

PUMA MARY G  
Form 4  
July 16, 2010

**FORM 4**

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

OMB APPROVAL

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

**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

(Print or Type Responses)

1. Name and Address of Reporting Person \*  
PUMA MARY G

2. Issuer Name and Ticker or Trading Symbol  
AXCELIS TECHNOLOGIES INC  
[ACLS]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

3. Date of Earliest Transaction  
(Month/Day/Year)

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

Chairman, President and CEO

C/O AXCELIS TECHNOLOGIES, INC., 108 CHERRY HILL DRIVE

(Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

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

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

BEVERLY, MA 01915

(City) (State) (Zip)

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially 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. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)		
				(A) or (D)	Code	V	Amount	(D)	Price

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

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SEC 1474  
(9-02)

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

1. Title of Derivative	2. Conversion	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if	4. Transaction	5. Number of Derivative	6. Date Exercisable and Expiration Date	7. Title and Amount Underlying Securities
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Security (Instr. 3)	or Exercise Price of Derivative Security	any (Month/Day/Year)	Code (Instr. 8)	Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	(Month/Day/Year)	(Instr. 3 and 4)				
			Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount Number of Shares
Stock option (right to buy)	\$ 1.6	07/15/2010	A <sup>(1)</sup>		250,000		07/15/2014 <sup>(2)</sup>	07/15/2020	Common Stock	250,000

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
PUMA MARY G C/O AXCELIS TECHNOLOGIES, INC. 108 CHERRY HILL DRIVE BEVERLY, MA 01915	X			Chairman, President and CEO

## Signatures

Lynnette C. Fallon, as attorney in fact for Mary G. Puma  
 Signature: \_\_\_\_\_ Date: 07/16/2010  
\*\*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) Granted Pursuant to the Axcelis Technologies, Inc. 2000 Stock Plan.
  - (2) Exercisable as to 25% of the total shares on each of 7/15/2011, 7/15/2012, 7/15/2013 and 7/15/2014.
- 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.