VINCENT JAMES L

Form 4 June 15, 2010

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB Number:

3235-0287

Expires:

Form filed by More than One Reporting

January 31, 2005

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if no longer subject to Section 16. Form 4 or Form 5 obligations

may continue.

See Instruction

Check this box

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 * VINCENT JAMES L		rting Person *	2. Issuer Name and Ticker or Trading Symbol ALNYLAM PHARMACEUTICALS, INC. [ALNY]	5. Relationship of Reporting Person(s) to Issuer (Check all applicable)		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) 06/11/2010	X Director 10% Owner Officer (give title Other (specify		
300 THIRD	, ,	(1114110)		below) below)		
	(Street)		4. If Amendment, Date Original	6. Individual or Joint/Group Filing(Check		
			Filed(Month/Day/Year)	Applicable Line) _X_ Form filed by One Reporting Person		

CAMBRIDGE, MA 02142

(State)

(Zip)

(City)

Table I - Non-Derivative	Committee Acquired	Disposed of or	Donoficially Owned

Person

		- I au	16 1 - 11011-	Derivative	Secui	ines Acquii	cu, Disposeu oi,	or beneficially	Owneu
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transactio Code (Instr. 8)	4. Securit or Dispos (Instr. 3, 4	ed of (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	06/11/2010		M	15,000	A	\$ 7.02	25,000	D	
Common Stock	06/11/2010		S	15,000	D	\$ 15.95	10,000	D	
Common Stock	06/14/2010		M	10,000	A	\$ 7.02	20,000	D	
Common Stock	06/14/2010		S	10,000	D	\$ 16.0963	10,000	D	
Common Stock	06/14/2010		M	5,000	A	\$ 7.02	15,000	D	

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Common Stock	06/14/2010	S	5,000	D	\$ 16.0963	10,000	D
Common Stock	06/14/2010	M	2,900	A	\$ 7.02	12,900	D
Common Stock	06/14/2010	S	2,900	D	\$ 16.051	10,000	D

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 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)	Secur Secur Acqu or Di (D)	rities aired (A) asposed of r. 3, 4,	6. Date Exercisab Expiration Date (Month/Day/Year		7. Title and Ar Underlying Se (Instr. 3 and 4)
				Code V	(A)	(D)	Date Exercisable	Expiration Date	Title
Non-Qualified Stock Option (right to buy)	\$ 7.02	06/11/2010		M		15,000	07/12/2006(1)	07/12/2015	Common Stock
Non-Qualified Stock Option (right to buy)	\$ 7.02	06/14/2010		M		10,000	07/12/2006(1)	07/12/2015	Common Stock
Non-Qualified Stock Option (right to buy)	\$ 7.02	06/14/2010		M		5,000	07/12/2006(1)	07/12/2015	Common Stock
Non-Qualified Stock Option (right to buy)	\$ 7.02	06/14/2010		M		2,900	07/12/2006(1)	07/12/2015	Common Stock

Reporting Owners

Reporting Owner Name / Address	Relationships							
	Director	10% Owner	Officer	Other				
VINCENT JAMES L 300 THIRD STREET	X							

Reporting Owners 2

CAMBRIDGE, MA 02142

Signatures

By: /s/ Patricia L. Allen, Attorney-in-Fact For: James L. Vincent

06/15/2010

**Signature of Reporting Person

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) The stock option vested as to one third of the shares on each of the first, second and third anniversaries of the grant date.

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.

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