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February 29, 2012

VIA EDGAR AND OVERNIGHT DELIVERY

Loan Lauren P. Nguyen Special Counsel 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. 6 to Registration Statement on Form S-1 Filed February 17, 2012 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. 7 ("Amendment No. 7") 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"), Amendment No. 2 filed with the Commission on May 13, 2011 ("Amendment No. 2"), Amendment No. 3 filed with the Commission on June 17, 2011 ("Amendment No. 3"), Amendment No. 4 filed with the Commission on August 10, 2011 ("Amendment No. 4"), Amendment No. 5 filed with the Commission on November 4, 2011 ("Amendment No. 5") and Amendment No. 6 filed with the Commission on February 17, 2012 ("Amendment No. 6") (collectively, the "Registration Statement").

This amendment reflects certain revisions of the Registration Statement in response to the comment letter to Mr. Lawrence E. Dewey, the Company's Chief Executive Officer, dated February 28, 2012, from the staff of the Commission (the "Staff"). For your convenience we are also providing copies of Amendment No. 7, marked to show changes against Amendment No. 6, in the traditional non-EDGAR format to you.

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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.

Prospectus Cover Page

1. Refer to the first sentence of the first paragraph. Please reconcile the disclosure that the selling shareholders "are affiliates of The Carlyle Group, or Carlyle, and affiliates of Onex Corporation, or Onex" with the disclosure on page 11 which states that the "selling stockholders in this offering are Carlyle and Onex." Please revise.

Response: The Company has revised the disclosure on page 11 of Amendment No. 7 in response to the Staff's comment.

Prospectus Summary, page 1

2. Please refer to the use of compound annual growth rate in the first paragraph on page 2. Please remove this disclosure or balance the disclosure by providing the growth rate for each of the years here. We further note that this disclosure is duplicative with the disclosure on page 4. We also note similar disclosure in the "Increasing penetration of fully-automatic transmissions" paragraph on page 4. Please revise throughout accordingly.

Response: The Company has revised the disclosure on pages 2, 4 and 67 of Amendment No. 7 in response to the Staff's comment. The Company notes that it has revised the disclosure in the "Increasing penetration of fully-automatic transmissions" paragraph on page 4 to clarify that the Frost & Sullivan report, which is cited in that paragraph as the source of the 2017 projected penetration of fully-automatic transmission in the medium- and heavy-duty commercial vehicle markets in North American and Western Europe only cites 2017 data and not intervening years and is not intended to provide an annual growth rate .

3. Please remove the word "proven" from the last sentence of the second paragraph on page 1.

Response: The Company has revised the disclosure on pages 1 and 66 of Amendment No. 7 in response to the Staff's comment.

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Growth in commercial vehicle demand in emerging markets, page 3

4. Please balance this subsection and the next four subsections by noting that you cannot provide assurances that the projected growths in emerging markets or fully-automatic transmissions will materialize or will occur at the rates referenced.

Response: The Company has revised the disclosure on pages 4 and 5 of Amendment No. 7 in response to the Staff's comment.

Well-Positioned to Capitalize on Multiple Growth Opportunities, page 6

5. Please explain what a "metro market" is.

Response: The Company has revised the disclosure on page 6 of Amendment No. 7 in response to the Staff's comment to clarify that "metro market" was intended to refer to the "metro" tractor market as such term is used in the preceding sentence.

Risk Factors, page 17

A majority of our sales to the military end market are to U.S. government entities, page 24

6. Please revise to explain the reasons for the decrease in net sales from government entities for 2011.

Response: The Company has revised the disclosure on page 24 of Amendment No. 7 in response to the Staff's comment.

Exhibits List, page II-3

7. Counsel is required to provide a finalized legality opinion regarding the securities in the offering. Please revise to delete "form of" from the description and file a finalized opinion.

Response: Counsel has revised the legality opinion and the Company has filed the revised legality opinion as exhibit 5.1 with Amendment No. 7 in response to the Staff's comment.

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Exhibit 5.1

8. Please have counsel revise and include the number of shares of securities in the offering.

Response: Counsel will revise and the Company will file the final legality opinion regarding the securities to include the number of shares of securities being sold in the offering prior to effectiveness of the registration statement.

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) 637-2258 with any questions or further comments you may have regarding this filing or if you wish to discuss the above.

Sincerely,

/s/ Jason M. Licht

Jason M. Licht of LATHAM & WATKINS LLP

Enclosures

cc: Larry E. Dewey Eric C. Scroggins, Esq. Rachel W. Sheridan, Esq.