

August 31, 2007

Daniel T. Mongan, Vice President
ICx Technologies, Inc.
1350 I Street, NW
Washington, DC 20005

Re: ICx Technologies, Inc.
Form S-1
File No. 333-145135
Filed August 3, 2007

Dear Mr.Mongan:

We have reviewed your filing and have the following comments. Where 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 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.

General

1. Please confirm that any preliminary prospectus you circulate will include all non-Rule 430A information. This includes the price range and related information based on a *bona fide* estimate of the public offering price within that range. We may have further comments when you include pricing information and related disclosure.

Prospectus Summary, page 1

2. Please furnish marked copies of all market studies and other third-party information, including statistics and market information disclosed in *Industry Overview* at pages 2 and 66. Please provide a supplemental cross-reference to the related information within the prospectus disclosure.
3. Balance the disclosure in the second paragraph to include net loss for those periods and accumulated deficit as of the latest quarter.

Our Growth Strategy, page 4

Scale our distribution channels

4. Explain why the identity of prior employers for some of your sales personnel is material enough to be included in the summary.

Use of Proceeds, page 26

5. Please state the approximate amount intended to be used for each principal purpose. See Reg. S-K Item 504.

Selected Consolidated Financial Data, page 30

6. We see that you have provided selected financial data for the three most recent fiscal years ended December 31, 2006 and the interim period ended March 31, 2007. Item 301 of Regulation S-K requires a registrant to present selected financial data for each of the last five fiscal years or for the life of the registrant and its predecessors, if less. Please tell us how your current presentation of only three fiscal years of selected financial data complies with Item 301 of Regulation S-K and how you have concluded that no companies you acquired qualify as predecessor corporations. Alternatively, please revise the filing as necessary to provide all the selected financial data required by Item 301 of Regulation S-K.

Comparison of 2006, 2005 and 2004, page 38

Operating Loss Excluding Goodwill Impairment and Depreciation and Amortization,
page 40

7. We note you present your non-GAAP measure “operating loss excluding goodwill impairment and depreciation and amortization” with greater prominence than the most directly comparable GAAP measure, “operating loss”. Accordingly, please revise the filing to present the GAAP measure “operating loss” with equal or greater prominence in accordance with Item 10 (e)(1)(i)(A) of Regulation S-K. Additionally, please include a discussion of operating loss in the discussion of your results of operations for the periods presented in accordance with Item 303 of Regulation S-K.

Business, page 65

8. Under an appropriate caption, describe the relationships between the registrant and DPI and Wexford, the business reasons why the registrant was established by your major shareholder entities, and the past acquisitions of businesses controlled or wholly owned by your major shareholder. Explain whether the registrant intends to continue to engage in acquisitions with the DPI and Wexford entities.

Compensation Discussion and Analysis, page 94

9. Expand the disclosure to provide a more detailed analysis on the factors the board considers in determining the amounts and types of compensation amounts. Explain the “general budgetary guidelines” that the board has established. Explain the extent of participation of your CEO with regard to compensation of other executives. Explain whether the board adopted the CEO’s recommendations.

Recent Developments, page 94

10. Provide more detailed information with regard to the restricted stock and restricted stock units the board approved, including how it determined the amounts of the awards and which named executive officers received them.

Elements of Compensation, page 95

11. Explain what factors the board considers in determining the executive's "overall contribution" and how it determines "market levels." Disclose how big of an increase the CEO received for 2007. Identify the "comparable" companies the board considered in determining the amount of the increase.
12. Describe the "performance objectives" and "qualitative and quantitative contributions" of your named executive officers that are considered in deciding whether to grant bonuses. Describe the objectives established in your operating plan that are considered. Describe how the board decided to award cash or equity bonuses and the amounts that were awarded in 2006.
13. We note the board decides size and type of equity awards for officers "by taking into account recommendations of management." Please expand to discuss further.
14. Clarify whether the "equity awards" referred to under the caption "Stock Options and Equity Awards" are in addition to the equity bonuses described in the previous paragraph.
15. Disclose the exercise prices for the options granted in February 2006. We note that each named executive officer has option awards in 2006, according to your summary compensation table. Explain to discuss.
16. Please explain material differences in compensation decisions with respect to individual named executive officers. For example, we note the option awards granted to your chief executive officer as compared to the awards granted to your other named executive officers. Please provide a more detailed discussion of how and why your chief executive officer's compensation differs from that of the other named executive officers.
17. In the summary compensation table, explain how the "option awards" amounts were calculated.

18. Please revise to include the information regarding Article IX described under Item 14 at page II-2.

Certain Relationships and Related Party Transactions, page 109

19. Explain in further detail the relationships of the affiliated entities to one another and the ownership interests of your officers and directors in those entities.
20. Please disclose the percentage ownership of the affiliated entities in the various acquisitions described here. Disclose how each acquisition was valued and the valuation for each.
21. Please file as exhibits copies of the agreements described in this section, if required by Reg. S-K Item 601(b)(10). If you do not believe filing is required for any agreement, please the basis for your belief.
22. Please include the information called for by Reg. S-K Item 404(b)(1), or tell us why you believe it may be omitted.

Principal Stockholders, page 112

23. If applicable, describe registration rights of principal shareholders.

Description of Capital Stock, page 114

Preferred Stock, page 114

24. Please specify the terms of the outstanding preferred stock conversion.

Financial Statements, page F-1

25. Please update the financial statements in the filing to comply with the requirements of Rule 3-12 of Regulation S-X. Additionally, an updated consent for each of the accountants' reports should also be included with any amendment to the filing.

ICx Technologies, Inc. and Subsidiaries Audited Consolidated Financial Statements, page F-3

Note 1. Description of the Business and Summary of Significant Accounting Policies,
page F-9

(a) General, page F-9

26. We see that during fiscal 2005 you completed the acquisition of five companies in which your two majority shareholders held partial equity ownerships. Please tell us more about the nature and significance of Wexford's, DPI's and Valentis's ownership interests in you. Also, please tell us more about your majority shareholders' ownership in Nuvonyx, Amphitech, Ion Optics, Nomadics and DII (including percentages of equity therein) prior to their consolidation and ownership by you and the reason for the timing of your subsequent consolidations thereof. Finally, please also discuss for us chronologically, how you have accounted for each of these acquisitions and how this accounting complies with U.S. GAAP. In light of the disclosure that DPI and Valentis had ownership interests in these entities prior to your acquisitions thereof, please tell us specifically how your accounting for the referenced acquisitions complied with the common control transactions guidance of SFAS 141 or other applicable GAAP.
27. In a related matter, provide us with support for the reason why you believe Rule 3-05 of Regulation S-X (or predecessor) financial statements for Amphitech and Ion Optics are not required to be included in the filing.

(k) Revenue Recognition, page F-12

28. We note that revenue related to product sales is recognized at the time product is shipped. We also see on page 12 and 80 that you sell your products utilizing distributors. Please revise the filing as necessary to discuss payment terms, rights of return, exchange, or other significant matters encountered in transactions with distributors and your accounting for such items. Please also discuss any repurchase arrangement or post shipment obligations you have with distributors or other customers. Finally, please address the nature of any installation obligations and/or customer acceptance provisions and your accounting for such matters. Refer to the applicable authoritative literature followed, including SAB 104 and SFAS 48, in your response to our comment.
29. We see that you recognize revenue for software under SOP 97-2 and SOP 98-9. We also see that for multi-year revenue license agreements, you recognize the revenue ratably over the life the arrangement due to insufficient vendor specific objective evidence of fair value. Please describe for us the types of your revenue arrangements that involve the sale, license or distribution of software. Please

describe, with appropriate references to SOP 97-2 and SOP 98-9, how you account for the revenue of each of those arrangements. Specifically, please discuss how you recognize software revenue for any multiple-element arrangements and for products with embedded software.

30. We see on page 83 that government agencies have funded much of your research and development programs. It appears that you record these reimbursements as revenue using the percentage of completion method. Please tell us and revise the filing to disclose how you account for and present these reimbursements in your financial statement. Specifically, tell us how you comply with AICPA Audit and Accounting Guide, *Audits of Federal Government Contractors* or other applicable guidance.

Note 3. Related Party Transactions, page F-17

Acquisition of Amphitech, page F-18

31. We see you completed the acquisition of Amphitech on July 7, 2005 through the issuance of preferred and common shares to DPI. We also see that you recorded this issuance of preferred shares as a preferred stock dividend. Please describe for us the authoritative accounting literature which supports the treatment of the issuance as a preferred stock dividend.

Note 4. Business Combinations and Related Intangibles, page F-20

32. We note that on pages 62, F-20 and F-21 you refer to using the valuation of an independent third-party when determining fair value of your common shares. While management may elect to take full responsibility for valuing the equity instruments, if you choose to continue to refer to the expert in any capacity, please revise the filing to name the independent valuation expert and include its consent as an exhibit. Refer to Rule 436 and Item 601(b)(23) of Regulation S-K.

Acquisitions in 2005, page F-21

33. We see you present the pro forma results of operations as if the 2005 acquisitions had occurred at January 1, 2004. Paragraph 54 of SFAS 141 requires disclosure of the pro forma results of operations for the period in which the acquisition occurred as though the combination had been completed at the beginning of that period, or January 1, 2005, and the results of operations for the comparable prior period as though the business combination had been completed at the beginning of that prior period, or January 1, 2004. In this regard, please revise the filing to separately present the pro forma results of acquisitions for 2005 as if the acquisitions had occurred on January 1, 2005.

Goodwill, page F-26

34. We see that you recorded a \$66 million goodwill impairment charge due to certain reporting units falling below their fair value. Please revise the filing to disclose the facts and circumstances that lead to the impairment and the methods used for determining the fair value of the reporting unit as required by paragraph 47 of SFAS 142. In addition, please revise Management's Discussion and Analysis to discuss the significant trends relating to your business units which lead to this impairment and its impact on your operations and cash flows.

ICx Technologies, Inc. and Subsidiaries Unaudited Consolidated Financial Statements, page F-39

Note 7. Discontinued Operations, page F-50

35. We see on August 16, 2006, you completed the sale of Little Optics and received as partial consideration, a note receivable for \$4.5 million which was recorded net of an allowance of \$900,000. We also see that as a result of the sale, you recorded a \$3.1 million gain on sale of assets. In light of the allowance recorded against the note receivable, please tell us how management determined that the recognition of a gain on sale was appropriate to record at the time of sale. Furthermore, please tell us how management has assessed the collectibility and realizable value of the note receivable and how it determined its fair market value. Please discuss whether the note receivable has subsequently been sold or collected.

Digital Infrared Imaging, Inc. Audited Financial Statements, page F-74

Note 6. Preferred Stock, page F-83

Redemption Rights, page F-84

36. We see that you have classified your outstanding convertible redeemable preferred stock as permanent equity. Please support the classification of these securities as permanent equity in your balance sheet. Tell us how EITF D-98 and ASR 268 impact your conclusions. Revise the filing as necessary based on our comments. In this regard, please also provide us a similar analysis for the following preferred stock issuances:
- Griffin Analytical Technologies, Inc., page F-182 and F-194
 - Sensor Technologies & Systems, Inc., page F-357 and F-375

We may have further comments after reviewing your response and revisions.

Target Systemelectronic GmbH, Audited Financial Statements, page F-250

37. We see that you have not presented a statement of shareholder's equity for the fiscal year ended March 31, 2005 and for the period from April 1, 2005 to November 14, 2005. Please revise the filing to present the statement of shareholder's equity for these periods or tell us how your current presentation complies with Item 3-05 of Regulation S-X and Item 17 of Form 20-F.

Report of Independent Certified Public Accountants, page F-260

38. We see that the audit report presented on page F-260 appears to be a *manually* unsigned exact replication of the audit report as presented on page F-251. Please tell us why this report is included in the filing.

Profit and Loss Account 2004/2005, page F-267

39. We see that you have presented your operating results for the interim period of April 1, 2005 to November 14, 2005. However, you have not presented corresponding interim period operating results for the preceding fiscal period in accordance with Rule 3-02 of Regulation S-X. Please revise the filing to present the corresponding period of the preceding fiscal year or tell us why your current presentation is appropriate.

360 Surveillance Inc. Audited Financial Statements, page F-277

Statement of Cash Flows, page F-282

40. We see that you are using the indirect method of presentation for your statement of cash flows. Please tell us how your current presentation complies with paragraph 28 of SFAS 95 which requires that the indirect method begin with adjusting net income. Consider the need to revise the statement of cash flows to comply with SFAS 95. Please also apply this comment to the interim period financial statements presented on page F-289 and provide us a similar analysis for the following statement of cash flow presentations:

- PBA Engineering Ltd., page F-297
- Chilkoot Design Ltd., page F-313
- Davidson Technologies Ltd., page F-329 and F-336

We may have further comments after reviewing your response and revisions.

41. In this regard, please tell us how you have accounted for the effect of exchange rate changes within the statements of cash flows. We note that paragraph 25 of SFAS 95 requires the effect of exchange rate changes on cash balances to be reported as a separate part of the reconciliation. Please also apply this comment to the interim period financial statements presented on page F-289 and provide us a similar analysis for the following statement of cash flow presentations:

- PBA Engineering Ltd., page F-297
- Chilkoot Design Ltd., page F-313
- Davidson Technologies Ltd., page F-329 and F-336

We may have further comments after reviewing your response and revisions.

Chilkoot Design, Ltd. Audited Financial Statements, page F-308

Balance Sheet, page F-310

42. We note you account for your investments in PBA Engineering and 360 Surveillance using the equity method of accounting and these investments represent a majority of your consolidated total assets. Please tell us and reconcile for us how you are recording and adjusting the carrying value of the equity investee to reflect your appropriate ownership interest in the share of earnings in accordance with paragraph 19 of APB 18. Please provide us a similar analysis for the following statement of equity method investee presentations:

- Davidson Technologies Ltd., page F-326 and F-334
- Peter Bourxdreau & Associates Ltd., page F-341

We may have further comments after reviewing your response and revisions.

Item 17 – Undertakings, page II-8

43. Please provide the undertaking required by Reg. S-K Item 512(f).

* * * * *

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses 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 your amendment and responses 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 Act of 1933 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.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness 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 connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

Daniel T. Mongan, Vice President
ICx Technologies, Inc.
August 31, 2007
Page 12

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Kevin Kuhar at (202) 551-(202) 551-3662 or Jay Webb at (202) 551-3603 if you have questions regarding comments on the financial statements and related matters. Please contact Alan Morris at (202) 551-3601 or me at (202) 551-3800 with any other questions.

Sincerely,

Peggy A. Fisher
Assistant Director

cc. Michael J. Danaher, Esq.
VIA FAX (650) 493-6811