

January 10, 2011

5

Via EDGAR and U.S. Mail

Securities and Exchange Commission Division of Corporation Finance 100 F Street, NE Washington, DC 20549-3628 Attn: Daniel F. Duchovny, Esq.

Re: Applied Signal Technology, Inc.

Schedule TO-T filed December 30, 2010 by RN Acquisition Company and Raytheon Company SEC File No. 005-52819

Dear Mr. Duchovny:

On behalf of our clients, Raytheon Company, a Delaware corporation ("Raytheon"), and RN Acquisition Company, a California corporation ("Merger Sub"), this letter sets forth Raytheon's and Merger Sub's responses to the comments of the staff (the "Staff") of the Office of Mergers & Acquisitions in the Division of Corporation Finance of the Securities and Exchange Commission (the "Commission") set forth in your letter dated January 5, 2011 (the "Comment Letter") with respect to the Schedule TO-T filed by Raytheon and Merger Sub on December 30, 2010 (the "Schedule TO"). In connection with this response, Raytheon and Merger Sub are filing concurrently herewith via EDGAR Amendment No. 1 to the Schedule TO ("Amendment No. 1"). Capitalized terms used in this letter without definition have the meanings set forth in the Schedule TO.

The numbered paragraphs below correspond to the numbered paragraphs in the Comment Letter. To facilitate your review, we have reproduced the text of the Staff's comments in italics below.

Offer to Purchase

Certain Conditions of the Offer, page 43

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Daniel F. Duchovny, Esq. January 10, 2011 Page 2

1. We refer to the last paragraph of this section. In our view, you may condition a tender offer on any number of conditions, as long as they are described with reasonable specificity, capable of objective verification, and outside of your control. The phrase "regardless of the circumstances (including action or inaction by Parent or the Purchaser...) giving rise to any such condition..." implies that you may assert an offer condition even when the condition is "triggered" by your own action or inaction. Please revise the disclosure throughout to remove the implication that you may trigger a condition through your action or inaction.

The phrase quoted in the Comment Letter is intended to clarify that Raytheon and Merger Sub have the right under the Merger Agreement to take (or refrain from taking) certain actions that might, in turn, affect whether any of the conditions to the tender offer are satisfied. For example, the Merger Agreement provides, in general terms, that Raytheon and Merger Sub are obligated to use their "reasonable best efforts" to obtain regulatory approvals for the merger that are necessary to satisfy the Competition Law and Government Consent Condition; however, they are specifically not obligated to sell or divest assets if necessary to obtain such approvals.

Accordingly, the full sentence referred to in the comment goes on to include the following: "...provided that nothing shall relieve any party from any obligation or liability such party has under the Merger Agreement" [e.g., the obligation to use reasonable best efforts to satisfy tender conditions], and concludes by stating that Raytheon's and Merger Sub's right to waive tender conditions are "...subject to the terms of the Merger Agreement and the applicable rules and regulations of the SEC."

Raytheon and Merger Sub have not revised the Schedule TO or Offer to Purchase in response to this comment because they believe the relevant sentence (that includes, in part, the phrase noted by the Staff), when read in its entirety, provides important, clarifying disclosure to investors: specifically, that while Raytheon and Merger Sub may act or refrain from acting in ways that may affect tender conditions, their actions and inactions remain subject to their obligations under the Merger Agreement and any applicable SEC rules. However, Raytheon and Merger Sub confirm to the Staff their understanding that they cannot trigger a tender condition through their action or inaction, except to the extent such actions or inactions are permitted under the Merger Agreement and disclosed in the Schedule TO and/or Offer to Purchase, as applicable, and otherwise comply with the rules and regulations of the SEC.

2. We note the language in the last paragraph in this section that the bidders' failure "at any time to exercise any of the foregoing rights shall not be deemed a waiver of any such right." If an event triggers a listed offer condition, and the bidders determine to proceed with the offer anyway, they have waived the offer condition. When an offer condition is

Daniel F. Duchovny, Esq. January 10, 2011 Page 3

triggered by events that occur during the offer period and before the expiration of the offer, the bidders should inform security holders how they intend to proceed promptly, rather than waiting until the end of the offer period, unless the condition is one where satisfaction of the condition may be determined only upon expiration. Please confirm your understanding supplementally.

Raytheon and Merger Sub confirm their understanding that when an offer condition is triggered by events that occur during the offer period and before the expiration of the offer, Raytheon and Merger Sub should inform security holders how Raytheon and Merger Sub intend to proceed promptly, rather than waiting until the expiration of the offer, unless the condition is one where satisfaction may be determined only upon expiration.

3. With respect to the same paragraph referenced immediately above, we note that the disclosure suggests that once an offer condition is triggered, you must decide whether or not to waive the condition. When a condition is triggered and you decide to proceed with the offer anyway, we believe that this constitutes a waiver of the triggered condition(s). Depending on the materiality of the waived condition and the number of days remaining in the offer, you may be required to extend the offer and recirculate new disclosure to security holders. You may not, as this language seems to imply, simply fail to assert a triggered offer condition and thus effectively waive it without officially doing so. Please confirm your understanding supplementally.

Raytheon and Merger Sub confirm their understanding that where an offer condition is triggered, Raytheon and Merger Sub will not fail to assert a triggered offer condition and proceed with the offer without formally waiving the condition, and will assess the corresponding obligations regarding potential extension of the offer and recirculation of new disclosure.

4. We note that in the last paragraph you reserve the right to include or exclude, for purposes of determining whether the minimum tender condition has been satisfied, shares tendered pursuant to guaranteed delivery procedures. The provision has the effect of allowing the bidders to determine the satisfaction or failure of a condition in their own offer. The ability of a bidder to determine, in its sole discretion, whether a condition has occurred may render the offer illusory. Please revise.

Raytheon and Merger Sub have amended and supplemented the Schedule TO and the Offer to Purchase (to the extent incorporated by reference therein) to provide that shares tendered pursuant to guaranteed delivery procedures, as to which delivery has not been completed, will be excluded for purposes of determining whether the minimum tender condition has been satisfied.

Daniel F. Duchovny, Esq. January 10, 2011 Page 4

On behalf of Raytheon and Merger Sub, this is to acknowledge, as requested by the Staff in the closing comments of the Comment Letter, that:

- each of the bidders is responsible for the adequacy and accuracy of the disclosure in its filings with the Commission;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; and
- the bidders 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.

If you have any questions regarding the contents of this letter, please do not hesitate to contact me at the above number.

Sincerely,

/s/ Gary E. Thompson, Esq.

Gary E. Thompson, Esq.

cc: Kathryn Gilchrist Simpson, Esq. Jason C. Harmon, Esq.