

October 15, 2010

VIA E-MAIL AND FEDERAL EXPRESS DELIVERY

Securities and Exchange Commission
100 F. Street, N.E.
Washington, D.C. 20549-3628

Attention: James E. O'Connor, Esq.
Ms. Christina DiAngelo
Division of Investment Management

Re: Horizon Technology Finance Corporation
Registration Statement on Form N-2, Filed March 19, 2010
File Nos. 333-165570 and 814-00802

Dear Mr. O'Connor and Ms. DiAngelo:

On behalf of Horizon Technology Finance Corporation, a Delaware corporation (the "Company"), we are responding to your comments communicated to us by telephone today with respect to the above-referenced Registration Statement. Thank you for your comments which we restate below, followed by the Company's response. Terms used and not defined in this letter shall have the meaning described in the Registration Statement.

1. Please explain the incentive fee payable to the Advisor at the time of the Pre-IPO Distribution and Share Exchange as referenced in the fifth bullet to the lead-in to the Unaudited Pro Forma Condensed Consolidated Financial Information.

Prior to the completion of the Company's initial public offering, the Advisor will be entitled to the an incentive fee upon the distribution of proceeds by Compass Horizon to the Compass Horizon Owners in the amount of \$330,000 based upon an assumed offering price of \$18.50/per share. This fee will be paid out of cash on hand at Compass Horizon and is reflected in the pro forma financial information as "management fee expense." The fee is triggered by the Share Exchange and entitles the Advisor to 20% of the proceeds of the Pre-IPO Distribution after payment of expenses, return of capital and a preferred return of 9% to the Compass Horizon Owners. After the completion of the Company's initial public offering, the Advisor's entitlement to this fee and all other management and incentive fees will be eliminated and the Advisor will be entitled to no fees other than those described in the section of the Registration Statement entitled "Investment Management and Administration Agreements — Management Fee."

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2. Please explain why the column titled "Asset Coverage Per Unit" is not included in the "Senior Securities" table.

We have amended the Senior Securities table to include that column and all amounts consistent with Instruction 2 to Item 4(3) of Form N-2, and have inserted new footnote 2 to describe the methodology used for such calculation. When such amount is expressed as a dollar amount, the calculations of asset coverage per unit for the nine months ended September 30, 2010, the years ended December 31, 2009 and 2008 were as follows:

2010 (as of September 30, 2010)	\$1,788
2009	\$1,927
2008	\$1,781

3. Please explain why the allowance for loan losses is a larger adjustment for RIC/BDC elections than the fair value adjustment on the loans receivable?

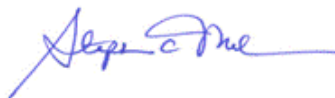
Our allowance for loan losses is computed using a combination of general and specific reserves. We use a credit rating system which rates each loan on a scale of 4 to 1, with 4 being the highest credit quality rating and 3 being the rating for a standard level of risk. A rating of 2 or 1 represents a deteriorating credit quality and increased risk. Each credit rating is assigned a general reserve percent of the loan principal balance. For example, a 3 rated credit loan would have a general reserve for allowance accounting, but would not have an adjustment for fair value accounting. In addition, a 2 credit rated loan would have a higher general reserve than a 3 credit rated loan, but may or may not have a fair value adjustment based on other factors that are assessed in the fair value process each quarter.

Our fair value on loans receivable is not based on a general reserve but rather an assessment of each individual loan based on a number of factors including the credit quality of the portfolio company and the yield on the loan as compared to the market as of the date of determination. (i.e. September 30)

In the case of the Company, the fair value adjustment in the Pro Forma balance sheet on page 40 is the effect of two portfolio loans that were marked below the loan cost with all other loans having a fair value equal to its cost. In no case was the fair value of any loan greater than its cost.

We appreciate the efforts of the staff and look forward to resolving the Staff's comments as soon as possible. Please contact the undersigned at the above number if you have any questions.

Very truly yours,



Stephen C. Mahon