

DUFF DAVID
 Form 4
 December 27, 2004

FORM 4

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

OMB APPROVAL

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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 *
 DUFF DAVID

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

3. Date of Earliest Transaction
 (Month/Day/Year)
 12/27/2004

____ Director
 Officer (give title below) _____ 10% Owner
 _____ Other (specify below)
 Vice President/GM IIRTP

BEVERLY, MA 01915

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

(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 Indirect Beneficial 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 of 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 or Number of Shares
Stock option (right to buy)	\$ 7.99	12/27/2004	A ⁽¹⁾		22,500		06/25/2008 ⁽²⁾	06/25/2014	Common Stock	22,500

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
DUFF DAVID C/O AXCELIS TECHNOLOGIES, INC. 108 CHERRY HILL DRIVE BEVERLY, MA 01915			Vice President/GM IIRTP	

Signatures

Lynnette C. Fallon, as attorney-in-fact for David W. Duff
 **Signature of Reporting Person
 12/27/2004
 Date

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 6/25/2005, 6/25/2006, 6/25/2007 and 6/25/2008.

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.