
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM N-54A

**NOTIFICATION OF ELECTION TO BE SUBJECT TO SECTIONS 55
THROUGH 65 OF THE INVESTMENT COMPANY ACT OF 1940 FILED
PURSUANT TO SECTION 54(a) OF THE ACT**

The undersigned business development company hereby notifies the Securities and Exchange Commission that it elects, pursuant to the provisions of section 54(a) of the Investment Company Act of 1940 (the "Act"), to be subject to the provisions of sections 55 through 65 of the Act and, in connection with such notification of election, submits the following information:

Name:
Horizon Technology Finance Corporation

Address of Principal Business Office (No. & Street, City, State, Zip Code):
76 Batterson Park Road
Farmington, Connecticut 06032

Telephone number (including area code):
(860) 676-8654

Name and address of agent for service of process:
Robert D. Pomeroy, Jr.
Chief Executive Officer
Horizon Technology Finance Corporation
76 Batterson Park Road
Farmington, Connecticut 06032

Check one of the following:

- The company has filed a registration statement for a class of equity securities pursuant to section 12 of the Securities Exchange Act of 1934. Give the file number of the registration statement, or if the file number is unknown or has not yet been assigned, give the date on which the registration statement was filed: October 28, 2010.
- The company is relying on rule 12g-2 under the Securities Exchange Act of 1934 in lieu of filing a registration statement for a class of equity securities under that Act.

The file number of the registration as an investment company pursuant to section 8(a) of the Act, if any, of the company: _____

The file number of the registration as an investment company pursuant to section 8(a) of the Act, if any, of any subsidiary of the company: _____

The undersigned company certifies that it is a closed-end company organized under the laws of the State of Delaware and with its principal place of business in the State of Connecticut; that it will be operated for the purpose of making investments in securities described in section 55(a)(1) through (3) of the Investment Company Act of 1940; and that it will make available significant managerial assistance with respect to issuers of such securities to the extent required by the Act.

Pursuant to the requirements of the Act, the undersigned company has caused this notification of election to be subject to sections 55 through 65 of the Investment Company Act of 1940 to be duly signed on its behalf in the City of New York in the State of New York on the 28th day of October, 2010.

Horizon Technology Finance Corporation

By: /s/ Robert D. Pomeroy, Jr.
Name: Robert D. Pomeroy, Jr.
Title: Chief Executive Officer

Attest: /s/ Christopher M. Mathieu
Name: Christopher M. Mathieu
Title: Senior Vice President and
Chief Financial Officer
