

Mail Stop 6010

April 20, 2006

Roger Girard, CEO  
IsoRay, Inc.  
350 Hills Street, Suite 106  
Richland, WA 99354

**Re: Isoray, Inc.  
Amendment No. 1 to Registration Statement on Form SB-2  
Filed March 24, 2006  
File No. 333-129646**

Dear Mr. Girard:

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.

Page references refer to the marked copy of the amendment furnished. Prior comment refers to our letter dated December 7, 2005.

Fee Table

1. We note that registered warrants have varying expiration dates from October 2007 to February 2008. Please distinguish the various warrant classes by separate line

items delineating the number of warrants and respective expiration dates for each class in the fee table.

Cover Page

2. Please revise to clearly present the information currently appearing in the first sentence. The current language is lengthy and complex.
3. The disclosure on the cover page about the various shares issuable upon conversion or exercise conflicts with the 594,651 shares on page 62. Also, the disclosure about warrants to acquire your preferred stock conflicts with the disclosure on page 65 about warrants entitling the holder to purchase common stock. Please advise or revise.
4. Please disclose the warrants are redeemable and briefly explain the redemption terms. Also, disclose the number and expiration dates of the warrants. In addition, the disclosure on the cover page about the exercise price range of the warrants conflicts with page 65. Please revise.
5. Please disclose the expiration date of the options. Also, expand the appropriate section to discuss the material terms of the options.

Our Corporate History, page 1

6. Please refer to prior comment 1. Please clarify the third paragraph. For example, does management expect the auditors to continue issuing going concern opinions? In addition, please clarify the relationship between losses and the need for additional financing.

Certain Defined Terms, page 2

7. Please refer to prior comment 2 and your response. Please explain all technical terms referred to in the prior comment when you first refer to such terms.

We will need to raise additional capital, page 7

8. Please tell us whether the reference to \$18 million includes the \$6.2 million on page II-2. Also, tell us the status of the \$6.2 million transaction and whether funding must be received by a certain date. We may have further comment

Sales and Marketing Experience, page 8

9. Please provide us with support for the reference to the reimbursement specialist. Also, expand the appropriate section to discuss the material terms of the agreement with the party.

We are subject to the risk that certain third parties may mishandle our product, page 8

10. Please expand the appropriate section to discuss the material terms of the agreement with ACM. Also, file the agreement as an exhibit.

We heavily rely on a limited number of suppliers, page 9

11. Please refer to prior comment 7. The disclosure about no formal written agreements with the two suppliers appears to conflict with the first bullet on page 34 about agreements in place with two suppliers. Please advise or revise. Also, expand the appropriate section to discuss the material terms of the exclusive agreement with the Institute of Nuclear Materials, such as the unit price and the term of the agreement.

Our business involves environmental risks, page 12

12. Please refer to prior comment 9. Please expand the appropriate section to discuss, if material, the agreement with Battelle.

Results of Operations, page 16

13. The references on page 17 to \$5,000, \$12,000 and \$60,000 are not consistent with the amounts on page F-5. Please revise.

Liquidity and Capital Resources, page 19

14. Please refer to prior comment 16. Please expand the exhibit index to include the agreements.

15. Please refer to prior comment 17. Please expand the first full paragraph on page 20 to discuss the material terms of the waiver. Also, file the waiver as an exhibit.
16. Please refer to prior comment 18. Please disclose that the debenture conversion price was changed from \$3.50 to 4.15 as a result of the merger.
17. Please refer to prior comment 20. Please describe expected application(s) of the capital expenditure estimate of \$70,000 per month.

Clinical Results, page 28

18. Please refer to prior comment 23. Please disclose that you have not obtained consent to cite the studies.

Marketing Strategy, page 37

19. Please update the disclosure in this section and throughout the prospectus to the extent appropriate. For example, we note the reference on page 38 to “during the remainder of 2005.”

Proprietary Rights, page 40

20. Please tell us why you deleted the disclosure about the agreement with Mr. Lawrence. Also, tell us why you deleted the seasonality disclosure about December sales on page 42 and the disclosure about preferred stock on page 51.

Other Information, page 40

21. Please refer to prior comment 28. Please provide the disclosure required by Item 101(b)(6) of Regulation S-B. Also, clarify the first sentence of this section to clarify whether such customers represent ten percent or more of your revenues since inception, for the most recent fiscal year or for the six months ended December 31, 2005. In addition, revise the MD&A to explain material changes in revenues related to the change of customers.

Description of Property, page 44

22. Please refer to prior comment 32. Please provide greater detail regarding your manufacturing equipment. In this regard we note \$1.6 million of fixed assets as of December 31, 2005.

Directors, Executive Officers, page 44

23. Please refer to prior comment 34. Please expand to disclose the size and scope of operations of the two organizations named during the time period required by Item 401(a)(4) of Regulation S-B. For example, number of employees and customers, and annual revenues would be general indicators of size and scope of operation.
24. Please expand the disclosure on pages 47 and 48 about Mr. Egorov and Ms. Mayfield to include dates of employment during the past five years.

Executive Compensation, page 48

25. Please refer to prior comment 39 and your response. Please provide the outstanding year-end option information required by Item 402(d) of Regulation S-B or tell us why disclosure is not necessary.

Equity Compensation Plans, page 49

26. Please describe the material provisions of the plans such as basis for exercise pricing, vesting and expiration. Describe any material limitations on grants.
27. Please refer to prior comment 40. If material to understanding options currently outstanding and currently available option plans, discuss Isoray Medical, Inc. option plans. For example, were options issued under the Isoray Medical, Inc. plans transferred to the new plans? Were option terms changed?
28. Please refer to prior comment 41. Please update the disclosure.

Selling Shareholders, page 54

29. Please refer to prior comment 45. Please provide us with a table that indicates the transactions by the selling shareholders discussed in response to prior comment 45. The table should also indicate how the transactions in Item 26 are consistent with the shares being sold by each selling shareholder to the extent applicable.
30. Please refer to prior comment 46 and your response. Please expand the disclosure to identify the natural person who beneficially owns or has voting control over the entities named, e.g. Intellegation LLP and Bavispe Limited Partnership.
31. Please refer to prior comment 47. Any selling stockholder who is a broker-dealer must be identified in the prospectus as an underwriter unless all of the securities being registered on behalf of that selling stockholder were received as

underwriting compensation. In addition, each selling stockholder who is an affiliate of a broker-dealer must be identified in the prospectus as an underwriter unless that selling stockholder is able to represent in the prospectus that:

- The selling stockholder purchased the shares being registered for resale in the ordinary course of business, and
- at the time of the purchase, the selling stockholder had no agreements or understandings, directly or indirectly, with any person to distribute the securities.

Please revise accordingly.

Description of Securities, page 64

32. Please describe all of your obligations to issue securities. For example, we note the references on page 14 to units and convertible debentures. As another example, expand page 65 to quantify the number of warrants.
33. Please refer to prior comment 48. Please expand the fourth bullet on page 65 to discuss in greater detail the “adjustment for certain corporate events,” such as the type of events.
34. Please refer to prior comment 50. Please provide us with a legal analysis as to why Minnesota corporate law did not require a vote to approve the reverse stock split or the merger. Also, tell us whether events, such as the election of directors, have occurred since 1994 that would require a shareholder vote.

Warrants, page 65

35. Please revise to describe in greater detail the dilutive events contemplated by the anti-dilution provisions and the means for implementation. For example, if you declare a stock split, what adjustments will be made?
36. Please revise to clarify whether the warrants include any price-protection features. For example, will you adjust warrants if you sell common stock at lower price than the warrant exercise price?
37. In the paragraph following the selling shareholder table on page 63 you refer to the registered warrants anti-dilution feature as “subject to adjustment at [the Board’s] sole discretion.” Please revise to clarify the nature and potential effect of this discretion on warrant holder rights.

IsoRay, Inc. Financial Statements, page F-1

General

38. Please refer to our prior comment 53. We will be in a position to clear this comment once you have filed any revised periodic reports necessary based on our comments, including Form's 8-K, Form 10-KSB and Form 10-QSB, and we have reviewed them.

Statements of Operations and Comprehensive Loss, page F-5

39. Please refer to our prior comment 54. As previously requested, please revise your financial statements to present the debt extinguishment gain as a component of income from continuing operations as required by SFAS Statement 145.
40. We are not able to recalculate the \$0.11 loss per share from continuing operations for the nine months ended June 30, 2005. Please revise or tell us why the amount is correct.

Note G – Related Party Transactions, page F-11

41. Please refer to our prior comment 56. We see that you have restated your financial statements to reflect the contribution of services. Please tell us your consideration of the need to file a Item 4.02 of Form 8-K based on the pending restatements to the financial statements in your 2005 Form 10-KSB to correct the error discussed in your response to our prior comment.

Note 1 – Organization and Summary of Significant Accounting Policies, page F-29

42. Please revise to disclose how you accounted for the reverse merger (i.e. – as a recapitalization) and the basis for the current financial statements of the company. In this regard, tell us why the June 30, 2005 balance sheet herein does not agree with the same balance sheet amounts at page F-32. Revise the filing as necessary based on our concerns or tell us why no revisions are necessary.

Revenue Recognition, page F-30

43. Your description of revenue recognition is vague. Please revise to enhance your discussion to confirm you recognize revenue in accordance with SAB 104. Also, revise to include a discussion of any allowances for returns, warranties and any other significant terms.

Earnings Per Share, page F-30

44. We noted your discussion of 5,112,979 *derivatives* that are convertible. Please tell us more about these instruments, including why you consider them to be derivatives and whether you are accounting for these instruments in accordance with SFAS 133. Revise the filing as necessary based on our comment.

Item 26. Recent Sales of Unregistered Securities

45. The number of warrants in the first two bullets is not consistent with the number of warrants in the table on pages 54-62. Please advise.

Item 27. Exhibits

46. Please revise to clarify that you have requested confidential treatment for Exhibit 10.26. Also, be advised that comments on the confidential treatment request will be issued in a separate letter.

Item 28. Undertakings

47. Please update this section to include the required undertakings as revised effective December 1, 2005.

December 30, 2005 Form 10-QSB

Item 3. Controls and Procedures, page 14

48. We note your disclosure that "...there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote." If you elect to retain this qualifying disclosure, please revise in future filings to also disclose, if true, that your system of internal control over financial reporting is designed so as to provide reasonable assurance that the objectives of the system will be met. For guidance, refer to Part II.F.4 of Release No. 33-8238.

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.

You may contact Julie Sherman at (202) 551-3640 or Jay Webb at (202) 551-



Roger Girard, CEO  
IsoRay, Inc.  
April 20, 2006  
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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) 551-3602 with any other questions.

Sincerely,

Thomas A. Jones  
Senior Counsel

cc. Stephen R. Boatwright  
via FAX at (602) 248-2822