

Mail Stop 6010

June 20, 2006

Mr. Steven R. Roth  
Chief Financial Officer  
Rudolph Technologies, Inc.  
One Rudolph Road  
PO Box 1000  
Flanders, New Jersey 07836

**Re: Rudolph Technologies, Inc.  
Form 10-K for the Year Ended December 31, 2005 and related filings  
Form 10-Q for the Quarter Ended March 31, 2006  
File No. 000-27965**

Dear Mr. Roth:

We have completed our review of your Form 10-K and related materials and do not, at this time, have any further comments.

Sincerely,

Martin F. James  
Senior Assistant Chief Accountant