Basile Diane J Form 4 August 22, 2005

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Check this box if no longer subject to Section 16. Form 4 or Form 5

obligations

may continue.

See Instruction

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF **SECURITIES**

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(h) of the Investment Company Act of 1940

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person *

Basile Diane J

(Last)

(City)

2. Issuer Name and Ticker or Trading Symbol

MERCURY COMPUTER SYSTEMS INC [MRCY]

3. Date of Earliest Transaction

(Month/Day/Year) 08/18/2005

MERCURY COMPUTER SYSTEMS, INC., 199 RIVERNECK

(First)

(Middle)

(Zin)

ROAD

4. If Amendment, Date Original (Street)

Filed(Month/Day/Year)

OMB

Number:

Expires:

response...

OMB APPROVAL

Estimated average

burden hours per

3235-0287

January 31,

2005

0.5

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

Director 10% Owner X_ Officer (give title Other (specify

below) VP, Treasurer

6. Individual or Joint/Group Filing(Check

Applicable Line)

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

CHELMSFORD, MA 01824

(State)

(City)	(State)	(Zip) Tabl	le I - Non-I	Derivative	Secu	rities Acqu	ired, Disposed of	, or Beneficiall	y Owned
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securi on(A) or Do (Instr. 3,	ispose 4 and (A) or	d of (D)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
Common Stock	08/18/2005		M	3,750	A	\$ 18.24	5,803	D	
Common Stock	08/18/2005		S	3,750	D	\$ 26.12	2,053	D	
Common Stock	08/18/2005		M	2,500	A	\$ 23.46	4,553	D	
Common Stock	08/18/2005		S	2,500	D	\$ 26.075	2,053 (1)	D	

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

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

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. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transactic Code (Instr. 8)	5. Number on f Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amour Underlying Securit (Instr. 3 and 4)	
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Amo or Num of Share
Non-Qualified Stock Option (Right to buy)	\$ 18.24	08/18/2005		M	3,750	06/18/2005	06/18/2013	Common	3,7
Non-Qualified Stock Option (Right to buy)	\$ 23.46	08/18/2005		M	2,500	07/28/2005	07/28/2014	Common	2,5

Reporting Owners

Reporting Owner Name / Address	Keiauonsinps						
	Director	10% Owner	Officer	Other			
Rasile Diane I							

VP. MERCURY COMPUTER SYSTEMS, INC. 199 RIVERNECK ROAD Treasurer CHELMSFORD, MA 01824

Signatures

Joseph M. Hartnett,

Attorney-in-fact 08/22/2005 **Signature of Reporting Person

Explanation of Responses:

- If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Includes 449 shares acquired under the Mercury Computer Systems, Inc. stock purchase plan in June 2005.

Date

(2) Field N/A to this transaction but was completed to allow for electronic filing only

Reporting Owners 2

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