares owned by a family trust (as to which Mr. Mullin shares voting and investment power); and (b) 47,926 shares which may be acquired by Mr. Mullin within 60 days of September 15, 2006 through the exercise of stock options.
- (8) Includes (a) 2,000 shares owned by Mr. Steele individually; and (b) 30,500 shares which may be acquired by Mr. Steele within 60 days of September 15, 2006 through the exercise of stock options.
- (9) Includes (a) 2,500 shares owned by a family trust (as to which Dr. Wishner has sole voting and investment power); and (b) 30,500 shares which may be acquired by Dr. Wishner within 60 days of September 15, 2006 through the exercise of stock options.
- (10) Includes (a) 6,427 shares owned by Mr. Hult individually; (b) 50,000 shares which may be acquired by Mr. Hult within 60 days of September 15, 2006 through the exercise of stock options; and (c) 21,372 restricted shares awarded to Mr. Hult under our stock-based plans (as to which Mr. Hult has sole voting power, but no investment power).
- (11) Includes (a) 486 shares owned by Mr. Lima individually; (b) 15,500 shares which may be acquired by Mr. Lima within 60 days of September 15, 2006 through the exercise of stock options; and (c) 12,499 restricted shares awarded to Mr. Lima under our stock-based plans (as to which Mr. Lima has sole voting power, but no investment power).
- (12) Includes (a) 334 shares owned by Mr. Lund individually; (b) 81,780 shares which may be acquired by Mr. Lund within 60 days of September 15, 2006 through the exercise of stock options; and (c) 9,464 restricted shares awarded to Mr. Lund under our stock-based plans (as to which Mr. Lund has sole voting power, but no investment power).
- (13) Includes (a) 327 shares owned by Mr. Thibaud individually; (b) 113,190 shares which may be acquired by Mr. Thibaud within 60 days of September 15, 2006 through the exercise of stock options; and (c) 22,473 restricted shares awarded to Mr. Thibaud under our stock-based plans (as to which Mr. Thibaud has sole voting power, but no investment power).
- (14) Includes (a) 992,103 shares owned by directors and executive officers individually or by family trusts as to which each has sole voting and investment power; (b) 20,036 shares owned jointly by directors and executive officers and their respective spouses (including family trusts) as to which each shares voting and investment power; (c) 885,213 shares which may be acquired within 60 days of September 15, 2006 through the exercise of stock options; (d) 187,258 restricted shares awarded to the executive officers under our stock-based plans (as to which each has sole voting power, but no investment power); and (e) 29,400 shares owned individually by spouses of directors and executive officers, as to which the directors and executive officers disclaim beneficial ownership.

EXECUTIVE OFFICERS

Who are Mercury's executive officers?

The following persons are our executive officers:

NamePositionJames R. BertelliChairman, President and Chief Executive OfficerCraig BarrowsVice President, General CounselAlex N. BravermanVice President, Controller and Chief Accounting OfficerDouglas F. FloodVice President, Corporate DevelopmentRobert E. HultSenior Vice President, Chief Financial Officer and TreasurerMarcelo G. LimaVice President and General Manager, Commercial Imaging and Visualization

Craig Lund Vice President, Chief Technology Officer

Craig A. Saline Senior Vice President, Organization Development and Human Resources

Mark F. Skalabrin

Vice President and General Manager, Advanced Solutions

Didier M.C. Thibaud

Senior Vice President, Defense and Commercial Businesses

Where can I obtain more information about Mercury's executive officers?

Biographical information concerning our executive officers and their ages can be found in Item 4.1 entitled "Executive Officers" in our annual report on Form 10-K for the fiscal year ended June 30, 2006, which is incorporated by reference into this proxy statement.

EXECUTIVE COMPENSATION

How were the executive officers compensated for fiscal year 2006?

The following table sets forth all compensation paid to our chief executive officer and each of our other four most highly compensated executive officers, who are collectively referred to as the "named executive officers," in all capacities for the last three fiscal years.

Summary Compensation Table

			Annual Comper	nsation	Compe	-Term ensation rds(1)	
Name and Principal Position	Year	Salary	Bonus(2)	Other Annual Compensation(3)	Restricted Stock Awards(4)	Securities Underlying Options (#)	All Other Compensation(5)
James R. Bertelli President and Chief Executive Officer	2006 2005 2004	\$ 436,154 419,015 387,986	\$ 58,800 419,083 288,123	\$ 36,048 42,988 —	\$ 512,700 174,570 —	75,000 75,000	\$ 78,916 90,490 62,016
Robert E. Hult Senior Vice President, Operations and Finance, Chief Financial Officer(6)	2006 2005 2004	259,632 250,016 81,736	60,585 172,890 71,511	_ _ _	407,625 66,795 —	62,000 — 100,000	5,668 8,381 2,174
Marcelo G. Lima Vice President and General Manager, Commercial Imaging and Visualization(7)	2006 2005 2004	212,692 — —	108,930 — —	_ _ _	241,125 — —	69,000 — —	7,861 — —
Craig Lund Vice President, Chief Technology Officer	2006 2005 2004	228,462 219,281 196,630	41,886 135,839 108,953	_ _ _	138,000 52,243 —	54,000 22,000 16,000	27,015 33,458 3,244
Didier M.C. Thibaud Senior Vice President, Defense and Commercial Businesses(8)	2006 2005 2004	238,577 228,434 176,857	70,853 149,803 112,607	25,503 30,820 18,625	431,775 56,121 —	77,000 20,000 15,000	23,142 23,142 23,142

⁽¹⁾ We have not issued stock appreciation rights. In addition, we do not maintain a "long-term incentive plan," as that term is defined by applicable SEC rules. Securities underlying options are shares of our common stock.

⁽²⁾ The amounts shown for each fiscal year represent payments under our annual bonus program and, for fiscal year 2005, under our Long-Term Incentive Plan ("LTIP"). Fifty percent (50%) of the bonus under the LTIP for each named executive officer was paid in the form of restricted shares in lieu of cash. The dollar value of these restricted shares is excluded from the amounts reported in this column, and is included under the column heading "Restricted Stock Awards".

⁽³⁾ The amounts shown for fiscal years 2006 and 2005 for Mr. Bertelli represent gross-up payments for his tax liability arising from our payment of premiums on executive life insurance policies for his benefit. The amount shown for fiscal 2006 for Mr. Thibaud includes (a) \$13,178 in payments related to a company-provided leased automobile and (b) \$12,325 in gross-up payment for his tax liability arising from our payment of premiums on an executive life insurance policy for his benefit. The amount shown for fiscal year 2005 for Mr. Thibaud includes (a) \$18,658 in payments related to a company-provided leased

- automobile and (b) \$12,162 in gross-up payment for his tax liability arising from our payment of premiums on an executive life insurance policy for his benefit. The amount shown for fiscal year 2004 for Mr. Thibaud represents payments related to a company-provided leased automobile.
- The amounts shown for fiscal year 2006 represent three separate grants of restricted stock awards. On August 12, 2005, we granted restricted stock awards to the named executive officers as follows: Mr. Hult (7,500 shares); Mr. Lima (4,500 shares); and Mr. Thibaud (7,500). Each of these awards vests in full on the fourth anniversary of the date of grant, provided that the grantee remains a Mercury employee as of that date. On February 20, 2006, we granted restricted stock awards to the named executive officers as follows: Mr. Hult (12,000 shares); Mr. Lima (7,000 shares); Mr. Lund (8,000 shares); and Mr. Thibaud (13,400 shares). On February 22, 2006, we granted a restricted stock award covering 30,000 shares to Mr. Bertelli. Each of the awards made in February 2006 vests in three equal annual installments, beginning on the first anniversary of the date of grant, provided that the grantee remains a Mercury employee or, in the case of Mr. Bertelli, either an employee or a director of Mercury, as of each such date.

The amounts shown for fiscal year 2005 represent the value on the date of grant (August 12, 2005) of restricted shares that were awarded to each named executive officer in lieu of cash under the LTIP. These awards vest in four equal annual installments, beginning on the first anniversary of the date of grant, provided that the grantee remains a Mercury employee or, in the case of Mr. Bertelli, either an employee or a director of Mercury, as of each such date.

Pursuant to the terms of change in control severance agreements between Mercury and each of the named executive officers, all of these restricted stock awards will vest in full immediately upon the occurrence of a change in control of Mercury. Dividends, if any, are payable on unvested awards to the same extent as they are paid on the common stock generally. As of June 30, 2006, each of the named executive officers held the following number of unvested shares of restricted stock having the corresponding fiscal year-end values, based on the closing price (\$15.39) of our common stock on the NASDAQ National Market on June 30, 2006:

Name	Number of Shares	ue at Fiscal Year End
James R. Bertelli	36,526	\$ 562,135
Robert E. Hult	21,997	338,534
Marcelo G. Lima	12,832	197,484
Craig Lund	9,953	153,177
Didier M.C. Thibaud	22,998	353,939

(5) The table below presents the components of this column for fiscal year 2006, which represent (a) the value of Mercury's matching contributions to the account of each named executive officer pursuant to the terms of our 401(k) plan, and (b) the value of premiums we paid for executive life insurance policies for the benefit of such individuals.

Name	401(k) Plan Matching Contribution	Executive Life Insurance Premiums		
James R. Bertelli	\$ 6,785	\$	72,131	
Robert E. Hult	5,668			
Marcelo G. Lima	7,861		_	
Craig Lund	5,901		21,114	
Didier M.C. Thibaud	_		23,142	

(6) Mr. Hult joined Mercury in February 2004.

- (7) Mr. Lima became a Mercury executive officer in November 2005. As permitted by SEC regulations, no compensation is disclosed for prior fiscal years during which Mr. Lima did not serve as a Mercury executive officer.
- (8) A portion of Mr. Thibaud's salary is paid in U.S. Dollars, which is attributable to his employment with Mercury in the United States, and the remainder is paid in Euros, which is attributable to his employment with one of Mercury's French subsidiaries. Due to fluctuations in the conversion rate between Euros and U.S. Dollars ("USD"), the amounts in the salary column reflect fiscal year-end conversion rates, rather than the USD equivalent at the time the salary was determined. Amounts in the other annual compensation column attributable to payments related to a company-provided leased automobile are treated in the same manner as salary. With respect to the portions of Mr. Thibaud's bonuses that were paid in Euros, the table reflects the conversion rate at the time each such bonus payment was made.

Option Grants, Exercises and Holdings

The following table provides details regarding stock options granted under our 2005 Stock Incentive Plan to the named executive officers during the fiscal year ended June 30, 2006. We did not issue any stock appreciation rights during the fiscal year.

Option Grants in Last Fiscal Year

	Individual Grants						
Name	Number of Securities Underlying Options Granted (#)(1)	Percent of Total Options Granted to Employees in Fiscal Year (%)	Exercise Price (\$/Share)(2)	Expiration Date		Grant Date Present Value (\$)(3)	
James R. Bertelli	_	_	_	_		_	
Robert E. Hult	62,000	10.87%	\$ 16.36	6/1/16	\$	582,229	
Marcelo G. Lima	69,000	12.10%	16.36	6/1/16		647,964	
Craig Lund	54,000	9.47%	16.36	6/1/16		507,102	
Didier M.C. Thibaud	77,000	13.50%	16.36	6/1/16		723,090	

- (1) The stock options awarded vest as to all of the shares covered by each award on the third anniversary of the date of grant, provided that the grantee's employment has not been terminated, except that pursuant to the terms of change in control severance agreements between Mercury and each of the named executive officers, all of such options will vest immediately in the case of a change in control of Mercury.
- (2) The exercise price is equal to the closing price of our common stock on the NASDAQ National Market on the date of grant (June 1, 2006).
- (3) The estimated present values at grant date have been calculated using a Black-Scholes option pricing model, based on the following assumptions: expected life of option equal to six years; expected risk-free interest rate of 5.04%, which is equal to the U.S. Treasury yield curve in effect at the time of grant for instruments with a similar expected life; expected stock volatility of 55%; and expected dividend yield of 0.0%.

The following table shows stock option exercises by the named executive officers during the last fiscal year, including the aggregate value realized upon exercise. This represents the excess of the fair market value, at the time of exercise, of the common stock acquired at exercise over the exercise price of the options. In addition, the table includes the number of shares underlying both exercisable and unexercisable stock options at the end of the last fiscal year. The table also shows the value of "in-the-money" options, which represents the positive spread, if any, between the exercise prices of stock options held by each named executive officer and the closing price (\$15.39) of our common stock on the NASDAQ National Market on June 30, 2006.

Aggregated Option Exercises in Last Fiscal Year and Fiscal Year-End Option Values

	Shares Acquired on	Value Realized	Number of Securities Underlying Unexercised Options at Fiscal Year-End		Values of Unexercised In-the-Money Options at Fiscal Year-End (\$)	
Name	Exercise (#)	(\$)	Exercisable	Unexercisable	Exercisable	Unexercisable
James R. Bertelli	107,557	\$ 230,400	278,500	122,500	\$ 1,012,453	\$ 0
Robert E. Hult			50,000	112,000	0	0
Marcelo G. Lima	_	_	10,250	85,750	0	0
Craig Lund	19,600	189,095	67,280	83,500	0	0
Didier M.C. Thibaud	_	_	86,940	117,000	0	0

Change in Control Arrangements

We have entered into agreements with each named executive officer providing for certain benefits in the event of a change in control of Mercury. A change in control includes, among other events and subject to certain exceptions, the acquisition by any person of beneficial ownership of 50% or more of our outstanding common stock. If a tender offer or exchange offer is made for more than 50% of our outstanding common stock, the executive has agreed not to leave our employ, except in the case of disability or retirement and certain other circumstances, and to continue to render services to Mercury until such offer has been abandoned or terminated or a change in control has occurred.

If the executive is employed by Mercury upon the occurrence of a change in control, vesting of all his then outstanding stock options and other stock-based awards immediately accelerates and all such awards become exercisable or non-forfeitable.

If, within 12 months after a change in control of Mercury, the executive's employment is terminated (1) by us other than for cause or disability (as those terms are defined in the agreement) or (2) by the executive for good reason (as defined in the agreement), we have agreed to pay the executive, in addition to salary, benefits and awards accrued through the date of termination, an amount equal to 1 times the sum of the executive's then current annualized base salary and bonus target under our annual executive bonus plan (including the cash component of the LTIP). In addition, we have agreed to pay the cost of providing the executive with outplacement services up to a maximum of \$30,000. We have also agreed to provide the executive with medical and dental insurance benefits up to 18 months following such termination on the same basis as though the executive had remained an active employee. If the executive is party to an employment agreement with Mercury providing for change in control payments or benefits, the executive must elect to receive either the benefits payable under that other agreement or the benefits payable under the change in control agreement, but not both.

Each agreement provides for a reduction of payments and benefits payable under the agreement to a level where the executive would not be subject to the excise tax pursuant to section 4999 of the Internal Revenue Code, but only if such reduction would put the executive in a better after-tax position than if the payments and benefits were paid in full.

Each agreement continues in effect through June 30, 2009, subject to automatic one-year extensions thereafter unless notice is given of our or the executive's intention not to extend the term of the agreement; provided, however, that the agreement continues in effect for 12 months following a change in control that occurs during the term of the agreement. Except as otherwise provided in the agreement, we and each executive may terminate the executive's employment at any time. Each agreement has no further force and effect if either party terminates the executive's employment before a change in control, except that any such termination by us without cause or by the executive for good reason during a "potential change in control period" (as defined in the agreement) will entitle the executive to the benefits under the agreement described above (other than the accelerated vesting of stock awards).

REPORT OF THE COMPENSATION COMMITTEE ON EXECUTIVE COMPENSATION

The Compensation Committee administers our stock-based plans, makes annual recommendations to the full Board regarding the salary, bonus, and equity-based compensation of our Chief Executive Officer ("CEO"), and oversees the compensation programs for our other executive officers. During fiscal year 2006, the Compensation Committee was composed of independent directors.

Compensation Philosophy

Our compensation philosophy for executive officers is based on the belief that the interests of executives should be closely aligned with those of our shareholders. The compensation policies are designed to achieve the following objectives:

- Offer compensation opportunities that attract highly qualified executives, reward exceptional initiative and achievement, and retain the leadership and skills necessary to build long-term shareholder value.
- Maintain a significant portion of executives' total compensation at risk, tied to both our annual and long-term financial performance and the creation of shareholder value.
- Further our short-term and long-term strategic goals and values by aligning compensation with business objectives and individual performance.

Executive Compensation

Compensation of executive officers other than the CEO is recommended by the CEO and is subject to approval by the Compensation Committee. The CEO and/or the Compensation Committee historically has obtained outside survey data regarding executive and senior level compensation and used this data in making compensation recommendations and decisions. Compensation for executive officers is generally comprised of base salary, annual cash bonuses, long-term incentives and periodic stock-based awards.

Base salary. Annual determinations of base salaries are made based in part on the competitive pay practices of peer companies of similar size and market capitalization. We also consider the skills, performance level, and contribution to the business of the individual executives, and Mercury's needs in determining base salaries.

Annual cash incentive awards. Our executive officers are eligible to receive annual cash bonus awards which are designed to motivate executives to attain short-term and longer-term corporate and individual management goals, and are based on achieving personal, business unit and corporate goals. For senior vice presidents, target bonuses of 40-50% of base salary were established for fiscal year 2006, a majority of which was tied to financial performance targets, and the remainder of which was tied to personal objectives. For corporate vice presidents, target bonuses ranged between 40% and 45% of base salary for fiscal year 2006, of which 50% or more was tied to financial performance targets, and the remainder of which was tied to personal objectives. Award levels varied depending upon the achievement of performance criteria established by the CEO. The bonus criteria for each executive officer were tailored to the achievement of financial and operational goals specifically developed for that officer's area of responsibility, as well as overall corporate performance and the attainment of other individual objectives. Based on these criteria, for fiscal year 2006 our executive officers (other than the CEO) received bonuses under the annual bonus program ranging from 16% to 21.7% of their respective base salaries. In addition, two of these executive officers received additional bonuses for fiscal year 2006 tied to the achievement of specific revenue goals by certain business units.

Long-term incentive plan. Certain of our executive officers are eligible to receive awards under our Long-Term Incentive Plan ("LTIP") if Mercury's operating income as a percentage of sales revenues and revenue growth year-over-year meet or exceed threshold targets established by the Compensation Committee at the beginning of a fiscal year. Target awards are calculated as a percentage of the participant's base salary, which percentage is identical to the participant's target bonus under the annual bonus program. For fiscal year 2006, Mercury did not meet the pre-established minimum threshold targets, and no payments were made under the LTIP for that year.

Equity incentive. The Compensation Committee believes that stock-based awards are excellent vehicles for compensating our officers and employees. Mercury provides long-term incentives through its stock incentive and stock purchase plans, a purpose of which is to create a direct link between compensation and increases in shareholder value. Stock options are in all cases granted at fair market value. All equity awards generally vest 100% at the end of a three- or four-year period or in equal annual installments over a three- or four-year period. When determining equity awards for an executive officer, the Compensation Committee considers the executive's current contribution to the Corporation's performance, the anticipated contribution to meeting Mercury's long-term strategic performance goals and industry practices and norms. Long-term incentives granted in prior years, existing levels of stock ownership by executive officers and aggregate grants to all executive officers are also taken into consideration.

Deferred compensation plan. An executive non-qualified deferred compensation plan was established during fiscal year 2001. In accordance with the deferred compensation plan, executives of the Corporation may elect to defer up to 35% of their total compensation.

Compensation of CEO. The CEO's compensation is recommended by the Compensation Committee and is subject to approval by the full Board, and is comprised of base salary, annual cash bonuses, long-term incentives and periodic stock-based awards. In determining the base salary paid to Mr. Bertelli for fiscal year 2006, the Compensation Committee considered his level of responsibility, salary increases awarded to him in the past, his experience, his personal and corporate performance, and compensation programs of other companies of similar size and characteristics. Mr. Bertelli's bi-weekly base salary rate for fiscal year 2006 was unchanged from the rate in effect for fiscal year 2005. However, Mr. Bertelli's aggregate base salary for fiscal year 2006 was \$436,180, as compared to \$419,015 in fiscal year 2005, due to the occurrence of an additional pay period during fiscal year 2006.

Annual cash bonuses to Mr. Bertelli are based on the attainment of individual and corporate performance targets established at the beginning of the fiscal year. For fiscal year 2006, a target bonus of 70% of base salary was established under the annual bonus program, of which 60% was tied to financial performance targets, and 40% was tied to personal objectives. Based on these criteria, Mr. Bertelli received a cash bonus of \$58,800 (20% of his target bonus) under the annual bonus program. On August 12, 2005, Mr. Bertelli was granted a restricted stock award covering 6,526 shares, which represents 50% of his bonus under the LTIP for fiscal year 2005. On February 22, 2006, Mr. Bertelli was granted a restricted stock award covering 30,000 shares, which represents an annual stock-based award for fiscal year 2006.

Tax deductibility of compensation. In 1993, the Internal Revenue Code was amended to limit the deduction a public company is permitted for compensation paid to the CEO and to the four most highly compensated executive officers other than the CEO. Generally, amounts paid in excess of \$1,000,000 to a covered executive cannot be deducted, unless the compensation is paid pursuant to a plan which is performance related, non-discretionary and has been approved by our shareholders. In its deliberations, the Compensation

Committee considers ways to maximize deductibility of executive compensation, but nonetheless retains the discretion to compensate executive officers at levels the Compensation Committee considers commensurate with their responsibilities and achievements. We have not adopted a policy that all executive compensation be fully deductible.

By the Compensation Committee of the Board of Directors of Mercury Computer Systems, Inc.

George W. Chamillard, Chairman Russell K. Johnsen Sherman N. Mullin Dr. Richard P. Wishner

REPORT OF THE AUDIT COMMITTEE

The following is the report of the Audit Committee of the Board of Mercury with respect to Mercury's audited financial statements for the fiscal year ended June 30, 2006. Management is responsible for Mercury's internal controls and financial reporting. Mercury's independent registered public accounting firm is responsible for performing an audit of Mercury's financial statements, expressing an opinion as to their conformity with U.S. generally accepted accounting principles and expressing opinions on the effectiveness of internal control over financial reporting and management's assessment of the effectiveness of internal control over financial reporting. The Audit Committee is responsible for monitoring and overseeing these processes.

The Audit Committee reviewed Mercury's audited financial statements for the fiscal year ended June 30, 2006, and discussed these financial statements with Mercury's management. Management represented to the Audit Committee that Mercury's financial statements had been prepared in accordance with U.S. generally accepted accounting principles. The Audit Committee also reviewed and discussed the audited financial statements and the matters required to be discussed by Statement on Auditing Standards Nos. 61, 89 and 90, as amended ("Communication with Audit Committees"), with Mercury's independent registered public accounting firm. Those Statements on Auditing Standards require the independent registered public accounting firm to ensure that the Audit Committee received information regarding the scope and results of the audit. In addition, the Audit Committee received the letter from the independent registered public accounting firm required by Independence Standards Board Standard No. 1 ("Independence Discussions with Audit Committees"), and has discussed with the independent registered public accounting firm its independence.

Based on its review and the discussions with management and the independent registered public accounting firm described above, and its review of the information provided by management and the independent registered public accounting firm, the Audit Committee recommended to Mercury's Board that the audited financial statements be included in Mercury's Annual Report on Form 10-K for the fiscal year ended June 30, 2006.

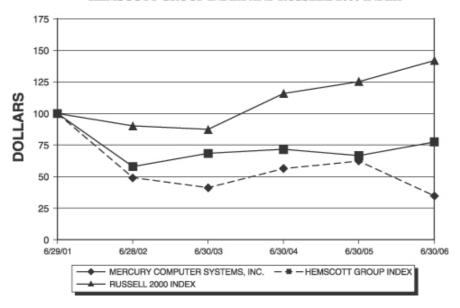
By the Audit Committee of the Board of Directors of Mercury Computer Systems, Inc.

Lee C. Steele, Chairman Dr. Gordon B. Baty Dr. Albert P. Belle Isle George W. Chamillard

SHAREHOLDER RETURN PERFORMANCE GRAPH

Set forth below is a line graph comparing the cumulative total shareholder return of our common stock against the cumulative total return of the Hemscott Group 810 Diversified Computer Systems Index (consisting of seven companies) (the "Hemscott Group Index") maintained by Hemscott, Inc., and the Russell 2000 Index for the period June 29, 2001 through June 30, 2006. The graph and table assume that \$100 was invested on June 29, 2001 in each of our common stock, the Hemscott Group Index, and the Russell 2000 Index and that all dividends were reinvested. This data was furnished by Hemscott Inc.

COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN AMONG MERCURY COMPUTER SYSTEMS, INC., HEMSCOTT GROUP INDEX AND RUSSELL 2000 INDEX



	MERCURY COMPUTER	HEMSCOTT	
MEASUREMENT PERIOD	SYSTEMS, INC.	GROUP INDEX	RUSSELL 2000 INDEX
6/29/01	100.00	100.00	100.00
6/28/02	49.14	58.02	90.18
6/30/03	41.27	68.39	87.39
6/30/04	56.24	71.66	115.79
6/30/05	62.18	66.57	125.21
6/30/06	34.90	77.43	141.94

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee has not yet appointed an independent registered public accounting firm to examine Mercury's consolidated financial statements for the fiscal year ending June 30, 2007. Following the change described below, KPMG LLP ("KPMG") served as our independent registered public accounting firm for the fiscal year ended June 30, 2006. A representative of KPMG is expected to be present at the meeting and will have the opportunity to make a statement if he or she desires and to respond to appropriate questions.

Change in Mercury's Independent Registered Public Accounting Firm

Prior to February 9, 2006, our independent registered public accounting firm had been PricewaterhouseCoopers LLP ("PwC"). On January 16, 2006, PwC notified us of its resignation as our independent registered public accounting firm, which resignation became effective on February 9, 2006 upon completion of PwC's procedures with respect to the following: (1) our unaudited interim financial statements as of December 31, 2005 and for the three- and six-month periods then ended; and (2) our quarterly report on Form 10-Q in which such financial statements were included, which Form 10-Q was filed with the SEC on February 9, 2006.

The reports of PwC on the financial statements as of and for the fiscal years ended June 30, 2005 and 2004 contained no adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope or accounting principle. During the fiscal years ended June 30, 2005 and 2004 and through February 9, 2006, there were no disagreements with PwC on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of PwC, would have caused it to make reference thereto in its reports on the financial statements for such years. During the fiscal years ended June 30, 2005 and 2004 and through February 9, 2006, there were no reportable events as defined in Item 304(a)(1)(v) of Regulation S-K.

On February 9, 2006, the Audit Committee unanimously voted to engage KPMG as our new independent registered public accounting firm, effective immediately following the filing of our quarterly report on Form 10-Q for the quarter ended December 31, 2005. During the fiscal years ended June 30, 2005 and 2004 and through February 9, 2006, we did not consult with KPMG regarding any of the following: (1) the application of accounting principles to a specified transaction, either completed or proposed; (2) the type of opinion that might be rendered on our financial statements; or (3) any matter that was either the subject of a disagreement, as that term is defined in Item 304(a)(1)(iv) of Regulation S-K and the related instructions to Item 304 of Regulation S-K, or a reportable event, as that term is defined in Item 304(a)(1)(v) of Regulation S-K.

What were the fees of our independent registered public accounting firms for services rendered to us during the last two fiscal years?

The aggregate fees for professional services rendered for us by our independent registered public accounting firms for the fiscal years ended June 30, 2006 and 2005 were as follows:

	2006	2005
Audit	\$ 1,512,530	\$ 1,666,000
Audit-Related	65,958	93,000
Tax	_	_
All Other		5,000
	\$ 1,578,488	\$ 1,764,000

Audit fees for fiscal years 2006 and 2005 were for professional services provided for the audits of our consolidated financial statements and our internal control over financial reporting as well as statutory audits and reviews of the financial statements included in each of our quarterly reports on Form 10-Q. For fiscal year 2005, these services were provided by PwC. For the portion of fiscal year 2006 through February 9, 2006, these services were provided by PwC (\$359,690). Subsequent to February 9, 2006 these services were provided by KPMG (\$1,152,840).

Audit-related fees for fiscal year 2006 and 2005 were for accounting consultations in connection with acquisitions, and consultations concerning financial accounting and reporting standards. These services were provided by PwC.

All other fees for fiscal year 2005 were for license fees paid to PwC.

What is the Audit Committee's pre-approval policy?

The Audit Committee pre-approves all auditing services and the terms of non-audit services provided by our independent registered public accounting firm, but only to the extent that the non-audit services are not prohibited under applicable law and the committee determines that the non-audit services do not impair the independence of the independent registered public accounting firm. In situations where it is impractical to wait until the next regularly scheduled quarterly meeting, the chairman of the committee has been delegated authority to approve audit and non-audit services to be provided by our independent registered public accounting firm. Fees payable to our independent registered public accounting firm for any specific, individual service approved by the chairman pursuant to the above-described delegation of authority may not exceed \$50,000, plus reasonable and customary out-of-pocket expenses, and the chairman is required to report any such approvals to the full committee at its next scheduled meeting.

The pre-approval requirement is waived with respect to the provision of non-audit services by our independent registered public accounting firm if (1) the aggregate amount of all such non-audit services provided to us constitutes not more than five percent of the total fees paid by us to our independent registered public accounting firm during the fiscal year in which such non-audit services were provided, (2) such services were not recognized at the time of the engagement to be non-audit services, and (3) such services are promptly brought to the attention of the Audit Committee and approved by the committee or by one or more of its members to whom authority to grant such approvals has been delegated by the committee prior to the completion of the independent registered public accounting firm's audit. During fiscal years 2006 and 2005, none of the non-audit services provided to us by our independent registered public accounting firms was required to be approved by the Audit Committee pursuant to the so-called "de minimis" exception described above.

The Audit Committee has considered and determined that the provision of the non-audit services described is compatible with maintaining the independence of our registered public accounting firms.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934 requires our officers and directors and persons beneficially owning more than 10% of our outstanding common stock to file reports of beneficial ownership and changes in beneficial ownership with the SEC. Officers, directors and beneficial owners of more than 10% of our common stock are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file.

Based solely on copies of such forms furnished as provided above, or written representations that no Forms 5 were required, we believe that during the fiscal year ended June 30, 2006 all Section 16(a) filing

requirements applicable to our officers, directors and beneficial owners of greater than 10% of our common stock were complied with, except as follows. Dr. Baty reported on Form 5 that he had previously failed to report the following transactions: (1) the transfer of 25,000 to his wife and a gift of 25,000 shares in May 2000; (2) a sale of 22,000 shares by himself and a sale of 3,000 shares by his wife in April 2001; (3) a gift of 5,000 shares in June 2001; and (4) a gift of 10,000 shares in July 2004. The Form 3 for Mr. Lima, which should have been filed no later than November 24, 2005, was not filed until May 2, 2006. A Form 4 reporting the award of 7,000 restricted shares to Mr. Lima on February 20, 2006 was filed late on May 2, 2006. A Form 4 reporting the exercise of a stock option to purchase 5,000 shares and the same-day sale of those shares by Mr. Flood on December 6, 2005 was filed late on December 12, 2005.

SHAREHOLDER PROPOSALS FOR THE 2007 ANNUAL MEETING

A special meeting in lieu of an annual meeting of shareholders (the "2007 Annual Meeting") will be held on November 12, 2007, at the offices of Goodwin Procter LLP, 53 State Street, Boston, Massachusetts 02109. Under regulations adopted by the SEC, any shareholder proposal submitted for inclusion in Mercury's proxy statement relating to the 2007 Annual Meeting must be received at our principal executive offices on or before June 15, 2007.

In addition to the SEC requirements regarding shareholder proposals, our by-laws contain provisions regarding matters to be brought before shareholder meetings. If shareholder proposals, including proposals relating to the election of directors, are to be considered at the 2007 Annual Meeting, notice of them, whether or not they are included in Mercury's proxy statement and form of proxy, must be given by personal delivery or by United States mail, postage prepaid, to the Corporate Secretary on or before August 4, 2007. The notice must include the information set forth in our by-laws. Proxies solicited by the Board will confer discretionary voting authority with respect to these proposals, subject to SEC rules governing the exercise of this authority.

It is suggested that any shareholder proposal be submitted by certified mail, return receipt requested.

OTHER MATTERS

We know of no matters which may properly be and are likely to be brought before the meeting other than the matters discussed in this proxy statement. However, if any other matters properly come before the meeting, the persons named in the accompanying proxy card will vote in accordance with their best judgment.

ANNUAL REPORT ON FORM 10-K

You may obtain a copy of our annual report on Form 10-K for the fiscal year ended June 30, 2006 (without exhibits) without charge by writing to: Investor Relations, Mercury Computer Systems, Inc., 199 Riverneck Road, Chelmsford, MA 01824.

By Order of the Board of Directors

ANTHONY J. MEDAGLIA, JR., Secretary

Chelmsford, Massachusetts October 16, 2006

MERCURY COMPUTER SYSTEMS, INC.

1997 EMPLOYEE STOCK PURCHASE PLAN (as amended and restated through July 24, 2006)

PURPOSE.

It is the purpose of this 1997 Employee Stock Purchase Plan to provide a means whereby eligible employees may purchase Common Stock of Mercury Computer Systems, Inc. (the "Company") and any subsidiaries as defined below through after-tax payroll deductions. It is intended to provide a further incentive for employees to promote the best interests of the Company and to encourage stock ownership by employees in order that they may participate in the Company's economic growth.

It is the intention of the Company that the Plan qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Internal Revenue Code and the provisions of this Plan shall be construed in a manner consistent with the Code and Treasury Regulations promulgated thereunder.

2. **DEFINITIONS.**

The following words or terms, when used herein, shall have the following respective meanings:

- (a) "Plan" shall mean the 1997 Employee Stock Purchase Plan.
- (b) "Company" shall mean Mercury Computer Systems, Inc., a Massachusetts corporation.
- (c) "Account" shall mean the Employee Stock Purchase Account established for a Participant under Section 7 hereunder.
- (d) "Basic Compensation" shall mean the regular rate of salary or wages in effect during a Purchase Period, before any deductions or withholdings, and including overtime, bonuses and sales commissions, but excluding amounts paid in reimbursement of expenses.
- (e) "Board of Directors" shall mean the Board of Directors of Mercury Computer Systems, Inc.
- (f) "Code" shall mean the Internal Revenue Code of 1986, as amended.
- (g) "Committee" shall mean the Compensation Committee appointed by the Board of Directors.
- (h) "Common Stock" shall mean shares of the Company's common stock, \$.01 par value per share.
- (i) "Eligible Employees" shall mean all persons employed by the Company or its Subsidiaries, but excluding:
 - (1) Persons whose customary employment is less than twenty hours per week or five months or less per year; and
 - (2) Persons who are deemed for purposes of Section 423(b)(3) of the Code to own stock possessing 5% or more of the total combined voting power or value of all classes of stock of the Company or a subsidiary.

For purposes of the Plan, employment will be treated as continuing intact while a Participant is on military leave, sick leave, or other bona fide leave of absence, for up to 90 days or so long as the Participant's right to re-employment is guaranteed either by statute or by contract, if longer than 90 days.

- (j) "Exercise Date" shall mean the last day of a Purchase Period; provided, however, that if such date is not a business day, "Exercise Date" shall mean the immediately preceding business day.
- (k) "Participant" shall mean an Eligible Employee who elects to participate in the Plan under Section 6 hereunder.
- (l) There shall be two "Purchase Periods" in each full calendar year during which the Plan is in effect, one commencing on January 1 of each calendar year and continuing through June 30 of such calendar year, and the second commencing on July 1 of each calendar year and continuing through December 31 of such calendar year. The last Purchase Period shall commence on July 1, 2016 and end on December 31, 2016.
- (m) "Purchase Price" shall mean the lower of (i) 85% of the fair market value of a share of Common Stock for the first business day of the relevant Purchase Period, or (ii) 85% of such value on the relevant Exercise Date. If the shares of Common Stock are listed on any national securities exchange, including without limitation the Nasdaq Stock Market, the fair market value per share of Common Stock on a particular day shall be the closing price, if any, on the largest such exchange on such day, and, if there are no sales of the shares of Common Stock on such particular day, the fair market value of a share of Common Stock shall be determined by taking the weighted average of the means between the highest and lowest sales on the nearest date before and the nearest date after the particular day in accordance with Treasury Regulations Section 25.2512-2. If the shares of Common Stock are not then listed on any such exchange, the fair market value per share of Common Stock on a particular day shall be the mean between the closing "Bid" and the closing "Asked" prices, if any, as reported in the National Daily Quotation Service for such day. If the fair market value cannot be determined under the preceding sentences, it shall be determined in good faith by the Board of Directors.
- (n) "Subsidiary" shall mean any present or future corporation which (i) would be a "subsidiary corporation" of the Company as that term is defined in Section 424(f) of the Code and (ii) is designated as a participating employer in the Plan by the Board.

3. GRANT OF OPTION TO PURCHASE SHARES.

Each Eligible Employee shall be granted an option effective on the first business day of each Purchase Period to purchase shares of Common Stock. The term of the option shall be the length of the Purchase Period. The number of shares subject to each option shall be the quotient of the aggregate payroll deductions in the Purchase Period authorized by each Participant in accordance with Section 6 divided by the Purchase Price, but in no event greater than 833 shares per option, or such other number as determined from time to time by the Board of Directors or the Committee (the "Share Limitation"). Notwithstanding the foregoing, no employee shall be granted an option which permits his right to purchase shares under the Plan to accrue at a rate which exceeds in any one calendar year \$25,000 of the fair market value of the Common Stock as of the date the option to purchase is granted.

4. SHARES.

There shall be 800,000 shares of Common Stock reserved for issuance to and purchase by Participants under the Plan, subject to adjustment as herein provided. The shares of Common Stock subject to the Plan shall be either shares of authorized but unissued Common Stock or shares of Common Stock reacquired by the Company and held as treasury shares. Shares of Common Stock not purchased under an option terminated pursuant to the provisions of the Plan may again be subject to options granted under the Plan.

The aggregate number of shares of Common Stock which may be purchased pursuant to options granted hereunder, the number of shares of Common Stock covered by each outstanding option, and the purchase price for each such option shall be appropriately adjusted for any increase or decrease in the number of outstanding shares of Common Stock resulting from a stock split or other subdivision or consolidation of shares of Common Stock or for other capital adjustments or payments of stock dividends or distributions or other increases or decreases in the outstanding shares of Common Stock effected without receipt of consideration by the Company.

5. ADMINISTRATION.

The Plan shall be administered by the Board of Directors or the Compensation Committee appointed from time to time by the Board of Directors. The Board of Directors or the Committee, if one has been appointed, is vested with full authority to make, administer and interpret such equitable rules and regulations regarding the Plan as it may deem advisable. The Board of Directors', or the Committee's, if one has been appointed, determinations as to the interpretation and operation of the Plan shall be final and conclusive. No member of the Board of Directors or the Committee shall be liable for any action or determination made in good faith with respect to the Plan or any option granted under the Plan.

6. ELECTION TO PARTICIPATE.

An Eligible Employee may elect to become a Participant in the Plan for a Purchase Period by completing a "Stock Purchase Agreement" form prior to the first day of the Purchase Period for which the election is made. Such Stock Purchase Agreement shall be in such form as shall be determined by the Board of Directors or the Committee. The election to participate shall be effective for the Purchase Period for which it is made. There is no limit on the number of Purchase Periods for which an Eligible Employee may elect to become a Participant in the Plan. In the Stock Purchase Agreement, the Eligible Employee shall authorize regular payroll deductions of any full percentage of his Basic Compensation, but in no event less than one percent (1%) nor more than ten percent (10%) of his Basic Compensation, not to exceed \$25,000 per year. An Eligible Employee may not change his authorization except as otherwise provided in Section 9. Options granted to Eligible Employees who have failed to execute a Stock Purchase Agreement within the time periods prescribed in the Plan will automatically lapse.

7. EMPLOYEE STOCK PURCHASE AGREEMENT.

An Employee Stock Purchase Account will be established for each Participant in the Plan for bookkeeping purposes, and payroll deductions made under Section 6 will be credited to such Accounts. However, prior to the purchase of shares in accordance with Section 8 or withdrawal from or termination of the Plan in accordance with provisions hereof, the Company may use for any valid corporate purpose all amounts deducted from a Participant's wages under the Plan and credited for bookkeeping purposes to his Account.

The Company shall be under no obligation to pay interest on funds credited to a Participant's Account, whether upon purchase of shares in accordance with Section 8 or upon distribution in the event of withdrawal from or termination of the Plan as herein provided.

8. PURCHASE OF SHARES.

Each Eligible Employee who is a Participant in the Plan automatically and without any act on his part will be deemed to have exercised his option on each Exercise Date to the extent that the balance then in his Account under the Plan is sufficient to purchase at the Purchase Price whole shares of the Common Stock subject to his

option, subject to the Share Limitation and the Section 423(b)(8) limitation described in Section 3. Any balance remaining in the Participant's Account shall be retained in the Participant's Account and added to the aggregate payroll deductions during the next Purchase Period for purposes of determining the number of shares which may be acquired by such Participant pursuant to Section 3, unless a refund is requested by the Participant. No interest shall be paid on the balance remaining in any Participant's Account.

9. WITHDRAWAL.

A Participant who has elected to authorize payroll deductions for the purchase of shares of Common Stock may cancel his election by written notice of cancellation ("Cancellation") delivered to the office or person designated by the Company to receive Stock Purchase Agreements, but any such notice of Cancellation must be so delivered not later than ten (10) days before the relevant Exercise Date.

A Participant will receive in cash, as soon as practicable after delivery of the notice of Cancellation, the amount credited to his Account. Any Participant who so withdraws from the Plan may again become a Participant at the start of the next Purchase Period in accordance with Section 6.

Upon dissolution or liquidation of the Company every option outstanding hereunder shall terminate, in which event each Participant shall be refunded the amount of cash then in his Account. If the Company shall at any time merge into or consolidate with another corporation, the holder of each option then outstanding will thereafter be entitled to receive at the next Exercise Date, upon exercise of such option and for each share as to which such option was exercised, the securities or property which a holder of one share of Common Stock was entitled upon and at such time of such merger or consolidation. In accordance with this paragraph and this Plan, the Board of Directors or Compensation Committee, if any, shall determine the kind or amount of such securities or property which such holder of an option shall be entitled to receive. A sale of all or substantially all of the assets of the Company shall be deemed a merger or consolidation for the foregoing purposes.

10. ISSUANCE OF STOCK CERTIFICATES.

The shares of Common Stock purchased by a Participant shall, for all purposes, be deemed to have been issued and sold at the close of business on the Exercise Date. Prior to that date none of the rights or privileges of a shareholder of the Company, including the right to vote or receive dividends, shall exist with respect to such shares.

Within a reasonable time after the Exercise Date, the Company shall notify the transfer agent and registrar of the Common Stock of the Participant's ownership of the number of shares of Common Stock purchased by a Participant for the Purchase Period, which shall be registered either in the Participant's name or jointly in the names of the Participant and his spouse with right of survivorship as the Participant shall designate in his Stock Purchase Agreement. Such designation may be changed at any time by filing notice thereof with the party designated by the Company to receive such notices.

11. TERMINATION OF EMPLOYMENT.

(a) Upon a Participant's termination of employment for any reason, other than death, no payroll deduction may be made from any compensation due him and the entire balance credited to his Account shall be automatically refunded, and his rights under the Plan shall terminate.

(b) Upon the death of a Participant, no payroll deduction shall be made from any compensation due him at time of death, the entire balance in the deceased Participant's Account shall be paid in cash to the Participant's designated beneficiary, if any, under a group insurance plan of the Company covering such employee, or otherwise to his estate, and his rights under the Plan shall terminate.

12. RIGHTS NOT TRANSFERABLE.

The right to purchase shares of Common Stock under this Plan is exercisable only by the Participant during his lifetime and is not transferable by him. If a Participant attempts to transfer his right to purchase shares under the Plan, he shall be deemed to have requested withdrawal from the Plan and the provisions of Section 9 hereof shall apply with respect to such Participant.

13. NO GUARANTEE OF CONTINUED EMPLOYMENT.

Granting of an option under this Plan shall imply no right of continued employment with the Company for any Eligible Employee.

14. NOTICE.

Any notice which an Eligible Employee or Participant files pursuant to this Plan shall be in writing and shall be delivered personally or by mail addressed to Mercury Computer Systems, Inc., 199 Riverneck Road, Chelmsford, MA 01824, Attn: ESPP Administrator. Any notice to a Participant or an Eligible Employee shall be conspicuously posted in the Company's principal office or shall be mailed addressed to the Participant or Eligible Employee at the address designated in the Stock Purchase Agreement or in a subsequent writing.

15. APPLICATION OF FUNDS.

All funds deducted from a Participant's wages in payment for shares purchased or to be purchased under this Plan may be used for any valid corporate purpose provided that the Participant's Account shall be credited with the amounts of all payroll deductions as provided in Section 7.

16. GOVERNMENT APPROVALS OR CONSENTS.

This Plan and any offering and sales to Eligible Employees under it are subject to any governmental approvals or consents that may be or become applicable in connection therewith. Subject to the provisions of Section 17, the Board of Directors of the Company may make such changes in the Plan and include such terms in any offering under this Plan as may be necessary or desirable, in the opinion of counsel, to comply with the rules or regulations of any governmental authority, or to be eligible for tax benefits under the Code or the laws of any state.

17. AMENDMENT OF THE PLAN.

The Board of Directors may, without the consent of the Participants, amend the Plan at any time, provided that no such action shall adversely affect options theretofore granted hereunder, and provided that no such action by the Board of Directors without approval of the Company's shareholders may (a) increase the total number of shares of Common Stock which may be purchased by all Participants, (b) change the class of employees eligible to receive options under the Plan, or (c) make any changes to the Plan which require shareholder approval under applicable law or regulations, including Section 423 of the Code and the regulations promulgated thereunder.

For purposes of this Section 17, termination of the Plan by the Board of Directors pursuant to Section 18 shall not be deemed to be an action which adversely affects options theretofore granted hereunder.

18. TERM OF THE PLAN.

The Plan shall become effective on the Effective Date, provided that it is approved within twelve months after adoption by the Board of Directors by the affirmative vote of holders of a majority of the stock of the Company present or represented and entitled to vote at a duly held shareholders' meeting. The Plan shall continue in effect through December 31, 2016, provided, however, that the Board of Directors shall have the right to terminate the Plan at any time, but such termination shall not affect options then outstanding under the Plan. It will terminate in any case when all or substantially all of the unissued shares of Common Stock reserved for the purposes of the Plan have been purchased. If at any time shares of Common Stock reserved for the purposes of the Plan remain available for purchase but not in sufficient number to satisfy all then unfilled purchase requirements, the available shares shall be apportioned among Participants in proportion to the amount of payroll deductions accumulated on behalf of each Participant that would otherwise be used to purchase Common Stock and the Plan shall terminate. Upon such termination or any other termination of the Plan, all payroll deductions not used to purchase stock will be refunded, without interest.

19. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION.

By electing to participate in the Plan, each Participant agrees to notify the Company in writing immediately after the Participant transfers Common Stock acquired under the Plan, if such transfer occurs within two years after the first business day of the Purchase Period in which such Common Stock was acquired. Each Participant further agrees to provide any information about such a transfer as may be requested by the Company or any subsidiary corporation in order to assist it in complying with the tax laws. Such dispositions generally are treated as "disqualifying dispositions" under Sections 421 and 424 of the Code, which have certain tax consequences to Participants and to the Company and its participating Subsidiaries. The Participant acknowledges that the Company may send a Form W-2, or substitute therefor, as appropriate, to the Participant with respect to any income recognized by the Participant upon a disqualifying disposition of Common Stock.

20. WITHHOLDING OF ADDITIONAL INCOME TAXES.

By electing to participate in the Plan, each Participant acknowledges that the Company and its participating Subsidiaries are required to withhold taxes with respect to the amounts deducted from the Participant's compensation and accumulated for the benefit of the Participant under the Plan and each Participant agrees that the Company and its participating Subsidiaries may deduct additional amounts from the Participant's compensation, when amounts are added to the Participant's account, used to purchase Common Stock or refunded, in order to satisfy such withholding obligations.

22. GENERAL.

Whenever the context of this Plan permits, the masculine gender shall include the feminine and neuter genders.



		Ш	Mark this box with a	an X if you have made changes to your name or address details above
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For	Withhold			
Purchase	Against	Abstain	Mark this box	with an X if you have made comments below. $\ \square$
ying Notice of Sperres are held by joi	ecial Meeting	in Lieu of the	2006 Annual Meetin	ng of Shareholders and the Proxy Statement with respect thereto and torney, executor, administrator, trustee or guardian, please give full
t or other authoriz	zed officer. If	a partnership,	, please sign in partne	ership name by authorized person.
ignature 1—Pleas	e keep signati	ure within the	box	Signature 2—Please keep signature within the box
	Purchase For For Purchase Inust be comparing Notice of Species are held by joint or other authorize	For Withhold	For Withhold	mends a vote FOR the nominees listed below as For Withhold Good House Grant Abstain Purchase Grant Grant Mark this box Mark this box Completed for your instructions to be exercing Notice of Special Meeting in Lieu of the 2006 Annual Meeting

Proxy—Mercury Computer Systems, Inc.

199 RIVERNECK ROAD, CHELMSFORD, MASSACHUSETTS 01824

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

The undersigned hereby appoints James R. Bertelli, Robert E. Hult and Anthony J. Medaglia, Jr., and each of them singly, with full power of substitution, proxies to represent the undersigned at the Special Meeting in Lieu of the 2006 Annual Meeting of Shareholders of Mercury Computer Systems, Inc. to be held on November 13, 2006 at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, 53 State Street, Boston, Massachusetts 02109, and at any adjournments or postponements thereof, to vote in the name and place of the undersigned, with all powers which the undersigned would possess if personally present, upon the proposals set forth on the reverse side of this proxy card.

THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED AS SPECIFIED. IF NO SPECIFICATION IS MADE, THE SHARES REPRESENTED WILL BE VOTED FOR THE ELECTION OF THE THREE NOMINEES FOR CLASS III DIRECTOR LISTED ON THE REVERSE SIDE OF THIS PROXY CARD, FOR THE APPROVAL OF THE AMENDMENT AND RESTATEMENT OF THE 1997 EMPLOYEE STOCK PURCHASE PLAN DESCRIBED IN THE PROXY STATEMENT, AND IN ACCORDANCE WITH THE PROXIES' DISCRETION ON SUCH OTHER BUSINESS THAT MAY PROPERLY COME BEFORE THE MEETING.

PLEASE VOTE, DATE AND SIGN THIS PROXY IN THE SPACE PROVIDED AND RETURN IT IN THE ENCLOSED ENVELOPE, WHETHER OR NOT YOU EXPECT TO ATTEND THE MEETING IN PERSON.

Dear Shareholder:

Please take note of the important information enclosed with this proxy card. There are a number of issues related to the management of your company that require your immediate attention and approval. These are discussed in the enclosed proxy materials.

Your vote counts, and you are strongly encouraged to exercise your right to vote your shares.

Please mark the appropriate boxes on this proxy card to indicate how your shares will be voted. Then sign the card, and return your proxy vote in the enclosed postage paid envelope.

Your vote must be received prior to the Special Meeting in Lieu of the 2006 Annual Meeting of Shareholders on November 13, 2006. Thank you in advance for your prompt consideration of this matter.

Sincerely,

Mercury Computer Systems, Inc.