

SOUTHWALL TECHNOLOGIES INC /DE/
Form 10-K
March 29, 2006

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

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT
OF 1934

For the fiscal year ended December 31, 2005

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE
ACT OF 1934

For the transition period from _____ to _____

Commission file number 0-15930

Southwall Technologies Inc.

(Exact name of Registrant as specified in its Charter)

Delaware

(State or Other Jurisdiction of Incorporation or
Organization)

94-2551470

(I.R.S. Employer Identification Number)

3975 East Bayshore Road

Palo Alto, California 94303

(Address of Principal Executive Offices including Zip Code)

(650) 962-9111

(Registrant's Telephone Number, Including Area Code)

Securities registered pursuant to Section 12(b) of the Act: **None**

Securities registered pursuant to Section 12(g) of the Act:

Common Stock
(Title of Class)

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Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15 (d) of the Act. Yes
 No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. Yes No

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12B-2 of the Exchange Act).
Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check One).

Large accelerated filer

Accelerated filer

Non-accelerated filer

The approximate aggregate market value of the Common Stock held by non-affiliates of the registrant on July 3, 2005 (based upon the closing sales price of the Common Stock on the Over-the-Counter Bulletin Market on such date) was \$16 million. For purposes of this disclosure, Common Stock held by stockholders whose ownership exceeds five percent of the Common Stock outstanding as of July 3, 2005, and Common Stock held by officers and directors of the registrant has been excluded in that such persons may be deemed to be "affiliates" as that term is defined in the rules and regulations promulgated under the Securities Act of 1933, as amended. This determination is not necessarily conclusive.

The number of shares of the registrant's Common Stock outstanding on March 1, 2006 was 26,792,681.

Documents Incorporated by Reference

Document Description

10-K Part

Portions of the Registrant's Proxy Statement
for the Annual Meeting of Stockholders to
be held May 25, 2006

III

**SOUTHWALL TECHNOLOGIES INC.
2005 ANNUAL REPORT ON FORM 10-K**

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As used in this report, the terms "we," "us," "our," "Southwall" and the "Company" mean Southwall Technologies Inc. and its subsidiaries, unless the context indicates another meaning. This report contains forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995 that are subject to a number of risks and uncertainties. All statements other than statements of historical facts are forward-looking statements. These statements are identified by terminology such as "may," "will," "could," "should," "expects," "plans," "intends," "seeks," "anticipates," "believes," "estimates," "potential," or "continue," or the negative of such terms or other comparable terminology, although not all forward-looking statements contain these identifying words. Forward-looking statements are only predictions and include, without limitation, statements relating to:

- our strategy, future operations and financial plans, including, without limitation, our plans to install and commercially produce products on new machines;
 - the continued trading of our common stock on the Over-the-Counter Bulletin Board Market;
 - future applications of thin film coating technologies and our development of new products;
- our expectations with respect to future grants, investment allowances and bank guarantees from the Saxony government;
 - our projected need for additional borrowings and future liquidity;
- statements about our ability to implement and maintain effective controls and procedures;
 - statements about the future size of markets;
 - pending and threatened litigation and its outcome;
 - our competition; and
 - our projected capital expenditures.

You should not place undue reliance on our forward-looking statements. Actual events or results may differ materially. In evaluating these statements, you should specifically consider various factors, including the risks outlined under "Risk Factors" below. These factors may cause our actual results to differ materially from any forward-looking statement. Although we believe the expectations reflected in our forward-looking statements are reasonable as of the date they are being made, we cannot guarantee our future results, levels of activity, performance, or achievements. Moreover, neither we nor any other person assumes responsibility for the future accuracy and completeness of these forward-looking statements.

XIR, XUV, Triangle Design, Superglass, Heat Mirror, California Series, Solis, ETCH-A-FLEX, and Southwall are registered trademarks of Southwall. V-KOOL is a registered trademark of Globamatrix Holdings Pte. Ltd. All other trade names and trademarks referred to in this prospectus are the property of their respective owners.

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PART I

ITEM 1. BUSINESS

Overview

We are a global developer, manufacturer and marketer of thin film coatings for the automotive glass, electronic display, architectural glass and window film markets. We have developed a variety of products that control sunlight in automotive glass, reduce light reflection, reduce potentially harmful electromagnetic emissions and improve image quality in electronic display products, and conserve energy via the application of our architectural and after-market window film products. Our products consist of transparent solar-control films for automotive glass; anti-reflective films for computer screens and reflective films for back-lighting in liquid crystal displays; transparent conductive films for use in touch screen and plasma panel displays; energy control films for architectural glass; and various other coatings.

We maintain a website with the address of www.southwall.com. We are not including the information contained on our website as a part of, or incorporating it by reference into, this Annual Report on Form 10-K. We make available free of charge through our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, and amendments to these reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission. In addition, we intend to disclose on our website any amendments to, or waivers from, our code of business conduct and ethics that are required to be publicly disclosed pursuant to the rules of the Securities and Exchange Commission.

Industry Background

Large area, single layer, thin film coatings were developed in the early 1960s using vacuum evaporation, a less precise precursor to sputter coating. As a result of technological developments in the early 1970s, multi-layer coatings for large substrates became possible. Sputtering based on these developments is used today in a large number of applications in which high quality; uniform coatings need to be deposited on large surfaces or on many smaller surfaces simultaneously. Examples of sputter coating include the deposition of various metal and metal oxide layers on wafers in the semiconductor and hard disk industries, and optical coatings on transparent surfaces in the automotive glass, electronic display, and architectural markets.

Thin film coatings are used in a wide variety of applications to control the transmission and reflection of light and the flow of energy. Thin film coatings can modify the transmission, reflection and absorption of both visible and non-visible light, such as infrared and ultra-violet light, to enhance the performance and characteristics of the material.

Thin film process technologies

The three most common methods for commercially producing thin film coatings on glass and flexible substrates are:

Wet coating. The wet coating process generally involves depositing a thin layer of material onto glass by a spin coating technique or onto a flexible substrate, or film, by a number of different methods. In the case of spin coating, which is sometimes used for computer display tubes, or CDTs, a small amount of liquid is placed at the center of a spinning CDT, forcing the liquid from the center towards the outside edge. Once a uniform thin layer of liquid is thus applied, the layer is bake-dried at a moderate temperature. In the case of film coating, a thin layer of liquid material is applied to the surface of plastic film and then dried by means of thermal or direct radiation. This process is generally less expensive than sputter coating, but generally yields coatings with lower quality optical and mechanical characteristics.

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Direct coating onto glass substrates. Direct coating onto glass can be accomplished by sputtering and by pyrolytic means. Direct-to-glass sputtering is a mature, well-known process for applying thin film coatings to glass. This technology is commonly used to manufacture products that conserve energy in buildings. Pyrolytic coatings are formed directly on the glass as it is produced on a float line. The pyrolytic process uses the heat of the molten glass to make a single layer, metal oxide coating from a solution sprayed onto the glass. Because this technique produces only single layer coatings, the performance is limited.

Sputter coating onto flexible film substrates. The sputter coating process, which is the process we primarily employ, deposits a thin layer of materials, generally metals and metal oxides, onto the surface of a flexible substrate, usually polyester. The substrate can then be either laminated in or applied to glass or suspended between panes of glass. The substrate can be applied to both flat glass and curved glass, such as is used in automotive applications.

The thin film coating process begins with a clear base substrate that is typically glass or a flexible polyester film. When using a flexible film, a hard coat is sometimes applied to prevent undesired interactions between the materials to be deposited and the base substrate, as well as improve the mechanical properties of the coating. Various materials are then deposited in very thin layers on the substrate. The process of building up the various layers results in a "stack." The stack consists of layers of materials that produce the desired optical and performance effects. In some applications, primarily with flexible films, adhesive or protective layers may be applied to the substrate to improve the subsequent application of the product onto a rigid substrate, such as glass.

Our Markets

The primary markets for thin film coated substrates that we manufacture are the automotive glass, electronic display, architectural glass and window film markets. Advances in manufacturing processes coupled with improved thin film deposition technologies in the automotive glass and electronic display markets are reducing production costs, allowing thin film coated substrates to more cost-effectively address these markets.

Automotive glass products

The thin film coated substrates we sell in this market reflect infrared heat. These coatings allow carmakers to use more glass and increase energy efficiency by reducing the demand on a vehicle's air conditioning system, as well as improving thermal comfort in the vehicle. Thin film coated substrates in this market are sold primarily to original equipment manufacturers, or OEMs, that produce glass for sale to European manufacturers of new cars and trucks for worldwide distribution.

Nearly all-automotive glass in the world uses some degree of tint or coloration to absorb light and solar energy, thus reducing solar transmission into the vehicle. This tint is usually created through the mixing of inorganic metals and metal oxides into the glass as the glass is produced. The cost of adding these materials is very low, but the solar control benefit is limited by the fact that solar energy is absorbed in the glass, causing the glass to heat up, which eventually increases the temperature inside the automobile.

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Electronic display products

The thin film coated products we sell in this market primarily block electromagnetic emissions and infrared energy, and enhance the light output of certain displays. Our thin film coated substrates are used in liquid crystal and plasma displays, and in applications such as touch screens. In 2002, we started shipping production quantities and sizes of an anti-reflective film specifically designed for the liquid crystal display, or LCD, market. In 2003, we started shipments of coatings for the plasma display panel, or PDP, market. Thin film coated substrates in this market are generally sold to OEMs, which apply the film to flat screens.

Architectural glass products

The thin film coated substrates we sell in this market are primarily used to control the transmission of heat through window glass, as well as to limit ultra-violet light damage. Window glass is a poor thermal barrier; thus, the primary source of heat build-up and loss in buildings is through the glass windows.

Window Film

The thin film coated substrates we sell in this market are similar to the films sold into the automotive and architectural glass markets. Differences include certain product characteristics that allow the architectural window film products to be sold in the aftermarket rather than through the OEMs. In addition, our automotive window film products are used for retrofit application to the inside surface of a vehicle window and are sold through resellers who install the film.

Technology

In a sputtering process, a solid target and a substrate are placed in a vacuum chamber. By adding a small amount of process gas, typically argon, to the chamber and negatively charging the target, the process gas is ionized and a plasma discharge is formed. The positively charged gas ions strike the solid target with enough force to eject atoms from its surface. The ejected target atoms condense on the substrate and a thin film coating is constructed atom by atom. By placing a magnet behind the target, the electrons in the ionized plasma are confined to a specific region on the target enhancing the creation of ionized gas atoms and increasing the efficiency of the target atom ejection process. By using different targets as the substrate moves through the vacuum chamber, we can create a multi-layered coating, or stack.

If the process gas is inert, such as argon, the coating will have the same composition as the target material. As an example, many of our coatings have a layer of silver in the stack. However, by adding a reactive gas such as oxygen or nitrogen to the process, it is possible to create metal oxide or metal nitride coatings from a metal target.

The advantages of our sputtering process include the high density of the formed coatings and the high degree of uniformity control that we can achieve.

We rely extensively upon trade secrets and know-how to develop and maintain our competitive position. We have 29 patents and 10 patent applications pending in the United States and 63 patents and more than 31 patent applications pending outside the United States that cover materials, processes, products and production equipment. Of our existing patents, four U.S. patents and one international patent will expire in the next three years. We also seek to avoid disclosure of our know-how and trade secrets through a number of means, including requiring those persons with access to our proprietary information to execute nondisclosure agreements with us. We consider our proprietary technology, as well as its patent protection, to be an important factor in our business.

Table of Contents**Products**

The following table describes the markets into which we sell our products, the applications of our products, our product families, key features of our various products and representative customers.

MARKET	APPLICATION	FILM PRODUCTS	KEY FEATURES	REPRESENTATIVE CUSTOMERS
<i>Automotive glass</i>	Windscreens, side windows, and back windows	Infrared reflective (XIR 70 and XIR 75)	Transmits 70% or 75% visible light Reflects 85% of infrared heat energy	Saint Gobain Sekurit Pilkington PLC AGC Automotive Americas Guardian Glass
<i>Electronic display</i>	Liquid crystal display (LCD) screens LCD reflector for lighting sources Plasma display panels (PDP)	Anti-reflective clear (ARC) Silver reflecting Infrared reflective (TCP)	Clear anti-reflective product 95% Reflecting Light-weight mirror Clear and Conductive Clear infrared blocking	Berliner Glass Mitsui Chemicals Mitsui Chemicals
<i>Architectural glass</i>	New and retrofit residential and commercial windows and doors Commercial buildings	Suspended Heat Mirror Laminated (XIR)	Cool in summer Warm in winter UV blocking Noise reducing Infrared reflecting UV blocking Cool in summer Noise reducing	Kensington Windows Zamil Glass Traco Gulf Glass Industries Cristales Curvados
<i>Window film</i>	After-market installation	Solis/V-KOOL	Transmits up to 75% visible light	Globamatrix

Huper Optik	Huper Optik
	Reflects up to 85% of infrared heat energy
	Infrared reflecting
	UV blocking
	Cool in summer
	Noise reducing

Automotive glass products

Direct-to-glass sputtering for automotive windshields has not historically been well developed because of the need to bend the glass before it can be coated and then installed in an automobile. Coating flat glass and then bending it to match complex automobile designs is less difficult. Therefore, coating flat glass and then bending it is the method currently used by most windshield glass producers. Our sputter coated flexible substrates can be applied to windshields with different curvatures and incorporated into most in-line windshield production processes used by glass companies today.

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ration of the Bond Period as set forth in Item 2 of the Declarations.

This bond terminates as to any Employee or any partner, officer or employee of any Processor (a) as soon as any Insured, or any director or officer not in collusion with such person, learns of any dishonest or fraudulent act committed by such person at any time, whether in the employment of the Insured or otherwise, whether or not of the type covered under Insuring Agreement (A), against the Insured or any other person or entity, without prejudice to the loss of any Property then in transit in the custody of such person, or (b) 15 days after the receipt by the Insured of a written notice from the Underwriter of its desire to cancel this bond as to such person.

Termination of the bond as to any Insured terminates liability for any loss sustained by such Insured which is discovered after the effective date of such termination.

In witness whereof, the Underwriter has caused this bond to be executed on the Declarations page.

TSB 5062b

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SIGNATURE PAGE

IN WITNESS WHEREOF, the Company has caused the facsimile signatures of its President and Secretary to be affixed hereto, and has caused this policy to be signed on the Declarations by an authorized representative of the Company.

Robert J. Looney, President

Andrew Weissert, Secretary

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STATE FRAUD STATEMENT

ALABAMA

Any person who knowingly presents a false or fraudulent claim for payment of a loss or benefit or who knowingly presents false information in an application for insurance is guilty of a crime and may be subject to restitution fines or confinement in prison or any combination thereof.

ARKANSAS

Any person who knowingly presents a false or fraudulent claim for payment of a loss or benefit or knowingly presents false information in an application for insurance is guilty of a crime and may be subject to fines and confinement in prison.

COLORADO

It is unlawful to knowingly provide false, incomplete, or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado division of insurance within the department of regulatory agencies.

DISTRICT OF COLUMBIA

Warning: It is a crime to provide false or misleading information to an insurer for the purpose of defrauding the insurer or any other person. Penalties include imprisonment and/or fines. In addition, an insurer may deny insurance benefits if false information materially related to a claim was provided by the applicant.

FLORIDA

Any person who knowingly and with intent to injure, defraud, or deceive any insurer files a statement of claim or an application containing any false, incomplete or misleading information is guilty of a felony of the third degree.

KANSAS

A fraudulent insurance act means an act committed by any person who, knowingly and with intent to defraud, presents, causes to be presented or prepares with knowledge or belief that it will be presented to or by an insurer, purported insurer, broker or any agent thereof, any written electronic, electronic impulse, facsimile, magnetic, oral, or telephonic communication or statement as part of, or in support of, an application for the issuance of, or the rating of an insurance policy for personal or commercial insurance, or a claim for payment or other benefit pursuant to an insurance policy for commercial or personal insurance which such person knows to contain materially false information concerning any fact material thereto; or conceals, for the purpose of misleading, information concerning any fact material thereto.

KENTUCKY

Any person who knowingly and with intent to defraud any insurance company or other person files an application for insurance containing any materially false information, or conceals, for the purpose of misleading, information

concerning any fact material thereto commits a fraudulent insurance act, which is a crime.

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LOUISIANA

Any person who knowingly presents a false or fraudulent claim for payment of a loss or benefit or knowingly presents false information in an application for insurance is guilty of a crime and may be subject to fines and confinement in prison.

MAINE

It is a crime to knowingly provide false, incomplete or misleading information to an insurance company for the purpose of defrauding the company. Penalties may include imprisonment, fines or a denial of insurance benefits.

MARYLAND

Any person who knowingly or willfully presents a false or fraudulent claim for payment of a loss or benefit or who knowingly or willfully presents false information in an application for insurance is guilty of a crime and may be subject to fines and confinement in prison.

NEW JERSEY

Any person who includes any false or misleading information on an application for an insurance policy is subject to criminal and civil penalties.

NEW MEXICO

Any person who knowingly presents a false or fraudulent claim for payment of a loss or benefit or knowingly presents false information in an application for insurance is guilty of a crime and may be subject to civil fines and criminal penalties.

NEW YORK

Any person who knowingly and with intent to defraud any insurance company or other person files an application for insurance or statement of claim containing any materially false information, or conceals for the purpose of misleading, information concerning any fact material thereto, commits a fraudulent insurance act, which is a crime, and shall also be subject to a civil penalty not to exceed five thousand dollars and the stated value of the claim for each such violation.

OHIO

Any person who, with intent to defraud or knowing that he is facilitating a fraud against an insurer, submits an application or files a claim containing a false or deceptive statement is guilty of insurance fraud.

OKLAHOMA

WARNING: Any person who knowingly, and with intent to injure, defraud or deceive any insurer, makes any claim for proceeds of an insurance policy containing any false, incomplete or misleading information is guilty of a felony.

OREGON

Any person who knowingly presents a false or fraudulent claim for payment of a loss or benefit or knowingly presents materially false information in an application for insurance may be guilty of a crime and may be subject to fines and confinement in prison.

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In order for us to deny a claim on the basis of misstatements, misrepresentations, omissions or concealments on your part, we must show that:

- A. The misinformation is material to the content of the policy;
- B. We relied upon the misinformation; and
- C. The information was either:
 - 1. Material to the risk assumed by us; or
 - 2. Provided fraudulently.

For remedies other than the denial of a claim, misstatements, misrepresentations, omissions or concealments on your part must either be fraudulent or material to our interests.

With regard to fire insurance, in order to trigger the right to remedy, material misrepresentations must be willful or intentional.

Misstatements, misrepresentations, omissions or concealments on your part are not fraudulent unless they are made with the intent to knowingly defraud.

PENNSYLVANIA

Any person who knowingly and with intent to defraud any insurance company or other person files an application for insurance or statement of claim containing any materially false information or conceals for the purpose of misleading, information concerning any fact material thereto commits a fraudulent insurance act, which is a crime and subjects such person to criminal and civil penalties.

PUERTO RICO

Any person who knowingly and with the intention of defrauding presents false information in an insurance application, or presents, helps, or causes the presentation of a fraudulent claim for the payment of a loss or any other benefit, or presents more than one claim for the same damage or loss, shall incur a felony and, upon conviction, shall be sanctioned for each violation with the penalty of a fine of not less than five thousand dollars (\$5,000) and not more than ten thousand dollars (\$10,000), or a fixed term of imprisonment for three (3) years, or both penalties. Should aggravating circumstances be present, the penalty thus established may be increased to a maximum of five (5) years, if extenuating circumstances are present, it may be reduced to a minimum of two (2) years.

RHODE ISLAND

Any person who knowingly presents a false or fraudulent claim for payment of a loss or benefit or knowingly presents false information in an application for insurance is guilty of a crime and may be subject to fines and confinement in prison.

TENNESSEE

It is a crime to knowingly provide false, incomplete or misleading information to an insurance company for the purpose of defrauding the company. Penalties include imprisonment, fines and denial of insurance benefits.

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VIRGINIA

It is a crime to knowingly provide false, incomplete or misleading information to an insurance company for the purpose of defrauding the company. Penalties include imprisonment, fines and denial of insurance benefits.

WASHINGTON

It is a crime to knowingly provide false, incomplete or misleading information to an insurance company for the purpose of defrauding the company. Penalties include imprisonment, fines and denial of insurance benefits.

WEST VIRGINIA

Any person who knowingly presents a false or fraudulent claim for payment of a loss or benefit or knowingly presents false information in an application for insurance is guilty of a crime and may be subject to fines and confinement in prison.

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POLICYHOLDER NOTICE

ECONOMIC AND TRADE SANCTIONS

This Notice provides information concerning possible impact on your insurance coverage due to directives issued by the Office of Foreign Assets Control (OFAC).

THE OFFICE OF FOREIGN ASSETS CONTROL (OFAC) OF THE US DEPARTMENT OF THE TREASURY ADMINISTERS AND ENFORCES ECONOMIC AND TRADE SANCTIONS BASED ON US FOREIGN POLICY AND NATIONAL SECURITY GOALS AGAINST TARGETED FOREIGN COUNTRIES AND REGIMES, TERRORISTS, INTERNATIONAL NARCOTICS TRAFFICKERS, THOSE ENGAGED IN ACTIVITIES RELATED TO THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION, AND OTHER THREATS TO THE NATIONAL SECURITY, FOREIGN POLICY OR ECONOMY OF THE UNITED STATES.

WHENEVER COVERAGE PROVIDED BY THIS POLICY WOULD BE IN VIOLATION OF ANY U.S. ECONOMIC OR TRADE SANCTIONS, SUCH COVERAGE SHALL BE NULL AND VOID.

FOR MORE INFORMATION, PLEASE REFER TO:

[HTTPS://WWW.TREASURY.GOV/RESOURCE-CENTER/SANCTIONS/PAGES/DEFAULT.ASPX](https://www.treasury.gov/resource-center/sanctions/pages/default.aspx)

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(03-16)

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Rider No. 1

To be attached to and form part of Financial Institution Bond, Standard Form No. 14, No. RNN623821/01/2018 in favor of Rand Capital Corporation

It is agreed that:

1. Part (a) of the section entitled Termination or Cancellation of this bond/policy is deleted.
2. Cancellation of this bond/policy by the Underwriter/Company is subject to the following provisions:

If the bond/policy has been in effect for 60 days or less, it may be canceled by the Underwriter/Company for any reason. Such cancellation shall be effective 20 days after the Underwriter/Company mails a notice of cancellation to the first-named insured at the mailing address shown in the bond/policy. However, if the bond/policy has been in effect for more than 60 days or is a renewal, then cancellation must be based on one of the following grounds:

- (A) non-payment of premium;
- (B) conviction of a crime arising out of acts increasing the hazard insured against;
- (C) discovery of fraud or material misrepresentation in the obtaining of the bond/policy or in the presentation of claim thereunder;
- (D) after issuance of the bond/policy or after the last renewal date, discovery of an act or omission, or a violation of any bond/policy condition that substantially and materially increases the hazard insured against, and which occurred subsequent to inception of the current bond/policy period;
- (E) material change in the nature or extent of the risk, occurring after issuance or last annual renewal anniversary date of the bond/policy, which causes the risk of loss to be substantially and materially increased beyond that contemplated at the time the bond/policy was issued or last renewed;
- (F) the cancellation is required pursuant to a determination by the superintendent that continuation of the present premium volume of the insurer would jeopardize that insurer's solvency or be hazardous to the interests of the insureds, the insurer's creditors or the public;
- (G) a determination by the superintendent that the continuation of the bond/policy would violate, or would place the insurer in violation of, any provision of the New York State insurance laws.
- (H) where the insurer has reason to believe, in good faith and with sufficient cause, that there is a possible risk or danger that the insured property will be destroyed by the insured for the purpose of collecting the insurance proceeds, provided, however, that:

- (i) a notice of cancelation on this ground shall inform the insured in plain language that the insured must act within ten days if review by the Insurance Department of the State of New York of the ground for cancelation is desired, and
- (ii) notice of cancelation on this ground shall be provided simultaneously by the insurer to the Insurance Department of the State of New York.

Cancelation based on one of the above grounds shall be effective 15 days after the notice of cancelation is mailed or delivered to the named insured, at the address shown on the bond/policy, and to its authorized agent or broker.

NEW YORK STATUTORY RIDER/ENDORSEMENT

FOR USE WITH FINANCIAL INSTITUTION BONDS, STANDARD FORMS NOS. 14, 15, 24 AND 25, AND EXCESS BANK EMPLOYEE DISHONESTY BOND, STANDARD FORM NO. 28, AND COMPUTER CRIME POLICY FOR FINANCIAL INSTITUTIONS TO COMPLY WITH STATUTORY REQUIREMENTS.

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3. If the Underwriter/company elects not to replace a bond/policy at the termination of the bond/policy period, it shall notify the insured not more than 120 days nor less than 60 days before termination. If such notice is given late, the bond/policy shall continue in effect for 60 days after such notice is given. The Aggregate Limit of Liability shall not be increased or reinstated. The notice not to replace shall be mailed to the insured and its broker or agent.

4. If the Underwriter/Company elects to replace the bond/policy, but with a change of limits, reduced coverage, increased deductible, additional exclusion, or upon increased premiums in excess of ten percent (exclusive of any premium increase as a result of experience rating), the Underwriter/Company must mail written notice to the insured and its agent or broker not more than 120 days nor less than 60 days before replacement. If such notice is given late, the replacement bond/policy shall be in effect with the same terms, conditions and rates as the terminated bond/policy for 60 days after such notice is given.

5. The Underwriter/Company may elect to simply notify the insured that the bond/policy will either be not renewed or renewed with different terms, conditions or rates. In this event, the Underwriter/Company will inform the insured that a second notice will be sent at a later date specifying the Underwriter's/Company's exact intention. The Underwriter/Company shall inform the insured that, in the meantime, coverage shall continue on the same terms, conditions and rates as the expiring bond/policy until the expiration date of the bond/policy or 60 days after the second notice is mailed or delivered, whichever is later.

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
2	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

AMEND NAMED INSURED RIDER

It is agreed that Item 1. Name of Insured (herein called Insured) of the Declarations is amended to include the following:

Rand Capital SBIC, Inc.

Rand Capital SBICII,L.P.

All other provisions of the bond remain unchanged.

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FI 1002 (08 14)

Rider No. 3

To be attached to and form part of Financial Institution Bond, Standard Form No. 14, No. RNN623821/01/2018 in favor of Rand Capital Corporation

It is agreed that:

1. The attached bond is amended by adding an Insuring Agreement as follows:

COMPUTER SYSTEMS FRAUD

Loss resulting directly from a fraudulent

(1) entry of Electronic Data or Computer Program into, or

(2) change of Electronic Data or Computer Program within any Computer System operated by the Insured, whether owned or leased; or any Computer System identified in the application for this bond; or a Computer System first used by the Insured during the Bond Period, as provided by General Agreement B of this bond;

provided that the entry or change causes

(i) Property to be transferred, paid or delivered,

(ii) an account of the Insured, or of its customer to be added, deleted, debited or credited, or

(iii) an unauthorized account or a fictitious account to be debited or credited.

In this Insuring Agreement, fraudulent entry or change shall include such entry or change made by an Employee of the Insured acting in good faith on an instruction from a software contractor who has a written agreement with the Insured to design, implement or service programs for a Computer System covered by this Insuring Agreement.

2. In addition to the Conditions and Limitations in the bond, the following, applicable to the Computer Systems Fraud Insuring Agreement, are added:

DEFINITIONS

- (A) Computer Program means a set of related electronic instructions which direct the operations and functions of a computer or devices connected to it which enable the computer or devices to receive, process, store or send Electronic Data;

(B) Computer System means

(1) computers with related peripheral components, including storage components wherever located,

(2) systems and applications software,

(3) terminal devices, and

(4) related communications networks

by which Electronic Data are electronically collected, transmitted, processed, stored and retrieved;

(C) Electronic Data means facts or information converted to a form usable in a Computer System by Computer Programs, and which is stored on magnetic tapes or disks, or optical storage disks or other bulk media.

COMPUTER SYSTEMS FRAUD INSURING AGREEMENT

FOR USE WITH FINANCIAL INSTITUTION BONDS, STANDARD FORMS NOS. 14, 15 AND 25

ADOPTED DECEMBER, 1993

SR 6196

EXCLUSIONS

- (A) loss resulting directly or indirectly from the assumption of liability by the Insured by contract unless the liability arises from a loss covered by the Computer Systems Fraud Insuring Agreement and would be imposed on the Insured regardless of the existence of the contract;
- (B) loss resulting directly or indirectly from negotiable instruments, securities, documents or other written instruments which bear a forged signature, or are counterfeit, altered or otherwise fraudulent and which are used as source documentation in the preparation of Electronic Data or manually keyed into a data terminal;
- (C) loss resulting directly or indirectly from
 - (1) mechanical failure, faulty construction, error in design, latent defect, fire, wear or tear, gradual deterioration, electrical disturbance or electrical surge which affects a Computer System, or
 - (2) failure or breakdown of electronic data processing media, or
 - (3) error omission in programming or processing;
- (D) loss resulting directly or indirectly from the input of Electronic Data into a Computer System terminal device either on the premises of a customer of the Insured or under the control of such a customer by a person who had authorized access to the customer's authentication mechanism;
- (E) loss resulting directly or indirectly from the theft of confidential information.

SERIES OF LOSSES

All loss or series of losses involving the fraudulent acts of one individual, or involving fraudulent acts in which one individual is implicated, whether or not that individual is specifically identified, shall be treated as a Single Loss and subject to the Single Loss Limit of Liability. A series of losses involving unidentified individuals but arising from the same method of operation shall be deemed to involve the same individual and in that event shall be treated as a Single Loss and subject to the Single Loss Liability.

3. The exclusion below, found in financial institution bonds forms 14, and 25, does not apply to the Computer Systems Fraud Insuring Agreement.

loss involving any Uncertificated Security except an Uncertificated Security of any Federal Reserve Bank of the United States or when covered under Insuring Agreement (A);

4. This rider shall become effective as of 12:01 a.m. on July 1, 2018.

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
4	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

**TELEFACSIMILE TRANSFER FRAUD
INSURING AGREEMENT RIDER**

It is agreed that:

- I. The INSURING AGREEMENTS are amended by the addition of the following:
TELEFACSIMILE TRANSFER FRAUD

Loss resulting directly from the Insured having, in good faith, transferred or delivered Funds or securities through a Computer System in reliance upon a fraudulent instruction received through a Telefacsimile Device, and which instruction:

- (1) purports and reasonably appears to have originated from:

- (a) a Customer of the Insured;
- (b) another financial institution; or
- (c) another office of the Insured;

but, in fact, was not originated by the Customer or entity whose identification it bears; and

- (2) contains a valid test code which proves to have been used by a person who was not authorized to make use of it; and
- (3) contains the name of a person authorized to initiate such transfer;

provided that, if the transfer was in excess of \$15,000, the instruction was verified by a call-back according to a prearranged procedure.

II. The applicable Single Loss Limit of Liability and Single Loss Deductible for the Telefacsimile Transfer Fraud Insuring Agreement are as set forth in the Declarations.

III. For the purposes of the coverage provided by this rider:

A. The following Definitions shall apply:

Computer Program means a set of related electronic instructions which direct the operations and functions of a computer or devices connected to it which enable the computer or devices to receive, process, store, or send Electronic Data.

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FI 1007 (08 14)

Computer System means:

- (1) computers with related peripheral components, including storage components wherever located;
- (2) systems and applications software;
- (3) terminal devices; and
- (4) related communications networks;

by which Electronic Data are electronically collected, transmitted, processed, stored, and retrieved, and which is operated by the Insured, whether owned or leased; or which is identified in the application for this bond.

Computer System does not include any such computers, systems, software, devices, or networks acquired by the Insured through merger with or acquisition of another entity, or acquisition of the assets of another entity, unless the Insured:

- (a) provides the Underwriter with written notice of such merger or acquisition prior to the proposed effective date of such transaction; and
- (b) obtains the written consent of the Underwriter to extend coverage under this bond to such computers, systems, software, devices, or networks; and
- (c) pays such additional premium as required by the Underwriter.

Customer means an entity or individual which has a written agreement with the Insured authorizing the Insured to rely on Telefacsimile Device instructions to initiate transfers and has provided the Insured with the names of persons authorized to initiate such transfers, and with which the Insured has established an instruction verification mechanism.

Electronic Data means facts or information converted to a form usable in a Computer System by Computer Programs, and which is stored on magnetic tapes or disks, or optical storage disks, or other bulk media.

Funds means money on deposit in an account.

Telefacsimile Device means a machine capable of sending or receiving a duplicate image of a document by means of electronic impulses transmitted through a telephone line and which reproduces the duplicate image on paper.

B. The following Exclusion shall apply:

This bond does not cover loss resulting directly or indirectly from the assumption of liability by the Insured by contract unless the liability arises from a loss covered by the Telefacsimile Transfer Fraud Insuring Agreement and would be imposed on the Insured regardless of the existence of the contract.

IV. Proof of loss for a claim under the Telefacsimile Transfer Fraud Insuring Agreement must include a copy of the document reproduced by the Telefacsimile Device.
All other provisions of the bond remain unchanged.

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Page 2 of 2

FI 1007 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
5	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

**VOICE INITIATED FUNDS TRANSFER FRAUD
INSURING AGREEMENT RIDER**

It is agreed that:

- I. The INSURING AGREEMENTS are amended by the addition of the following:
VOICE INITIATED FUNDS TRANSFER FRAUD

Loss resulting directly from the Insured having, in good faith, transferred Funds from a Customer's account to another financial institution for credit to a designated account in reliance upon a fraudulent voice instruction transmitted by telephone which was purported to be from:

- (1) an officer, director, partner, or employee of a Customer who was authorized by such Customer to instruct the Insured to make such transfer;
- (2) an individual person who is a Customer; or
- (3) an Employee in another office of the Insured who was authorized by the Insured to instruct other Employees to transfer Funds, and was received by an Employee specifically designated to receive and act upon such instructions;

but such voice instruction was, in fact, not from a person described in (1), (2), or (3) above; provided that

- (i) such voice instruction was electronically recorded by the Insured and any required passwords or code words were given; and

- (ii) if the transfer was in excess of \$15,000, such voice instruction was verified by a call-back according to a prearranged procedure.

II. The applicable Single Loss Limit of Liability and Single Loss Deductible for the Voice Initiated Funds Transfer Fraud Insuring Agreement are as set forth in the Declarations.

III. For the purposes of the coverage provided by this rider:

A. The following Definitions shall apply:

Customer means an entity or individual which has a written agreement with the Insured authorizing the Insured to rely on voice instructions to make transfers, and which has provided the Insured with the names of persons authorized to initiate such transfers, and with which the Insured has established an instruction verification mechanism.

Funds means money on deposit in an account.

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FI 1008 (08 14)

B. The following Exclusion shall apply:

This bond does not cover loss resulting directly or indirectly from the assumption of liability by the Insured by contract unless the liability arises from a loss covered by the Voice Initiated Funds Transfer Fraud Insuring Agreement and would be imposed on the Insured regardless of the existence of the contract.

C. Proof of loss for a claim under the Voice Initiated Funds Transfer Fraud Insuring Agreement must include electronic recordings of such voice instructions and the verification call-back, if such call-back was required.

All other provisions of the bond remain unchanged.

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FI 1008 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
6	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

DESTRUCTION OF DATA OR PROGRAMS BY HACKER

INSURING AGREEMENT RIDER

It is agreed that:

- I. The INSURING AGREEMENTS are amended by the addition of the following:
DESTRUCTION OF DATA OR PROGRAMS BY HACKER

Loss resulting directly from the malicious destruction of, or damage to, Electronic Data or Computer Programs owned by the Insured or for which the Insured is legally liable while stored within a Computer System.

The liability of the Underwriter shall be limited to the cost of duplication of such Electronic Data or Computer Programs from other Electronic Data or Computer Programs which shall have been furnished by the Insured.

In the event, however, that destroyed or damaged Computer Programs cannot be duplicated from other Computer Programs, the Underwriter will pay the cost incurred for computer time, computer programmers, consultants, or other technical specialists as is reasonably necessary to restore Computer Programs to substantially the previous level of operational capability.

- II. The applicable Single Loss Limit of Liability and Single Loss Deductible for the Destruction of Data or Programs by Hacker Insuring Agreement are as set forth in the Declarations.

- III. Solely for the purposes of the coverage provided by this rider, the section of the bond entitled Single Loss Defined is replaced with the following:

Single Loss Defined

Under the Destruction of Data or Programs by Hacker Insuring Agreement, Single Loss means all covered costs incurred by the Insured between the time destruction or damage is discovered and the time the Computer System is restored to substantially the previous level of operational capability. Recurrence of destruction or damage after the Computer System is restored shall constitute a separate Single Loss.

All loss or series of losses involving fraudulent or destructive acts of one individual, or involving fraudulent or destructive acts in which one individual is implicated, whether or not that individual is specifically identified, shall be treated as a Single Loss and subject to the Single Loss Limit of Liability.

A series of losses involving unidentified individuals but arising from the same method of operation shall be deemed to involve the same individual and in that event shall be treated as a Single Loss and subject to the Single Loss Limit of Liability.

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FI 1005 (08 14)

IV. For the purposes of the coverage provided by this rider, the following Definitions shall apply:

Computer Program means a set of related electronic instructions which direct the operations and functions of a computer or devices connected to it which enable the computer or devices to receive, process, store, or send Electronic Data.

Computer System means:

- (1) computers with related peripheral components, including storage components wherever located;
- (2) systems and applications software;
- (3) terminal devices; and
- (4) related communication networks;

by which Electronic Data are electronically collected, transmitted, processed, stored, and retrieved, and which is operated by the Insured, whether owned or leased; or which is identified in the application for this bond.

Computer System does not include any such computers, systems, software, devices, or networks acquired by the Insured through merger with or acquisition of another entity, or acquisition of the assets of another entity, unless the Insured:

- (a) provides the Underwriter with written notice of such merger or acquisition prior to the proposed effective date of such transaction; and
- (b) obtains the written consent of the Underwriter to extend coverage under this bond to such computers, systems, software, devices, or networks; and
- (c) pays such additional premium as required by the Underwriter.

Electronic Data means facts or information converted to a form usable in a Computer System by Computer Programs and which is stored on magnetic tapes or disks, or optical storage disks, or other bulk media.

All other provisions of the bond remain unchanged.

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
7	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

DESTRUCTION OF DATA OR PROGRAMS BY VIRUS

INSURING AGREEMENT RIDER

It is agreed that:

- I. The INSURING AGREEMENTS are amended by the addition of the following:
DESTRUCTION OF DATA OR PROGRAMS BY VIRUS

Loss resulting directly from the malicious destruction of, or damage to, Electronic Data or Computer Programs owned by the Insured or for which the Insured is legally liable while stored within a Computer System if such destruction or damage was caused by a computer program or similar instruction which was written or altered to incorporate a hidden instruction designed to destroy or damage Electronic Data or Computer Programs in the Computer System in which the computer program or instruction so written or so altered is used.

The liability of the Underwriter shall be limited to the cost of duplication of such Electronic Data or Computer Programs from other Electronic Data or Computer Programs which shall have been furnished by the Insured.

In the event, however, that destroyed or damaged Computer Programs cannot be duplicated from other Computer Programs, the Underwriter will pay the cost incurred for computer time, computer programmers, consultants, or other technical specialists as is reasonably necessary to restore Computer Programs to substantially the previous level of operational capability.

- II. The applicable Single Loss Limit of Liability and Single Loss Deductible for the Destruction of Data or Programs by Virus Insuring Agreement are as set forth in the Declarations.

- III. Solely for purposes of the coverage provided by this rider, the section of the bond entitled Single Loss Defined is replaced with the following:

Single Loss Defined

Under the Destruction of Data or Programs by Virus Insuring Agreement, Single Loss means all covered costs incurred by the Insured between the time destruction or damage is discovered and the time the Computer System is restored to substantially the previous level of operational capability. Recurrence of destruction or damage after the Computer System is restored shall constitute a separate Single Loss.

All loss or series of losses involving fraudulent or destructive acts of one individual, or involving fraudulent or destructive acts in which one individual is implicated, whether or not that individual is specifically identified, shall be treated as a Single Loss and subject to the Single Loss Limit of Liability.

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FI 1006 (08 14)

A series of losses involving unidentified individuals but arising from the same method of operation shall be deemed to involve the same individual and in that event shall be treated as a Single Loss and subject to the Single Loss Limit of Liability.

IV. For the purposes of the coverage provided by this rider, the following Definitions shall apply:

Computer Program means a set of related electronic instructions which direct the operations and functions of a computer or devices connected to it which enable the computer or devices to receive, process, store, or send Electronic Data.

Computer System means:

- (1) computers with related peripheral components, including storage components wherever located;
- (2) systems and applications software;
- (3) terminal devices; and
- (4) related communication networks;

by which Electronic Data are electronically collected, transmitted, processed, stored, and retrieved, and which is operated by the Insured, whether owned or leased; or which is identified in the application for this bond.

Computer System does not include any such computers, systems, software, devices, or networks acquired by the Insured through merger with or acquisition of another entity, or acquisition of the assets of another entity, unless the Insured:

- (a) provides the Underwriter with written notice of such merger or acquisition prior to the proposed effective date of such transaction; and
- (b) obtains the written consent of the Underwriter to extend coverage under this bond to such computers, systems, software, devices, or networks; and
- (c) pays such additional premium as required by the Underwriter.

Electronic Data means facts or information converted to a form usable in a Computer System by Computer Programs and which is stored on magnetic tapes or disks, or optical storage disks, or other bulk media.

All other provisions of the bond remain unchanged.

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FI 1006 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
8	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

UNAUTHORIZED SIGNATURES
INSURING AGREEMENT RIDER

It is agreed that:

- I. The INSURING AGREEMENTS are amended by the addition of the following:
UNAUTHORIZED SIGNATURES

Loss resulting directly from the Insured having in good faith and in the ordinary course of business accepted from, paid to, or cashed for a person present on the premises of the Insured, any check withdrawal order, or draft, made or drawn on a customer's account, which bears the signature or endorsement of one other than a person whose name and signature is on the application on file with the Insured as a signatory on such account.

It shall be a condition precedent to the Insured's right of recovery under this Insuring Agreement that the Insured shall have on file signatures of all persons who are authorized signatories on such account; and the Insured must maintain written instructions outlining the acceptance.

- II. The applicable Single Loss Limit of Liability and Single Loss Deductible for the Unauthorized Signatures Insuring Agreement are as set forth in the Declarations.
All other provisions of the bond remain unchanged.

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FI 1021 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
9	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

UNCOLLECTIBLE ITEMS OF DEPOSIT COVERAGE RIDER

It is agreed that:

I. **Item 4** of the Declarations is amended by the addition of the following:

UNCOLLECTIBLE ITEMS OF DEPOSIT Insuring Agreement Single Loss Limit of Liability: \$25,000

UNCOLLECTIBLE ITEMS OF DEPOSIT Insuring Agreement Single Loss Deductible: \$2,500

II. The Section of the bond entitled **INSURING AGREEMENTS** is amended by the addition of the following Insuring Agreement:

UNCOLLECTIBLE ITEMS OF DEPOSIT

Loss resulting directly from the Insured having, in good faith, credited its customer's, shareholder's or subscriber's account of any item of deposit which proves to be uncollectible, provided that:

- (1) the item was held for a minimum of five (5) days before any redemption, withdrawal, dividend payment or share issuance occurs with respect to that item of deposit; and
- (2) there was a redemption, withdrawal, dividend payment or share issuance with respect to that item of deposit.

Items of Deposit shall not be deemed uncollectible until the Insured's collection procedures have failed.

For the purposes of this Insuring Agreement, Item of Deposit means any one or more checks and drafts drawn upon a financial institution in the United States of America.

All other provisions of the bond remain unchanged.

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FI 1049 (05-16)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
10	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

CLAIM EXPENSE INSURING AGREEMENT RIDER

It is agreed that:

- I. The INSURING AGREEMENTS are amended by the addition of the following:
CLAIM EXPENSE

Reasonable expenses necessarily incurred and paid by the Insured in preparing any valid claim for loss covered under this bond.

- II. The applicable Single Loss Limit of Liability and Single Loss Deductible for the Claim Expense Insuring Agreement are as set forth in the Declarations. Such limit shall be part of, and not in addition to, the Single Loss Limit of Liability for the Insuring Agreement applicable to the loss that is the subject of the valid claim as set forth in the Claim Expense Insuring Agreement.

- III. Paragraph (1) of Exclusion (u) shall not apply to the Claim Expense Insuring Agreement. All other provisions of the bond remain unchanged.

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FI 1004 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
11	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

AUDIT EXPENSE INSURING AGREEMENT RIDER

It is agreed that:

- I. The INSURING AGREEMENTS are amended by the addition of the following:
AUDIT EXPENSE

Reasonable expenses incurred by the Insured for that part of the cost of audits or examinations required by any governmental regulatory authority to be conducted either by such authority or by an independent accountant by reason of the discovery of loss under Insuring Agreement (A) FIDELITY.

- II. The applicable Single Loss Limit of Liability and Single Loss Deductible for the Audit Expense Insuring Agreement are as set forth in the Declarations. Such limit shall be part of, and not in addition to, the Single Loss Limit of Liability for Insuring Agreement (A) FIDELITY set forth in the Declarations.

- III. Paragraph (1) of Exclusion (o) shall not apply to the Audit Expense Insuring Agreement.
 All other provisions of the bond remain unchanged.

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FI 1003-25 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
12	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

AMEND FIDELITY INSURING AGREEMENT RIDER

It is agreed that:

I. The first paragraph of Insuring Agreement (A) FIDELITY is replaced with the following:
Loss resulting directly from dishonest or fraudulent acts, including Larceny or Embezzlement, committed by an Employee acting alone or in collusion with others. Such dishonest or fraudulent acts must be committed by the Employee with the manifest intent:

(1) to cause the Insured to sustain such loss; and

(2) to obtain an improper financial benefit for the Employee or another person or entity.

Notwithstanding the foregoing, however, it is agreed that with regard to Loans and/or Trading, this bond covers only loss resulting directly from dishonest or fraudulent acts committed by an Employee with the intent to cause the Insured to sustain such loss and which results in a financial benefit for the Employee.

As used in this Insuring Agreement, financial benefit does not include any employee benefits earned in the normal course of employment, including salaries, commissions, fees, bonuses, promotions, awards, profit sharing or pensions.

The term Loans, as used in this Insuring Agreement, means all extensions of credit by the Insured and all transactions creating a creditor relationship in favor of the Insured and all transactions by which the Insured assumes an existing creditor relationship.

The term Trading, as used in this Insuring Agreement, means trading or other dealing in securities, commodities, futures, options, swaps, foreign or Federal Funds, currencies, foreign exchange and the like.

II. For the purposes of this bond, the term Larceny and Embezzlement shall have the same meaning set forth in Section 37 of The Investment Company Act of 1940.

All other provisions of the bond remain unchanged.

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FI 1013-14 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
13	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

INVESTMENT COMPANY NO DEDUCTIBLE

RIDER

It is agreed that the Section entitled CONDITIONS AND LIMITATIONS is amended as follows:

A. The subsection entitled DEFINITIONS is amended by the addition of the following:

Investment Company means any Investment Company registered under the Investment Company Act of 1940.

B. The subsection entitled DEDUCTIBLE AMOUNT is amended by the addition of the following:

Notwithstanding the foregoing, there shall be no Deductible Amount applicable to any loss under Insuring Agreement A sustained by any Investment Company named as an Insured herein.

All other provisions of the bond remain unchanged.

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
14	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

AMEND RACKETEERING EXCLUSION RIDER

It is agreed that Exclusion 2(j) of the CONDITIONS AND LIMITATIONS is replaced with the following:

- (j) damages resulting from any civil, criminal or other legal proceeding in which the Insured is adjudicated to have engaged in racketeering activity except when the Insured establishes that the act or acts giving rise to such damages were committed by an Employee under circumstances which result directly in a loss to the Insured covered by Insuring Agreement (A). For the purposes of this Exclusion, racketeering activity is defined in 18 United States Code 1961 et seq., as amended;

All other provisions of the bond remain unchanged.

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FI 1009-14 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
15	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

AMEND REPRESENTATION OF INSURED RIDER

It is agreed that the second paragraph of the section of the bond entitled REPRESENTATION OF INSURED of the GENERAL AGREEMENTS is replaced with the following:

Any intentional misrepresentation, omission, concealment, or incorrect statement in the application or otherwise, shall be grounds for the rescission of this bond.

All other provisions of the bond remain unchanged.

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FI 1014 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
16	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

AMEND VALUATION RIDER

It is agreed that the first paragraph of the section of the bond entitled VALUATION of the CONDITIONS AND LIMITATIONS is replaced with the following:

Any loss of Money, or loss payable in Money, shall be paid, at the option of the Insured, in the Money of the country in which the loss was sustained or in the United States of America dollar equivalent thereof determined at the rate of exchange published in *The Wall Street Journal* on the day immediately preceding the date the loss was discovered.

All other provisions of the bond remain unchanged.

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FI 1015 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
17	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

**AMEND COUNTERFEIT MONEY
INSURING AGREEMENT RIDER**

It is agreed that Insuring Agreement (F) COUNTERFEIT MONEY is replaced with the following:

COUNTERFEIT MONEY

(F) Loss resulting directly from the receipt by the Insured, in good faith, of any Counterfeit Money of the United States of America, Canada, or any other country.

All other provisions of the bond remain unchanged.

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Page 1 of 1

FI 1016 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
18	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

**AMEND SECURITIES INSURING AGREEMENT
(FORM 14 AND FORM 25 ENDORSEMENT)**

It is agreed that:

- I. Wherever the phrase Statement of Uncertificated Security of any Federal Reserve Bank of the United States appears in this bond, it is deleted and replaced with the defined term Statement of Uncertificated Security.
- II. The phrase Instruction to a Federal Reserve Bank of the United States in paragraph (1) in Insuring Agreement E Securities is deleted and replaced with the defined term Instruction.
- III. The definition of Property is amended by deleting the phrase Uncertificated Securities of any Federal Reserve Bank of the United States and replacing it with Uncertificated Securities.
- IV. The Exclusion for loss involving any Uncertificated Security is deleted.
All other provisions of the Policy remain unchanged.

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
19	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

AMEND DEFINITION OF EMPLOYEE TO INCLUDE AFFILIATED PERSONS RIDER

(1940 ACT)

It is agreed that the Section of the bond entitled **CONDITIONS AND LIMITATIONS**, Section 1. DEFINITIONS, Definition (e) Employee, is amended to include the following:

a natural person partner, officer or employee of an investment adviser, underwriter (distributor), transfer agent or shareholder accounting recordkeeper, or administrator for the Insured, but only while performing acts coming within the usual and customary duties of an officer or employee of the Insured or acting as a member of any committee duly elected or appointed to examine, audit or have custody of or access to Property of the Insured; provided that the adviser, underwriter, transfer agent, recordkeeper or administrator is an affiliated person (as defined in Section 2(a) of the Investment Company Act of 1940) of the Insured;

All other provisions of the bond remain unchanged.

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FI 1050 (05-16)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
20	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

SECURITIES AND EXCHANGE COMMISSION

NOTIFICATION RIDER

It is agreed that:

- I. In the event that this bond is cancelled, terminated, or Substantially Modified, the Underwriter agrees to use its best efforts to notify the Securities and Exchange Commission (SEC) within sixty (60) days following such cancellation, termination, or modification, whether such cancellation, termination, or modification is at the request of the Insured or the Underwriter. Failure on the part of the Underwriter to provide such notice shall not impair or delay the effectiveness of such cancellation, termination, or modification, nor shall the Underwriter be held liable in any way for such failure.

 - II. For the purposes of this rider, Substantially Modified means a change in the type or amount of fidelity bond coverage, or a change in the exclusions of this bond, or any change in the bond such that it no longer meets the requirements of the applicable SEC laws and regulations.
- All other provisions of the bond remain unchanged.

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Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
21	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

PROTECTED INFORMATION EXCLUSION RIDER

(Fidelity Carveback)

It is agreed that this bond shall not apply to any loss resulting directly or indirectly from the: (i) theft, disappearance, or destruction of; (ii) unauthorized use or disclosure of; (iii) unauthorized access to; or (iv) failure to protect any:

A. confidential or non-public; or

B. personal or personally identifiable; information that any person or entity has a duty to protect under any law, rule or regulation, agreement, or industry guideline or standard; provided that this shall not apply to the extent that any unauthorized use or disclosure of a password enables a theft by an Employee of the Insured of tangible Property of the Insured or tangible Property that the Insured is holding for a third party.

Theft of tangible Property does not include the use of confidential or non-public information or personal or personally identifiable information to enable the theft of or disclosure of information.

All other provisions of the bond remain unchanged.

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FI 1026 (08 14)

Rider No.	This rider is effective on the effective date of the bond unless a different date is set forth below.	Bond No.	Additional Return Premium
22	12:01 a.m. on July 1, 2018	RNN623821/01/2018	N/A

AMEND OWNERSHIP CONDITION RIDER

It is understood and agreed that the Section entitled **CONDITIONS AND LIMITATIONS**, Section 10. **OWNERSHIP**, is deleted and replaced with the following:

OWNERSHIP

Section 10. This bond shall apply to loss of Property (1) owned by the Insured, (2) held by the Insured in any capacity, or (3) owned and held by someone else under circumstances which make the Insured responsible for the Property prior to the occurrence of the loss. This bond shall be for the sole use and benefit of the Insured named in the Declarations.

All other provisions of the bond remain unchanged.

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FI 1046 (05-16)