



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

May 5, 2014

Via E-mail

Mr. Taylor C. Harris  
Vice President and Chief Financial Officer  
Thoratec Corporation  
6035 Stoneridge Drive  
Pleasanton, California 94588

RE: **Thoratec Corporation**  
**Form 10-K for Fiscal Year Ended December 28, 2013**  
**Filed February 18, 2014**  
**File No. 000-49798**

Dear Mr. Harris:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. 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 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, please tell us why in your response.

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

Form 10-K for the Fiscal Year Ended December 28, 2013

Management's Discussion and Analysis of Financial Condition and Results of Operations

Cash Provided by Operating Activities, page 53

1. We note that inventory increased 28% to \$60.3 million in 2013 from \$47.1 million in the preceding year, while current year sales increased only 2% over the prior year. Please tell us more about the factors that caused this increase. As

appropriate, revise your discussion of your cash flows in future filings to provide greater analysis of the reasons for underlying changes in assets and liabilities.

Note 1. Operations and Summary of Significant Accounting Policies, page 65

Product Warranty, page 69

2. We note that the additions to the warranty provision were \$1.9 million, \$1.5 million and \$10.4 million for each of the fiscal years 2011, 2012 and 2013, respectively. You indicate that the change in estimates was not significant for each year. Please tell us more about the factors that led to the significant increase in the warranty reserve from 0.3% of sales in 2012 to 2% of sales in 2013. Revise your discussion in MD&A in future filings to explain any underlying reasons for unusual or large changes in your warranty provision.

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.

You may contact Dennis Hult, Staff Accountant, at (202) 551-3618 or me at (202) 551-3643 if you have questions regarding comments on the financial statements and related matters. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

/s/ Kevin L. Vaughn

Kevin L. Vaughn  
Accounting Branch Chief