Plisinski Michael P Form 4 January 28, 2011

OMB APPROVAL

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

OMB 3235-0287 Number:

Check this box if no longer subject to Section 16.

January 31, Expires: 2005

Form 4 or Form 5 obligations STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF **SECURITIES**

Estimated average burden hours per response...

may continue. See Instruction

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

0.5

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * Plisinski Michael P

2. Issuer Name and Ticker or Trading

5. Relationship of Reporting Person(s) to Issuer

Symbol

RUDOLPH TECHNOLOGIES INC

(Check all applicable)

[RTEC]

(Last) (First) (Middle)

3. Date of Earliest Transaction

4. If Amendment, Date Original

Director 10% Owner

(Month/Day/Year)

01/26/2011

X_ Officer (give title Other (specify below) VP & GM Data Analysis/Rev. BU

C/O RUDOLPH TECHNOLOGIES. INC., ONE RUDOLPH ROAD, PO BOX 1000

(Street)

6. Individual or Joint/Group Filing(Check

Applicable Line)

Transaction(s)

Filed(Month/Day/Year)

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

FLANDERS, NJ 07836

(City) (State) (Zip) Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1.Title of Security (Instr. 3)

2. Transaction Date 2A. Deemed (Month/Day/Year)

Execution Date, if

(Month/Day/Year)

3. 4. Securities Acquired 5. Amount of Transaction(A) or Disposed of Code (D) (Instr. 8) (Instr. 3, 4 and 5)

6. Ownership 7. Nature of Securities Form: Direct Indirect Beneficially (D) or Owned Following (Instr. 4) Reported

Beneficial Indirect (I) Ownership (Instr. 4)

Code V

(Instr. 3 and 4) Price Amount (D)

(A)

Common Stock (1)

01/26/2011

12,800 (2)

\$0 $151,698 \stackrel{(3)}{=}$

D

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)

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	1. Title of	2.	3. Transaction Date	3A. Deemed	4.	5.	6. Date Exerc	cisable and	7. Titl	e and	8. Price of	9. Nu
	Derivative	Conversion	(Month/Day/Year)	Execution Date, if	TransactionNumber		Expiration D	ate Amou		nt of	Derivative	Deriv
	Security	or Exercise		any	Code	of	(Month/Day/	Year)	Under	lying	Security	Secui
	(Instr. 3)	Price of		(Month/Day/Year)	(Instr. 8)	Derivative	e		Securi	ities	(Instr. 5)	Bene
		Derivative			Securities				(Instr.	3 and 4)		Owne
		Security				Acquired						Follo
		·				(A) or						Repo
						Disposed						Trans
						of (D)						(Instr
						(Instr. 3, 4, and 5)						`
										Amount		
							Date Exercisable	Expiration Date	Title	or		
										Number		
										of		
					Code V	(A) (D)				Shares		

Reporting Owners

Reporting Owner Name / Address

Director 10% Owner Officer Other

Plisinski Michael P C/O RUDOLPH TECHNOLOGIES, INC. ONE RUDOLPH ROAD, PO BOX 1000 FLANDERS, NJ 07836

VP & GM Data Analysis/Rev. BU

Signatures

By: Robert A. Koch For: Michael P.

Plisinski 01/28/2011

**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) Each Restricted Stock Unit represents a contingent right to receive one (1) share of RTEC Common Stock.
- (2) 20% of the shares of Common Stock subject to the Restricted Stock Unit vest each year on the grant date. Generally, vested shares will be delivered to the reporting person as soon as practicable after vesting.

Certain Forms 4 previously filed by the Reporting Person have improperly reported the total number of securities beneficially owned by the Reporting Person following the transactions reported thereon. As a result of grants of restricted stock units to the Reporting Person on

(3) 5/23/06, 2/1/07, 5/27/08, and 2/10/09 (which were reported on Form 4) the Reporting Person directly beneficially held 58,213 restricted stock units prior to the transactions reported here. Following the transactions, the Reporting Person directly beneficially holds a total of 151,698 shares and restricted stock units as reported above in Column 5.

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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