

January 11, 2017

Via EDGAR

Division of Corporation Finance
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549
Attention: Martin James, Senior Assistant Chief Accountant
Office of Electronics and Machinery

Re: Mercury Systems, Inc.
Form 10-K for the Fiscal Year Ended June 30, 2016
Filed August 16, 2016
File No. 000-23599

Dear Mr. James:

This letter is submitted by Mercury Systems, Inc. (the “Company,” “Mercury,” “we” or “our”) in response to the comments from the staff (the “Staff”) of the Division of Corporation Finance of the U.S. Securities and Exchange Commission (the “Commission”) as set forth in your letter dated January 5, 2017 (the “Comment Letter”) to Gerald M. Haines II regarding the Company’s Form 10-K for the fiscal year ended June 30, 2016, File No. 000-23599. For ease of reference, the text of the Staff’s comment contained in the Comment Letter is printed below in bold and is followed by the Company’s response.

Form 10-K for the Fiscal Year Ended June 30, 2016

Comment 1:

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Non-GAAP Financial Measures, page 40

- We note that you exclude restructuring and other charges from your non-GAAP measures. Please explain to us why these are not normal, recurring, cash operating expenses necessary to operate your business. Refer to Question 100.01 of the updated Non-GAAP Compliance and Disclosure Interpretations issued on May 17, 2016.**

Mercury Response to Comment 1: In response to the Staff’s comment, we have referred to Question 100.01 of the updated Non-GAAP Compliance and Disclosure Interpretations issued on May 17, 2016 and have concluded that the adjustment for restructuring and other charges are not normal and recurring as contemplated in the foregoing interpretations. The Company’s adjustments reflected in restructuring and other charges are almost entirely related to acquisitions and organizational redesign programs initiated as part of discrete post-acquisition integration activities. Following certain acquisitions, the Company initiates discrete restructuring programs in connection with the integration of the acquired businesses to eliminate duplicative positions, facilities, and other redundant costs. Although the Company historically realigned operating expenses through general workforce reductions unrelated to acquisitions, no such general (i.e. non-discrete acquisition related) business restructurings occurred during the three year period covered by the Form 10-K (fiscal 2014-2016).

Restructuring and other charges are primarily related to permanent reductions in the workforce of acquired businesses, termination of third party contracts, other exit costs and related charges as a result of business acquisitions and associated organizational redesign programs which are reflected in the historical results for a relatively short, discrete period of time. The costs associated with these discrete programs vary significantly in size and frequency and thereby create significant volatility in the historical results, as well as a lack of direct comparability due to the often differing composition of those costs. By excluding these costs, supplemental information is being provided for investors to better analyze the ongoing operating performance of the Company. For instance, the costs associated with restructuring programs were \$1.2 million, \$3.2 million and \$5.4 million in fiscal years 2016, 2015 and 2014, respectively, of which more than 98% in total are related to post-acquisition integration activities. Additionally, the downward trend is consistent with our internal integration timeline. We do not expect to incur future restructuring and other charges, unless we have additional acquisitions in the future, which is unpredictable. Further, any such restructuring costs will vary dramatically depending on the nature and size of the acquisition. In addition, these costs are not used for an assessment of the long-term performance of the Company or the sustainability of our results. Most importantly, the elimination of these costs from Non-GAAP measures does not result in a reduction of ongoing operating expenses necessary to conduct our business on a continuing basis. As such, the Company believes that the exclusion of restructuring and other charges from certain Non-GAAP financial measures provides supplemental information that enables Company management and its investors to better analyze and compare the Company's ongoing operating performance from period to period.

In accordance with the Staff's comment, in future filings, the Company will enhance its disclosures related to the adjustment of restructuring and other charges in the Non-GAAP Financial Measures section.

Comment 2:

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Non-GAAP Financial Measures, page 40

2. **Refer to the table on page 41 and footnote (2). Also refer to similar disclosure on page 22 of your September 30, 2016 Form 10-Q. Please tell us how you determined the effect to your tax provision of the items added back in determining adjusted EBITDA. Refer to Question 102.11 of the updated Non-GAAP Compliance and Disclosure Interpretations issued on May 17, 2016 when preparing your next filing and earnings release.**

Mercury Response to Comment 2: In response to the Staff's comment, the Company has determined that adjusted income from operations, as calculated in the table on page 41 and footnote (2) of our Form 10-K for the fiscal year ended June 30, 2016 and on page 22 of our September 30, 2016 Form 10-Q, is a performance measure. In accordance with the guidance in Question 102.11, the Company calculates the tax effect of the add-backs used in determining adjusted income from operations by calculating the current and deferred tax impact of those add-backs. The Company recasts its income (loss) from operations before income taxes to include the add-backs and recalculates the income tax provision using this adjusted income (loss) from operations before income taxes. The adjusted tax provision reflects all of the relevant impacts of the add-back items, inclusive of those items that have an impact to the effective tax rate, current provision and deferred provision. As a result of the varying impacts of each item, the effective tax rate for the adjusted tax provision will vary period over period as compared to the GAAP effective tax rate. The adjusted tax provision is then compared to the GAAP tax provision, and the difference is reflected as "impact to income taxes" in the reconciliation between income from operations and adjusted income from operations.

In accordance with the Staff's comment, in future filings the Company will enhance its disclosures related to the tax effect of the items added back in determining adjusted income from operations.

Comment 3:**Item 8. Financial Statements****Note P – Operating Segment, page 74**

3. We note your disclosure that during fiscal 2016, you completed a series of internal organizational structure changes that eliminated your previous operating segments, Mercury Commercial Electronics (“MCE”) and Mercury Defense Systems (“MDS”). So that we may further understand the changes made, please provide us with sufficient information describing the changes made which resulted in the elimination of your MCE and MDS operating segments and your determination that you have only one operating segment. Please address the following:

- **Describe the role of the CODM and each of the individuals who report to the CODM.**
- **Describe the information regularly provided to the CODM, how frequently it is prepared and how it changed during fiscal 2016.**
- **Describe the specific changes to the allocation of resources and assessment of performance by the CODM.**
- **Describe how your organizational changes impacted your reporting unit structure for goodwill testing purposes. In this regard, we note that you continue to allocate goodwill to your MCE and MDS reporting units.**

Mercury Response to Comment 3: In response to the Staff’s comment, the Company has provided you with the information below describing the changes made which resulted in the elimination of our former MCE and MDS operating segments and our determination that we have only one operating segment. Additionally we address below the following questions from the Staff:

- Describe the role of the CODM and each of the individuals who report to the CODM.
- Describe the information regularly provided to the CODM, how frequently it is prepared and how it changed during fiscal 2016.
- Describe the specific changes to the allocation of resources and assessment of performance by the CODM.
- Describe how your organizational changes impacted your reporting unit structure for goodwill testing purposes. In this regard, we note that you continue to allocate goodwill to your MCE and MDS reporting units.

At the beginning of May, 2016 (the fourth quarter of Mercury’s fiscal 2016), the Company’s chief operating decision maker (“CODM”) ceased reviewing the results of our former MCE and MDS operating segments. As discussed in more detail below, since that time, the CODM has utilized only the total Company’s consolidated results to make decisions and allocate resources in accordance with the criteria of Paragraph 280-10-50-1 of ASC 280, and the Company now has no other operating segment that meets these criteria.

Background

Beginning approximately 18 months ago, following a series of acquisitions, the Company made significant and important organizational changes to align and scale Mercury into one business, which ultimately resulted in the Company adopting the term “One Mercury” to describe its strategic approach. These changes included the implementation of centralized operating functions such as sales, engineering, program management, and quality assurance, as well as centralized administrative functions including legal, accounting, human resources, marketing and information technology. In addition, during fiscal 2016, Mercury completed the largest acquisition in its history, the \$300 million acquisition of the Embedded Security, RF and Microwave, and Custom Microelectronics businesses of Microsemi Corporation, which is referred to hereafter as the “Microsemi carve-out”. Integration of the Microsemi carve-out commenced immediately upon completion of the acquisition and involved elements spanning all of Mercury’s existing capabilities, product lines and functional areas of the business. These internal organizational changes, completed acquisitions, and extensive acquisition integration activities were executed to support the Company’s strategy of creating a better alternative for affordable, secure sensor processing subsystems designed and made in the USA.

Additionally, one of the core tenets of the Company’s strategy has been the continued expansion of its technological capabilities and program content along the sensor processing chain. With the expansion of these capabilities and related organizational changes, Mercury now provides integrated subsystem solutions to its customers, involving technologies and products sourced from formerly distinct parts of Mercury’s business in such a way that the former distinctions between the MCE and MDS operating segments no longer exist. Mercury now provides solutions to common customers (Department of Defense and the Defense prime contractors and subcontractors), common markets (Radar, Electronic Warfare, C4I (Command, Control, Compute, Communicate, Intelligence) and Mission Control) with common products (RF and Microwave, mixed signal, storage, processing, and radar simulation, all supported by horizontal secure processing solutions, or SPS, layer consisting of software and firmware) and common manufacturing techniques (surface mount technology, or SMT, chip and wire, through-hole, test and tune, and integration). These manufacturing techniques, and the supporting technologies, systems and infrastructure are not unique to a single facility, but are common across our manufacturing facilities located in Hudson, NH, West Caldwell, NJ, Manteca, CA, Camarillo, CA and Phoenix, AZ and are supported by our technology centers for final test, tune, assembly and integration to fulfill the various subsystems along the sensor processing chain.

Overall, the Company’s “One Mercury” go-to-market strategy has resulted in the ability to provide a variety of product capabilities to our customers, often integrated together on the same subsystem. Further, while there were no wholesale changes to the internal management of the Company, there were multiple managerial realignments within the business, spanning both operational and supporting functions such as finance and accounting, marketing, human resources and others. Management decisions are now made on a consolidated level and the Company’s operations are now supported by one common infrastructure including selling, engineering, program management, quality assurance and general and administrative functions. As a result of these changes, the Company reassessed its operating segments as defined by ASC 280.

“Your determination that you have only one operating segment”

ASC 280 requires public entities to disclose certain information about reportable operating segments using the “management approach” in order to allow users of the financial statements the ability to see the business “through the eyes of management.” Therefore, information must be presented consistent with the way management internally evaluates the operating performance of its business units or segments, also called its “management reporting structure.” The management approach also allows for consistent descriptions of a public entity in its annual report and other published information, and focuses financial information on what the Company’s decision makers use to make decisions regarding operating matters. The components that management uses for that purpose are called “operating segments.”

Paragraph 280-10-50-1 of ASC 280 defines an “Operating Segment” as a component of a public entity that has all of the following characteristics:

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- a. It engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the same public entity).
- b. Its operating results are regularly reviewed by the public entity's chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance.
- c. Its discrete financial information is available.

The Company evaluated each of the three characteristics.

Our analysis of characteristic "a" noted that any component of Mercury's business, however defined, engages in business activities that are designed to earn revenues and incur expenses. Accordingly, for purposes of this analysis, the criterion is met.

With respect to characteristic "b", the Company's consolidated operating results are regularly reviewed by the CODM, our President and Chief Executive Officer ("CEO"). However, as discussed in the analysis below, the CODM does not regularly review such information for other smaller elements within the overall business. Accordingly, for purposes of this analysis, the criterion is met only on a fully consolidated, total Company basis.

Regarding characteristic "c", the Company has the ability to compile discrete financial information at both the legal entity and product line levels. While the Company does not believe financial information by legal entity and product line are meaningful measures of profit/loss, they are technically measures of profit/loss, and therefore we believe they meet the spirit of "discrete" financial information as defined in ASC 280. Discrete financial information is available by legal entity, but as noted above it is not particularly meaningful, and is only maintained for federal and state tax reporting requirements and Defense Contract Auditing Agency ("DCAA") compliance purposes. Similarly, product line financial information is also used for DCAA compliance purposes. Financial information by legal entity and product line are not used by the CODM to manage the business, as discussed below.

Accordingly, the Company determined that it is comprised of one operating segment because all three criteria are satisfied only at the consolidated total Company level.

- **Describe the role of the CODM and each of the individuals who report to the CODM.**

The CODM is Mercury's CEO. In addition to: (i) being responsible for the strategic decisions of the Company, and (ii) having the ultimate decision-making authority, the CEO also has the sole authority to allocate resources and to assess the operating results of Mercury.

The CEO has eight direct reports: Chief Operating Officer ("COO"), EVP and Chief Financial Officer, VP and Chief Marketing Officer, VP and Chief Information Officer, VP and Chief Human Resources Officer, Senior VP & General Counsel, Senior VP Strategy & Corporate Development, and an Executive Assistant.

The Company also evaluated whether the role of CODM could be considered a management committee per ASC 280. While various members of senior management provide inputs to the CEO, the concept of a voting management structure does not exist at the Company. The CEO makes all final decisions when it comes to assessment of performance and making resource allocation decisions.

Hence the Company's CEO is our CODM.

- **Describe the information regularly provided to the CODM, how frequently it is prepared and how it changed during fiscal 2016.**

As a result of a series of organizational changes, culminating with the Microsemi carve-out acquisition, the information regularly provided to the CODM changed in May of 2016.

The CODM uses the monthly Executive Board (“EB”) deck, quarterly Board (“BOD”) deck and annual and mid-year strategic operating plan (“SOP”) when assessing Company performance.

The EB deck is a presentation that is reviewed each month by the CODM and is also used as the basis for the discussion at the monthly EB meeting. The EB is comprised of the CEO, the CEO’s direct reports as well as a small number of other senior managers. The EB deck includes full income statement and adjusted EBITDA presentations at the consolidated Mercury level, both with and without the results of its most recent acquisitions. Prior to the acquisition of the Microsemi carve-out in May 2016, the EB deck included financial results by our former operating segments (i.e., MCE and MDS). Starting in May 2016, the MCE and MDS distinction was removed for all of the reasons set forth above. The separate presentation of financial information related to recently acquired businesses in the EB deck is solely included so the CODM can monitor organic performance against budget, guidance and analysts’ expectations as these are often set prior to, and therefore without the impact of, acquired businesses. The information within the EB deck relating to businesses acquired by Mercury is not used by the CODM to make business decisions or allocate resources. The inclusion is solely for the CODM to have a data source to respond to questions about the recently completed acquisition(s) until they are more fully integrated into Mercury as a whole. In fact, the July 2016 EB deck no longer separated organic Mercury from the financial information relating to the recently acquired Microsemi carve-out business for the fiscal 2017 forecast. Similar to prior acquisitions, the availability of separate financial information for the Microsemi carve-out business has been phased out during fiscal 2017 as the Company completes the integration onto a common Enterprise Resource Planning system and separate legal entities are dissolved or merged out of existence over time. Again, the CODM uses only consolidated total Mercury-wide results to make business decisions.

The monthly EB deck also includes revenue and/or bookings by the Company’s product lines, end markets, programs, platforms, and customers. These metrics are provided in order to provide a full understanding of the Company’s performance surrounding the entire sensor processing chain. Each of these metric presentations show a different view of revenue, and discrete financial information is not presented for these product lines within the EB deck. The CODM focuses on total Company results and programs when making business decisions and allocating resources. Many of the Company’s programs cross into multiple product lines. Income statement information is presented only at the total Company consolidated level.

The CODM also receives a quarterly BOD deck, annual SOP, and a mid-year update to the SOP. The quarterly BOD deck includes similar information to the EB deck; however there is less financial information in these materials, which instead focus heavily on operational aspects, including programs, product lines, and market updates. Only total Company financial information is presented.

In assessing the business “through the eyes of management,” we also reviewed recent information presented to securities analysts, information included in CEO and CFO scripts, press releases, and information on the Company’s website. The information included in these materials is consistent with the information included in the Company’s EB deck.

To conclude, total Company consolidated financial information and revenues/bookings by product lines, end markets, programs, platforms and customers constitutes the information regularly reviewed by the CODM to make business decisions and allocate resources. This information is provided to the CODM on a monthly, quarterly, semi-annual, and annual basis as discussed above.

- **Describe the specific changes to the allocation of resources and assessment of performance by the CODM.**

As discussed above, in May, 2016 the CODM began using total Company consolidated financial information to assess performance and allocate resources. The Company's EB deck, BOD deck and SOP were also revised and only include financial information at a consolidated level, consistent with the way that the CODM evaluates the business and discusses the business externally with investors and securities analysts.

- **Describe how your organizational changes impacted your reporting unit structure for goodwill testing purposes. In this regard, we note that you continue to allocate goodwill to your MCE and MDS reporting units.**

The Company's organizational changes in fiscal 2016 added a new reporting unit for goodwill testing purposes: the Microsemi carve-out (referred to as the "Carve-Out Business" in our Form 10-K for the Fiscal Year Ended June 30, 2016.)

The Company assessed how the change in operating segments discussed above affected our reporting units used for impairment testing of goodwill. A reporting unit is defined by ASC 350-20-20 as "the level of reporting at which goodwill is tested for impairment. A reporting unit is an operating segment or one level below an operating segment (also known as a component)." ASC 350-20-35-34 states, "a component of an operating segment is a reporting unit if the component constitutes a business or a nonprofit activity for which discrete financial information is available and segment management, as that term is defined in paragraph 280-10-50-7, regularly reviews the operating results of that component."

The Company has concluded it is one operating segment as discussed above. One level below this single operating segment is our legal entities or components. The Company's product lines are in turn one level below the legal entity or component level. The Company has discrete financial information by product line and by legal entity. However, as noted above this financial information is not reviewed by the CODM to make decisions about resources or assess operational performance. This is evidenced by the exclusion of legal entity and product line financial information (other than revenue and bookings as discussed above) from the monthly EB deck, quarterly BOD deck, and the annual/mid-year SOP.

The principal difference between ASC 280 (Segment Reporting) and ASC 350 (Intangibles - Goodwill and Other) is that reporting units for goodwill impairment testing purposes are determined at a level below the operating segment level (i.e., at the component level) if the discrete component financial information is reviewed by the segment manager. In the case of Mercury, the segment manager is not the CODM. The segment manager reviews component level results, which have not changed except for the addition of the Microsemi carve-out as a component of the Company. Therefore, these components are considered reporting units.

The reporting unit financial information allows the segment manager to perform a sufficient level of review commensurate with his job responsibilities which have not changed as a result of our organizational changes. Therefore, there is no impact to our reporting unit structure for goodwill impairment testing purposes.

In conclusion, our reporting units did not change as a result of our operating segments' changes because the discrete results of our reporting units continue to be reviewed by segment management. For the reported periods, in accordance with ASC 350, the Company had three reporting units: MCE, MDS, and the Carve-Out Business.

The Company hereby acknowledges the following:

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

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- 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 the Staff has any questions, additional comments or wishes to discuss the responses provided above at any time, please do not hesitate to contact me at (978) 967-1990, or Charles A. Speicher, Vice President, Controller and Chief Accounting Officer at (978) 967-1737.

/s/ Gerald M. Haines II

Gerald M. Haines II
Executive Vice President, Chief Financial Officer, and Treasurer

Cc: Eric Atallah, *U.S. Securities and Exchange Commission*
Kate Tillan, *Assistant Chief Accountant, U.S. Securities and Exchange Commission*
John R. Utzschneider, *Morgan, Lewis & Bockius LLP*

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