

February 25, 2011

Brian Cascio
Accounting Branch Chief
United States Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: EMCORE Corporation
Form 10-K for the fiscal year ended September 30, 2010
Filed January 10, 2011
File No. 000-22175

Dear Mr. Cascio:

EMCORE Corporation (the "Company") respectively submits the following responses to the comment letter dated January 28, 2011 that we received from the Staff of the United States Securities and Exchange Commission (the "Staff") regarding the Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2010 (the "Form 10-K"). The Company's responses below correspond to the captions and numbers of those comments (which are reproduced below in italics). Unless otherwise indicated, capitalized terms used below have the meanings assigned to them in the Form 10-K.

Item 7. Management's Discussion and Analysis....page 36
Management Summary, page 36

1. Regarding the series of measures implemented in 2010 to align your cost structure with revenue forecasts, please tell us how your MD&A disclosure considers the guidance regarding restructuring plans from Question 4 of SAB Topic 5-P.

RESPONSE:

The series of measures implemented by the Company in 2010 had to do with improving management of accounts receivable and inventory, controlling increases in headcount and capital expenditures, and eliminating or reducing certain discretionary expenses to improve operational performance.

We reviewed the accounting literature within the Financial Accounting Standards Board's (the "FASB") Accounting Standards Codification ("ASC") 420-10-50, *Exit or Disposal Cost Obligations*, and SAB Topic 5-P and noted the following in regards to the series of measures we implemented:

- The Company did not exit, dispose, terminate, or relocate any business activities in fiscal 2010;
- The Company did not materially change the manner or scope in which it conducted its business in fiscal 2010 when compared to fiscal 2009;

In regards to restructuring charges:

- One-time employee termination benefits incurred in fiscal 2010 totaled approximately \$230,000. The total liability related to one-time employee termination benefits as of the beginning and end of fiscal 2010 each totaled approximately \$226,000 and \$180,000, respectively. These amounts were considered immaterial to the Company's fiscal 2010 consolidated financial statements.
- In fiscal 2009, the Company initially recorded a \$395,000 restructuring expense associated with a vacated leased facility that management expected to partially sublease. In fiscal 2010, with no progress on subleasing this property, management changed the assumption from this property being partially subleased to an amended assumption that this facility would remain vacant over the remaining lease term through June 30, 2013. In fiscal 2010, the Company recorded an additional \$425,000 of restructuring expense associated with this facility due to the change in estimate. The total restructuring liability related to this facility as of the beginning and end of fiscal 2010 totaled approximately \$395,000 and \$600,000, respectively. These amounts were considered immaterial to the Company's fiscal 2009 and fiscal 2010 consolidated financial statements.

Although we considered these restructuring charges immaterial to the Company's consolidated financial statements, we acknowledge the Staff's position and in response to its comment, we will provide more detail in MD&A disclosures in future periods. Also, as discussed in our response to your comment #12, the Company disclosed restructuring liability amounts and expenses incurred in the Company's Quarterly Report on Form 10-Q dated as of December 31, 2010 and will continue to provide such disclosure in future filings to the extent the amounts are significant to the Company's consolidated financial statements.

Critical Accounting Policies, page 38
Valuation of Long-lived Assets, page 39

2. We see your history of losses. Tell us whether you have long-lived assets you believe are at risk for impairment based on your most recent testing. If so, please expand the related critical accounting policy disclosure in future filings to more specifically describe the nature of the assets at risk, the methods and key assumptions on which you based your evaluation and the degree of uncertainty associated with key assumptions.

RESPONSE:

Historically, the Fiber Optics segment has reported losses due to inventory valuation and impairment charges as well as declining product margins due to reduced revenues in an adverse economy. However, since fiscal 2009, both the Fiber Optics and Photovoltaics segments have experienced increased revenue and achieved significant improvement in operating performance when compared to prior year periods.

As of September 30, 2010, the Company performed an impairment test on long-lived assets related to the Fiber Optics segment. The impairment test indicated that the sum of the projected undiscounted cash flows expected to result from the use and eventual disposition of the assets exceeded the carrying amount of the assets by over 150%. The Company has now disclosed the fact that this test was performed in its Quarterly Report on Form 10-Q dated as of December 31, 2010.

As of September 30, 2010, the Company also considered its long-lived assets related to the Photovoltaics segment and concluded that projected undiscounted cash flows expected to result from the use and eventual disposition of the assets significantly exceeded the carrying amount of the long-lived assets.

There have been no significant changes in the underlying assumptions used to prepare the Fiber Optics segment impairment test as of September 30, 2010, nor have we identified any indications of impairment or triggering events through the three months ended December 31, 2010 for either the Fiber Optics or Photovoltaics segments. Accordingly, we have concluded as of September 30, 2010 and December 31, 2010 that there was no impairment and/or corresponding write-off that required specific discussion in our critical accounting policies disclosure.

The Company will, however, continue to monitor any changes in circumstances or triggering events that might indicate impairment of our goodwill or long-lived assets. If the Company is unable to achieve its projected cash flows, the Company may be required to perform impairment tests of its remaining long-lived assets. The outcome of these tests may result in the Company recording impairment charges. If the Company determines there is a material risk of impairment, appropriate discussion will be included in our critical accounting policies disclosure in future filings.

3. *In future filings please more fully describe the material factors contributing to significant changes in revenues as referred to in your disclosure. In that regard, please clarify the underlying factors responsible for the increase in Fiber Optic segment sales and, as applicable, please connect the discussion to specific products described in Item 1 Business.*

In general the discussion of revenues should describe the underlying business reasons for factors cited as responsible for material changes in revenues, such as changes arising from varying demand, changing prices, new products, new markets and other significant matters. Please refer to Item 303(a)(3) of Regulation S-K and Securities Act Releases 33-8350, Interpretation: Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations.

RESPONSE:

In response to the Staff's comment, we have now further described the material factors that contributed to the fluctuation in our revenue and will continue to do so in future filings. Included below is an excerpt from the MD&A disclosures related to the significant changes in revenue as reported in the Company's Quarterly Report on Form 10-Q dated as of December 31, 2010:

Revenue for the three months ended December 31, 2010 was \$52.1 million, an increase of \$9.7 million, or 23%, from \$42.4 million reported in the prior year.

On a segment basis, revenue for the Fiber Optics segment was \$31.8 million, an increase of \$6.2 million, or 24%, from \$25.6 million reported in the prior year. Compared to the prior year, revenue from digital fiber optics products increased 25% which was driven by product volume increases from both telecom optical products and laser/detector component products. Revenue from broadband products increased 21% when compared to the prior year which was driven by product volume increases from CATV transmitters, modules, and components, and an increase in volume from video transport products. During the three months ended December 31, 2010, the ITC ruling on our parallel optics devices resulted in a reduction of sales from the prior quarter. See Footnote 11 – Commitments and Contingencies in the notes to the condensed consolidated financial statements for disclosures related to the ITC ruling. The Fiber Optics segment accounted for 61% of the Company's consolidated quarterly revenue in fiscal 2011 compared to 60% in the prior year.

Revenue for the Photovoltaics segment was \$20.3 million, an increase of \$3.5 million, or 21%, from \$16.8 million reported in the prior year. The increase in Photovoltaics revenue was primarily due to an increase in demand for the Company's space solar power products. Compared to the prior year, sales of space solar cells and CICs increased 20%, revenue from service contracts increased 76%, and revenue earned on long-term space solar panels decreased 4%. Historically, quarterly revenue has fluctuated significantly in the Photovoltaics segment due to the completion of long-term contracts, varying shipment schedules on long-term supply agreements, and changes in product mix within order backlog. The Photovoltaics segment accounted for 39% of the Company's consolidated quarterly revenue in fiscal 2011 compared to 40% in the prior year period.

Liquidity and Capital Resources, page 46

4. *We refer to your agreement with Suncore Photovoltaics Co., Ltd. With a view toward enhanced disclosures in future filings, please tell us when you are required to provide your 40% of contributed capital to the joint venture and how you anticipate funding any amount in excess of consulting fees you described on page 11.*

RESPONSE:

In response to the Staff's comment, we have now enhanced the disclosures related to our capital contributions into Suncore. Included below is an excerpt from the MD&A disclosure related to our capital contributions into Suncore as reported in the Company's Quarterly Report on Form 10-Q dated as of December 31, 2010:

On July 30, 2010, the Company entered into an agreement for the establishment and operation of a joint venture, Suncore Photovoltaics Co., Ltd., with San'an Optoelectronics Co., Ltd. for the purpose of engaging in the development, manufacturing, and distribution of CPV receivers, modules, and systems for terrestrial solar power applications under technology licensing from the Company. The establishment of the Suncore entity which was subject to Chinese regional government approval occurred on January 12, 2011. The registered capital of Suncore is \$30 million, among which, San'an will contribute \$18 million in cash, accounting for sixty percent (60%) of the registered capital of Suncore, and the Company will contribute \$12 million in cash, accounting for forty percent (40%) of the registered capital of Suncore. The registered capital of Suncore will be paid in by both parties in two installments according to the following schedule:

- The first installment consisting of one-third of the subscribed registered capital contribution amount by February 26, 2011;
- The second installment consisting of two thirds of the subscribed registered capital contribution amount by August 26, 2011.

The Company intends to fund most of its capital contribution requirements to Suncore using the \$8.5 million of consulting fees to be paid by San'an with the remaining portion of \$3.5 million being funded by the Company's cash flow from operations and by borrowings under the Company's Loan Agreement with Wells Fargo.

To date, the Company has received \$3.0 million in consulting fees from San'an and expects the remaining portion of the consulting fees to be received by September 2011. The Company also paid \$4.0 million as a capital contribution to Suncore in February 2011.

5. *As a related matter, please tell us why you did not include the required capital contribution in your contractual obligations and commitments table.*

RESPONSE:

Payment of our capital contributions into the Suncore joint venture was contingent upon the entity receiving a business license in China. The establishment of the Suncore entity, which was subject to Chinese regional government approval, occurred on January 12, 2011. Therefore, the Company's capital contribution into Suncore was not a contractual commitment as of September 30, 2010 or December 31, 2010. The Company will include the second installment of its required capital contribution into Suncore within the contractual obligations and commitments table that will be included in the Company's Quarterly Report on Form 10-Q dated as of March 31, 2011.

Item 8. Financial Statements

Notes to Consolidated Financial Statements, page 55

Note 2. Summary of Significant Accounting Policies, page 56

Revenue Recognition, page 58

- 6. We refer to your disclosures, such as on page 21, regarding the qualification process which customers must complete prior to accepting certain products manufactured at contract manufacturers. With a view towards enhanced disclosures in future filings, please tell us how you consider the qualification process in your revenue recognition policy.**

RESPONSE:

In the Fiber Optics segment, prior to certain customers accepting product that is manufactured at one of our contract manufacturers, these customers require that they first qualify the product and manufacturing processes at our contract manufacturer. The customers' qualification process determines whether the product manufactured at our contract manufacturer achieves their quality, performance, and reliability standards. After a customer completes the initial qualification process, the Company receives approval to ship qualified product to that customer. As part of the manufacturing process at our contract manufacturers, the finished product is tested prior to shipment to the customer using the same criteria that our customer uses to test product it receives. Revenue is recognized upon shipment of customer qualified product, provided persuasive evidence of a contract exists, the price is fixed, the product meets its specifications, title and ownership have transferred to the customer, and there is reasonable assurance of collection of the sales proceeds.

In response to the Staff's comment, we will enhance our disclosure on how we considered our customers' qualification process of our contract manufacturers when discussing our revenue recognition policy in future filings.

7. We see you record service revenue for hardware repairs and calibrations, as well as government contract revenue. We also see that gross margin on services has ranged from 46% in 2008 to 17% in 2010. Please help us understand how you identify services revenues and the related costs of those revenues for purposes of the income statement disaggregation. In the regard, please tell us:

- The composition of services revenues in the periods presented and the reasons for the decrease in services revenues since your fiscal 2008 year end.
- The reasons for the decreases in gross margins from services since your fiscal 2008 year end.
- How you allocate and present revenues and related costs for products and services under bundled arrangements, if any.
- How you distinguish government contracts between those reported as service revenue and those reported as cost reimbursements.

RESPONSE:

Service Revenues

We derive service revenue from research and development contracts from various U.S. government and non-government entities, or their contractors, to aid in the development of new technology. These contracts are primarily related to the Company's space solar cell and defense and homeland security product lines. In general, we recognize service revenue when all of the following conditions are satisfied: (1) there is persuasive evidence of an arrangement; (2) the service has been provided to the customer; (3) the collection of fees is probable; and (4) the amount of fees to be paid by the customer is fixed or determinable. The applicable contracts generally provide that the Company may elect to retain ownership of inventions made in performing the work, subject to a non-exclusive license retained by the customer to practice the inventions. The research and development contract funding may be based on a cost-plus, cost reimbursement, or a firm fixed price arrangement. The amount of funding under each research and development contract is determined based on cost estimates that include both direct and indirect costs. Cost-plus funding is determined based on actual costs plus a set margin. As the Company incurs costs under cost reimbursement type contracts, revenue is recorded. Contract costs include material, labor, special tooling and test equipment, subcontracting costs, as well as an allocation of indirect costs. Customer billing schedules and payment arrangements are prescribed under negotiated contract terms. Contract provisions often do not provide for rights of return or refund, but normally include rights of cancellation with notice, in which case services delivered through the cancellation date are due and payable by the customer. A research and development contract is considered complete when all significant costs have been incurred, milestones have been reached, and any reporting obligations to the customer have been met.

In future filings we will remove the disclosure that service revenue includes hardware repairs and calibrations since this is no longer applicable.

MD&A

The decrease in service revenues from fiscal 2008 to fiscal 2010 was primarily due to the termination of several government research contracts. The decrease in gross margins was primarily due to the termination of these higher margin contracts.

Bundled Arrangements

Contracts with our customers usually relate to either the delivery of product or the completion of technology or engineering research and development contracts. In a very limited number of cases, a research contract may involve the creation and delivery of a customer-designed product sample based upon the research and development efforts completed. Based on the following criteria in ASC 605-25-25-5, Revenue Recognition – Multiple-Element Arrangements, we have concluded that product revenue should not be considered a unit of accounting separate from the service revenue for the following reasons:

- 1) The item or items shipped as part of a research contract are not included in the Company's portfolio of available products for sale. The delivered item or items do not have value to the customer on a standalone basis; i.e. the customer most likely could not use or resell the delivered item(s) on a standalone basis; and,
- 2) There is no objective and reliable evidence of the fair value of the delivered item(s).

We concluded it would be inappropriate to apply a revenue recognition model based on anything other than the completion of the service contract because it is the predominant deliverable and clearly comprises the overwhelming majority of the value of the overall combined unit of accounting.

We will revise our future filings, starting with our Form 10-Q for the quarter ending March 31, 2011, to describe the nature of our multiple element arrangements and clarify our evaluation of, and conclusion on, the separate unit of accounting criteria. In addition, we will expand our disclosure to explain why basing the revenue recognition on the predominant item in the transaction is appropriate and consistent with the guidance in ASC 605-25.

Cost Reimbursement

The Company also has certain cost-sharing research and development arrangements. Under such arrangements in which the actual costs of performance are split between the Company and the customer on a best efforts basis, no revenue is recorded and the Company's research and development expense is reduced for the amount of the cost-sharing receipts.

Revenues are distinguished between service revenue or cost reimbursements based on the guidance provided in ASC 605. The Company will record a cost-sharing research and development arrangement as long as the following conditions exist:

- Activities performed in connection with the contractual arrangement qualify as research and development expense.
- At the inception of the contract, the Company and the customer enter into the arrangement with the expectation that research and development

expenses will be incurred in excess of amounts to be funded by the customer.

- The contractual arrangement obligates the Company to perform only on a best-efforts basis to achieve the agreed-upon objectives, rather than to deliver a product or service meeting defined customer performance or other specifications.
- The Company retains the right to the data and results of the research and development activities.

If any one of the conditions does not exist, the Company would then assess if revenue recognition would be appropriate to account for the contractual agreement.

8. Please tell us, with a view toward disclosure in future filings, the aspects of the solar panel and solar systems projects leading you to conclude that percentage of completion accounting is appropriate in your specific circumstances.

RESPONSE:

The Company records revenue from solar panel and solar power system projects using the percentage-of-completion method as long as the following conditions exist:

- o If an enforceable contract between the Company and its customer exists and the contract is within the scope of authoritative literature under ASC 605-35, *Revenue Recognition – Construction-Type and Production*.
- o If there is an ability to make reasonably dependable estimates of total revenue, total cost, and progress toward completion.
- o If successful completion of the long-term contract is probable and profitable.
- o If contract prices are fixed and collectability is reasonably assured.

If any one of these conditions does not exist, the Company would conclude that the completed contract method is more appropriate to use as the accounting method to recognize revenue on long-term solar panel and solar power system projects.

In response to the Staff’s comment, we will enhance our disclosure relating to our determination of the accounting methods used for long-term solar panel and solar power system projects when we discuss our revenue recognition policy in future filings.

Note 4. Equity, page 60

Warrants, page 63

9. We refer to the 3,000,003 warrants you have outstanding as of September 30, 2010. We see your reference on page 65 that you account for 1,400,003 of the warrants as equity and your further reference on page 67 that you account for 1,600,000 of the warrants as a liability. Please tell us the material terms of the warrants you considered and how you have applied the guidance in FASB ASC 815 in evaluating whether the warrants should be classified as equity or liabilities. Please provide a separate analysis for the warrants issued related to the private placement of common stock and the warrants related to the equity line of credit facility.

RESPONSE:

We are re-evaluating specific provisions of the warrants and the effect of these specific provisions had on the classification of the warrants. This has delayed our ability to respond to this comment. We will provide our response to your comment under separate cover as soon as the analysis is completed. We expect to be able to provide you our response no later than March 11, 2011 (10 business days from the date of this letter).

Note 8. Inventory, page 70

10. Under FSAB ASC 330-10-35-14 and SAB Topic 5-BB, inventory impairment charges establish a new cost basis for inventories. Accordingly, tell us why you believe it is consistent with GAAP to characterize inventory impairment charges as establishing “reserves.” Also, with respect to the tabular disclosure, tell us why the reported “reserve” should not be netted against the amounts of the individual categories of inventory for financial reporting purposes. Explain the basis in GAAP for your view.

RESPONSE:

In response to the Staff’s comment, we acknowledge that inventory impairment charges establish a new cost basis for the impaired inventory and have accounted for the inventory reserve as such. We also acknowledge that the amount disclosed as inventory reserves should be disclosed net within the individual components of inventory. In that regard, we have now reflected the inventory reserve amount net within each of the inventory components and will continue to do so in future filings. Included below is an excerpt from the footnote disclosure related to inventory as reported in the Company’s Quarterly Report on Form 10-Q dated as of December 31, 2010:

Inventory (in thousands)	As of December 31, 2010	As of September 30, 2010
Raw materials	\$ 19,988	\$ 18,701
Work in-process	7,619	7,000
Finished goods	4,149	6,355
Inventory	<u>\$ 31,756</u>	<u>\$ 32,056</u>

Note 11. Intangible Assets, page 72

11. In future filings please also disclose the gross carrying amount and accumulated amortization for each major class of intangible asset. Refer to FASB ASC 350-30-50-2.

RESPONSE:

In response to the Staff's comment, we have now disclosed the gross carrying amount and accumulated amortization for each major class of intangible assets by reporting segment and will continue to do so in future filings. Included below is an excerpt from the footnote disclosure related to intangible assets as reported in the Company's Quarterly Report on Form 10-Q dated as of December 31, 2010:

Intangible Assets

(in thousands)

	As of December 31, 2010			As of September 30, 2010		
	Gross Assets	Accumulated Amortization	Net Assets	Gross Assets	Accumulated Amortization	Net Assets
Fiber Optics:						
Core Technology	\$ 15,555	\$ (9,701)	\$ 5,854	\$ 15,555	\$ (9,275)	\$ 6,280
Customer Relations	4,381	(1,751)	2,630	4,381	(1,644)	2,737
Patents	4,777	(4,083)	694	4,725	(4,021)	704
	<u>24,713</u>	<u>(15,535)</u>	<u>9,178</u>	<u>24,661</u>	<u>(14,940)</u>	<u>9,721</u>
Photovoltaics:						
Patents	<u>2,077</u>	<u>(1,013)</u>	<u>1,064</u>	<u>1,941</u>	<u>(924)</u>	<u>1,017</u>
Total	<u>\$ 26,790</u>	<u>\$ (16,548)</u>	<u>\$ 10,242</u>	<u>\$ 26,602</u>	<u>\$ (15,864)</u>	<u>\$ 10,738</u>

Note 12. Accrued Expenses and Other Current Liabilities, page 73

12. It appears you may have implemented restructuring plans in fiscal 2009 and 2010 and it appears the activity related to the plans maybe ongoing. In that regard, please tell us the amounts of restructuring costs incurred in each year and how you considered the disclosures from FASB ASC 420-10-50.

RESPONSE:

In response to the Staff's comment, we have now disclosed restructuring costs incurred and will continue to do so in future filings. Included below is an excerpt from the accrued expenses and other current liabilities footnote disclosure related to restructuring costs reported in the Company's Quarterly Report on Form 10-Q dated as of December 31, 2010:

Restructuring Accrual Accounts (in thousands)	Severance-	Restructuring-	
	related accruals	related accruals	Total
Balance as of September 30, 2010	\$ 180	\$ 600	\$ 780
Expense - charge to accrual	7	-	7
Payments on accrual	(50)	(49)	(99)
Balance as of December 31, 2010	<u>\$ 137</u>	<u>\$ 551</u>	<u>\$ 688</u>

* * * *

In connection with responding to your comments and with this submission, we hereby acknowledge 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 law of the United States.

We believe the responses above fully address the comments contained in your letter. Please call me at (505) 559.2810 if you have any questions regarding the above responses.

Sincerely,

/s/ Mark Weinswig

Mark Weinswig
Chief Financial Officer
EMCORE Corporation