

December 11, 2009

VIA FEDEX & EDGAR

Stephen Krikorian
Accounting Branch Chief
United States
Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

Re: PDF Solutions, Inc.
Form 10-K for the Fiscal Year ended December 31, 2008
Filed March 16, 2009
Form 10-K/A for the Fiscal Year ended December 31, 2008
Filed April 30, 2009
Form 10-Q for the Quarterly Period ended September 30, 2009
Filed November 9, 2009
File No. 000-31311

Dear Mr. Krikorian:

On behalf of our client, PDF Solutions, Inc. (the "Company"), we have set forth below, the Company's responses to the Staff's comment letter dated November 30, 2009. For the Staff's convenience, the Staff's comments are set forth in italics before each response.

Form 10-K for the Fiscal Year ended December 31, 2008

Item 1. Business

Customers, page 8

1. *You disclose that Toshiba Corporation and IBM represented 18% and 16%, respectively, of your total revenue. In risk factors on pages 14 and 18 you further disclose that the loss of any one of your key customers could cause significant fluctuations in results of operations because your expenses are fixed in the short-term and it takes a long time to replace customers, due to your complex sales cycle that can take up to nine months or more to reach a signed contract. Please tell us the nature of your contractual relationship(s) with these principal customers, describing material provisions such as term and the material rights and obligations of the parties. Tell us whether performance under any single contract or series of similar contracts with either of the principal customers contributed in excess of ten percent of your revenues for the most recent year. Also, describe the consideration you gave to filing agreements with each of the principal customers as material contracts pursuant to Item 601(b)(10)(ii)(B) of Regulation S-K.*

In response to the Staff's comments, the Company respectfully notes that while it's true that the loss of a major customer could be significant, the Company does not believe that any of its individual customer contracts entered into in the ordinary course (including those identified in

the Staff's comment) were contracts "upon which the registrant's business is substantially dependent," within the meaning of Item 601(b)(10)(ii)(B) of Regulation S-K. None of the individual contracts represented more than 10% of the Company's revenues for 2008, and only one existing contract represented greater than 10% of the Company's revenues 2009. Moreover, the gainshare portion of the Company's customer contracts is far too speculative to be something on which the Company may depend.

The Company's agreements with both Toshiba and IBM provide various types of yield improvement services targeted, under each contract, to a specific manufacturing node. With respect to Toshiba, the Company primarily provides its Manufacturing Process Solutions ("MPS") and its Volume Manufacturing Solutions ("VMS") service offerings. With respect to IBM, the Company primarily provides its MPS offering and Design for Manufacturability ("DFM") Solutions offerings. The Company's contracts with IBM and Toshiba are consistent with the Company's general business model: the Company provides for the delivery of services and technology for a fixed fee during a defined multi-year implementation period, and additionally the Company may receive incentive performance payments "gainshare payments" at the end of and potentially during a contractually agreed period following the implementation period, if the Company is able to meet or exceed specified performance objectives. Determining whether the Company has achieved the incentive performance objective cannot be determined until at or near the end of the multi-year implementation period. If achieved, the gainshare performance incentives revenue the Company will receive is dependent on the customer's ultimate manufacturing volumes at various measurement points during the subsequent periods. Thus, future gainshare payments cannot be accurately quantified at the outset of the contract.

In 2008, with respect to Toshiba, revenue was generated from three separate contracts as follows:

Toshiba

Revenue Type	90nm	65nm MPS	45nm MPS	Total
Fixed fees	0.0%	0.0%	8.0%	8.0%
Gainshare performance incentives	2.4%	7.1%	0.0%	9.5%
Total	2.4%	7.1%	8.0%	17.5%

In 2008, with respect to IBM, revenue was generated from five separate contracts as follows:

IBM

Revenue Type	90nm	65nm MPS	45nm MPS	32nm MPS	32nm DFM	Total
Fixed fees	0.0%	0.0%	2.0%	3.3%	1.2%	6.5%
Gainshare performance incentives	1.2%	8.3%	0.0%	0.0%	0.0%	9.5%
Total	1.2%	8.3%	2.0%	3.3%	1.2%	16.0%

In 2009, with respect to Toshiba, revenue was generated from two separate contracts as follows:

Toshiba

Revenue Type	65nm MPS	45nm MPS	32nm MPS
Fixed fees	0.0%	8.6%	8.6%
Gainshare performance incentives	1.3%	4.7%	6.0%
Total	1.3%	13.3%	14.6%

In 2009, with respect to IBM, revenue was generated from four separate contracts as follows:

IBM

Revenue Type	65nm MPS	45nm MPS	32nm MPS	32nm DFM	Total
Fixed fees	0.0%	0.8%	7.1%	5.3%	13.2%
Gainshare performance incentives	6.8%	1.9%	0.0%	0.0%	8.7%
Total	6.8%	2.7%	7.1%	5.3%	21.9%

Each of the contracts above represents independent multi-year agreements whereby the technological risks and project performances are independent of one another. The implementation period of each of these contracts differs and ranges from 1.5 years to 3.5 years and the gainshare periods range from 3 to 3.5 years.

The Company confirms to the Staff that these contracts were entered into in the ordinary course

of business and reflect the same basic provisions common to all of the Company's yield improvement services contracts with its customers, which individually reflect and collectively form the basis of the Company's business model described in great detail throughout the Company's various disclosure documents. In determining whether to file such agreements as material contracts pursuant to Item 601(b)(10)(ii)(B) of Regulation S-K, the Company considered the interdependency of contractual obligations of such agreements (*i.e.*, are they linked) and the overall materiality of the committed non-cancelable fees that can be determined at the outset of the agreements. As noted above, the Company does not include potential gainshare performance incentive amounts in its assessment due to inherent risks associated with our ability to achieve the target performance objectives, the manufacturing decisions implemented at the customer's sole discretion, and economic factors which can affect the overall manufacturing levels. The Company has consistently addressed these issues in its risk factors disclosure titled "**Revenue from our gainshare performance incentives is dependent on factors outside of our control, including the volume of ICs that our customers are able to sell to their customers**". Further, the recent economic conditions have significantly increased the volatility in the Company's customers' manufacturing volumes from period to period, creating a lack of visibility on such customers' own behalf and making future gainshare performance incentives revenue even less predictable.

In applying these points to the Company's agreements with Toshiba and IBM, the Company noted that where revenue was generated by multiple contracts, there were no interdependent performance obligations among the agreements. Additionally, in assessing the committed fixed fees under each of the respective agreements with both Toshiba and IBM, when such agreements were signed, the Company did not expect that the related fixed fees under such agreements would be greater than 10% of total revenue (and they have not been to date). Thus, the Company determined that such agreements did not need to be filed pursuant to Item 601(b)(10)(ii)(B) of Regulation S-K. Finally, the Company does not believe that the gainshare component of these contracts should be used retrospectively to determine that these were contracts "upon which the registrant's business [was] substantially dependant" within the meaning of Item 601(b)(10)(ii)(B) of Regulation S-K.

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

Results of Operations

Design-to-Silicon-Yield Solutions, page 36

- We note your disclosure that services revenue decreased \$13.5 million for the year ended December 31, 2008 compared to the year ended December 31, 2007, primarily a result of lower bookings, as customers have delayed purchases as a result of a slowdown in the semiconductor industry. However, in response to comment 3 from our letter dated November 1, 2007, you had indicated that the number of services contracts booked is one of your key indicators of financial performance, and as such, you would revise future filings to disclose the number of contracts booked during a reporting period. Please tell us why you have not provided this quantitative disclosure. We again refer you to SEC Release 33-8350, Sections III.B.1 and 3 which notes that you "should identify and address those key variables and other qualitative and quantitative factors which are peculiar to and necessary for an

understanding and evaluation of the individual company." This comment also applies to your Form 10-Q's for the periods ended March 31, 2009, June 30, 2009, and September 30, 2009.

The Company respectfully acknowledges its response to comment 3 from the Staff's letter dated November 1, 2007. The Company can confirm to the Staff that, on each of its quarterly earnings calls, it has been providing such additional qualitative disclosures regarding service contract bookings and its related effects on reported revenue during such periods. In response to the Staff's further comments in this regard, however, the Company will also include the number of material yield improvement services contracts booked, in future filings, commencing with the 2009 Form 10-K filing.

Costs of Design-to-Silicon-Yield Solutions, page 36

3. *We note your current disclosure provides an explanation for the decrease in your cost of design-to-silicon-yield solutions on a dollar perspective. However, as a percentage of revenue, your cost of design-to-silicon-yield solutions increased in 2008 to 47% compared to 40% in 2007. Tell us how you considered providing additional disclosure to explain why your costs increased as a percentage of revenue. Similar concerns apply to your disclosures on page 23 of your Form 10-Q for the quarterly period ended September 30, 2009, where your cost of design-to-silicon-yield solutions increased to 52% of your nine months of 2009 revenue compared to 40% over the comparable prior interim period.*

The Company respectfully acknowledges that the Company has not provided a specific discussion regarding fluctuations within its reported gross margin in the past. The Company's prior disclosures have extensively discussed trends in both revenues and cost of revenues including the impact of product mix and other variables which would have an effect on reported gross margin amounts. In the future, the Company will provide a separate discussion on the reported gross margin amounts in order to provide additional disclosure surrounding fluctuations within the Company's Cost of Design-to-Silicon-Yield Solutions in relation to revenue.

For the periods noted by the Staff, the costs of Design-to-Silicon-Yield Solutions (the "Costs") increased as a percentage of revenue in 2008 to 47% compared to 40% in 2007. The increase was primarily due to the dramatic decrease in revenue in the fourth quarter of 2008, whereas Costs were at the same level as that of prior quarters. Due to the nature of the Company's business, the Company's cost structure is relatively fixed in nature as it enters an interim reporting period. A dramatic decrease in revenue would have a negative effect on the reported gross margin. Additionally, as previously disclosed, the Costs for the twelve months ended December 31, 2008, included a one-time impairment charge of \$3.4 million associated with the acquired technology during the three months ended December 31, 2008. Excluding this one-time impairment charge, the Costs as a percentage of revenue in 2008 were 43%, which represented 4% of the increase in Costs as a percentage of revenue.

The Costs as a percentage of revenue increased to 52% for the nine months ended September 30, 2009, compared to 40% for the nine months ended September 30, 2008. This increase was primarily due to the decrease of 44% in revenue compared to a decrease of 27% in Costs over the comparable periods. The Company's various cost control efforts has had a dramatic effect in decreasing the total costs of its operating structure. However, the dramatic decline in reported

revenues has greatly affected the reported gross margins in all reported periods in part due to the significance of the downturn, as well as the fixed nature of the operating structure.

Form 10-K/A for the Fiscal Year ended December 31, 2008

Part III

Item 11. Executive Compensation

How our Executives' Compensation is Determined, page 7

4. *You disclose that the compensation committee does not attempt to maintain a certain percentile within a peer group or otherwise rely entirely on that data to determine compensation to your named executive officers. However, Question and Answer 118.05 of the Division of Corporation Finance's Compliance and Disclosure Interpretations of Regulation S-K defines benchmarking, in the context of Item 402(b)(xiv) of Regulation S-K, as using compensation data about other companies as a reference point on which, either wholly or in part, to base, justify, or provide a framework for compensation decisions. Please clarify your process of assessing the reasonableness of compensation in which one factor is the competitive market compensation paid by other companies. If you base, justify, or provide a framework for compensation decisions, at least in part, by comparing "each element with that of other named executive officers in an appropriate market comparison group," then it appears that you should disclose the companies that comprise this peer group.*

The Company notes the Staff's comment and the guidance in Question and Answer 118.05 of the Division of Corporation Finance's Compliance and Disclosure Interpretations of Regulation S-K and provides the following supplemental disclosure regarding the process by which the Compensation Committee assesses the reasonableness of compensation to be paid to the Company's named executive officers.

In making compensation decisions, it has been the practice of the Compensation Committee to review the historical levels of each element of a named executive officer's total compensation and to compare each element with that of other named executive officers in an appropriate market comparison group (or "peer group").

In fiscal year 2008, the comparison of each named executive officer's compensation to market compensation data was prepared by the Company's internal human resources staff. The Company's staff referred to, among other things, market data obtained from both the Radford High-Tech Executive Surveys and proxy data from peer companies. This data was then presented to the Company's Chief Executive Officer and the Compensation Committee for their consideration.

In selecting appropriate peer companies, the Company reviewed semiconductor and software companies of similar organizational structure and size in terms of revenue and market capitalization and companies whose headquarters are in northern California. In fiscal year 2008, the Company's group consisted of the following companies:

Cascade Microtech
Centillum Communications
CEVA
Credence Systems

Magma Design Automation
MIPS Technologies
PLX Technology
QuickLogic Corporation

Silicon Image
Synplicity
Tessera Technologies
Veeco Instruments

The Compensation Committee's review of the market compensation data in fiscal year 2008 was minimal. The Compensation Committee's fiscal year 2008 review focused primarily on the performance of the Company, the compensation paid to other Company employees, each named executive officer's performance during the year, leadership qualities, operational performance, business responsibilities, career with the Company, current compensation arrangements, and long-term potential to enhance stockholder value.

In fiscal year 2009, the Compensation Committee did not review market compensation data. To the extent that the Compensation Committee relies wholly or in part on market compensation data in the future, we will disclose the companies that comprise the peer group in such review and will otherwise discuss our process of assessing the reasonableness of compensation paid to our named executive officers.

Base Salaries, page 9

5. *Please disclose the reasons for increasing Mr. Hartgring's salary from \$210,000 to \$237,300 in 2008.*

In February 2008, the Compensation Committee reviewed the historical levels of each element of Mr. Hartgring's total compensation and compared it with that of other named executive officers in an appropriate market comparison group. The Compensation Committee then considered the Company's performance during 2007, Mr. Hartgring's individual performance during 2007 and his increased role and responsibility for revenue and service delivery. In consideration of the foregoing, the Compensation Committee increased Mr. Hartgring's base salary from an annual rate of \$210,000 to \$240,000 (note that Mr. Hartgring's \$240,000 base salary was not effective for all of 2008; as previously disclosed, Mr. Hartgring actually earned \$237,300 in base salary during 2008).

Performance Bonuses, page 9

6. *You disclose that the Compensation Committee did not establish a performance bonus pool for 2008, thus implying that no performance bonuses were awarded in 2008. However, all named executive officers (other than the chief executive officer) received bonus awards in 2008. Please disclose the basis on which such awards were granted, together with a reasonably detailed discussion of the relationship of the bonus awards to corporate and individual performance.*

The Compensation Committee establishes a target discretionary incentive bonus equal to a percentage of base salary that each named executive officer may earn at the end of each fiscal year, based on the Compensation Committee's assessment of the Company's overall performance and each named executive officer's performance for the fiscal year.

As previously disclosed, at the end of each fiscal year, the Compensation Committee assesses the Company's performance for the fiscal year, as a general matter and as compared to the financial goals established by the Board and decides whether to establish a performance bonus pool and, if so, the size of such performance bonus pool. If a performance bonus pool has been created, the

Compensation Committee then evaluates the individual performance of each named executive officer for the fiscal year. The Compensation Committee then determines whether and the extent to which it will award a portion of the performance bonus pool as a discretionary incentive bonus to each named executive officer. The Compensation Committee does not follow a pre-established formula when determining whether and the extent to which a named executive officer may receive a discretionary incentive bonus.

In early 2008, the Compensation Committee approved the following discretionary incentive bonuses to each named executive officer based on the Compensation Committee's assessment of each such officer's individual performance and contribution to overall Company performance for fiscal year 2007 and the Company's fiscal year 2007 performance: Mr. Jones (\$10,000), Mr. Joseph (\$12,000), Mr. Hartgring (\$17,000) and Mr. Michaels (\$10,000). Each discretionary bonus was paid in 2008 based on 2007 performance and was reported in the 2008 Summary Compensation Table as a discretionary bonus.

As disclosed in Part III, Item 11 of the Form 10-K/A for the fiscal year ended December 31, 2008, in early 2009, the Compensation Committee reviewed the Company's performance for fiscal year 2008, as a general matter and as compared to the financial goals established by the Board, and decided not to establish a performance bonus pool for fiscal year 2008 performance.

Form 10-Q for the Quarterly Period ended September 30, 2009

Comparison of the Three Months ended September 30, 2009 and 2008

7. *Describe the reasons why revenue earned from gainshare performance incentives increased significantly in comparison to both the 1st and 2nd Quarters of 2009. Tell us whether you believe the 3rd Quarter increase represents a trend. Further, tell us why your discussion and analysis does not address this increase. Explain why you have not discussed the sequential growth by quarter.*

customers are uncertain as to the extent and timing of an overall recovery within their own operations as they cannot confidently predict if the manufacturing levels witnessed during the three months ended September 30, 2009 will be sustained.

Since revenue earned from gainshare performance incentives is determined by the amount of wafer starts produced in the quarter, and the amount of wafer starts produced in the quarter is completely dependant on the independent decisions of the Company's customers, wafer starts are unpredictable in

nature and entirely out of the Company's control. It is difficult for the Company to speculate whether this short-term increase in gainshare performance incentives revenue represents a trend. While the Company does believe there has been improvement in overall consumer confidence, the Company does not have sufficient visibility into the motivation of its customer base to predict a trend at this time.

Based on these circumstances, the Company believes that it would be misleading to suggest that there is an increasing trend in gainshare revenue based on the increase in gainshare revenue during the three months ended September 30, 2009. Therefore, the Company did not explain the sequential quarterly changes in gainshare performance incentives revenue within the discussion and analysis section of the Form 10-Q. The Company feels that a comparison to the three and nine months ended September 30, 2008 is more appropriate as it reflects the operating trends in light of the current economic climate.

Notes to Condensed Consolidated Financial Statements

7. Restructuring, page 11

8. *We note that you disclose in Note 17 on page 84 of your Form 10-K for the year ended December 31, 2008, that you announced an additional restructuring plan that you expected to be completed during the three months ended March 31, 2009. However, it does not appear that you disclose this restructuring plan or provide any updates in your subsequent Form 10-Q's. Please tell us the status of this restructuring plan.*

The Company respectfully acknowledges that it disclosed in Note 17 on page 84 of its Form 10-K for the year ended December 31, 2008, what was characterized as an "additional" restructuring plan, which was expected to be completed during the three months ended March 31, 2009. The Company confirms to the Staff that Note 17 was added as a "subsequent event" late in the filing process for the 10-K in error and that it mistakenly disclosed this plan as an "additional" restructuring plan. In fact, the restructuring actions taken in 2009 were all part of the existing restructuring plan announced October 28, 2008. The Company respectfully draws the Staff's attention to the restructuring footnote disclosures (Note 7) in each of the Form 10-Q's for the periods ended March 31, 2009, June 30, 2009, and September 30, 2009, as these disclosures include the status of all of the Company's restructuring efforts. Due to the fact that the Company's restructuring plan begun in late 2008 included dismissal of personnel located in international locations and the overall economic environment continued to deteriorate, the extent of the original plan and the time needed to complete the actions thereunder took considerably longer than originally anticipated. This was in part due to the complexity and bureaucratic nature of international labor laws. Consequently, the Company's restructuring plan begun in late 2008 continued through the fourth quarter of 2009. At this time, the Company anticipates that the plan initiated on October 28, 2008 will be completed in the first quarter of 2010. The Company will continue to provide updates to this restructuring plan in its reports until its completion.

Please do not hesitate to contact me at (650) 614-7455 with further questions or to discuss the Company's responses set forth above.

The Company has supplementally included Appendix A for acknowledgments requested by the Staff.

Sincerely,

/s/ Lowell D. Ness

Lowell D. Ness

cc: Keith A. Jones
Chief Financial Officer
and Vice President, Finance
PDF Solutions, Inc.

Appendix A

December 11, 2009

Mr. Krikorian
Accounting Branch Chief
United States Securities & Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

Re: PDF Solutions, Inc.
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File No. 000-31311

Dear Mr. Krikorian:

In connection with its response letter to the United States Securities & Exchange Commission (the "Commission") regarding the above referenced matter, and as a registrant of the Commission, PDF Solutions, Inc. (the "Company") affirms the following:

- The Company is responsible for the adequacy and accuracy of the disclosure in the aforementioned filing;
- Comments by the Staff of the Commission (the “Staff”) or changes to disclosures in response to Staff comments in the filings reviewed by the Staff do not foreclose the Commission from taking any action with respect to the aforementioned 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.

The Company understands the importance of, and is committed to, complying with all applicable SEC rules and regulations. Therefore, should you require additional information or clarification with respect to the Company’s responses, or wish to discuss the responses further, please contact me at (408) 938-4452.

Yours truly,

/s/ Keith A. Jones

Keith A. Jones

Chief Financial Officer and Vice President, Finance
