

Tonix Pharmaceuticals Holding Corp.
509 Madison Avenue, Suite 306
New York, New York 10022

May 17, 2012

VIA EDGAR

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, NE
Washington, DC 20549

Attn: John Reynolds, Assistant Director
Division of Corporation Finance

Pamela Howell, Esq.
Shaz Niazi, Esq.

Re: Tonix Pharmaceuticals Holding Corp.
Registration Statement on Form S-1
Filed April 26, 2012
File No. 333-180964

Ladies and Gentlemen:

The following responses address the comments of the reviewing staff of the Commission as set forth in a comment letter dated May 15, 2012 (the "Comment Letter") relating to the Registration Statement on Form S-1 filed on April 26, 2012 (the "Registration Statement") by Tonix Pharmaceuticals Holding Corp. (the "Company"). The numbers of the responses in this letter correspond to the numbers of the staff's comments as set forth in the Comment Letter.

Plan of Distribution, page 71

1. We note your disclosure in the third paragraph of page 72 that certain selling stockholders are deemed underwriters. Please revise this disclosure and under Plan of Distribution on page seven to identify David J. Moss and all the selling shareholders that are affiliates of the company as underwriters or provide your analysis as to why you believe they are not underwriters.

Response:

The Company does not believe that David J. Moss and the other selling shareholders that are affiliates of the Company are underwriters. Section 2(a)(11) of the Securities Act of 1933, as amended, defines an underwriter as "any person who has purchased from an issuer with a view to, or offers or sells for an issuer in connection with, the distribution of any security, or participates or has a direct or indirect participation in any such undertaking, or participates or has a participation in the direct or indirect underwriting of any such undertaking." There are several elements required for a person to be deemed an underwriter, and the failure of any element would mean that such person is not an underwriter.

There are 11 selling stockholders that are officers, directors, beneficially own more than 5% of the common stock of the Company or are affiliates thereof. Those stockholders are Targent Pharmaceuticals, LLC, Lederman & Co., LLC, L & L Technologies, Inc., Lysander LLC, Ernest Mario, Donald W. Landry, Eli Lederman, John Rhodes, Charles E. Mather IV, David Moss and Leland & Lauren Gershell (the "Selling Stockholders"). The shares being registered by these Selling Stockholders only represent the shares of common stock, and shares underlying warrants, which were acquired in the recent private placements. As such, they acquired the shares being registered in an at-risk securities transaction just like the other selling stockholders, and not with a view to distribute or sell the securities on behalf of the Company. No shares are being registered the Selling Stockholders that they received in the going public transaction on October 7, 2011 or were owned or acquired prior to October 7, 2011. Therefore, these Selling Stockholders do not meet the definition of an underwriter.

In addition, the shares being registered by these Selling Stockholders would not constitute a primary offering on behalf of the issuer, for purposes of Rule 415. The total number of shares being registered by these Selling Stockholders is 1,566,700, which represents less than:

- 5% of the total number of shares of common stock of the Company issued and outstanding;
- 6% of the total number of shares of common stock of the Company issued and outstanding on October 7, 2011, upon completion of the reverse merger and related financing;
- 10% of the total shares beneficially owned by the Selling Stockholders;
- 11% of the total number of shares of common stock being registered on the registration statement;
- 12% of the total number of shares of common stock of the Company issued and outstanding owned by non-affiliates; and
- 33% of the total number of shares of common stock of the Company issued and outstanding owned by non-affiliates on October 7, 2011, upon completion of the reverse merger and related financing.

As a result, such a small number of shares could not be construed as a primary offering on behalf of the Company, even under the most stringent of interpretations by the Securities and Exchange Commission.

As well, of the 1,566,700 shares being registered for the Selling Stockholders, 765,000, or 49%, are shares underlying warrants. The warrants contain a 4.99% blocker, which means that such warrants cannot be exercised if the Selling Stockholders would own more than 4.99% of the Company's common stock after issuance. A majority of these warrants are owned by the Selling Stockholders that currently beneficially own more than 4.99% of the Company's common stock, so they are contractually restricted from exercising such warrants unless and until they beneficially own less than 4.99% of the Company's common stock. Such limitation further dilutes any argument that the shares being registered for the Selling Stockholders is a primary offering on behalf of the Company, as a significant number of such shares cannot be issued. In addition, the restrictions pursuant to Rule 144 for affiliates provides further restrictions on any attempt to create a market on behalf of the Company.

Finally, we note that the Plan of Distribution section contains the following language, to the extent that any of the selling stockholders might be construed as an underwriter: "To the extent required by the Securities Act and the rules and regulations thereunder, the selling stockholders and any broker-dealer participating in the distribution of the shares of common stock may be deemed to be "underwriters" within the meaning of the Securities Act, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the shares of common stock is made, a prospectus supplement, if required, will be distributed, which will set forth the aggregate amount of shares of common stock being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholders and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers."

For all of these reasons, the Company disagrees that such selling stockholders should be identified as underwriters.

We trust that the foregoing appropriately addresses the issues raised by your recent Letter of Comment. Thank you in advance for your prompt review and assistance.

Very truly yours,

/s/ SETH LEDERMAN
Seth Lederman
Chief Executive Officer

Cc: Marc J. Ross, Esq.
Harvey Kesner, Esq.
James M. Turner, Esq.
