

Mail Stop 4561
Via Fax (610) 646-0149

February 27, 2009

John C. Long
Chief Financial Officer
Innovative Solutions and Support, Inc.
720 Pennsylvania Drive
Exton, PA 19341

Re: Innovative Solutions and Support, Inc.
Form 10-K and Form 10-K/A for the Fiscal Year Ended
September 30, 2008
Filed December 11, 2008 and December 19, 2008
Form 10-Q for the Fiscal Quarter Ended December 31, 2008
Filed on February 6, 2009
File No. 000-31157

Dear Mr. Long:

We have reviewed the above-referenced filings and have the following comments. If indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K and Form 10-K/A for the Fiscal Year Ended September 30, 2008

General

1. We note that that you amended the September 30, 2008 Form 10-K to correct certain "typographical errors" in the consolidated statements of cash flows. Tell

us what consideration you gave to filing an Item 4.02 Form 8-K. Also, tell us why you did not label the September 30, 2008 cash flow information as restated.

Item 1. Business

Customers

Retrofit Market, page 7

2. You disclose, in the aggregate, the percentage of revenue supplied by a specified, limited number of your largest customers in fiscal 2008 and fiscal 2007; however, there is no explicit identification in this section of the ten percent or greater customers. In future filings, please disclose the name of each customer accounting for ten percent or more of your consolidated revenues. To adequately explain the extent of dependence on these principal customers, it appears that the percentage contributed by each of them should be provided. You may elect to provide additional information regarding the extent of concentration of your customer base. See Item 101(c)(1)(vii) of Regulation S-K.

Item 1A. Risk Factors

Risks Related to Our Industry, page 16

3. You do not appear to address the cyclical nature of the aerospace industry in which you sell your products. Additional global terrorists' attacks, higher fuel prices, large fluctuations in commodity prices, and/or further airline bankruptcies all have the ability to change the course of the recovery of the aerospace industry and affect demand for your products. Please tell us what thought you gave to expressing these or other industry risks that may be material in separate headings under "risks related to our industry."

Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Repurchase of Equity Securities

Comparison of the Five Year Total Return, page 20

4. We note that your stock performance table uses a market capitalization index instead of an industry specific or peer issuer index. Issuers with similar market capitalization, such as the Russell 2000 index, can be used in place of a recognized applicable industry index, or a self-constructed peer index only in limited circumstances. See Item 201(e)(1)(ii)(C) of Regulation S-K. Please explain why your presentation of the market capitalization based index is permissible.

Item 7A. Quantitative and qualitative disclosures about market risk, page 30

5. You disclose that changes in interest rates could impact interest income and expense along with cash flows. Please tell us your consideration and conclusion with respect to quantitative disclosure regarding market risk of interest rate fluctuations. We are unable to locate a sensitivity analysis or other quantitative presentation of the potential impact of changes in interest rates and their potential impact on interest income, expense and cash flows. See Item 305 (a)(1) of Regulation S-K.

Note 3. Summary of Significant Accounting Policies

Revenue Recognition, page 39

6. Given the shift in product mix from sales of air data systems and components to flat panels, please update us as to the applicability of SOP 97-2 to your products. In your response, please tell us the percentage of revenue recognized pursuant to SOP 97-2 for fiscal 2008 and fiscal 2007 for both current and long-term contracts. If a significant portion of your revenue is recognized pursuant to SAB 104, then please tell us how the Company considered the guidance in footnote 2 to SOP 97-2 in determining that software is incidental to the product as a whole. Additionally, tell us how the Company considered disclosing which products are accounted for pursuant to SOP 97-2 and which are accounted for pursuant to SAB 104 in the revenue recognition footnote. We may have further comments.
7. Additionally, we note in your response letter dated March 2, 2007 to our prior comment 4 that “current product sales” accounted for under SOP 97-2 did not contain postcontract customer support or services. We also note from your disclosures on page 9 that the Company offers a customer service program with twenty-four hour telephone support for product repair or upgrade concerns and also offers customers extended warranties for additional fees. Please confirm whether these services are provided with current and/or long-term arrangements that are accounted for pursuant to SOP 97-2. If so, tell us how the Company accounts for such arrangements and specifically address how you establish vendor specific objective evidence for these services pursuant to paragraph 10 and/or 57 of SOP 97-2.
8. We note from your disclosures on page 37 that government agencies accounted for approximately 23%, 36%, and 51% of revenue for fiscal 2008, 2007, and 2006, respectively. Please tell us how you considered the guidance of paragraphs 31 to 33 of SOP 97-2 and/or SAB Topic 13.A.4, as applicable, in accounting for fiscal funding clauses included in your software arrangements. Specifically, tell us how you assess that collection is reasonably assured/probable given your

disclosure on page 9 that indicates such customers retain the right to terminate the contract at any time.

9. We note that in fiscal 2008, the Company suspended work on the Eclipse VLJ program due to Eclipse Aviation filing for Chapter 11 bankruptcy on November 25, 2008. We also note from your disclosure on page 23 that revenue from Eclipse Aviation represented 42% of fiscal 2008 revenue and that the Company recorded a bad debt and inventory reserve of \$4.1 million and \$1.9 million, respectively. Tell us the balance of gross accounts receivable and gross inventory as of September 30, 2008 and December 31, 2008 related to Eclipse Aviation. If the balances are not fully reserved, then please explain why this is the case. Additionally, tell us which accounting literature the Company applied to sales from this customer, the nature of their payment terms, and how the loss of their business impacted revenue recognition.

Form 10-Q for the Fiscal Quarter Ended December 31, 2008

Note 1. Summary of Significant Accounting Policies

Recent Accounting Pronouncements, page 6

10. We note that the adoption of SFAS 157 on October 1, 2008 did not have an impact on the Company's financial statements. We also note that your cash equivalents balance includes funds held in money market accounts. If material, tell us how you considered providing the disclosure requirements of paragraphs 32 to 35 of SFAS 157 related to your money market investments. In addition, please tell us and in the future revise to disclose the composition of your cash and cash equivalents and the amounts held in each type of instrument. In your response, please provide us with the balance of your money-market funds for each period presented in your fiscal 2008 Form 10-K and as of December 31, 2008.

Note 3. Income Taxes, page 9

11. We note that the effective tax rate for the quarter ended December 31, 2008 differs from the statutory tax rate due to "the reversal of certain deductible temporary differences which at September 30, 2009 were offset by a valuation allowance, such amounts will be deductible for income tax purposes in the current year based on forecasted earnings." Please confirm what portion of the valuation allowance was released and what accounts were impacted by the release (e.g. deferred tax assets, income tax expense, taxes receivable/payable, etc.). Additionally, please tell us how the Company assessed the effective rate of 4% for the first quarter was reflective of the estimated annual effective tax rate pursuant to paragraphs 8 and 20 of FIN 18. In this regard, please describe in greater detail the nature of the positive and negative evidence you considered in your

determination to release the allowance and how that evidence was weighted. Specifically, tell us how you determined that generating net income for one fiscal quarter is enough positive evidence to conclude that it is more likely than not that certain deferred tax assets will be realized. We refer you to paragraphs 20 to 25 and 103 of SFAS 109.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Three Months Ended December 31, 2008 and 2007, page 13

12. You disclose that net sales increased \$5.8 million, or 123%, to \$10.6 million, for the three months ended December 31, 2008 from the same period in fiscal 2007, primarily related to growth in flat panel display sales to various customers of \$5.0 million and \$0.8 million in Engineering-modification and design sales for several projects completed for a major customer. Considering the impact of the bankruptcy of Eclipse Aviation, from whom you had anticipated to receive \$4.5 million in sales per quarter, a reasonably detailed explanation of the strategy you developed and pursued to nevertheless realize increases in revenues would appear to be warranted. Please tell us if these sales represent contracts to retrofit 757/67 airplanes with flat panel display systems, and if so, tell us what consideration you gave to disclosing entry into specific new agreements, events that led to increases in sales under existing agreements, or arrangements that played a significant role in your substantial revenue growth.

* * * * *

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please submit all correspondence and supplemental materials on EDGAR as required by Rule 101 of Regulation S-T. If you amend your filing(s), you may wish to provide us with marked copies of any amendment to expedite our review. Please furnish a cover letter that keys your response to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing any amendment and your response to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

John C. Long
Innovative Solutions and Support, Inc.
February 27, 2009
Page 6

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Melissa Feider, Staff Accountant, at (202) 551-3379 or me at (202) 551-3499 if you have any questions regarding comments on the financial statements and related matters. Please address questions regarding all other comments to Kevin Dougherty, Staff Attorney, at (202) 551-3271 or Mark P. Shuman, Legal Branch Chief, at (202) 551-3457.

Sincerely,

Kathleen Collins
Accounting Branch Chief