



DIVISION OF  
CORPORATION FINANCE

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

March 26, 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 December 31, 2009  
File No. 0-27503**

Dear Mr. Johnson:

We have reviewed your filings and have the following 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 or may not 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 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**

**Management's Discussion & Analysis of Financial Condition and Results of Operations,  
Results of Operations, page 9**

1. We note that you attributed essentially all of the changes in your results of operations to your acquisition of RMD. Although we note that this acquisition materially impacted your results, your current disclosures do not adequately explain and analysis your operations. Please revise future annual and quarterly filings to provide a more comprehensive discussion of the underlying factors that impacted your operations. To the extent that multiple factors impacted your results, please quantify them. For example, please better explain why expenses changed relative to their percent of revenues.

2. We note that you only analyze your results of operations on a company wide basis. Please revise future annual and quarterly filings to also discuss your segments, including the factors that impacted each individual line item comprising your measures of segment profit/loss. Refer to our Release 33-8350.

Liquidity and Capital Resources, page 10

3. We note your disclosures related to changes in operating cash flows during the periods presented. Please revise future annual and quarterly filings to explain the underlying reasons for material changes in working capital items rather than just quantifying them. For example, in regard to accounts receivable, quantify and discuss changes in days outstanding.
4. We note that management believes that its current cash and cash equivalent balance, along with the net cash generated by operations and credit lines, are sufficient to meet anticipated cash needs for working capital for at least the next 12 months. However, we also note that a significant amount of debt will come due over the next two years. Please tell us and revise future annual and quarterly filings to elaborate on how you expect to repay this debt or if you intend to refinance. Please also include in your disclosures the potential risks and consequences if you are unable to repay or refinance your debt.

Critical Accounting Policies

Valuation of Long-Lived Assets, Intangible Assets and Goodwill, page 13

5. We note that a goodwill impairment charge could be material to your operations. To the extent that any of your reporting units have estimated fair values that are not substantially in excess of their carrying values and the goodwill for those reporting units, either individually or in the aggregate, could materially impact your operations or equity, please provide the following information in future filings:
  - Identify each such reporting unit and its corresponding reportable segment;
  - Disclose the amount of goodwill allocated to each such reporting unit;
  - Disclose the percentage by which fair value exceeds carrying value as of the most-recent step-one test for each such reporting unit;
  - Describe the methods and key assumptions that drive the estimated fair values of each such reporting unit and explain how they were determined;
  - Discuss the uncertainties associated with the key assumptions for each such reporting unit. For example, to the extent that key assumptions materially deviate from historical results, discuss those assumptions and the rationale for the deviations; and
  - Discuss any potential events, trends and/or changes in circumstances that could have a negative effect on the estimated fair value of each such reporting unit.If you have determined that estimated fair values substantially exceed carrying values for any or all of your reporting units, please disclose that determination in future filings. Refer to Item 303 of Regulation S-K and Section V of Interpretive Release 33-8350 for guidance. Please provide us your proposed future disclosures.

Consolidated Financial Statements

Note 1 – Summary of Significant Accounting Policies  
Business Acquisition – RMD, page F-7

6. Please tell us and disclose in future filings how you determined the per share value of the shares you issued to acquire RMD and how that value was determined, including how it related to your market price per share when the acquisition occurred.

Impairment of Long-Lived Assets, page F-10

7. We note your disclosure that “Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to *discounted* future net cash flows to be generated by the assets.” We note a similar disclosure on page 13 under Critical Accounting Policies. Please tell us how your disclosed policy complies with ASC Topic 360-10-35-17. To the extent that you intend to clarify or revise your policy in future filings, please provide us your proposed disclosures.

Goodwill and Other Intangible Assets, page F-10

8. Your disclosures indicate that you perform annual impairment tests that compare fair values to reported values for goodwill and intangible assets. We note similar disclosures on page 13 under Critical Accounting Policies. Based on your current disclosures it is not clear to us how your impairment policies for goodwill and intangible assets comply with ASC Topics 350-20-35, 350-30-35 and 360-10-35 based on the specific nature of the asset being tested. Please tell us how your policies are appropriate and comply with GAAP. To the extent that you intend to clarify or revise your policies in future filings, please provide us your proposed disclosures.
9. You indicate that you acquired various intangible assets. Please tell us the amount you allocated to each specific intangible asset you acquired. For indefinite lived intangible assets, please explain to us how you determined they have an indefinite life. For definite lived intangible assets, please tell us their life and explain to us how you determined the useful life. Also, please explain to us how you assess each specific intangible asset for impairment.
10. Please revise future filings to provide all the disclosures required by ASC Topics 350-20-50 and 350-30-50. Please provide us your proposed future disclosures.

Earnings Per Share, page F-12

11. Given the significance of your preferred stock dividends, please revise future annual and quarterly filings to disclose preferred dividends and net income applicable to common shareholders on the face of your statements of operations pursuant to SAB Topic 6:B.

Note 7 – Stockholders’ Equity, page F-19

12. We note your issuances of convertible preferred shares. In future filings, please include a discussion of your accounting policy for these convertible shares. Also, please tell us how you evaluated whether these securities included a beneficial conversion feature.

Note 13 – Segment Reporting, page F-24

13. In future filings, for each period presented, please disclose revenue by product type (by application) as required by ASC Topic 280-10-50-40 and information about major customers as required by ASC Topic 280-10-50-42. Additionally, in future filings, please disclose goodwill by reportable segment as required by ASC Topic 350-20-50-1 either here or in your goodwill footnote.

Exhibit 31

14. In all future annual and quarterly filings, please revise your certifications to use the exact language required, including the language required in the forepart of paragraph four regarding “internal controls over financial reporting”. Please refer to Item 601 of Regulation S-K.

**Form 10-Q for the period ended December 31, 2009**

Consolidated Financial Statements

Note 6 – Equity, page 9

15. We note your disclosure that certain shares of common stock you issued to acquire RMD may be required to be repurchased during a two year period starting July 1, 2010. It is not clear to us how and where these shares are recorded in your financial statements or why the repurchase terms of these shares was not disclosed in your Form 10-K. Please explain to us how you are accounting for these shares. If you have included them in permanent equity, please explain to us why you believe your classification is appropriate based on your potential repurchase obligation.

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.

Mr. Richard Johnson  
Dynasil Corporation of America  
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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 all information required under the Securities and 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 their filings;
- 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.

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 filing or in response to our comments on your filing.

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