MainStay VP PIMCO Real Return Portfolio

Investment Objective
The Portfolio seeks maximum real return, consistent with preservation of real capital and prudent investment management.

Fees and Expenses of the Portfolio
The table below describes the fees and expenses that you may pay if you buy, hold and sell shares of the Portfolio. The table does not include any separate account or policy fees or charges imposed under the variable annuity policies and variable universal life insurance policies for which the Portfolio is an investment option. If they were included, your costs would be higher. Investors should consult the applicable variable annuity policy or variable universal life insurance policy prospectus for more information.

<table>
<thead>
<tr>
<th>Service Class</th>
<th>Annual Portfolio Operating Expenses (fees paid directly from your investment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Fees (as an annual percentage of the Portfolio’s average daily net assets)</td>
<td>0.50%</td>
</tr>
<tr>
<td>Distribution and Service (12b-1) Fees</td>
<td>0.25%</td>
</tr>
<tr>
<td>Other Expenses</td>
<td></td>
</tr>
<tr>
<td>Interest Expenses on Securities Sold Short¹</td>
<td>0.25%</td>
</tr>
<tr>
<td>Remainder of Other Expenses</td>
<td>0.08%</td>
</tr>
<tr>
<td>Total Other Expenses</td>
<td>0.33%</td>
</tr>
<tr>
<td>Total Annual Portfolio Operating Expenses</td>
<td>1.08%</td>
</tr>
<tr>
<td>Waiver / Reimbursement²</td>
<td>(0.05)%</td>
</tr>
<tr>
<td>Total Annual Portfolio Operating Expenses After Waivers / Reimbursements²</td>
<td>1.03%</td>
</tr>
</tbody>
</table>

1. “Interest Expenses” are based on the amount incurred during the Portfolio’s most recent fiscal year as a result of entering into certain investments, such as dollar roll transactions. Under amended accounting guidance, certain dollar roll transactions are treated as secured borrowings and the components of the net income from such transactions are now presented in the financial statements as interest income and interest expense. This accounting treatment does not affect the Portfolio’s overall results of operations, net asset value, total return or the amount of expenses paid directly from your investment in the Portfolio. The amount of “Interest Expenses” (if any) will vary based on the Portfolio’s use of such investments.

2. New York Life Investment Management LLC (“New York Life Investments”) has contractually agreed to waive fees and/or reimburse expenses so that Total Annual Portfolio Operating Expenses (excluding taxes, interest, litigation, extraordinary expenses, brokerage and other transaction expenses relating to the purchase or sale of portfolio investments, and acquired (underlying) portfolio/fund fees and expenses) of Service Class shares do not exceed 0.78% of the Portfolio’s average daily net assets. This agreement will remain in effect until May 1, 2022, and shall renew automatically for one-year terms unless New York Life Investments provides written notice of termination prior to the start of the next term or upon approval of the Board of Trustees of the Portfolio.

Example
The Example is intended to help you compare the cost of investing in the Portfolio with the cost of investing in other mutual funds. The Example does not include any separate account or policy fees or charges imposed under the variable annuity policies and variable universal life insurance policies for which the Portfolio is an investment option. If they were included, your costs would be higher. The Example assumes that you invest $10,000 in the Portfolio for the time periods indicated whether or not you redeem all of your shares at the end of those periods. The Example also assumes that your investment has a 5% return each year and that the Portfolio’s operating expenses remain the same. The Example reflects the contractual fee waiver and/or expense reimbursement arrangement, if applicable, for the current duration of the arrangement only. Although your actual costs may be higher or lower, based on these assumptions your costs would be:

<table>
<thead>
<tr>
<th>Service Class</th>
<th>1 Year</th>
<th>3 Years</th>
<th>5 Years</th>
<th>10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ 105</td>
<td>$ 339</td>
<td>$ 591</td>
<td>$ 1,313</td>
</tr>
</tbody>
</table>

Portfolio Turnover
The Portfolio pays transaction costs, such as commissions, when it buys and sells securities (or “turns over” its portfolio). A higher portfolio turnover rate may indicate higher transaction costs. These costs, which are not reflected in annual Portfolio operating expenses or in the Example, affect the Portfolio’s performance. During the most recent fiscal year, the Portfolio’s portfolio turnover rate was 199% of the average value of its portfolio.
Market Risk:  The principal risks of investing in the Portfolio are summarized below.

Portfolio Management Risk: (iii) increased redemptions of Portfolio shares. Such conditions may add significantly to the risk of volatility in the net asset value of the Portfolio's shares.

Portfolio to underperform other funds with similar investment objectives and strategies. Such changes may be rapid and unpredictable. From time to time, we may be required to sell securities, invest cash or hold a relatively large amount of cash at times when it would not otherwise do so.

Insurance Corporation or any other governmental agency. The investments selected by the Subadvisor may underperform the market in which the Portfolio primarily invests by entering into a series of purchase and sale contracts or by using other investment techniques (such as buy backs or dollar rolls). The Portfolio may also invest up to 10% of its total assets in preferred shares.

The Portfolio may purchase and sell securities on a when-issued, delayed delivery or forward commitment basis and may engage in short sales. The Portfolio may, without limitation, seek to obtain market exposure to the securities in which it primarily invests by entering into a series of purchase and sale contracts or by using other investment techniques (such as buy backs or dollar rolls). The Portfolio may also invest up to 10% of its total assets in preferred shares.

The Portfolio invests primarily in investment grade securities, but may invest up to 10% of its total assets in high yield securities ("junk bonds") rated B or higher by Moody’s Investors Services, Inc., or equivalently rated, at the time of purchase, by Standard & Poor’s Ratings Services or Fitch Inc., or, if unrated, determined by the Subadvisor to be of comparable quality (except that within such 10% limitation, the Portfolio may invest in mortgage-backed securities rated below B). The Portfolio may invest up to 10% of its total assets in securities and instruments that are economically tied to emerging market countries. The Portfolio also may invest up to 30% of its total assets in securities denominated in foreign currencies, and may invest beyond this limit in U.S. dollar-denominated securities of foreign issuers. The Portfolio will normally limit its foreign currency exposure (from non-U.S. dollar-denominated securities or currencies) to 20% of its total assets.

The Portfolio may invest, without limitation, in derivative instruments, such as options, futures contracts or swap agreements, or in mortgage- or asset-backed securities, subject to applicable law and any other restrictions described in the Portfolio’s Prospectus or Statement of Additional Information. The Portfolio may purchase and sell securities on a when-issued, delayed delivery or forward commitment basis and may engage in short sales. The Portfolio may, without limitation, seek to obtain market exposure to the securities in which it primarily invests by entering into a series of purchase and sale contracts or by using other investment techniques (such as buy backs or dollar rolls). The Portfolio may also invest up to 10% of its total assets in preferred shares.

Principal Risks

You can lose money by investing in the Portfolio. An investment in the Portfolio is not a bank deposit and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other governmental agency. The investments selected by the Subadvisor may underperform the market in which the Portfolio invests or other investments. The Portfolio may receive large purchase or redemption orders which may have adverse effects on performance if the Portfolio were required to sell securities, invest cash or hold a relatively large amount of cash at times when it would not otherwise do so.

The principal risks of investing in the Portfolio are summarized below.

Market Risk: The value of the Portfolio’s investments may fluctuate because of changes in the markets in which the Portfolio invests, which could cause the Portfolio to underperform other funds with similar investment objectives and strategies. Such changes may be rapid and unpredictable. From time to time, markets may experience periods of stress for potentially prolonged periods that may result in: (i) increased market volatility; (ii) reduced market liquidity; and (iii) increased redemptions of Portfolio shares. Such conditions may add significantly to the risk of volatility in the net asset value of the Portfolio’s shares.

Portfolio Management Risk: The investment strategies, practices and risk analyses used by the Subadvisor may not produce the desired results.

Debt Securities Risk: The risks of investing in debt or fixed-income securities include (without limitation): (i) credit risk, e.g., the issuer or guarantor of a debt security may be unable or unwilling (or be perceived as unable or unwilling) to make timely principal and/or interest payments or otherwise honor its obligations, or changes in an issuer’s credit rating or the market’s perception of an issuer’s creditworthiness may affect the value of the Portfolio’s investments; (ii) maturity risk, e.g., a debt security with a longer maturity may fluctuate in value more than one with a shorter maturity; (iii) market risk, e.g., low demand for debt securities may negatively impact their price; (iv) interest rate risk, e.g., when interest rates go up, the value of a debt security generally goes down, and when interest rates go down, the value of a debt security generally goes up (long-term debt securities are generally more susceptible to interest rate risk than short-term debt securities); and (v) call or prepayment risk, e.g., during a period of falling interest rates, the issuer may redeem a security by repaying it early, which may reduce the Portfolio’s income if the proceeds are reinvested at lower interest rates.

Interest rate risk is the risk that the value of the Portfolio’s investments in fixed income or debt securities will change because of changes in interest rates. There is a risk that interest rates across the financial system may change, possibly significantly and/or rapidly. Changes in interest rates or a lack of market participants may lead to decreased liquidity and increased volatility in the fixed-income or debt markets, making it more difficult for the Portfolio to sell its fixed-income or debt holdings. Decreased liquidity in the fixed-income or debt markets also may make it more difficult to value some or all of the Portfolio’s fixed-income or debt holdings. For most fixed-income investments, when market interest rates fall, prices of fixed-rate debt securities rise. However, when market interest rates fall, prices of certain variable and fixed-rate debt securities may be adversely affected (i.e., falling interest rates bring the possibility of prepayment risk, as an instrument may be redeemed before maturity). Very low or negative interest rates may magnify interest rate risk. Changing interest rates, including rates that fall below zero, may have unpredictable effects on markets, may result in heightened market volatility and may detract from
speculative because investments in such securities present a greater risk of loss than investments in higher quality securities. Such securities may, under certain circumstances, be less liquid than higher rated securities. These securities pay investors a premium (a high interest rate or yield) because of the potential illiquidity and increased risk of loss. These securities can also be subject to greater price volatility. In times of unusual or adverse market, economic or political conditions, these securities may experience higher than normal default rates.

**Liquidity and Valuation Risk:** The Portfolio’s investments may be illiquid at the time of purchase or liquid at the time of purchase and subsequently become illiquid due to, among other things, events relating to the issuer of the securities, market events, operational issues, economic conditions, investor perceptions or lack of market participants. The lack of an active trading market may make it difficult to sell or obtain an accurate price for a security. If market conditions or issuer specific developments make it difficult to value securities, the Portfolio may value these securities using more subjective methods, such as fair value pricing. In such cases, the value determined for a security could be different than the value realized upon such security’s sale. As a result, an investor could pay more than the market value when buying shares or receive less than the market value when selling shares. This could affect the proceeds of any redemption or the number of shares an investor receives upon purchase.

The Portfolio is subject to the risk that it could not meet redemption requests within the allowable time period without significant dilution of remaining investors’ interests in the Portfolio. To meet redemption requests or to raise cash to pursue other investment opportunities, the Portfolio may be forced to sell securities at an unfavorable time and/or under unfavorable conditions, which may adversely affect the Portfolio. These risks are heightened for fixed-income instruments because of the current low interest rate environment.

**Derivatives Risk:** Derivatives are investments whose value depends on (or is derived from) the value of an underlying instrument, such as a security, asset, reference rate or index. Derivative strategies may expose the Portfolio to greater risk than if it had invested directly in the underlying instrument and often involve leverage, which may exaggerate a loss, potentially causing the Portfolio to lose more money than it originally invested and would have lost had it invested directly in the underlying instrument. For example, if the Portfolio is the seller of credit protection in a credit default swap, the Portfolio effectively adds leverage to its portfolio and is subject to the credit exposure on the full notional value of the swap. Derivatives may be difficult to sell, unwind and/or value. Derivatives may also be subject to counterparty risk, which is the risk that the counterparty (the party on the other side of the transaction) on a derivative transaction will be unable or unwilling to honor its contractual obligations to the Portfolio. Futures may be more volatile than direct investments in the instrument underlying the contract, and may not correlate perfectly to the underlying instrument. Futures and other derivatives also may involve a small initial investment relative to the risk assumed, which could result in losses greater than if they had not been used. Due to fluctuations in the price of the underlying instrument, the Portfolio may not be able to profitably exercise an option and may lose its entire investment in an option. To the extent that the Portfolio writes or sells an option, if the decline in the value of the underlying instrument is significantly below the exercise price in the case of a written put option or increase above the exercise price in the case of a written call option, the Portfolio could experience a substantial loss. Forward commitments entail the risk that the instrument may be worth less when it is issued or received than the price the Portfolio agreed to pay when it made the commitment. The use of foreign currency forwards may result in currency exchange losses due to fluctuations in currency exchange rates or an imperfect correlation between portfolio holdings denominated in a particular currency and the forward contracts entered into by the Portfolio. Swaps may be subject to counterparty credit, correlation, valuation, liquidity and leveraging risks. Swap transactions tend to shift a Portfolio’s investment exposure from one type of investment to another and may entail the risk that a party will default on its payment obligations to the Portfolio. Additionally, applicable regulators have adopted rules imposing certain margin requirements, including minimums on uncleared swaps, which may result in the Portfolio and its counterparties posting higher margin amounts for uncleared swaps. Certain standardized swaps are subject to mandatory central clearing and exchange trading. Central clearing, which interposes a central clearinghouse to each participant’s swap, and exchange trading are intended to reduce counterparty credit risk and increase liquidity but neither makes swap transactions risk-free. Derivatives may also increase the expenses of the Portfolio.

**Equity Securities Risk:** Investments in common stocks and other equity securities are particularly subject to the risk of changing economic, stock market, industry and company conditions and the risks inherent in the portfolio managers’ ability to anticipate such changes that can adversely affect the value of the Portfolio’s holdings.

**Foreign Securities Risk:** Investments in foreign (non-U.S.) securities may be riskier than investments in U.S. securities. Foreign regulatory regimes and securities markets can have less stringent investor protections and disclosure standards and less liquid trading markets than U.S. regulatory regimes and securities markets, and can experience political, social and economic developments that may affect the value of the Portfolio’s investments in foreign securities. Foreign securities may also subject the Portfolio’s investments to changes in currency rates. Changes in the value of foreign currencies may make the return on an investment increase or decrease, unrelated to the quality or performance of the investment itself.

**Emerging Markets Risk:** The risks related to investing in foreign securities are generally greater with respect to securities of companies that conduct their business activities in emerging markets or whose securities are traded principally in emerging markets. The risks of investing in emerging markets are elevated under current conditions and include: (i) smaller trading volumes for such securities and limited access to investments in the event of market closures (including due to local holidays), which result in a lack of liquidity and in greater price volatility; (ii) less government regulation, which could lead to market manipulation, and less extensive, transparent and frequent accounting, auditing, recordkeeping, financial reporting and other requirements, which limit the quality and availability of financial information; (iii) the absence of developed legal systems, including structures governing private or foreign investment or allowing for judicial redress (such as limits on rights and remedies available to the Portfolio) for investment losses and injury to private property; (iv) loss resulting from problems in share registration and custody; (v) sensitivity to adverse political or social events affecting the region where an emerging market is located; (vi) particular sensitivity to economic and political disruptions, including adverse effects stemming from recessions, depressions or other
economic crises, or reliance on international or other forms of aid, including trade, taxation and development policies; and (vii) the nationalization of foreign deposits or assets.

**Short Selling and Short Exposure Risk:** To the extent the Portfolio obtains short exposure through the use of derivatives, the Portfolio would be subject to leverage risk, counterparty risk and other risks associated with the use of derivatives. If a security sold short increases in price, the Portfolio may have to cover its short position at a higher price than the short sale price, resulting in a loss, which could be theoretically unlimited. By contrast, a loss on a long position arises from decreases in the value of the security and is limited by the fact that a security’s value cannot go below zero. The Portfolio may have substantial short positions and must borrow those securities to make delivery to the buyer. The Portfolio may not be able to borrow a security that it needs to deliver or it may not be able to close out a short position at an acceptable price and may have to sell related long positions before it had intended to do so. Thus, the Portfolio may not be able to successfully implement its short sale strategy due to limited availability of desired securities or for other reasons. The Portfolio also may be required to pay a premium and other transaction costs, which would increase the cost of the security sold short. The amount of any gain will be decreased, and the amount of any loss increased, by the amount of the premium, dividends, interest or expenses the Portfolio may be required to pay in connection with the short sale.

Until the Portfolio replaces a borrowed security, it is required to maintain a segregated account of cash or liquid assets with the Portfolio's broker or custodian to cover the Portfolio’s short position. Generally, securities held in a segregated account cannot be sold unless they are replaced with other liquid assets. The Portfolio’s ability to access the pledged collateral may also be impaired in the event the broker fails to comply with the terms of the contract. In such instances the Portfolio may not be able to substitute or sell the pledged collateral. Additionally, the Portfolio must maintain sufficient liquid assets (less any additional collateral held by or pledged to the broker), marked-to-market daily, to cover the short sale obligation. This may limit the Portfolio’s investment flexibility, as well as its ability to meet redemption requests or other current obligations.

By investing the proceeds received from selling securities short, the Portfolio could be deemed to be employing a form of leverage, which creates special risks. The use of leverage may increase the Portfolio’s exposure to long positions and make any change in the Portfolio’s net asset value greater than it would be without the use of leverage. This could result in increased volatility of returns. There is no guarantee that the Portfolio will leverage its portfolio, or if it does, that the Portfolio’s leveraging strategy will be successful or that it will produce a higher return on an investment.

**Sovereign Debt Risk:** The debt securities issued by sovereign entities may decline as a result of default or other adverse credit event resulting from a sovereign debtor’s unwillingness or inability to repay principal and pay interest in a timely manner, which may be affected by a variety of factors, including its cash flow situation, the extent of its reserves, the availability of sufficient foreign exchange on the date a payment is due, the relative size of the debt service burden to the economy as a whole, the sovereign debtor’s policy toward international lenders, and the political constraints to which a sovereign debtor may be subject. Sovereign debt risk is increased for emerging market issuers.

**Regulatory Risk:** The Portfolio as well as the issuers of the securities and other instruments in which the Portfolio invests are subject to considerable regulation and the risks associated with adverse changes in laws and regulations governing their operations. For example, regulatory authorities in the United States or other countries may prohibit or restrict the ability of the Portfolio to fully implement its short-selling strategy, either generally or with respect to certain industries or countries, which may impact the Portfolio’s ability to fully implement its investment strategies.

**Mortgage-Related and Other Asset-Backed Securities Risk:** Investments in mortgage-related securities (such as mortgage-backed securities) and other asset-backed securities generally involve a stream of payments based on the underlying obligations. These payments, which are often part interest and part return of principal, vary based on the rate at which the underlying borrowers repay their loans or other obligations. Asset-backed securities are subject to the risk that borrowers may default on the underlying obligations and that, during periods of falling interest rates, these obligations may be called or prepaid and, during periods of rising interest rates, obligations may be paid more slowly than expected. Impairment of the underlying obligations or collateral, such as by non-payment, will reduce the security’s value. Enforcing rights against such collateral in events of default may be difficult or insufficient. The value of these securities may be significantly affected by changes in interest rates, the market’s perception of issuers, and the creditworthiness of the parties involved. The ability of the Portfolio to successfully utilize these instruments may depend on the ability of the Subadvisor to forecast interest rates and other economic factors correctly. These securities may have a structure that makes their reaction to interest rate changes and other factors difficult to predict, making their value highly volatile.

**Mortgage Dollar Roll Transaction Risk:** A mortgage dollar roll is a transaction in which the Portfolio sells mortgage-related securities from its portfolio to a counterparty from whom it simultaneously agrees to buy a similar security on a delayed delivery basis. Mortgage dollar roll transactions are subject to certain risks, including the risk that securities returned to the Portfolio at the end of the roll, while substantially similar, may be inferior to what was initially sold to the counterparty.

**Mortgage Pass-Through Securities Risk:** Investments in mortgage pass-through securities are subject to similar market risks as fixed-income securities, which include, but are not limited to, interest rate risk, credit risk, prepayment risk, and extension risk.

**Yield Risk:** There can be no guarantee that the Portfolio will achieve or maintain any particular level of yield.

**Money Market/Short-Term Securities Risk:** To the extent the Portfolio holds cash or invests in money market or short-term securities, the Portfolio may be less likely to achieve its investment objective. In addition, it is possible that the Portfolio’s investments in these instruments could lose money.

### Past Performance

The following bar chart and table indicate some of the risks of investing in the Portfolio. The bar chart shows you how the Portfolio’s calendar year performance has varied over time. The average annual total returns table shows how the Portfolio’s average annual total returns compare to those of a broad-based securities market index. Separate variable annuity and variable universal life insurance accounts and policy fees and charges are not reflected in the bar chart and table. If they were, returns would be less than those shown. The Portfolio has selected the Bloomberg Barclays U.S. TIPS Index as its primary benchmark. The Bloomberg Barclays U.S. TIPS Index includes all publicly issued, U.S. Treasury inflation-protected securities that have at least one year remaining to maturity and are rated investment grade.
Past performance is not necessarily an indication of how the Portfolio will perform in the future.

**Annual Returns, Service Class Shares**  
(by calendar year 2013-2020)

- **Best Quarter**: Q2/2020 5.28%
- **Worst Quarter**: Q2/2013 -8.29%

**Average Annual Total Returns**  
(for the periods ended December 31, 2020)

<table>
<thead>
<tr>
<th></th>
<th>Inception</th>
<th>1 Year</th>
<th>5 Years</th>
<th>Since Inception</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Class</td>
<td>2/17/2012</td>
<td>11.50%</td>
<td>5.00%</td>
<td>2.24%</td>
</tr>
<tr>
<td>Bloomberg Barclays U.S. TIPS Index (reflects no deductions for fees, expenses, or taxes)</td>
<td>10.99%</td>
<td>5.08%</td>
<td>2.65%</td>
<td></td>
</tr>
</tbody>
</table>

**Management**
New York Life Investment Management LLC serves as the Portfolio’s Manager. Pacific Investment Management Company LLC serves as the Subadvisor. The individuals listed below are jointly and primarily responsible for the day-to-day portfolio management of the Portfolio.

<table>
<thead>
<tr>
<th>Subadvisor</th>
<th>Portfolio Managers</th>
<th>Portfolio Service Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Investment Management Company LLC</td>
<td>Stephen A. Rodosky, Managing Director</td>
<td>Since 2019</td>
</tr>
<tr>
<td></td>
<td>Daniel He, Executive Vice President</td>
<td>Since 2019</td>
</tr>
</tbody>
</table>

**How to Purchase and Sell Shares**
Shares of the Portfolio are currently offered to certain separate accounts to fund variable annuity policies and variable universal life insurance policies issued by New York Life Insurance and Annuity Corporation (“NYLIAC”) and may also be offered to fund variable annuity policies and variable universal life insurance policies issued by other insurance companies. Shares of the Portfolio are also offered as underlying investments of the MainStay VP Asset Allocation Portfolios (“Asset Allocation Portfolios”) and other variable insurance funds.

Individual investors do not transact directly with the Portfolio to purchase and redeem shares. Rather, investors select underlying investment options offered by the applicable policy. Please refer to the prospectus for the variable annuity policy or variable universal life insurance policy that offers the Portfolio as an underlying investment option for information on the allocation of premium payments and on transfers among the investment divisions of the separate account.

**Tax Information**
Because the Portfolio’s shareholders are the separate accounts of NYLIAC or other insurance companies through which you purchased your variable annuity policy or variable universal life insurance policy and the Asset Allocation Portfolios and other variable insurance funds, no discussion is included here as to the federal income tax consequences at the shareholder level. For information concerning the federal income tax consequences to variable annuity and variable universal life insurance policy owners, consult the prospectus relating to the appropriate policy.

**Compensation to Broker/Dealers and Other Financial Intermediaries**
The Portfolio and/or its related companies may pay NYLIAC or other participating insurance companies, broker/dealers, or other financial intermediaries for the sale of Portfolio shares and related services. These payments may create a conflict of interest by influencing the broker/dealer or other financial intermediary or your sales person to recommend the Portfolio over another investment and/or a policy that offers this Portfolio over another investment. Ask your individual salesperson or visit your broker/dealer’s or other financial intermediary firm’s website for more information. For additional information about these payments, please see the section entitled "The Fund and its Management” in the Prospectus.

*“New York Life Investments” is both a service mark, and the common trade name, of certain investment advisors affiliated with New York Life Insurance Company.*