

October 10, 2013

VIA EDGAR AND OVERNIGHT COURIER

Division of Corporation Finance  
Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549

Attention: Jay Webb  
Martin James

Re: Mercury Systems, Inc.  
Form 10-K for the Fiscal Year Ended June 30, 2013  
Filed August 16, 2013  
File No. 000-23599

Gentlemen:

This letter is submitted by Mercury Systems, Inc. (the “Company” or “Mercury”) in response to the comments of the staff of the Division of Corporation Finance of the Securities and Exchange Commission (the “Staff”) as set forth in your letter to Mark Aslett dated September 30, 2013 with respect to the Company’s Form 10-K for the fiscal year ended June 30, 2013 (the “Comment Letter”). For reference purposes, the text of your letter has been reproduced herein with responses below each numbered comment.

Form 10-K for the year ended June 30, 2013

Comment 1:

Business, page 3

Hardware Products, page 9

“Please describe for us in greater detail the types of hardware products that you produce. In this regard, we note that you describe the technologies you utilize to develop your hardware products and also describe end products that contain your hardware products; however, your disclosure does not clearly identify and describe the hardware products you provide to your customers. Please also confirm that you will provide similar disclosure in future filings, as applicable.”

Response to Comment 1:

In response to the Staff’s comment to describe in greater detail the types of hardware products that we produce and provide to our customers, we group our hardware products into the following categories:

- signal and image processing, multi-computer and sensor interfaces, including embedded processing boards, switch fabric boards, high speed input/output boards, digital receiver boards, and chassis-based systems using air, conduction, and proprietary cooling technologies;
- radio frequency (“RF”) and microwave assemblies, including tuners, converters, transceivers, and switch filters; and
- RF and microwave components, including power amplifiers and limiters, switches, oscillators, and equalizers.

This confirms that we will incorporate similar disclosure regarding our hardware products in future periodic filings, as applicable.

Comment 2:

Results of Operations, page 31

“We noted disclosures that net revenues in your MCE segment decreased during fiscal 2013 as compared to fiscal 2012 and the decrease was primarily driven by lower net defense revenues of \$52.8 million. When individual line items disclosed in your statements of operations significantly fluctuate in comparison to the comparable prior period, management should quantify and disclose the nature of each item that caused the significant change. For example, please quantify each material factor, i.e. such as price changes and / or volume changes, separately disclose the effect on operations attributable to each factor causing the aggregate change from year to year in your segments and total revenues and disclose the nature of or reason for each factor causing the aggregate change. Your disclosures should discuss the underlying material causes of the factors described as well as the known or expected future impact of any referenced factors on operating results. Please revise future filings to incorporate the above comment to all of the disclosures herein related to the analysis of your results of operations. For further guidance, please refer to Item 303 and the related instructions in Regulation S-K as well as SEC Interpretive Release No. 34-48960 (December 19, 2003).”

Response to Comment 2:

In response to the Staff’s comment, to the extent that any of our individual line items disclosed in our statements of operations significantly fluctuate in comparison to the comparable prior period, the Company will quantify and disclose the nature of each material item or factor that caused the significant change, the effect on operations, the nature or reason for each item or factor, and the expected future impact of any referenced factors on operating results, in each case with reference to applicability to our segments as appropriate. We will ensure the appropriate disclosures, as defined by Item 303 of Regulation S-K, as well as SEC Interpretive Release No. 34-48960, will be made in future reporting periods.

Comment 3:

Critical Accounting Policies and Significant Judgments and Estimates, page 40

“We saw disclosures on page 59 that “you determined the fair values of the ACS and MFS reporting units as of January 1, 2013” and also saw disclosures on that same page that “a 1% increase in the discount rate used in the discounted cash flow analysis of the ACS reporting unit would have resulted in the failure of the step one interim goodwill impairment test”. In addition, we noted your market capitalization is or has recently been less than your shareholders’ equity at June 30, 2013. To the extent that any of your reporting units have estimated fair values that are not substantially in excess of their carrying values of operations and goodwill for such reporting units, in the aggregate or individually, if impaired, could materially impact your results or total shareholders’ equity, in future filings please identify and provide the following disclosures for each such reporting unit:

- The percentage by which fair value exceeds carrying value
- The amount of goodwill allocated to the reporting unit
- A description of the material assumptions that drive estimated fair value. For example, we noted your disclosures on page 42 of the impact of changes in discount rate assumption on your step one calculations but you should also consider discussing the impact of changes in your growth rate and operating margins on your step one calculations
- A discussion of any uncertainties associated with each key assumption
- A discussion of any potential events, trends and/or circumstances that could have a negative effect on estimated fair value

Please refer to Item 303 of Regulation S-K.”

Response to Comment 3:

In response to the Staff's comment, to the extent that any of our reporting units have estimated fair values that are not substantially in excess of their carrying values of operations and goodwill for such reporting units, in the aggregate or individually, which if impaired, could materially impact our results or total shareholders' equity, the Company will ensure the appropriate disclosures, as referenced in your letter and as defined by Item 303 of Regulation S-K, will be made in future reporting periods.

Comment 4:

Statements of Operations and Comprehensive Income (Loss), page 46

"We note the disclosures in this section and in the "Business" section on page 3, which indicate that you generate revenues from both the sale of products and the provision of services. Tell us the amount of revenues you recorded relating to services in each reported period. As applicable, revise this statement in future filings to comply with Rules 5-03(b)(1) and (2) of Regulation S-X."

Response to Comment 4:

In response to the Staff's comment, at the end of fiscal 2013 we performed an assessment of the amount of revenues we recorded relating to services in each reported period.

We define service revenue as revenue from activities that are not associated with the design, development, production, or delivery of tangible assets, software or specific capabilities sold by us. Examples of our service revenues include: analyst services and systems engineering support, consulting, maintenance and other support, testing and installation.

In accordance with the foregoing, we recorded service revenues of \$19.9 million, \$15.5 million and \$5.6 million in fiscal years 2013, 2012 and 2011, respectively. The higher service revenue in recent years reflects the impact of a series of acquisitions that expanded the Company's services offerings. In each of these years, service revenues represented less than 10% of total Company revenues for said period.

In accordance with Rules 5-03(b)(1) and (2) of Regulation S-X, each class of revenue which is not more than 10% of the sum of all classes may be combined with another class; hence, the Company combined its product and service revenues into a single class and did not present service revenues in our Form 10-K for the fiscal year ended June 30, 2013.

If, in future periods, the Company's revenue relating to services exceeds 10% of total Company revenue, we will separately present the amount of such revenue on the face of the Company's statement of operations in accordance with Rule 5-03(b) of Regulation S-X.

As requested in the Comment Letter, the Company acknowledges that:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filing;
- 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.

If you should have any questions concerning the enclosed matters, please contact the undersigned at (978) 967-1776.

/s/ MARK ASLETT

Mark Aslett  
President and Chief Executive Officer