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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

May 13, 2016

John L. Bishop
Chief Executive Officer
Cepheid
904 Caribbean Drive
Sunnyvale, California 94089

**Re: Cepheid**
**Form 10-K for the fiscal year ended December 31, 2015**
**Filed February 25, 2016**
**File No. 000-30755**

Dear Mr. Bishop:

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 these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Item 1. Business, page 3

1. We note you disclosed in your Form 10-K for the fiscal year ended December 31, 2015 that you expected to launch your GeneXpert Omni "around the world" in 2016 and that you now disclose in your Form 10-Q for the quarterly period ended March 31, 2016 that you expect to launch that product outside of the United States in late 2017. In your future filings as appropriate, please clarify the development status of your products. For example, describe the status of the Omni product, as well as the reasons for its delay and the change in the anticipated markets.

Products, page 5

2. It is our understanding that your molecular tests for MRSA and Clostridium difficile have accounted for a majority of your revenues. In your future filings, please disclose for each of the last three fiscal years the amount or percentage of total revenue contributed by any

class of similar products or services which accounted for 10 percent or more of consolidated revenue in any of the last three fiscal years. Refer to Item 101(c)(1)(i) of Regulation S-K. As appropriate, please also include any risk factors related to the sales of your tests such as for MRSA and C. difficile that could affect your sales. We note in this regard that third party sources have indicated that the MRSA testing market may be flat to down and that the Journal of American Medical Association recently published an article questioning the exclusive use of molecular testing for C. difficile. Please also ensure that your future filings include discussion and analysis of any known trends that have had a material impact on your revenues. Refer to Regulation S-K Item 303(a)(3)(ii).

Intellectual Property, page 8

3. We note your disclosure that you have and are continuing to develop your own proprietary intellectual property along with licensing specific third-party technologies. In your future filings, please clarify how your patent portfolio is structured in terms of which patents are proprietary and which patents you license. Please also disclose the duration and effect of those patents and the duration and effect of your licensing arrangements. Refer to Item 101(c)(1)(iv) of Regulation S-K.

Results of Operations, page 42

4. We note your disclosure on page 12 of known trends that affected your gross margins and your discussion in your conference calls regarding the various ways in which you intend to drive growth margin expansion. In your future filings, please identify and discuss the key performance indicators, including gross margin, that management uses to manage the business and that would be material to investors. Refer to Item 303 of Regulation S-K and the related SEC Interpretive Release No. 34-48960 (December 19, 2003).

5. Please revise future filings to clarify the reasons underlying the changes in your results of operations, including any changes attributable to price and volume, and quantify the amount of the change. For example, you refer to a "growing installed base" of instruments and "expanding menu" of tests as drivers of Clinical Reagent revenue. However, the volume of the growth in your installed based relative to the prior year is unclear from your disclosure. It is similarly unclear how and to what extent the expansion of your test menu increased your revenues. Did the increase relate solely to new tests or a combination of new and legacy tests? Likewise, you refer to "higher system shipments" in 2014, but the increase in number of systems sold is unclear. Please refer to Regulation S-K Item 303(a)(3)(iii).

Item 11. Executive Compensation, page 88

6. We note that you have described the option and restricted stock unit awards to each of your named executive officers under the caption "Equity-Based Long-Term Incentive" in your proxy statement as it relates to each named executive officer. In future filings,

please also provide a discussion of how the compensation committee determined the amount of the equity compensation granted to each named executive officer. Please see Regulation S-K Item 402(b)(1)(v). While we note the factors listed in the fourth paragraph on page 29 of your definitive proxy statement, it is unclear how those factors relate to the amount of equity you awarded.

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;
- 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 Tim Buchmiller at (202) 551-3635 or Geoff Kruczek, Senior Attorney, at (202) 551-3641 with any questions.

Sincerely,

/s/ Geoff Kruczek for

Amanda Ravitz
Assistant Director
Office of Electronics and Machinery

cc: Michael A. Brown, Esq.
Fenwick & West LLP