



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-4631

June 29, 2010

Mr. Richard Johnson
Chief Financial Officer
Dynasil Corporation of America
385 Cooper Road
West Berlin, NJ 08091

**Re: Dynasil Corporation of America
Form 10-K for the fiscal year ended September 30, 2009
Form 10-Q for the quarter ended March 31, 2009
File No. 0-27503**

Dear Mr. Johnson:

We have reviewed your response to our comment letter dated May 18, 2010 and have the following comments. Where indicated, we think you should revise your disclosures in response to these comments. If you disagree, we will consider your explanation as to why our comments are inapplicable or a revision is unnecessary. 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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the fiscal year ended September 30, 2009

Consolidated Financial Statements
Note 5 – Debt, page F-16

1. Please revise future filings to clarify the distinction between RMD Instruments LLC and RMD Instruments Corporation.

Form 10-Q for the period ended March 31, 2010

Consolidated Financial Statements
General

2. It remains unclear to us how a 15 year useful life for backlog could be appropriate since we assume the related revenues were recognized over a much shorter time period. It is also unclear to us why you intend to wait until the end of your next reporting period to review and re-evaluate this useful life. Please tell us the time period during which revenues related to the acquired backlog were recognized. Also, please assess if using a 15 year life had a material impact on your financial statements during each period presented.

Note 6 – Equity, page 10

3. It appears to us that the one million shares of common stock you issued in connection with the RMD acquisition that are subject to a put were required to be classified outside permanent equity upon issuance and through the date the put expires. We note that in assessing the materiality of this misclassification, you only addressed qualitative factors. Please assess if this misclassification had a material impact on your financial statements during each period presented both quantitatively and qualitatively.

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please provide us with a supplemental response letter that keys your responses to our comments and provides any requested supplemental information. Detailed letters greatly facilitate our review. Please file your supplemental response on EDGAR as a correspondence file. Please understand that we may have additional comments after reviewing your responses to our comments.

If you have any questions regarding these comments, please direct them to Mindy Hooker, Staff Accountant, at (202) 551-3732, Anne McConnell, Senior Staff Accountant, at (202) 551-3709 or to the undersigned at (202) 551-3689.

Sincerely,

John Hartz
Sr. Asst. Chief Accountant