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 OMB APPROVAL  
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U.S. SECURITIES AND EXCHANGE COMMISSION  
 Washington, D.C. 20549

FORM 4

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
 Section 17(a) of the Public Utility Holding Company Act of 1935 or  
 Section 30(f) of the Investment Company Act of 1940

[ ] Check this box if no longer subject of Section 16. Form 4 or Form 5  
 obligations may continue. See Instruction 1(b).

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1. Name and Address of Reporting Person

Flood, Douglas

(Last) (First) (Middle)

40 Constitution Drive

(Street)

Southborough, MA 01772

(City) (State) (Zip)

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2. Issuer Name and Ticker or Trading Symbol

Mercury Computer Systems, Inc. ("MRCY")

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3. IRS or Social Security Number of Reporting Person (Voluntary)

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4. Statement for Month/Year

January 2001

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5. If Amendment, Date of Original (Month/Year)

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6. Relationship of Reporting Person to Issuer

(Check all applicable)

[ ] Director [ ] 10% Owner  
 [ X ] Officer (give title below) [ ] Other (specify below)

Vice President, Corporate Development

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7. Individual or Joint/Group Filing (Check Applicable Line)

[ X ] Form filed by One Reporting Person  
 [ ] Form filed by More than One Reporting Person

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Table I -- Non-Derivative Securities Acquired, Disposed of,  
 or Beneficially Owned

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1. Title of Security (Instr. 3)	2. Transaction Date (mm/dd/yy)	3. Transaction Code (Instr. 8) Code V	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		5. Amount of Securities Beneficially Owned at End of Month (Instr. 3 and 4)	6. Owner- ship Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Amount	(A) or (D) Price			
Common Stock	1/25/2001	M	8,000	A \$8.625	412 (1)	D	
Common Stock	1/25/2001	S	8,000	D \$52.00	412 (1)	D	

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(1) Includes 80 shares of common stock acquired on June 30, 2000 pursuant to Mercury's Stock Purchase Plan and 126 shares of common stock acquired on December 29, 2000 pursuant to Mercury's Stock Purchase Plan.

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly

Table II -- Derivative Securities Acquired, Disposed of, or Beneficially Owned  
(e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conver- sion of Exer- cise Price of Deriv- ative Secur- ity	3. Trans- action Date (Month/ Day/ Year)	4. Trans- action Code (Instr. 8) ----- Code V	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) ----- (A) (D)	6. Date Exercisable and Expiration Date (Month/Day/Year) ----- Date Expira- tion cisable Date	7. Title and Amount of Underlying Securities (Instr. 3 and 4) ----- Amount or Number of Shares ----- Title	8. Price of Deriv- ative Secur- ity (Instr. 5)	9. Number of Deriv- ative Secur- ities Bene- ficially Owned at End Month (Instr. 4)	10. Owner- ship of Deriv- ative Secur- ity: Direct (D) or In- direct (I) (Instr. 4)	11. Nature of In- direct Bene- ficial Owner- ship (Instr. 4)
Stock Option (right to buy)	\$30.063	10/10/00	A V	10,500	(2) 10/10/10	Common 10,500		10,500	D	
Stock Option (right to buy)	\$8.625	1/25/01	M	8,000	(3) 10/27/08	Common 8,000		24,000	D	

Explanation of Responses:

(2) This option becomes exercisable as to 2,625 shares on each of October 10, 2001, October 10, 2002, October 10, 2003 and October 10, 2004.

(3) This option became exercisable as to 8,000 shares on each of October 27, 1999, October 27, 2000 and becomes exercisable as to 8,000 shares on each of October 27, 2001, October 27, 2002 and October 27, 2003.

/s/Douglas Flood

February 6, 2001

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\*\*Signature of Reporting Person

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Date

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations.

See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed.  
If space provided is insufficient, see Instruction 6 for procedures.

Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.