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

December 27, 2011

VIA EDGAR

Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549-7010

Attn: John Reynolds, Assistant Director
Division of Corporation Finance

James Lopez, Branch Chief
Division of Corporation Finance

Ruairi Regan, Esq.
John Archfield
Joanna Lam

Re: Tonix Pharmaceuticals Holding Corp.
Current Report on Form 8-K
Filed October 14, 2011
File No. 333-150149

Ladies and Gentlemen:

The following responses address the comments of the reviewing Staff of the Commission as set forth in a comment letter dated November 10, 2011 (the "Comment Letter") relating to the Current Report on Form 8-K filed on October 14, 2011 (the "Form 8-K") by Tonix Pharmaceuticals Holding Corp. (the Company"). The answers set forth herein refer to each of the Staff's' comments by number.

We are filing herewith Amendment No. 1 to the Company's Form 8-K.

Description of our Business, page 4

1. Your business description should address the general development of your business for the past three years. For example, your corporate overview should clearly explain your relationship to each of the persons and entities referenced in that description. Also, expand your disclosure in this section to describe clearly the activities you have undertaken to develop your products since inception, including, for example, the research and development activities described on pages 37 and 38, and why, for example, you do not appear to have undertaken further studies on TNX-102 since the Phase 2a study in 2001.

Response

We have revised our business description to address the general development of our business for the past three years, including explaining our relationship to each person/entity referenced and further describing activities undertaken to develop our products since inception.

2. Please revise to clarify if and how the development studies, research and other necessary activities you describe are being conducted by your employees, L&L Technologies, Lederman & Co, Pharmanet Canada or others. Please describe any arrangements to share responsibilities or designate certain tasks as the responsibility of one or a number of the participating groups of persons.

Response

We have revised our disclosure to clarify what activities are being conducted by employees, consultants or others. We have also clarified which persons/entities are responsible for what tasks.

3. We note the statement on your subsidiary's website that "[d]ue to the competitive nature of this business, Krele is not disclosing the assets it is developing or is considering adding to its portfolio." With a view to clarifying disclosure, advise us of any such assets.

Response

Because of capital and personnel constraints we do not currently have active business activities within Krele. Earlier this year, we were evaluating generic products based on:

- Calcitriol;
- Ibuprofen (400mg, 600mg, 800mg);
- Naproxin (250mg, 375mg, 500mg);
- Nystatin powder; and
- Disulfiram.

As both funds and time permit, Krele will continue to review additional generic product opportunities. Because Gerald Price resigned from Krele and because Krele's activities have been slowed down, we have moved the Krele disclosure to a later point in the business description.

4. Please clarify when you intend to undertake the proposed studies you outline in this section, and disclose in approximate quantitative terms the material costs, if any, associated with each of those studies.

Response

We have revised our disclosure to discuss the intended timeline for the proposed studies mentioned, along with anticipated costs of such studies.

5. Please revise to provide an overview, in quantitative and qualitative terms, summarizing the approximate amount of time to reach commercialization for each of your principal product candidates taking into account material factors such as research and regulatory approval. Also, given the state of development of your products, revise your disclosure that appears to suggest you already create marketable products, such as your disclosure that "We create new dose formulations" on page 4.

Response

We have revised our disclosure to provide an overview as to the anticipated timeline and costs for each of our principal product candidates to reach commercialization. With regards to the disclosure that "We create new dose formulations," this is accurate because we do create new dose formulations as part of our research and development, with such dosage formulations adjusted to achieve our targeted results. We have revised our disclosure to state that we do not market any of these new formulations.

6. Please clarify the purpose of the licenses disclosed at the bottom of the second paragraph in this section.

Response

We have revised our disclosure to state that such licenses are required in order to manufacture, distribute and market prescription medications.

7. Please tell us why your business description does not appear to address the rights relating to isometheptene mucate that you acquired from Lederman & Co. LLC pursuant to Exhibit 10.7.

Response

We have revised our disclosure to include the rights relating to isometheptene mucate that we acquired from Lederman & Co. LLC.

8. Please revise to reconcile the statement on page six that "the therapeutic uses we target are new uses for these active ingredients" with the disclosure that cyclobenzaprine is widely used off-label to treat FM.

Response

We have revised the disclosure to indicate that when our patents were initially filed, the therapeutic uses we target were novel and unexpected, and that since our patents were filed, the use of cyclobenzaprine off-label to treat FM has apparently become widely used.

9. We note the statement on page seven that "TNX-102, our most advanced product candidate, is a bedtime pill." Your disclosure suggests that you currently have a manufactured pill. Please revise to clarify. Also, it is unclear what you mean by "advanced" and in what way TNX-102 is closer to commercialization than TNX-105.

Response

We have revised our disclosure to indicate that the TNX-102 pill has been manufactured in small quantities for use in human clinical trials. As disclosed in the Form 8-K, we have conducted a clinical trial with bedtime very low dose cyclobenzaprine on fibromyalgia patients, whereas no clinical trials have been conducted with regards to TNX-105. As such, TNX-102 is closer to commercialization than TNX-105.

Emerging Market Opportunity, page 10

10. Please revise to further clarify the nature of the studies and findings you identify in the two bullet points on page 10. For example, it is unclear what material elements made up the study conducted by Caliper Life Sciences and when it was undertaken. It is also unclear what your basis is for the "findings" in the first bullet point. Please disclose what activities were undertaken, the nature of any analyses conducted on those results, and the background of the individuals who conducted the activities and analyses.

Response

We have revised the disclosure to indicate the material elements of the study conducted by Caliper Life Sciences on the interactions of active pharmaceutical ingredients with receptors and when they were conducted. We also have revised the disclosure to indicate the basis for the findings, the activities undertaken, and analyses and the background of the individual involved. With regards to our "findings" in the first bullet point, we have changed findings to clinical studies. As disclosed throughout the business section, a low dose cyclobenzaprine has had therapeutic effects on FM symptoms. TNX-102 is a new formulation of low dose cyclobenzaprine.

11. Similarly, we note the statement that "[o]ther compounds that bind this receptor have been shown to have effects in treating PTSD." It is unclear why you do not describe what effects the compound had and what studies or institutions were the source of the observations that "have been shown." Please revise accordingly.

Response

We have revised our disclosure to provide greater clarity about the rationale for studying the effects of cyclobenzaprine in PTSD. Specifically, our study from Caliper Life Sciences determined that cyclobenzaprine interacted with a receptor on brain cells called the serotonin type 2a receptor. Furthermore, it is a scientific fact that other compounds that bind this receptor have been shown to have effects in treating PTSD. Both of these statements, that (i) other compounds bind to the serotonin type 2a receptor and (ii) those other compounds have been shown to have effects in treating PTSD, are supported by numerous peer-reviewed scientific publications. We believe it would be unnecessary and confusing to the reader to provide cites to these publications, but for the Commission's review, the following are approximately two dozen supporting articles:

Anttila, S. A. and E. V. Leinonen (2001). "A review of the pharmacological and clinical profile of mirtazapine." CNS Drug Rev 7(3): 249-64.
Bahk, W. M., C. U. Pae, et al. (2002). "Effects of mirtazapine in patients with post-traumatic stress disorder in Korea: a pilot study." Hum Psychopharmacol 17(7): 341-4.
Bartzokis, G., P. H. Lu, et al. (2005). "Adjunctive risperidone in the treatment of chronic combat-related posttraumatic stress disorder." Biol Psychiatry 57(5): 474-9.
Brophy, M. H. (1991). "Cyproheptadine for combat nightmares in post-traumatic stress disorder and dream anxiety disorder." Mil Med 156(2): 100-1.
Chung, M. Y., K. H. Min, et al. (2004). "Efficacy and tolerability of mirtazapine and sertraline in Korean veterans with posttraumatic stress disorder: a randomized open label trial." Hum Psychopharmacol 19(7): 489-94.
Connor, K. M., J. R. Davidson, et al. (1999). "A pilot study of mirtazapine in post-traumatic stress disorder." Int Clin Psychopharmacol 14(1): 29-31.
Cusack, B., A. Nelson, et al. (1994). "Binding of antidepressants to human brain receptors: focus on newer generation compounds." Psychopharmacology (Berl) 114(4): 559-65.
Davidson, J. R., R. H. Weisler, et al. (2003). "Mirtazapine vs. placebo in posttraumatic stress disorder: a pilot trial." Biol Psychiatry 53(2): 188-91.
Davidson, J. R., R. H. Weisler, et al. (1998). "Treatment of posttraumatic stress disorder with nefazodone." Int Clin Psychopharmacol 13(3): 111-3.
Davis, L. L., M. E. Jewell, et al. (2004). "A placebo-controlled study of nefazodone for the treatment of chronic posttraumatic stress disorder: a preliminary study." J Clin Psychopharmacol 24(3): 291-7.
Hamner, M. B., R. A. Faldowski, et al. (2003). "Adjunctive risperidone treatment in post-traumatic stress disorder: a preliminary controlled trial of effects on comorbid psychotic symptoms." Int Clin Psychopharmacol 18(1): 1-8.
Harsch, H. H. (1986). "Cyproheptadine for recurrent nightmares." Am J Psychiatry 143(11): 1491-2.
Hertzberg, M. A., M. E. Feldman, et al. (1996). "Trial of trazodone for posttraumatic stress disorder using a multiple baseline group design." J Clin Psychopharmacol 16(4): 294-8.
Hertzberg, M. A., M. E. Feldman, et al. (1998). "Open trial of nefazodone for combat-related posttraumatic stress disorder." J Clin Psychiatry 59(9): 460-4.
Hidalgo, R., M. A. Hertzberg, et al. (1999). "Nefazodone in post-traumatic stress disorder: results from six open-label trials." Int Clin Psychopharmacol 14(2): 61-8.
Honda, M., T. Nishida, et al. (2003). "Tricyclic analogs cyclobenzaprine, amitriptyline and cyproheptadine inhibit the spinal reflex transmission through 5-HT(2) receptors." Eur J Pharmacol 458(1-2): 91-9.
Kim, W., C. U. Pae, et al. (2005). "The effectiveness of mirtazapine in the treatment of post-traumatic stress disorder: a 24-week continuation therapy." Psychiatry Clin Neurosci 59(6): 743-7.
Lewis, J. D. (2002). "Mirtazapine for PTSD nightmares." Am J Psychiatry 159(11): 1948-9.
Owens, M. J., W. N. Morgan, et al. (1997). "Neurotransmitter receptor and transporter binding profile of antidepressants and their metabolites." J Pharmacol Exp Ther 283(3): 1305-22.
Rijnders, R. J. P., D. D. M. Laman, et al. (2000). "Cyproheptadine for Posttraumatic Nightmares." Am J Psychiatry 157(9): 1524-a-1525.
Stein, M. B., N. A. Kline, et al. (2002). "Adjunctive olanzapine for SSRI-resistant combat-related PTSD: a double-blind, placebo-controlled study." Am J Psychiatry 159(10): 1777-9.
Warner, M. D., M. R. Dorn, et al. (2001). "Survey on the usefulness of trazodone in patients with PTSD with insomnia or nightmares." Pharmacopsychiatry 34(4): 128-31.

Drug Delivery Technology, page 11

12. Please describe the material terms of your agreement with Lipocine, Inc. referenced in the first paragraph. Also, describe the reformulation work being undertaken by Lipocine on your behalf.

Response

We have revised the disclosure to indicate the material terms of the agreement with Lipocine and the reformulation work being undertaken by Lipocine. As the payment terms of our agreement with Lipocine are subject to a pending request for confidential treatment, they have not been disclosed in the amended Form 8-K.

13. Please provide an expanded description of the study referenced in the second paragraph, including the extent of the study, how the results were measured and when it was undertaken.

Response

We have revised the disclosure to expand the description of the study including the extent of the study and how the results were measured and when it was undertaken.

Intellectual Property, page 14

14. With a view to disclosure, please tell us which intellectual property disclosed on page 14 relates to TNX-201 that you disclose on page 37 was received from Lederman & Co. in exchange for $295,500. Please disclose the duration of material patents. Also, given your disclosure in the fourth paragraph on page 23 regarding licenses, please describe your material patent licenses and file material license agreements as exhibits.

Response

We have revised the disclosure in our MD&A section to state that Tonix incurred an expense of $295,500 in June 2010 related to the technical transfer of intellectual property associated with Isometheptene Mucate ("ICA IP"), which included all patentable subject matter, all resulting patent applications and patents and other intellectual property and data relating to the ICA IP. In addition, we have disclosed the duration of our material patents. Currently, we have no licensed patents. Pursuant to our agreement with Lipocine, which is filed as an exhibit to the Form 8-K, we have the option to purchase exclusive licenses to certain patents held by Lipocine. As a result, we have revised our disclosure accordingly.

Risk Factors, page 20

15. Please revise page 20 or where appropriate to further address "potential side effects." We note, for example, the reference to adverse effects of cyclobenzaprine on slide 42 of Exhibit 99.02.

Response

We have revised the disclosure to describe the two most significant potential side effects of cyclobenzaprine.

16. Consider revising here or where appropriate to address any material risk related to the assumption that there will be a significant market-wide increase in the use of all muscle relaxants for the treatment of FM. We note slide 23 of Exhibit 99.02.

Response

The significant market-wide increase is directly related to the anticipated sales of TNX-102, which are shown in the related line increase on the slide 23 of Exhibit 99.02. As a result, we do not believe any additional disclosure is required.

Risks related to our Stock, page 32

17. Please reconcile your disclosure that there has been a limited trading market here and in the third risk factor on page 34 for your common stock with your disclosure in the first paragraph on page 50.

Response

We have revised our disclosure to state that there has been no trading activity in our common stock.

Management's Discussion and Analysis..., page 36

Results of Operations, page 37

18. Please quantify your research and development expenses that relate to analysis of Phase 2a clinical studies for TNX-102 and receptor binding studies and address whether these costs increased or decreased relative to the prior fiscal period.

Response

We have revised our disclosure to quantify the research and development expenses related to clinical studies, receptor binding studies and reformulation activity for the relevant fiscal periods. In addition, the disclosure indicates during which relevant periods such expenses were incurred, allowing readers to determine if such costs increased or decreased between comparative periods.

19. Please revise the discussion of your period to period changes in research and development and general and administrative expenses to clarify when the significant activities were conducted by persons or entities other than you, such as a contractor or third party clinic.

Response

We have revised the discussion of our period to period changes in research and development and general and administrative expenses to clarify when significant activities were conducted by third parties.

Research and Development Expenses, page 38

20. Please clarify the nature of your sleep study as referenced in this section. For example, it is unclear what individuals and facilities were involved.

Response

We have revised our disclosures in the Form 8-K to clarify that the study was conducted in 2001, and that we acquired such study from L&L, and then engaged a third party to conduct an analysis of the results and data from such study.

Certain Relationships and Related Transactions, page 39

21. Please expand your disclosure in this section to disclose the material terms of each of your agreements with related parties. We note, for example, the transactions referenced on page F-16 of the Technology Transfer and Assignment Agreement, dated as of June 4, 2010, by and between Krele Pharmaceuticals, Inc. and Lederman & Co., LLC.

Response

We have revised our disclosure to disclose the material terms of each of our agreements with related parties that are subject to disclosure during the relevant periods.

Financial Statements and Exhibits, page 55

22. Please tell us where you have filed as an exhibit the agreement regarding your lease of property entered into on September 28, 2010.

Response

We have filed our lease as Exhibit 10.20 to this amended Form 8-K.

23. We note that you indicate that confidential treatment is requested for portions of Exhibits 10.09 and 10.10; however, it appears no request for confidential treatment has been submitted. Please advise.

Response

As per discussions between our counsel and the staff, the confidential treatment request was initially sent out by overnight delivery on October 14, 2011 and received and signed for by the SEC on October 17, 2011. However, it appears that submission was subsequently lost, and another submission was sent by overnight delivery on November 18, 2011 and received and signed for by the SEC on November 21, 2011.

24. We note the reference on page four to "a study conducted by Frost & Sullivan on behalf of Tonix." We also note the reference on page 10 to "studies conducted by a third party that we engaged, Caliper Life Sciences." Please confirm, if true, that the Frost & Sullivan study you reference is the only such study cited in your Form 8-K and that it is filed as Exhibit 99.02. Also, please provide a copy of the Caliper Life Sciences study and advise us of your understanding with respect to the applicability of Rule 436 to these studies in the event you file a registration statement.

Response

We hereby confirm that the Frost & Sullivan study referenced in our description of business is filed as Exhibit 99.02 and is the only Frost & Sullivan study cited. The Caliper Life Sciences study included two elements: (1) receptor screening; and (2) detailed binding to specific receptors. Part (1) was simply a list of data, which contained 78 various targets (receptors) and the percentage binding activity with cyclobenzaprine. The screening, which they did at mM concentrations, was to see if there was any affinity for the receptors in their panel. Caliper mixed radiolabeled ligands with the target receptors (on homogenized membranes or cell lines). Then they added cyclobenzaprine at a concentration of 10-5M and measured how much of the labeled ligand it displaced. For example, the number 0.863 indicates that cyclobenzaprine displaced 86.3% of the ligand from the serotonin type 2a receptor (5HT2a) in this screening assay. As other examples, the number 0.136 indicates that cyclobenzaprine displaced 13.6% of label from Acetylcholinesterase and the number 0.227 indicates cyclobenzaprine displaced 24.7% of label from Thromboxane, TXA2. As a result, filing the results of the receptor screening will provide no clarification or relevant information to investors. Part (2) showed the binding of cyclobenzaprine to select receptors and we have filed the results of the cyclobenzaprine binding to serotonin type 2 a receptor as exhibit 99.03.

Financial Statements as of and for the Fiscal Years Ended December 31, 2010 and 2009

Consolidated Statements of Operations, page F-3

25. Please revise to present basic and diluted per-share amounts on the face of the statements of operations for each period presented. Refer to ASC 260-10-45-2.

Response

The statements of operations for the years ended December 2010 and 2009, and for the nine months ended September 30, 2011 and 2010 have been revised to include basic and dilutive per share amounts. Because Tonix incurred a loss in all periods presented herein, basic and dilutive per share amounts are the same.

26. We note the undeclared cumulative dividends on Preferred Stock of $148,735 (page F-26), $78,211 (page F-13) and $32,000 (page F-13) at June 30, 2011, December 31, 2010 and December 31, 2009, respectively. Please tell us if the loss applicable to common stock is materially different in quantitative terms from the reported net loss for each period presented and, if so, tell us how you considered the requirements of SAB Topic 6.B.

Response

The financial statements for the years ended December 2010 and 2009, and for the nine months ended September 30, 2011 and 2010 have been revised to include cumulative dividends on preferred stock and net loss attributable to common stock.

Notes to Consolidated Financial Statements, page F-6

27. Please revise to include a reconciliation of the numerators and the denominators of the basic and diluted per-share computations. Also revise to disclose the securities that could potentially dilute basic EPS in the future that were not in included in the computation of diluted EPS because to do so would have been antidilutive for the periods presented. Refer to ASC 260-10-50-1.

Response

Note B [9] - Per Share Data in the audited financial statements for the years ended December 31, 2010 and 2009 and Note D – Per Share Data in the unaudited financial statements for the nine months ended September 30, 2011 and 2010 have been revised to reflect required disclosure referred to above.

Note H – Income Taxes, page F-11

28. Please revise to provide the unrecognized tax benefit disclosures required by ASC 740-10-50-15.

Response

Such disclosure is included in Note B [7] – Income Taxes in the audited financial statements for the years ended December 31, 2011 and 2010.

Note L – Subsequent Events, page F-16

29. Please disclose the date through which you have evaluated subsequent events for the annual and interim financial statements presented, and whether that date is either the date the financial statements were issued or available to be issued. Refer to ASC 855-10-50-1.

Response

Disclosure has been added to Notes L and M – Subsequent Events in the annual and interim financial statements, respectively, with respect to the dates through which we have evaluated subsequent events.

Unaudited Pro Forma Condensed Combined Financial Statements, page F-31

Unaudited Pro Forma Condensed Combined Statements of Operations for the Year Ended December 31, 2010, page F-33

30. Please revise to also present the historical loss per share data for both Tonix and Tamandare for the year ended December 31, 2010 and six months ended June 30, 2010.

Response

Per share data has been presented for the year ended December 31, 2010 and the nine months ended September 30, 2011.

31. We note the weighted average shares of 11,319,780 (page F-33) and 19,362,452 (page F-34) that were used in the computation of basic and diluted net loss per share for the year ended December 31, 2010 and six months ended June 30, 2011, respectively. Please supplementally provide us with your calculation to arrive at the pro forma weighted average shares outstanding for each period. Also tell us how you considered the possible dilution of the pro forma per share data resulting from the issuance of $1,625,000 of convertible debentures concurrent with the Share Exchange. Refer to Rule 11-02(b)(7) of Regulation S-X.

Response

Our calculation of weighted average shares has been amended to comply with comment 32, below, and is included as Attachment A to this response. Because Tonix incurred a loss in all periods presented herein, no effect has been given to common shares issuable upon conversion of $1,625,000 of secured convertible debentures as their effect would be anti-dilutive. See disclosures to Note 2, Adjustment (I) to the unaudited pro forma condensed combined financial statements.

32. We note in footnote (D) that you reflect the accelerated vesting of 1,737,000 shares of restricted stock as an adjustment to your pro forma balance sheet on page F-32. We further note in footnote (G) that you did not give effect to the accelerated vesting of the 1,737,000 shares of restricted stock in your calculation of pro forma basic and diluted loss per common share. Please revise to reflect the accelerated vesting of the 1,737,000 shares in your calculation of pro forma basic and diluted loss per common share, or explain to us why you believe that such pro forma effect is not required. Refer to Rule 11-02(b)(7) of Regulation S-X.

Response

The Unaudited Pro Forma Condensed Combined Financial Statements have been revised to include the accelerated vesting of what is now 1,600,750 shares of restricted stock at September 30, 2011 in our calculation of loss per common share. In our calculation of weighted average common shares we assumed that shares of restricted stock were vested and issued on the date of grant.

1. Share Exchange, page F-35

33. We note that Tonix Shareholders received in exchange for all of their shares of Tonix Common and Preferred Stock, an aggregate of 22,666,667 shares of Tamandare's Common Stock in the October 7, 2011 Share Exchange. We further note on page F-26 the undeclared cumulative dividends on Preferred Stock of $148,735 at June 30, 2011. Please tell us and revise to disclose how the undeclared cumulative dividends were affected in the exchange. To the extent that these will remain undeclared cumulative dividends after the exchange, clearly disclose this in the pro forma information.

Response

We have revised Note 1 of the Unaudited Pro Forma Condensed Combined Financial Statements to state:

On September 19, 2011, the holders of Series A Preferred Stock and Series B Preferred Stock signed an Omnibus Waiver Agreement which acknowledged that the Share Exchange shall not constitute a liquidation event and accordingly, undeclared cumulative dividends, which will remain undeclared after the share exchange, were not taken into account in determining the conversion ratio for the share exchange, nor in calculating the number of shares to be exchanged.

Note 2. Pro Forma Adjustments, page F-35

34. We note in footnote (C) that you reflect the issuance of $1,625,000 of debentures concurrent with the Share Exchange, including the $500,000 of debentures which were exchanged for the Tonix debentures and the $40,000 deferred financing costs, as adjustments to your pro forma balance sheet. We further note in footnote (H) that "the debentures were not assumed to have been issued on January 1, 2010 and, accordingly, no pro forma interest expense is reflected in the accompanying pro forma statements of operations." Please tell us how you considered Rule 11-02(b)(6) of Regulation S-X to arrive at your conclusion to not reflect the interest expense and amortization of deferred financing costs related to the debentures as adjustments to your pro forma statements of operations.

Response

The pro forma statement of operations for the year ended December 31, 2010 has been revised to reflect interest expenses and amortization of deferred financing cost, See Notes C and G.

Form 10-K for the Fiscal Year Ended December 31, 2010

Item 9A. Controls and Procedures, page 18

35. We note that you did not disclose management's conclusion on the effectiveness of disclosure controls and procedures ("DC&P") as of December 31, 2010. Please confirm to us that you will disclose management's conclusion on the effectiveness DC&P in all future filings on Form 10-K, based on the evaluation of these controls and procedures required by paragraph (b) of Rule 13a-15 or Rule 15d-15 under the Exchange Act. Refer to Item 307 of Regulation S-K, and the instructions to Item 9A of Form 10-K.

Response

We acknowledge that prior management did not disclose management's conclusion on the effectiveness of disclosure controls and procedures ("DC&P") as of December 31, 2010. We hereby confirm that we will disclose management's conclusion on the effectiveness DC&P in all future filings on Form 10-K, based on the evaluation of these controls and procedures required by paragraph (b) of Rule 13a-15 or Rule 15d-15 under the Exchange Act.

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

ATTACHMENT A

Tonix Pharmaceuticals, Inc.
Weighted average shares calculation for pro forma on combined basis
September 30, 2011

Shares exchange rate

Preferred shares	4.80
Common shares	0.87

		December 31, 2010			September 30, 2011		
Issuance / grant date	# Shares	Days OS outstand	Weighted average shares historical	Weighted average shares converted	Days OS outstand	Weighted average shares historical	Weighted average shares converted
Series A Preferred							
6/30/2009	375,000	365	375,000	1,799,953	273	375,000	1,799,953
6/30/2009	375,000	365	375,000	1,799,953	273	375,000	1,799,953
6/30/2009	375,000	365	375,000	1,799,953	273	375,000	1,799,953
6/30/2009	375,000	365	375,000	1,799,953	273	375,000	1,799,953
	1,500,000		1,500,000	7,199,813		1,500,000	7,199,813
Series B Preferred							
07/30/2010	451,481	155	191,725	920,255	273	451,481	2,167,052
07/30/2010	47,681	155	20,248	97,188	273	47,681	228,862
09/22/2010	54,545	101	15,093	72,446	273	54,545	261,811
08/11/2010	45,455	143	17,808	85,477	273	45,455	218,176
08/11/2010	45,455	143	17,808	85,477	273	45,455	218,176
08/11/2010	45,455	143	17,808	85,477	273	45,455	218,176
09/21/2010	22,727	102	6,351	30,485	273	22,727	109,088
09/30/2010	90,909	93	23,163	111,180	273	90,909	436,352
09/30/2010	22,727	93	5,791	27,795	273	22,727	109,088
09/30/2010	50,000	93	12,740	61,149	273	50,000	239,994
09/30/2010	227,273	93	57,908	277,950	273	227,273	1,090,881
09/30/2010	90,909	93	23,163	111,180	273	90,909	436,352
09/30/2010	22,727	93	5,791	27,795	273	22,727	109,088
09/30/2010	22,727	93	5,791	27,795	273	22,727	109,088
09/30/2010	136,364	93	34,745	166,770	273	136,364	654,528
09/30/2010	32,727	93	8,339	40,025	273	32,727	157,087
11/08/2010	45,455	54	6,725	32,278	273	45,455	218,176
11/15/2010	200,000	47	25,753	123,613	273	200,000	959,975
12/30/2010	10,000	2	55	263	273	10,000	47,999
12/30/2010	10,000	2	55	263	273	10,000	47,999
12/30/2010	17,273	2	95	454	273	17,273	82,907
12/31/2010	27,273	1	75	359	273	27,273	130,906
1/24/11	100,000				250	91,575	439,549
2/4/11	14,545				239	12,734	61,119
2/18/11	70,000				225	57,692	276,916
2/23/11	90,909				220	73,260	351,639
4/1/11	45,455				183	30,470	146,251
4/11/11	13,636				173	8,641	41,476
6/21/11	45,455				102	16,983	81,517
6/21/11	45,455				102	16,983	81,517
6/21/11	90,909				102	33,966	163,033
7/18/11	20,000				75	5,495	26,373
7/18/11	20,000				75	5,495	26,373
	2,275,526		497,029	2,385,676		2,072,455	9,947,526
Common shares							
6/25/2007	82,500	365	82,500	71,998	273	82,500	71,998
6/4/2010	1,500,000	211	867,123	756,742	273	1,500,000	1,309,057
6/1/2010	300,000	214	175,890	153,500	273	300,000	261,811
6/25/2007	24,000	365	24,000	20,945	273	24,000	20,945
6/25/2007	506,250	365	506,250	441,807	273	506,250	441,807
6/1/2010	1,176,000	214	689,490	601,721	273	1,176,000	1,026,301
6/25/2007	1,500	365	1,500	1,309	273	1,500	1,309
6/25/2007	84,750	365	84,750	73,962	273	84,750	73,962
6/25/2007	75,000	365	75,000	65,453	273	75,000	65,453
6/25/2007	12,000	365	12,000	10,472	273	12,000	10,472
6/4/2010	138,000	211	79,775	69,620	273	138,000	120,433

6/4/2010	45,000	211	26,014	22,702	273	45,000	39,272
9/28/2010	25,000	95	6,507	5,679	273	25,000	21,818
9/28/2010	200,000	95	52,055	45,428	273	200,000	174,541
7/8/2010	150,000	177	72,740	63,480	273	150,000	130,906
10/28/2010	150,000	65	26,712	23,312	273	150,000	130,906
4/12/2011	25,000	-	-	-	172	15,751	13,746
9/28/2010	225,000	95	58,562	51,107	273	225,000	196,359
2/28/2011	225,000	-	-	-	215	177,198	154,641
6/4/2010	150,000	211	86,712	75,674	273	150,000	130,906
2/28/2011	30,000	-	-	-	215	23,626	20,619
7/2/2010	15,000	183	7,521	6,563	273	15,000	13,091
6/9/2010	22,500	206	12,699	11,082	273	22,500	19,636
10/8/2010	22,500	85	5,240	4,573	273	22,500	19,636
3/25/2011	22,500	-	-	-	190	15,659	13,666
	5,207,500		2,953,040	2,577,131		5,137,234	4,483,288
Total WA shares	8,983,026		4,950,069	12,162,620		8,709,690	21,630,626
Shares retained by Tamandare's shareholders				4,000,000			4,000,000
Shares issued to placement agent				400,000			400,000
TOTAL WA SHARES ON AS CONVERTED BASIS				**16,562,620**			**26,030,626**

TOTAL WA SHARES ON AS CONVERTED BASIS	**16,562,620**	**26,030,626**