FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

OMB APPROVAL							
OMB Number:	3235-028						

OMB Number: 3235-0287 Estimated average burden hours per response: 0.5

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

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* FALLON LYNNETTE C (Last) (First) (Middle) C/O AXCELIS TECHNOLOGIES, INC. 108 CHERRY HILL DRIVE (Street) BEVERLY MA 01915						Issuer Name and Ticker or Trading Symbol AXCELIS TECHNOLOGIES INC [ACLS] Date of Earliest Transaction (Month/Day/Year) 11/12/2010 4. If Amendment, Date of Original Filed (Month/Day/Year)									S. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner X Officer (give title Other (specify below) Executive VP, HR/Legal 6. Individual or Joint/Group Filing (Check Applicabl Line) X Form filed by One Reporting Person Form filed by More than One Reporting					
(City)	(St	ate) (Zip)			Person														
Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned																				
1. Title of Security (Instr. 3) 2. Transac Date (Month/Date)						r) E	2A. Deemed Execution Date, if any (Month/Day/Year)		Transaction Dispose Code (Instr. 5)		Disposed	ities Acquired (A) d Of (D) (Instr. 3, 4			4 and S		ount of ties cially I Following	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)		7. Nature of Indirect Beneficial Ownership (Instr. 4)
							Code	v	Amount		(A) or (D)	Price		Reported Transaction(s) (Instr. 3 and 4)				(msu. 4)		
Common Stock 11/12/									F		13,512	2 D ⁽¹⁾		(2)	⁽²⁾ 158,706 ⁽³⁾		3,706 ⁽³⁾	D		
	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)	,	4. Transaction Code (Instr. 8)		of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year) Date Expiration Exercisable Date			7. Title and Amount of Securities Underlying Derivative Security (Instr. and 4) Amoun or Numbe of Title Shares			nt er		9. Number of derivative Securities Beneficially Owned Following Reported Transaction (Instr. 4)	Owners Form: Direct (or Indir (I) (Inst	D) ect	11. Nature of Indirect Beneficial Ownership (Instr. 4)	

Explanation of Responses:

- 1. Shares withheld by the Company equal to tax liability of the executive officer incident to the vesting of restricted stock units issued in accordance with Rule 16b-3.
- $2. \ \mbox{Represents}$ the closing price of the common stock at November 12, 2010.
- 3. Of the shares held as of November 12, 2010, 16,373 were issuable on vesting of restricted stock units granted under the 2000 Stock Plan and are subject to forfeiture. A portion of these shares will be withheld by the Company on vesting to satisfy tax withholding requirements.

<u>Lynnette C. Fallon</u> <u>11/12/2010</u>

** Signature of Reporting Person Date

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

- * 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).

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

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