



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

August 10, 2010

Mr. David A. Garrison
Executive Vice President and Chief Financial Officer
Arrhythmia Research Technology, Inc.
25 Sawyer Passway
Fitchburg, MA 01420

Re: Arrhythmia Research Technology, Inc.
Form 10-K for the fiscal year ended December 31, 2009
Filed March 10, 2010
File No. 001-09731

Dear Mr. Garrison:

We have reviewed your filing and response dated July 30, 2010 and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the fiscal year ended December 31, 2009

Note 8. Commitments and Contingencies, page F-14

Operating Leases, page F-15

1. We refer to your response to prior comment 19 of our June 2, 2010 letter and comment 1 of our July 8, 2010 letter. We reiterate the provision in FASB ASC 840-40-25-2 which indicates if a sale of property is: (a) accompanied by a leaseback of all or any part of the property for all or part of its remaining economic life; **and** (b) the lease meets one of the four lease classification criteria in paragraph 840-10-25-1, the lessee shall account for the lease as a capital lease. It appears, based on your responses, that your lease meets two of the four lease classification criteria requiring capital lease accounting. Specifically, you indicated “the present value at the beginning of the lease term of the minimum lease payments, excluding that portion of the payments representing executor costs such as insurance, maintenance, and taxes to be paid by the lessor, including any profit thereon, equals or exceeds 90 percent of the excess of the fair value of the leased property to the lessor at lease inception” and “no single part of the sale lease back transaction has a remaining economic life less than the term of the lease” (i.e. the lease term equals or exceeds 75% of the remaining economic life of the lease term). In light of these terms, please tell us why you are not accounting for the sale lease-back as a capital lease.
2. We acknowledge your response to comment 2 of our letter dated July 2, 2010. Please note that if the lease resulting from the sale lease-back should be accounted for as a capital lease, please tell us how your accounting for the long-term deferred gain is consistent with FASB ASC 840-40-35-1.

You may contact Leigh Ann Schultz at (202) 551-3628 or Kristin Lochhead, Accounting Reviewer, at (202) 551-3664 if you have questions regarding comments on the financial statements and related matters. You may also contact me at (202) 551-3676.

Sincerely,

for

Brian Cascio
Accounting Branch Chief