MEMORANDUM

To: Use of Derivatives by Registered Investment Companies and Business Development Companies Proposal File

From: Adam Bolter
Senior Counsel, Division of Investment Management

Date: March 17, 2016

Re: Meeting with Representatives of Stone Ridge Asset Management

On March 16, 2016, Dan Townley (Attorney Fellow, Division of Investment Management ("IM")), Brian McLaughlin Johnson (Senior Special Counsel, IM), Thoreau Bartmann (Branch Chief, IM), Adam Bolter (Senior Counsel, IM), Sirimal Mukerjee (Senior Counsel, IM), John Cook (Senior Special Counsel, Division of Economic and Risk Analysis ("DERA")), and Yue Tang (Financial Economist, DERA), met with Jim Rothwell and Robby Gutmann from Stone Ridge Asset Management. The participants discussed the Commission's proposal on the use of derivatives by registered investment companies and business development companies. Information provided by Stone Ridge Asset Management in connection with this meeting is set forth in Annex A.

About Stone Ridge:

- Stone Ridge is a firm of 53 people, founded in 2012. We have 11 registered funds in two strategy categories – reinsurance and "variance" risk premium (VRP).
- We seek to offer investors in our funds opportunities to invest in strategies that are not otherwise available in registered investment companies, and that offer diversification to traditional strategies. The strategies employed by our funds have been employed for many years by conservative, long-term institutional investors such as insurance companies, pension funds, endowments, sovereign wealth funds, etc. Stone Ridge's innovative funds make these "institutional class" strategies available to registered fund investors.
- Our funds do not seek, or advertise, levered returns.
- Stone Ridge markets its funds only to large, sophisticated registered investment advisory (RIA) firms that have completed in-person educational sessions with Stone Ridge about the asset class in which a particular fund invests. Nobody, even an RIA, is allowed to invest in our funds "off the street." In addition to these educational sessions, the RIA firms with which we work perform extensive diligence on the asset class, and on us, prior to investing.
- Our funds are not sold through any brokers, and we do not market directly to any end investors. RIAs that invest their clients' assets in our funds have a fiduciary duty to their end investor clients, and exercise their discretion to make investment decisions on behalf of their clients. Our funds are not listed on any exchange, and can only be purchased by these RIAs.
- The minimum initial investment size for our funds ranges from $10 million to $25 million per RIA ($15 million for our interval funds, including AVRPX).
- We have built deep relationships with approximately 150 RIA firms that invest in our funds, the majority of which invest in more than one of our funds. These are large firms, not individual advisers – the average AUM of these RIA firms is approximately $1.5 billion. These clients have entrusted us with approximately $6 billion of their clients' assets. We take our fiduciary obligations very seriously, and we view these RIA firms, and they view us, as partners in delivering long-term value and quality for their end investor clients who invest in our funds.
- In return for that trust, we have rewarded our investors with excellent returns in volatile markets. Since inception, our strategies have generated approximately $800 million of investment gains for our investors.
- Nevertheless, we strive to be very direct with our investors about risk. In all of our annual letters to shareholders since we launched our first fund, we have reminded investors of these risks. Most recently, we noted the following in our annual letter to shareholders for 2015:

  "Our performance since inception materially understates the true risk of our strategies. In particular, historical volatility is an often misleading and always incomplete measure of risk for any strategy, but especially for those involving insurance-related investments. Do not get lulled into a false sense of security when you look at the consistency of our past results. In future years, there will be tragic earthquakes and hurricanes. There will be market crashes."

- We feel strongly that the quality of our firm is defined by the quality of our people. Every single new hire at Stone Ridge, from senior portfolio manager to desk assistant, undergoes a rigorous recruiting process that involves a minimum of 20 hours of meetings with the ten members of Stone Ridge's Management Committee.

Risk Premium Investing

- "Risk premium" is the tendency for the returns of a particular investment, after losses, to exceed the risk free rate, on average and over time.
- This is easy to observe in insurance-related investments. Stone Ridge launched our first pioneering registered insurance-related investment fund in 2012.
- An insurance-related investment earns a return (the insurance "premium") over time. When an insurance loss occurs (for example, an earthquake or hurricane in the case of catastrophe insurance), the insurance-related investment loses money. On average and over time, the total insurance premium earned is expected to exceed the total losses. This excess is the "risk premium" captured by the insurance-related investment strategy.
- Our "variance risk premium" ("VRP") strategies apply the same principle to financial markets. Instead of investing in insurance-related investments, funds employing the VRP strategy sell ("write") options on underlying assets. Instead of insuring against earthquakes or hurricanes, the options have the economic effect of "insuring" against sharp moves in the price of the underlying asset. When our VRP funds sell options, the funds earn the sale price of the options sold (referred to as the option "premium"). When a sharp move in the price of the underlying asset occurs, the sold or "written" option position loses money. On average and over time, the total option premium earned is expected to exceed the total losses. This excess is the "risk premium" captured by the VRP investment strategy.
- In addition to capturing risk premia on behalf of our investors, our funds provide important risk-transfer services for the economy. The insurance-related investments made by our reinsurance funds provide capital to reinsurance companies that enable them to write reinsurance contracts to primary insurers, which allow primary insurers to provide insurance to homeowners, business and others who wish to purchase protection from catastrophes and other risks. The options sold by our VRP funds allow businesses and investors to purchase protection from sharp decreases in the price of an underlying asset (e.g., protecting investors from a sharp drop in the S&P 500) or, in some cases, from sharp increases in the price of an underlying asset (e.g. protecting an airline from sharp increases in the price of oil).
- Historically, risk premium investing has produced more stable returns, with less risk and less volatility, than investing directly in underlying assets.

Stone Ridge Asset Management Rule 18f-4 proposal

We propose that the Rule allow an alternative notional amount calculation that would permit a fund, in determining its aggregate notional exposure, to net any directly offsetting derivatives transactions that fall into one of the three specifically delineated categories described below (each, a "Defined Netting Transaction"), but would require any fund that relies on netting of Defined Netting Transactions to comply with Rule 18f-4 to operate so that its aggregate exposure under senior securities transactions, measured immediately after entering into any such transaction, does not exceed 75% of the fund's net assets. This significantly lower exposure limit acknowledges that permitting netting of Defined Netting Transactions could allow funds flexibility to net some exposures that could not be netted under the Rule as proposed, so a fund relying on this netting should operate under a much lower aggregate notional exposure limit.

We would propose to limit Defined Netting Transactions to the three categories described below. In each case, the notional amount[1] of a written (i.e. sold) option could be netted against the notional amount of:

(1) **a purchased option that is the same option "type" (i.e. put vs. call option) and has the same underlying reference asset, maturity and other material terms, other than exercise price**.

(2) **an opposite-way futures contract** (i.e. a written call option could be netted against a purchased futures contract and a written put option could be netted against a sold futures contract) **or similar "delta-1" derivative** (e.g. swap, forward contract or matched put-call combination) **that has the same underlying reference asset**. For the avoidance of doubt, the notional amount of a written option for which the underlying reference asset is a particular futures contract could be netted against the notional amount of an opposite-way transaction *in that exact futures contract.*

(3) **another written option that is the of the opposite option type (i.e. a written call option could be netted against a written put option) and has the same underlying reference asset, maturity and other material terms, other than exercise price**.

Each Defined Netting Transaction necessarily reduces exposure in a portfolio, and each such type of transaction would be netted by a portfolio risk manager applying customary risk management techniques. The examples below illustrate how each type of Defined Netting Transaction reduces exposure and risk:

(1) If a fund writes a put option on the S&P 500 Index struck at 2,000, the fund will be responsible for paying the amount of any reduction in the S&P 500 Index below 2,000 at maturity. So if the S&P 500 drops 200 points to 1,800, the fund will be responsible for paying an amount corresponding to the full 200 point drop. However, if the fund offsets that transaction by also purchasing a put option on the S&P 500 Index struck at 1,950 with the same maturity, then the

[1] As used herein, "notional amount" is as defined in proposed Rule 18f-4(c)(7).

fund's exposure is "capped" at 50 points of reduction in the index. In fact, this combination of transactions is often referred to as a "capped put". The fund can never be exposed for more than this capped amount of potential reduction in the underlying reference asset. As a result, the second position necessarily reduces the potential exposure and the risk of the portfolio.[2]

(2) If a fund writes a put option on the S&P 500 Index struck at 2,000, and also sells S&P 500 futures, then the fund will experience a loss on the put option position whenever the S&P 500 index goes down, but will experience a corresponding gain on the sold futures position whenever the S&P Index goes down. If the amount of S&P 500 futures sold equals the "delta" of the option position, then these gains will exactly offset these losses. In fact, this combination of transactions is often referred to as a "delta neutral" position.[3]

(3) If a fund writes a put option on the S&P 500 Index struck at 1,900, and also writes a call option on the S&P 500 struck at 2,100, then the fund will experience a loss on the put option position whenever the S&P 500 index goes down, but will experience a corresponding gain on the written call option position whenever the S&P Index goes down. This combination of transactions is often referred to as a "strangle" position.[4]

[2] In this example, the notional amount of each option be calculated as Number of contracts * notional contract size * index level * underlying delta. Release at 69. If we assume that the fund purchases or sells 100 option contracts at each strike price, and that the options pay off $100 per index point, then the fund would be obligated to pay $10,000 for each point below 2000 that the S&P 500 closes on the maturity date of the options, capped at 50 index points or $500,000. (Without the second put option, the fund's exposure would be uncapped, so for example if the S&P 500 index closed at 1,900 on the maturity date, the fund would owe $1,000,000 without the second, "capping" option.) The netting permitted by our proposal would occur as follows. Assume that the underlying delta of the first option (struck at 2,000) is 0.5, and the underlying delta of the second option (struck at 1,950) is 0.3, and that the index level is 2,000. In this case, the notional amount of the first option position would be 100 contracts * $100 per index point per contract * 2,000 index points * 0.5, or $10,000,000, and the notional amount of the second, offsetting, option position would be 100 contracts * $100 per index point per contract * 2,000 index points *0.3, or $6,000,000, so the net notional amount of the two position would be $4,000,000. The net amount reflects the real notional exposure of the two positions together.

[3] Although such a position is "delta neutral", it is not risk-free. The risk of such a position is referred to as "gamma risk", which refers to the fact that as the price of the underlying asset changes and as time passes and other variables (e.g. interest rates) change, the delta of the option can change, re-introducing "delta risk" into the position. However, this "gamma risk" – i.e. the risk that the delta may change over time – exists in any option position, including written option positions that would be permitted under the proposed Rule. That risk is mitigated in our proposal by the requirement that a fund relying on netting of Defined Netting Transactions would not be permitted to enter into new senior securities transactions if its aggregate exposure under senior securities transactions, measured immediately after entering into any such transaction, would exceed 75% of the fund's net assets, vs. 150% for funds not relying on netting of Defined Netting Transactions.

[4] Like a "delta neutral" position, a strangle position, although offsetting and risk-reducing, also involves gamma risk.

Please note that none of the Defined Netting Transactions described above matches the problematic netting scenarios described in the Release.[5]

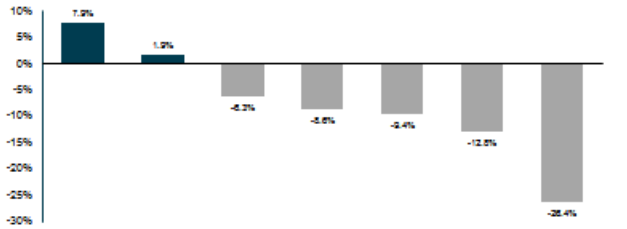
The alternative exposure calculation that we propose would not enable a fund generally to disregard or subtract from the calculation of a fund's exposure the notional amount of transactions that the fund deems to be hedging or risk mitigating. Rather, it would only allow subtraction of notional amounts of transactions in the three specifically delineated categories described above, which by definition are hedging and risk mitigating transactions. These Defined Netting Transactions are not "strategies that seek to capture small changes in the value of such paired instruments".[6] Rather, they are very standard risk-reducing strategies that allow a portfolio risk manager to capture risk premia in underlying asset markets while controlling risk and volatility in a portfolio. In addition, our proposal would limit the aggregate notional exposure of funds relying on netting of Defined Netting Transactions to only 75%, greatly limiting the opportunity for increased risk in a portfolio. Thus we believe that our proposal sets a narrow and verifiable standard for determining circumstances under which offsetting transactions should be considered to have reduced or eliminated "the market and leverage risks associated with the positions in a manner that would appropriately limit the potential for funds to incur excessive leverage or unduly speculative exposures."[7]

[5] "For example, while a long position in a March 2016 copper futures contract could directly offset a short position in the same March 2016 copper futures contract, it would not directly offset a short position with respect to copper options or April 2016 copper futures. Similarly, a purchased option would not offset a written option that has a different maturity date or a different underlying reference asset." Release p. 81.
[6] Id.
[7] Id.

Performance Since Inception

- The Stone Ridge All Asset Variance Risk Premium Fund (AVRPX) and the Stone Ridge Reinsurance Risk Premium Interval Fund (SRRIX) have generated positive returns in a very challenging market environment with virtually no correlation to traditional asset classes

Performance Relative to Broad Market Indices (April 13, 2015 through February 29, 2016)



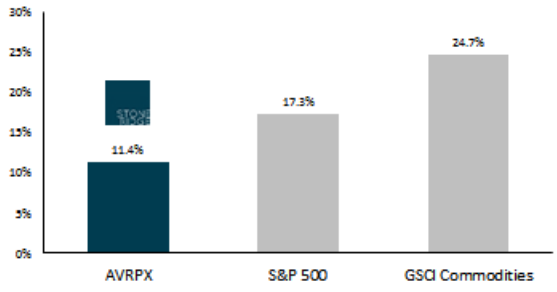
	Stone Ridge SRRIX	Stone Ridge AVRPX	S&P 500	Barclays US Corporate High Yield	HFRX Global Hedge Fund Index	Global Equities	GSCI Commodities Index
Correlation to AVRPX	0.10	1.0	0.02	0.13	0.11	0.10	-0.21

Prepared solely for inclusion in comment materials on proposed Rule 19f-4. Closing prices as of 12/31/2015. Inception date is 4/13/2015. Global Equities refers to MSCI All Country World Index.

Realized Volatility Since Inception

- AVRPX targets approximately 10% volatility over time and has experienced materially lower volatility than traditional risk assets

Volatility of AVRPX Relative to Broad Market Indices (April 13, 2015 through February 29, 2016)



Prepared solely for inclusion in comment materials on proposed Rule 19f-4. Closing prices as of 2/29/2016. Inception date is 4/13/2015

Outperformance in Times of Stress

- During periods of the greatest S&P 500 stress, the Stone Ridge All Asset Variance Risk Premium Fund (AVRPX) and the Stone Ridge Reinsurance Risk Premium Interval Fund (SRRIX) have shown no correlation to traditional markets and have consistently outperformed

Performance During Worst Weeks for S&P 500 (4/13/15 – 2/29/16)

Week Ending	S&P 500	HFRX Global	AVRPX	SRRIX
January 8, 2016	-5.9%	-1.5%	-0.1%	0.1%
August 21, 2015	-5.7%	-1.4%	1.4%	0.3%
December 11, 2015	-3.7%	-1.2%	-1.2%	0.3%
November 13, 2015	-3.6%	-1.1%	1.2%	0.4%
September 4, 2015	-3.4%	-0.5%	0.9%	0.4%
February 5, 2016	-3.0%	-0.9%	0.8%	0.2%
July 24, 2015	-2.2%	-0.8%	0.2%	0.2%

Prepared solely for inclusion in comment materials on proposed Rule 194-1. AVRPX returns are net of fees. S&P 500 and HFRX Global are non-investable indices.