



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

DIVISION OF  
CORPORATION FINANCE

July 7, 2011

Via E-mail

Joseph Slattery  
Chief Financial Officer  
TranS1 Inc.  
301 Government Center Drive  
Wilmington, North Carolina, 28403

**Re: TranS1 Inc.  
Amendment No. 1 to Registration Statement on Form S-3  
Filed June 23, 2011  
File No. 333-174255**

Dear Mr. Slattery:

We have limited our review of your registration statement to those issues we have addressed in our 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 amending your registration statement and providing the requested information. Where 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 any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Fee Table

1. We reissue prior comment 2. Your revisions did not remove the implication in the fee table that securities issued upon conversion or in exchange for securities are in addition to the \$50 million of securities in the fee table.

Prospectus Cover Page

2. We note your response to prior comment 3. If at this time you are relying on General Instruction I.B.6 to qualify to use Form S-3, you must provide the disclosure required by Instruction 7 to General Instruction I.B.6 at this time. Otherwise, please provide us your complete analysis demonstrating your eligibility to use Form S-3.

Incorporation of Certain Information by Reference, page 18

3. We note your response to prior comment 4. Please continue to update this section. For example, we note the Form 8-K that you filed on June 24, 2011.

Exhibit 5.1

4. We note your response to prior comment 5. Please tell us why you believe an opinion that addresses the Business Corporation Law of the State of New York satisfies your obligation to file an opinion as to whether the debt securities will be when sold binding obligations of the registrant. It appears that other state laws would affect that issue.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

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Please contact Tom Jones at (202) 551-3602 or me at (202) 551-3617 with any questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso  
Branch Chief

cc (via e-mail): Bruce Feuchter