



DIVISION OF
CORPORATION FINANCE

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

May 7, 2014

Via E-mail

Mr. Samuel F. Thomas
Chief Executive Officer
Chart Industries, Inc.
One Infinity Corporate Centre Drive; Suite 300
Garfield Heights, OH 44125-5370

**Re: Chart Industries, Inc.
Form 10-K for the Year Ended December 31, 2013
Filed February 25, 2014
Response Dated May 2, 2014
File No. 1-11442**

Dear Mr. Thomas:

We have reviewed your response dated May 2, 2014 and have the following comment. In our comment, 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 providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comment applies to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to this comment, we may have additional comments.

Form 10-K for the Year Ended December 31, 2013

1. We note your response to comment two from our letter dated April 22, 2014. So that we may better understand the extent of your warranty issues with one of AirSep's product lines as well as the historical and expected future impact of these issues on your financial statements, please supplementally address the following:
 - Provide us with a warranty rollforward that includes only the activity for the affected product line for all periods presented as well as the quarter ended March 31, 2014;
 - Tell us when AirSep first became aware of warranty issues associated with the affected product line;
 - Explain how you quantified the entire population of units that you believed would require repair under the warranty reserve;

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- Describe the nature of the product failures experienced with this product line as well as the types of product improvements and revisions to the warranty claim process made since 2012 in order to mitigate the costs associated with this issue;
- Explain why your usage of the acquired warranty reserve for this product has exceeded warranty expense since the acquisition (for example, quantify the extent to which the number of expected future claims or the estimated cost to repair the units exceeded the amounts originally estimated); and
- Quantify how your warranty claims experience associated with this product line has been affected by the product improvements and revisions you made to the warranty claim process subsequent the AirSep acquisition.

You may contact Lisa Etheredge, Staff Accountant, at (202) 551-3424 or me at (202) 551-3768 if you have questions.

Sincerely,

/s/ John Cash

John Cash
Accounting Branch Chief