



DIVISION OF
CORPORATION FINANCE
Mail Stop 3030

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

May 29, 2009

Gerhard F. Burbach
President and Chief Executive Officer
Thoratec Corporation
6035 Stoneridge Drive
Pleasanton, California 94588

**Re: Thoratec Corporation
Form 10-K for the Fiscal Year Ended January 3, 2009
Filed February 27, 2009
File No. 000-49798**

Dear Mr. Burbach:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Item 8. Financial Statements and Supplementary Data, page 47

Goodwill, page 57

1. In future filings including any amendments to your Form 10-K, please disclose in more detail how and when you test goodwill for impairment under SFAS 142. Include a discussion of when you perform your annual test of goodwill impairment and how you apply the two-step method.

Note 6. Purchased Intangible Assets and Goodwill, page 65

2. We note on page 66 that you changed the estimate of the useful lives of certain of your patents. Please revise your future filings including any amendments to your Form 10-K, to disclose the new estimated useful lives of these patents and to include the disclosures required by paragraph 22 of SFAS 154 related to the change in this accounting estimate.
3. Also, please tell us why you changed the estimated lives of the patents and your consideration of providing disclosures related to this change in your MD&A. Refer to Item 303 of Regulation S-K.

Note 15. Enterprise and Related Geographic Information, page 78

4. Please revise your future filings including any amendments to your Form 10-K, to disclose the basis for attributing revenues from external customers to individual countries consistent with paragraph 38(a) of SFAS 131.
5. Also, with respect to your disclosure of geographic sales information on page 79, please tell us whether any revenues attributed to an individual foreign country were material for the periods presented. Please refer to paragraph 38(a) of SFAS 131.

Item 9A. Controls and Procedures, page 81

6. We note your disclosure that your “management concluded that [your] internal control over financial reporting was effective as of January 3, 2009 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with generally accepted accounting principles.” The language that is currently included after the word “effective as of January 3, 2009” in your disclosure appears to be superfluous, since the meaning of internal control over financial reporting is established by Rule 13a-15(f) of the Exchange Act. Please remove the language in your future filings including any amendments to your Form 10-K, or revise the disclosure so that the language that appears after the word “effective” is substantially similar in all material respects to the language that appears in the entire definition of internal control over financial reporting set forth in Rule 13a-15(f).

Item 11. Executive Compensation, page 82

7. We note your disclosure on page 21 of the definitive proxy statement that you have incorporated by reference into your Form 10-K that individual performance goals are used by the Compensation Committee in determining annual cash incentive payments. In your future filings, as applicable, please include a detailed discussion of the individual performance factors taken into account in determining the actual non-equity incentive awards with respect to each named executive officer. Refer to subparagraph (b)(2)(vii) of Item 402 of Regulation S-K.

Signatures, page 89

8. From the titles you provide, it is not clear that your controller or principal accounting officer has signed the report in that capacity. For each signatory, please disclose all capacities in which each person signs the report. Refer to General Instruction D of Form 10-K.

Please respond to our comment within 10 business days or tell us when you will provide us with a response. Please understand that we may have additional comments after reviewing your response to our comment.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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 connection with responding to our comments, please provide, in writing, a 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.

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In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filings or in response to our comments on your filings.

You may contact Tara Harkins at (202) 551-3639 or Kate Tillan, Assistant Chief Accountant, at (202) 551-3604 if you have questions regarding comments on the financial statements and related matters. Please contact Ruairi Regan at (202) 551-3269 or me at (202) 551-3625 if you have questions on other comments.

Sincerely,

Mary Beth Breslin
Senior Attorney