



DIVISION OF
CORPORATION FINANCE

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

November 9, 2010

Mr. James P. Moniz
Chief Financial Officer
Nanometrics Incorporated
1550 Buckeye Drive
Milpitas, California 95035

Re: Nanometrics Incorporated
Form 10-K for the Fiscal Year Ended January 2, 2010
Filed March 26, 2010
File No. 000-13470

Dear Mr. Moniz:

We have completed our review of your filings and do not have any further comments at this time.

Sincerely,

Jeff Jaramillo
Accounting Branch Chief