



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3720

September 24, 2015

Jon R. Hopper
President and Chief Executive Officer
Xtera Communications, Inc.
500 W. Bethany Drive, Suite 100
Allen, Texas 75013

Re: Xtera Communications, Inc.
Draft Registration Statement on Form S-1
Submitted August 28, 2015
CIK No. 0001122051

Dear Mr. Hopper:

We have reviewed your draft registration statement 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 by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

General

1. Please file your additional exhibits as soon as practicable. We will need adequate time to review, and, if necessary, comment upon your disclosure regarding the exhibits.
2. As soon as practicable, please furnish us with a statement as to whether the amount of compensation to be allowed or paid to the underwriters has been cleared with FINRA. Prior to the effectiveness of this registration statement, please provide us with a copy of the letter or a call from FINRA informing us that FINRA has no additional comments.

3. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.
4. We note that you have checked the box on the outside front cover page of your registration statement indicating that you are a non-accelerated filer. We further note however, for example, that your executive compensation disclosures appear to have been presented in reliance upon the modified disclosure afforded to smaller reporting companies. Please advise.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Components of Operating Results, page 39

5. We note your statements that you anticipate revenue from your turnkey solutions will increase in the next two fiscal years and that these solutions will represent a significant percentage of your product revenue in those years. Please disclose the break-down of what is included in your turnkey solutions and discuss how your turnkey solutions complement or enhance your product sales.

Results of Operations, page 45

6. Please see Instruction 4 to Item 303(a) of Regulation S-K. Expand your line by line analysis of your financial statements to describe the causes of the year to year material changes in your product and service components of your cost of revenues.

Moreover, we note that your product sales include revenues from hardware, software and turnkey systems sales that have materially different margins. In light of your historic and anticipated future changes in product mix, please identify and disclose the quantitative contribution of each factor attributing to material changes your revenues, cost of revenues and gross margin as required by Financial Reporting Codification § 501.04 and § 501.05. As required by Item 303(a)(3)(ii) of Regulation S-K, please describe known trends and uncertainties in such factors that have had or that you may reasonably expect to have a material impact on your results of operations.

Business

Our Strategy, page 59

7. We note that a key element of your strategy for future growth is to broaden your suite of product offerings. Please expand this discussion, as necessary, to identify any anticipated future products or trends towards additional targeted product areas.

Financial Statements

Consolidated Balance Sheets, page F-3

Note 21 – Subsequent Events, page F-35

8. Refer to the “Proforma” column on page F-3. Please delete this column and revise to present a pro forma balance sheet as of June 30, 2015. Such balance sheet should give effect to the automatic conversion of all of your outstanding convertible preferred stock into common stock in connection with this offering. In addition, provide a footnote disclosure describing the nature of the pro forma balance sheet. Further, revise your Summary Consolidated Financial Data and Selected Consolidated Financial Data accordingly.

Note 10 – Loss per Share, page F-33

9. Refer to the second paragraph. Please revise to give effect to the cancellation of the Notes on August 25, 2015 in exchange for the Series E-3 preferred stock and the automatic conversion of such stock into common stock in connection with this offering. In addition, revise your Summary Consolidated Financial Data and Selected Consolidated Financial Data accordingly.

Note 2 – Summary of Significant Accounting Policies

Revenue Recognition, page F-11

10. We note that ASU No. 2009-13 is cited several times on page F-12 as authoritative accounting literature. Please revise. Accounting Standards Updates (ASU) are not authoritative; rather, ASUs are documents that communicate specific amendments to Accounting Standards Codification which are authoritative.

Further, we note that you provide multiple-deliverable arrangement disclosures for *optical network solutions* and *product solutions*. We note however that your product sales include revenues from hardware, software and turnkey systems sales which seem likely to be based upon substantially different contractual arrangements. Please revise your revenue recognition disclosures to provide more detailed disclosure by similar type of arrangements as required by ASC 605-25-50-1 and -2.

Note 20 – Related Parties

Advance to Director, page F-34

11. We note that you provided an advance to an officer of the company that appears to be currently outstanding. Please provide the material terms of this arrangement.

John R. Hopper
Xtera Communications, Inc.
September 24, 2015
Page 4

You may contact Joseph M. Kempf, Senior Staff Accountant, at (202) 551-3352 or Dean Suehiro, Senior Staff Accountant, at (202) 551-3384 if you have questions regarding comments on the financial statements and related matters. Please contact William Mastrianna, Attorney-Adviser, at (202) 551-3778, Celeste M. Murphy, Legal Branch Chief, at (202) 551-3257, or me at (202) 551-3810 with any other questions.

Sincerely,

/s/ Celeste M. Murphy for

Larry Spigel
Assistant Director
AD Office 11 – Telecommunications

cc: Samer Zabaneh
DLA Piper LLP