



DIVISION OF
CORPORATION FINANCE

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

December 20, 2010

Mr. Douglas P. Baker
Chief Executive Officer
Applied Nanotech Holdings, Inc.
3006 Longhorn Boulevard, Suite 107
Austin, TX 78758

Re: Applied Nanotech Holdings, Inc.
Form 10-K for fiscal year end December 31, 2009
Filed March 4, 2010
Form 10-Q for the quarter ended September 30, 2010
Filed October 29, 2010
File No. 001-11602

Dear Mr. Baker:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for Fiscal Year Ended December 31, 2009

General

1. In future filings please include Item 4. information as appropriate, or use the heading as a placeholder.

Item 1. Business

Key Intellectual Property, page 7

2. We note the significance of intellectual property to your business model. In future filings please discuss the duration of your patents and other intellectual property protections.

Item 4. Market for Registrant's Common Equity, Related Stockholder Matters..., page 18

3. In future filings please include a tabular representation of your Equity Compensation Plan in this Item. Please refer to Item 201(d) of Regulation S-K. Additionally, in future filings please cross-reference to the page in your financial statements where you include a narrative discussion of securities authorized for issuance under your equity compensation plans. Please refer to Instruction 7 to Item 201(d)(3) of Regulation S-K.

Item 6. Management's Discussion and Analysis

Liquidity and Capital Resources, page 22

4. In the third paragraph of this section you state that you "expect to obtain additional revenue, beyond the known sources." Please tell us what other forms of additional revenue you are referring to and why they are not known sources.

Results of Operations, page 23

5. In the second to last paragraph you state that you expect revenue in 2010 of \$6.0 million of which \$3.7 million is not committed, but is "specifically identified." Please tell us what it means to specifically identify revenue in contrast to committed revenue including how you determine revenue to be specifically identified.

Item 10. Executive Compensation

Compensation Approval Process, page 56

6. In the fourth paragraph you state that you grant both time and performance based options, although the majority of options are performance based. In future filings please discuss what performance measures you look to when determining the grant of performance based options.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;

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- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please contact Kate Beukenkamp, Staff Attorney at (202) 551-6971 or Robert Bartelmes, Senior Financial Analyst, at (202) 551-3810 with any other questions.

Sincerely,

s/ Robert Bartelmes

Larry Spiegel
Assistant Director

cc: Via Facsimile to (512) 339-5021
Attn: Douglas P. Baker
Chief Executive Officer