

Via Facsimile and U.S. Mail  
Mail Stop 6010

September 4, 2008

John N. Fermanis  
Chief Financial Officer  
IR BioSciences Holdings, Inc.  
8767 E. Via De Ventura, Suite 190  
Scottsdale, AZ 85258

**Re: IR BioSciences Holdings, Inc.**  
**Form 10-KSB for the Fiscal Year Ended December 31, 2007**  
**Filed March 31, 2008**  
**File Number: 033-05384**

Dear Mr. Fermanis:

We have reviewed your filing and have the following comments. We have limited our review to your financial statements and related disclosures and do not intend to expand our review to other portions of your document. 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 comments are inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation.

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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Item 8A. Controls and Procedures, page 41

1. Please revise your disclosure to explain the reason management believes that the Company's disclosure controls and procedures are effective in light of management's conclusion that the Company's internal control over financial reporting was not effective.
2. Management has concluded that the Company's internal control over financial reporting is not effective based on its evaluation and because of "limited resources and limited number of employees." Please revise your disclosure to explain how limited resources and employees impact your internal control over financial reporting and, as required by Item 308T(a)(3) of Regulation S-K, disclose any

material weaknesses identified by management in the Company's internal control over financial reporting. Also, consider explaining in your disclosure the remediation you have done or intend to do to address any material weaknesses.

\* \* \* \*

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. 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 response to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please furnish the letter on EDGAR under the form type label CORRESP. Please understand that we may have additional comments after reviewing your amendment and 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.

In connection with responding to our comments, please provide, in your letter, 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.

John N. Fermanis  
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You may contact Vanessa Robertson, Staff Accountant, at (202) 551-3649 or Mary Mast, Senior Staff Accountant, at (202) 551-3613 if you have any questions regarding the comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg  
Senior Assistant Chief  
Accountant