

May 13, 2011

**VIA EDGAR AND OVERNIGHT DELIVERY**

Laura Nguyen  
Attorney-Advisor  
Division of Corporation Finance  
United States Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549

Re: **Allison Transmission Holdings, Inc.**  
**Amendment No. 1 to Registration Statement on Form S-1**  
**Filed April 26, 2011**  
**File No. 333-172932**

Dear Ms. Nguyen:

On behalf of our client, Allison Transmission Holdings, Inc., a Delaware corporation (the “Company”), and pursuant to the applicable provisions of the Securities Act of 1933, as amended, and the rules promulgated thereunder, please find enclosed for filing with the Securities and Exchange Commission (the “Commission”) a complete copy of Amendment No. 2 (“Amendment No. 2”) to the above-captioned Registration Statement on Form S-1 of the Company filed with the Commission on March 18, 2011, as amended by Amendment No. 1 filed with the Commission on April 26, 2011 (“Amendment No. 1”) (collectively, the “Registration Statement”).

This amendment reflects certain revisions of the Registration Statement in response to the comment letter to Mr. Eric C. Scroggins, the Company’s Vice President—General Counsel and Secretary, dated May 10, 2011, from the staff of the Commission (the “Staff”). For your convenience we are also providing copies of Amendment No. 2, marked to show changes against Amendment No. 1, in the traditional non-EDGAR format to each of Chanda DeLong and you.

The numbered paragraphs in italics below set forth the Staff’s comments together with the Company’s response. Unless otherwise indicated, capitalized terms used herein have the meanings assigned to them in the Registration Statement.

General

1. *We note the statement in the second paragraph on page one that your fully-automatic transmissions are the standard offered in the powertrain configuration of certain types of vehicles. Please revise to clarify whether this statement only relates to vehicles offered in the North American market or advise.*

**Response:** The Company has revised the disclosure on pages 1 and 67 of Amendment No. 2 in response to the Staff's comment to clarify that the statement relates to vehicles offered in the North American market.

2. *We note the disclosure on page two which states that you believe there is major growth opportunity outside of the United States as you estimate less than 5% of the medium and heavy-duty commercial vehicles sold outside North America in 2010 were equipped with fully-automatic transmissions. Please revise to balance the disclosure by clarifying that you cannot provide any assurance that your business strategies will be successful and that fully-automatic transmissions will be increasingly adopted outside North America.*

**Response:** The Company has revised the disclosure on pages 2 and 67 of Amendment No. 2 in response to the Staff's comment to balance the disclosure and clarify that we cannot provide any assurance that our business strategies will be successful or that fully-automatic transmissions will be increasingly adopted outside North America.

Our Industry & Served Markets, page 3

3. *We note the disclosure on page three which claims that the "start and stop" activity of manual transmissions results in "reduced performance, lower fuel efficiency, lower average speed for a given amount of fuel consumed and inferior ride quality." Please substantiate your claim and revise to state as a belief of management.*

**Response:** The Company has revised the disclosure on pages 3 and 68 in response to the Staff's comment to state this as a belief of management. Further, we believe that a truck's duty cycle can be broken into four components: acceleration (from a standing start or very low speeds), cruise speeds, deceleration and idle. All duty cycles experience varying degrees of operation in each of these component phases. Fuel consumption and fuel efficiency vary with the amount of time spent and the frequency of transitions between these components. Of these, acceleration, which is common in a duty cycle with a high degree of "start and stop" activity, and cruising are the main factors impacting fuel consumption.

During acceleration (from a standing start or very low speeds), a vehicle must perform several gear changes, or upshifts, to get up to speed. An Allison fully-automatic transmission provides smooth, seamless full-power upshifts under acceleration, without interrupting the transfer of engine power to the wheels, which we believe is the most fuel-efficient way to perform an upshift. In contrast, manual and automated manual transmissions must interrupt the flow of engine power to the wheels every time an upshift or downshift is made (the disconnect clutch, which disconnects the power from the engine to the wheels, is engaged each time a shift

is performed). The interruption of power during an upshift results in loss of vehicle energy, lower average speeds and an uneven ride (as power is applied, interrupted and reapplied to the wheels). Ultimately, with every upshift performed by a manual or automated manual transmission, less work is accomplished with the fuel consumed than is accomplished by a fully-automatic transmission with seamless full-power shifts.

A recent data log analysis of two North American pickup and delivery fleets by Allison showed an average of over 600 upshifts during an eight-hour timeframe. Each of these upshifts represents a point where the inefficiencies of manual and automated manual transmissions reduce performance, fuel efficiency, average speed and ride quality. Other types of vehicles experience frequent upshifts consistent with their duty cycle. Over a typical eight hour workday, we believe this cumulative erosion of efficiencies and comfort will add up to significant performance and efficiency degradation as compared to a fully-automatic transmission.

4. *We note the disclosure that automatic transmissions deliver increased fuel efficiency. However, we note the disclosure in the fourth sentence of the first paragraph on page three that manual transmission provides the highest degree of fuel economy during steady-state cruising in long-distance trucking. Please revise here and throughout the prospectus to limit your claim regarding fuel economy for fully-automated transmissions given the noted disclosure.*

**Response:** The Company has revised the disclosure on pages 1, 3, 67 and 68 of Amendment No. 2 in response to the Staff's comment to clarify that automatic transmissions are more fuel efficient during duty cycles with high degrees of start and stop activities, as well as in urban environments, as described above in response to comment number three.

5. *Refer to the last sentence of the first paragraph. While we note your statement that historically end users have exhibited a willingness to pay for fully-automatic transmissions, we note that less than 5% of the medium and heavy commercial vehicles sold outside North America in 2010 were equipped with fully-automatic transmissions. Please remove the statement or revise.*

**Response:** The Company has revised the disclosure on pages 3 and 68 of Amendment No. 2 in response to the Staff's comment to remove the statement.

Increasing penetration of fully-automatic transmissions, page 4

6. *We note your response to prior comment 17 and reissue in part. Please revise to substantiate your belief that emerging markets will also adopt fully-automatic transmissions. Although we note that less than 5% of the medium and heavy commercial vehicles sold outside North America in 2010 were equipped with fully-automatic transmissions, it is not readily clear that emerging markets will increasingly adopt fully-automatic transmissions in the near future. Also revise throughout the prospectus to remove statements regarding the "trend toward automaticity."*

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**Response:** The Company has revised the disclosure on pages 1, 4, 18 and 67 of Amendment No. 2 in response to the Staff's comment to remove statements regarding the trend toward automaticity. The Company has also clarified that its belief that emerging markets will adopt fully-automatic transmissions is based on its experience in China and India. Specifically, based on its experience, end users in these markets adopted fully-automatic transmissions at increasing rates when they were modernizing their fleets and had been educated about the value of using fully-automatic transmissions in the vocations in which the end users operated.

Increasing Emphasis on Fuel Efficiency and Lower Emissions, page 5

7. *We note your response to our prior comment 18 and reissue. Please revise to disclose that demand for your hybrid-propulsion systems decreased in 2010, as you do not appear to have done so, or advise.*

**Response:** The Company has revised the disclosure on page 5 of Amendment No. 2 in response to the Staff's comment to disclose that demand for our hybrid-propulsion systems decreased in 2010.

Our sales are concentrated among our top five OEM customers, page 19

8. *We note your response to prior comment 34 and reissue in part. Please revise to disclose the amount of the late payment so that investors can better assess this risk.*

**Response:** The Company has revised the disclosure on page 20 of Amendment No. 2 in response to the Staff's comment to disclose the amount of the late payment.

Increases in cost, disruption of supply, page 21

9. *We note your response to prior comment 36 and that some of the raw materials and components are only from "fully validated suppliers." Please revise to explain the difference between your regular suppliers and fully validated suppliers.*

**Response:** The Company has revised the disclosure on page 22 of Amendment No. 2 in response to the Staff's comment to clarify that all of our suppliers are fully validated suppliers.

Trends impacting our business, page 44

10. *While we note your response to prior comment 45, it appears that the data supporting the "pent up demand" for new commercial vehicles is related to the North American market. Please revise or advise.*

**Response:** The Company has revised the disclosure on pages 4, 45 and 69 of Amendment No. 2 in response to the Staff's comment to indicate that "pent up demand" for new commercial vehicles is related to the North American market.

Net sales, page 51

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11. *We note your response to prior comment 47. Please revise the risk factor entitled, "Sales of our hybrid-propulsion systems may be negatively impacted..." to disclose the decrease in revenue generated from hybrid-propulsion systems for the period ending on December 31, 2010.*

**Response:** The Company has revised the disclosure on page 19 of Amendment No. 2 in response to the Staff's comment to disclose the decrease in revenue generated from hybrid-propulsion systems in 2010.

Liquidity and Capital Resources, page 54

Cash Used for Financing Activities, page 56

12. *Refer to our previous comments 49 and 60. Please further revise your disclosure related to derivative-related collateral posting requirements to include a sensitivity analysis explaining the impact a 1% change in the LIBOR interest rate curve would have on the required collateral.*

**Response:** The Company has revised the disclosure on page 59 of Amendment No. 2 in response to the Staff's comment to include the requested sensitivity analysis. Assuming all collateral contingent features remain the same, a 1% increase or decrease in the LIBOR interest rate curve would correspondingly reduce our collateral requirement by approximately \$26.6 million or increase our collateral requirement by approximately \$28.1 million, respectively.

Contractual Obligations, Contingent Liabilities and Commitments, page 60

13. *Refer to your response to our prior comment 58. Please add a footnote to this table to provide information comparable to that included in paragraph 4 of your response and to clarify the fact that these amounts are not included in the table.*

**Response:** The Company has revised the disclosure on pages 62, 63 and 64 of Amendment No. 2 in response to the Staff's comment.

Business, page 64

14. *We note your response to prior comment 50 and your revised disclosure on pages 64-65. Please revise the fourth paragraph on page 64 to disclose that you cannot provide any guarantee that such growth rates will materialize in the future and that emerging markets will increasingly adopt fully-automatic transmissions.*

**Response:** The Company has revised the disclosure on pages 2 and 68 of Amendment No. 2 in response to the Staff's comment to disclose that the Company cannot provide any guarantee that such growth rates will materialize in the future or that emerging markets will increasingly adopt fully-automatic transmissions.

Summary Compensation Table, page 98

15. *Please revise this table to include all compensation amounts for 2010 or advise.*

**Response:** The Company has revised the disclosure on page 101 of Amendment No. 2 in response to the Staff's comment.

Director Compensation For 2009, page 102

16. *Please revise the section title to reflect the director compensation for 2010.*

**Response:** The Company has revised the disclosure on page 105 of Amendment No. 2 in response to the Staff's comment.

Services Agreement, page 108

17. *Please disclose the reasons for the termination of the management agreement which would necessitate the payment of the \$16 million termination fee. Also disclose your services arrangement with the Sponsors and the termination fee under the "Our Sponsors" section on page 9.*

**Response:** The Company has revised the disclosure on pages 10 and 111 of Amendment No. 2 in response to the Staff's comment to disclose the services arrangement with the Sponsors and the termination fee. In addition, on page 108 of Amendment No. 2, the Company has disclosed the reasons for the termination of the management agreement that necessitate the payment of the termination fee.

18. *Please file the management agreement with Carlyle and Onex or explain to us why this is not necessary.*

**Response:** The Company respectfully submits that it does not believe it is required to file the management agreement pursuant to Rule 601(b)(10). The Company does not view the agreement as material to the Company because the management agreement is not significant to the operations of the Company and the fees payable pursuant to the agreement are not material to the Company. Further, it will be terminated prior to the consummation of the Company's initial public offering, does not represent an ongoing obligation of the Company following effectiveness and is therefore not material to investors.

Note 5 – Goodwill and Intangible Assets, pages F-16

19. *We note your response to our previous comment 56. In light of the significance of goodwill and intangible assets to your balance sheet, please revise your disclosure here and in MD&A to indicate the following as included in your response:*

- *Percentage or amount by which fair value exceeded carrying value;*
- *Description of key assumptions that drive fair value; and*
- *Discussion of the uncertainty associated with the key assumptions and any potential events and/or circumstances that could have a negative effect.*

**Response:** The Company has revised the disclosure on pages 48, F-16 and F-17 of Amendment No. 2 in response to the Staff's comment.

Note 10 — Other Income, net, page F-26

20. *Refer to your response to our previous comment 65. It appears that the income statement treatment of allowable expenses and capital expenditures is inconsistent. Specifically, we note from your response that amounts earned for allowable expenses incurred are credited to other income, net while amounts earned for capital expenditures are credited against the gross basis of the capital asset. It appears that, therefore, amounts for allowable expenses result in non-operating income, while amounts used for capital expenditures eventually impact operating income through reduced depreciation expense. In order to remedy this inconsistency, please expand your accompanying disclosures. For example, we see from your narrative that you have recorded \$13.8 million of reimbursable expenses to date. Please also quantify any portion of the \$62.5 million in available matching funds that has been credited against the gross basis of capital assets to date, as well as any amounts of depreciation offset by fiscal period and in the aggregate as applicable. If none, please so state.*

**Response:** The Company has revised the disclosure on page F-27 of Amendment No. 2 in response to the Staff's comment.

Item 16. Exhibits and Financial Statement Schedules

21. *We note your response to our prior comment 69 and reissue in part. Please file Attachment A to the Copyright Security Agreement, as you do not appear to have done so, or advise.*

**Response:** The Company has refiled the Copyright Security Agreement, including Attachment A.

We hope that the foregoing has been responsive to the Staff's comments and look forward to resolving any outstanding issues as quickly as possible. Please do not hesitate to contact me at (202) 637-2139 or my colleague, Jason M. Licht, at (202) 637-2258 with any questions or further comments you may have regarding this filing or if you wish to discuss the above.

May 13, 2011

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LATHAM & WATKINS<sup>LLP</sup>

Sincerely,

/s/ Rachel W. Sheridan  
Rachel W. Sheridan  
of LATHAM & WATKINS LLP

Enclosures

cc: (via fax)  
Eric C. Scroggins  
Chanda DeLong