

June 1, 2011

VIA EDGAR

Securities and Exchange Commission
100 F. Street, N.E.
Washington, D.C. 20549-3628
Attention: James E. O'Connor, Esq.

**Re: Horizon Technology Finance Corporation
Preliminary Proxy Statement on Schedule 14A, Filed May 20, 2011
File No. 814-00802**

Dear Mr. O'Connor:

On behalf of Horizon Technology Finance Corporation, a Delaware corporation (the "Company"), we are responding to the comments of the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") communicated to us by telephone on May 26, 2011 with respect to the above-referenced preliminary proxy statement (the "Preliminary Proxy Statement"). Thank you for your comment which we restate below, followed by the Company's response.

In connection with this response, the Company is today filing with the Commission a definitive proxy statement which reflects the response set forth below.

1. We note the examples of the level of NAV dilution that would be experienced by a nonparticipating stockholder in three different hypothetical stock offerings of different sizes and levels of discount from NAV per share in the section entitled "Examples of Dilutive Effect of the Issuance of Shares Below NAV" beginning on page 9 of the preliminary proxy statement. If the Company's board of directors would consider approving an offering of the Company's common stock at a discount to NAV that is greater than the largest discount from NAV reflected in such examples, please accordingly expand the disclosure.

In response to the Staff's comment, the Company has accordingly expanded the disclosure on page 10 of the Preliminary Proxy Statement.

We appreciate the efforts of the Staff in reviewing the preliminary proxy statement and we hope that you find the Company's responses to the Staff's comments satisfactory. Please contact Stephen C. Mahon at 513-361-1230 or Toby D. Merchant at 513-361-1229 if you have any questions.

36 OFFICES IN 16 COUNTRIES

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Very truly yours,

/s/ Stephen C. Mahon

Stephen C. Mahon

TDM/ajm

cc: Robert D. Pomeroy, Jr.
John C. Bombara, Esq.
Toby D. Merchant, Esq.

Appendix A

In conjunction with the responses to the letter dated June 1, 2011, containing comments from the staff (the "Staff") of the Securities and Exchange Commission in respect of the above-referenced preliminary proxy statement, Horizon Technology Finance Corporation (the "Company") acknowledges that (i) it is responsible for the adequacy and accuracy of the disclosure in the filing, (ii) Staff comments or changes to disclosure in response to the Staff's comments do not foreclose the Commission from taking any action with respect to the filing and (iii) the Registrant may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

**HORIZON TECHNOLOGY FINANCE
CORPORATION**

By: /s/ Robert D. Pomeroy, Jr. _____

Robert D. Pomeroy, Jr.

Chief Executive Officer