

PROSPECTUS SUPPLEMENT
(To Prospectus Dated May 13, 2005)

FIBERTOWER CORPORATION
(FORMERLY FIRST AVENUE NETWORKS, INC.)
COMMON STOCK
60,420,193 SHARES

This document supplements the Prospectus dated May 13, 2005 relating to the offer and sale from time to time of up to 60,420,193 shares of the common stock of FiberTower Corporation (formerly First Avenue Networks, Inc.) by selling stockholders named in the Prospectus.

This Prospectus Supplement is incorporated by reference into, and should be read in conjunction with, the Prospectus dated May 13, 2005.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

You should rely only on the information contained in this prospectus supplement, the related prospectus and prior supplements and those documents incorporated by reference herein and therein. We have not authorized anyone to provide you with different information. You should not assume that the information contained in this prospectus supplement, the related prospectus and prior supplements or any document incorporated by reference is accurate as of any date other than the date on the front cover of the applicable document.

The date of this prospectus supplement is May 25, 2007.

SELLING STOCKHOLDERS

The table below lists additional information with respect to the selling stockholders for the table on pages 12-14 of the Prospectus. Unless otherwise indicated in a footnote to the table, the selling stockholder has informed us that such selling stockholder has not held any position or office with, been employed by, or otherwise had a material relationship with us or any of our affiliates during the three years prior to the date of this Prospectus Supplement.

The following sets forth information about the number of shares of common stock beneficially owned by the selling stockholder named below as of May 23, 2007, the maximum number of shares that may be offered for sale by such selling stockholder under the Prospectus, the number of shares beneficially owned by such selling stockholder (assuming all such shares are sold), and the percentage of our outstanding common stock beneficially owned by such selling stockholder (based on 145,814,015 shares of common stock issued and outstanding as of May 11, 2007). The amounts listed below reflect transfers effected following the date of the Prospectus and prior to the date of this Prospectus Supplement.

Selling Stockholder	Shares Owned Prior to Offering (1)	Ownership Percentage Prior to Offering (1)	Shares Being Offered	Shares Owned After Offering (1)	Ownership Percentage After Offering (1)
Millennium Partners, L.P. (2)	2,434,816(3)	1.6%	2,112,740	322,076	*

* Less than 1%

- (1) Assumes that all of the shares held by the selling stockholder and being offered under this Prospectus are sold and that the selling stockholder acquires no additional shares of common stock before the completion of this offering.
- (2) Millennium Management, L.L.C., a Delaware limited liability company, is the managing partner of Millennium Partners, L.P., a Cayman Islands exempted limited partnership, and consequently may be deemed to have voting control and investment discretion over securities owned by Millennium Partners, L.P. Israel A. Englander is the managing member of Millennium Management, L.L.C. As a result, Mr. Englander may be deemed to be the beneficial owner of any shares deemed to be beneficially owned by Millennium Management, L.L.C. The foregoing should not be construed in and of itself as an admission by either of Millennium Management, L.L.C. or Mr. Englander as to beneficial ownership of the shares of the Company's common stock owned by Millennium Partners, L.P. Millennium Management, L.L.C. is the manager of Millenco, L.L.C.
- (3) Includes 2,112,740 shares subject to outstanding warrants to purchase our common stock being offered by the selling stockholder and 322,076 shares of our common stock held by Millenco, L.L.C., an affiliate of the selling stockholder.