



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

DIVISION OF
CORPORATION FINANCE

September 28, 2006

Mail Stop 7010

By U.S. Mail and facsimile (303) 279-7300

James E. Alexander
President
Isonics Corporation
5906 McIntyre Street
Golden, Colorado 80403

Re: Isonics Corporation
Revised Preliminary Proxy Statement on Schedule 14A
Filed September 22, 2006
File No. 000-21607

Dear Mr. Alexander:

We have limited our review of your filing to those issues we have addressed in our comments. 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.

Proposal 3, page 28

1. We note your response to comment 9 of our letter dated September 13, 2006. Please expand your discussion to briefly discuss the general effect, including the likely dilutive effect, of the transaction with Cornell. Refer to Item 11(d) of Schedule 14A.
2. We note your response to comment 11, as well as disclosure of NASDAQ's July 10 deficiency letter regarding its minimum bid price in your Form 10-KSB. Please revise your disclosure to address on-going material deficiencies in your compliance with NASDAQ listing standards, the effect of this proposal on your efforts to regain compliance, and the consequences to shareholders if you are delisted.

James E. Alexander
Isonics Corporation
September 28, 2006
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Please contact Matt Franker, Staff Attorney, at (202) 551-3749 or me with any questions.

Sincerely,

Jennifer R. Hardy
Branch Chief

cc: Herrick K. Lidstone, Jr. (*via facsimile* 303/796-2777)
Burns, Figa & Will, P.C.
6400 S. Fiddlers Green Circle
Suite 1000
Greenwood Village, Colorado 80111