

PERFORMANCE

Funded by a Group Variable Funding Agreement

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS. Total return includes capital appreciation (depreciation), realized gains (losses), plus dividend or interest income. The investment return and principal value of an investment will fluctuate so that when units/shares are redeemed they may be worth more, or less, than the original cost. Results shown do not take into account personal income taxes or capital gains taxes. Current performance may be lower or higher than the performance data quoted. For current performance information to the most recent month-end, refer to our website at <http://retirement.massmutual.com/rsgovnp/>.

* Returns are net of total fund operating expenses. Your plan may also be subject to a Program and Administrative charge. Refer to a current fee schedule for charges applicable to your plan.

Investments in the *Possibilities* program are available through group variable funding agreements (HL-16553, 16553NY, HL-20326, HL-20326NY) issued by Talcott Resolution Life Insurance Company (formerly named Hartford Life Insurance Company)(Windsor, CT). Contracts are administered by Massachusetts Mutual Life Insurance Company. Total return includes capital appreciation (depreciation), realized gain (loss), plus reinvested dividend or interest income. Results shown do not take into account personal income taxes or capital gains taxes. Nor does the performance reflect the deduction of any plan charges which may be assessed to plan participants. With respect to all performance displayed, where inception of the underlying fund precedes that of the separate account, performance is given since the inception of the underlying fund (whereas the inception date for Separate Account 457 is 12/31/1998, and the inception date for Separate Account 14 is 3/15/2005). In such cases, the performance given is hypothetical and is based on the actual performance of the underlying fund.

Collective Investment Trusts (CIT), Unregistered Separate Investment Accounts (SIA), Company Stock Accounts (STK), and Unitized Investments (UI), unlike Mutual Funds (MF) and Registered Separate Investment Accounts (RSIA), are not registered with the Securities and Exchange Commission (SEC). None of these are insured by the Federal Deposit Insurance Commission (FDIC), and are not guaranteed by any other government agency, any bank, insurance company or credit union. These investment types may lose value and are subject to investment risk, including the possible loss of the principal amount invested. Fixed Rate Stable Value (FSV) investments provide a guarantee of principal backed by a book value guarantor and by the claims paying ability of the issuing insurance company.

This material must be preceded or accompanied by currently effective disclosure documents. Investors should consider an investment's objectives, risks, charges and expenses carefully before investing. Read this information carefully before you invest or send money. Questions should be directed to your local Financial Professional, our Customer Service Center at 1-800-528-9009, or our website at <http://retirement.massmutual.com/rsgovnp/>.

- ¹ The fund's investments are concentrated in a specific industry or sector, and are subject to greater risk than traditional diversified equity funds.
- ² Investments in foreign securities may involve different and additional risks associated with foreign currencies, investment disclosure, accounting, securities regulation, commissions, taxes, political or social instability, war or expropriation.
- ³ Small Cap stocks generally have higher risk and return characteristics than large-company stocks.
- ⁴ Mid Cap stocks generally have higher risk and return characteristics than large-company stocks.
- ⁵ Generally target retirement date (lifecycle) investment options are designed to be held beyond the presumed retirement date to offer a continuing investment option for the investor in retirement. The year in the investment option name refers to the approximate year an investor in the option would plan to retire and likely would stop making new contributions to the investment option. However, investors may choose a date other than their presumed retirement date to be more conservative or aggressive depending on their own risk tolerance. Target retirement date (lifecycle) investment options are designed for participants who plan to withdraw the value of their accounts gradually after retirement. Each of these options follows its own asset allocation path ("glide path") to progressively reduce its equity exposure and become more conservative allocation in their target date year. Investors should consider their own personal risk tolerance, circumstances and financial situation. These options should not be selected solely on a single factor such as age or retirement date. Please consult the prospectus (if applicable) pertaining to the options to determine if their glide path is consistent with your long-term financial plan. Target retirement date investment options' stated asset allocation may be subject to change. **Investments in these options are not guaranteed and you may experience losses, including losses near, at, or after the target date. Additionally, there is no guarantee that the options will provide adequate income at and through retirement.**
- ⁶ Securities rated below investment grade "BBB" are commonly referred to as "high yield, high risk" securities, or "junk bonds."
- ⁷ **You could lose money by investing in the Money Market Fund. Although the Money Market Fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. The Money Market Fund may impose a fee upon sale of your shares or may temporarily suspend your ability to sell shares if the Money Market Fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the Money Market Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Money Market Fund's sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Money Market Fund at any time.**

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Period Ending July 31, 2020		Total Return			Annual Total Return*					Inception
INVESTMENT CHOICES	Morningstar Category	Month	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	Since Incept	Date
SPECIALTY										
PGIM Jenn Nat Res ¹	Natural Resources	8.77%	19.68%	-15.08%	-11.86%	-7.35%	-3.74%	-4.53%	N/A	9/28/1987
INTERNATIONAL/GLOBAL										
AF EuroPacific Grth ²	Foreign Large Growth	5.66%	18.75%	0.09%	8.90%	4.19%	4.99%	6.07%	N/A	4/16/1984
Invesco Dev Mkts ²	Diversified Emerging Mkts	7.99%	20.47%	-2.74%	5.02%	3.24%	6.93%	3.59%	N/A	1/11/1994
Invsc Opph Intl Grw ²	Foreign Large Growth	5.18%	16.44%	1.25%	11.14%	3.52%	3.97%	6.84%	N/A	3/25/1996
MFS Intl Int Value ²	Foreign Large Growth	5.72%	15.03%	6.38%	15.67%	9.09%	8.95%	10.43%	N/A	10/24/1995
SMALL CAP										
BNY Mel SmCp Stk Ind ³	Small Blend	4.02%	12.51%	-14.80%	-9.28%	0.81%	4.63%	10.19%	N/A	6/30/1997
Goldman SachsSmCap ³	Small Blend	2.39%	8.42%	-23.22%	-19.35%	-4.63%	0.65%	7.66%	N/A	10/22/1992
Invesco SC Equity ³	Small Blend	5.44%	19.13%	-3.00%	0.88%	3.17%	3.18%	8.82%	N/A	8/31/2000
MFS New Discovery ³	Small Growth	5.46%	21.08%	10.20%	15.77%	19.36%	12.89%	13.54%	N/A	1/2/1997
MID CAP										
BNY Mell Midcap Indx ⁴	Mid-Cap Blend	4.56%	13.43%	-9.23%	-4.36%	2.77%	5.26%	10.19%	N/A	6/19/1991
LA Value Opp ⁴	Mid-Cap Blend	4.42%	12.46%	-5.37%	2.22%	2.69%	3.84%	8.68%	N/A	12/30/2005
Victory Syc Est Val ⁴	Mid-Cap Value	3.28%	9.88%	-12.36%	-6.48%	2.60%	5.71%	10.44%	N/A	8/16/1983
LARGE CAP										
AmCent Equity Income	Large Value	3.37%	5.99%	-9.09%	-3.51%	4.20%	7.77%	9.48%	N/A	8/1/1994
BNY Mel S&P 500 Ind	Large Blend	5.58%	12.66%	1.85%	11.01%	11.06%	10.54%	12.89%	N/A	1/2/1990
Domini Impact Equity	Large Blend	6.98%	17.08%	11.40%	21.55%	12.28%	9.37%	11.55%	N/A	6/3/1991
Franklin Growth	Large Growth	7.08%	17.01%	11.00%	19.41%	15.43%	13.14%	14.04%	N/A	3/30/1948
ASSET ALLOCATION/BALANCED										
MM RetSM JPM 2025 ⁵	Target-Date 2025	3.63%	9.38%	-0.20%	5.19%	5.64%	5.42%	7.49%	N/A	4/1/2010
MM RetSM JPM 2035 ⁵	Target-Date 2035	4.21%	11.21%	-2.60%	4.11%	5.51%	5.56%	7.87%	N/A	4/1/2010
MM RetSM JPM 2045 ⁵	Target-Date 2045	4.70%	12.52%	-4.36%	3.07%	5.26%	5.44%	8.09%	N/A	4/1/2010
MM RetSM JPM Ret ⁵	Target-Date Retirement	3.12%	7.87%	1.00%	5.00%	4.16%	3.82%	4.59%	N/A	12/31/2003

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Period Ending July 31, 2020		Total Return			Annual Total Return*					Inception Date
INVESTMENT CHOICES	Morningstar Category	Month	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	Since Incept	
BOND										
BNY Mel Bnd Mkt Indx ⁶	Intermediate Core Bond	1.40%	2.45%	7.53%	9.32%	4.93%	3.69%	3.05%	N/A	4/28/1994
JPM Core Bond	Intermediate Core Bond	1.52%	3.24%	7.16%	8.99%	4.95%	3.75%	3.34%	N/A	12/31/1986
Loomis Sayles Bd	Multisector Bond	3.41%	7.85%	-2.91%	0.12%	1.29%	2.87%	4.18%	N/A	5/16/1991
Templeton Global Bnd ²	Nontraditional Bond	-0.30%	-0.22%	-4.89%	-8.22%	-1.41%	0.08%	1.89%	N/A	9/18/1986

STABLE VALUE/MONEY MARKET

JPMorgan US Govt MM ⁷	-0.03%	-0.09%	-0.01%	0.36%	0.69%	0.29%	-0.03%	N/A	6/14/1993
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GENERAL (DECLARED RATE) ACCOUNT

3rd Q 20: 1.80% 2nd Q 20: 1.80% 1st Q 20: 1.80%

The Declared Rate set forth above is credited through the close of the calendar year on contributions received during the designated calendar quarter. For contributions received prior to January 1, 2020, the Declared Rate is 1.80%. Rates quoted are effective annual yields.

Period Ending July 31, 2020	Total Return			Avg Annual Total Return			
BENCHMARK INDICES	Month	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.
S&P 500 Index ¹	5.64%	12.87%	2.38%	11.96%	12.01%	11.49%	13.84%
BarCap Gov/Corp Indx ²	2.01%	3.49%	9.36%	12.06%	6.42%	5.01%	4.22%
NASDAQ ³	6.82%	20.88%	19.76%	31.43%	19.18%	15.94%	16.90%

Market indices have been provided for comparison purposes only. We believe that the indices are representative of the investment objectives of the investment options in your plan. These indices are unmanaged and are not available for direct investment.

¹ S&P is an index which measures broad-based changes in stock market conditions based on the average performance of 500 widely held common stocks.

² The Barclay's Capital Government/Corporate Bond Index, an unmanaged list of U.S. Treasury/Agency and investment grade corporate debt securities, is used as a general measure of performance of fixed income securities.

³ NASDAQ is a computerized system that provides brokers and dealers with price quotations for securities traded over the counter as well as for many NYSE listed securities.

Investment Option Menu Disclosure Chart

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Period Ending July 31, 2020			Expenses (%)			
			Underlying Fund Share Class	Fees/Payments We Receive from the Funds ^{††† *}	Total Annual Underlying Fund Operating Expenses [†]	Program and Administrative Expenses ^{††}
INVESTMENT CHOICES			Gross	Net(A)	(B)	(A + B)
SPECIALTY						
PGIM Jenn Nat Res	A	0.55%	1.28%	1.35%	0.35%	1.70%
INTERNATIONAL/GLOBAL						
AF EuroPacific Grth	R3	0.65%	1.12%	1.12%	0.35%	1.47%
Invesco Dev Mkts	A	0.55%	1.39%	1.38%	0.35%	1.73%
Invsc Opph Intl Grw	A	0.55%	1.10%	1.10%	0.35%	1.45%
MFS Intl Int Value	R3	0.55%	1.09%	0.98%	0.35%	1.33%
SMALL CAP						
BNY Mel SmCp Stk Ind	Inv	0.35%	0.51%	0.50%	0.35%	0.85%
Goldman SachsSmCap	A	0.55%	1.35%	1.33%	0.35%	1.68%
Invesco SC Equity	A	0.55%	1.31%	1.31%	0.35%	1.66%
MFS New Discovery	R3	0.55%	1.31%	1.31%	0.35%	1.66%
MID CAP						
BNY Mell Midcap Indx	Inv	0.30%	0.51%	0.50%	0.35%	0.85%
LA Value Opp	A	0.50%	1.17%	1.18%	0.35%	1.53%
Victory Syc Est Val	A	0.55%	0.95%	0.92%	0.35%	1.27%
LARGE CAP						
AmCent Equity Income	INV	0.35%	0.92%	0.92%	0.35%	1.27%
BNY Mel S&P 500 Ind		0.35%	0.51%	0.50%	0.35%	0.85%
Domini Impact Equity	INV	0.30%	1.09%	1.09%	0.35%	1.44%
Franklin Growth	A	0.25%+ .10% + \$12/participant	0.84%	0.84%	0.35%	1.19%

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Period Ending July 31, 2020			Expenses (%)			
			Underlying Fund Share Class	Fees/Payments We Receive from the Funds ^{††† *}	Total Annual Underlying Fund Operating Expenses [†]	Program and Administrative Expenses ^{††}
INVESTMENT CHOICES			Gross	Net(A)	(B)	(A + B)
ASSET ALLOCATION/BALANCED						
MM RetSM JPM 2025 ¹	R4	0.50%	1.02%	0.93%	0.35%	1.28%
MM RetSM JPM 2035	R4	0.50%	1.06%	0.99%	0.35%	1.34%
MM RetSM JPM 2045	R4	0.50%	1.14%	0.98%	0.35%	1.33%
MM RetSM JPM Ret	R4	0.50%	1.12%	0.96%	0.35%	1.31%
BOND						
BNY Mel Bnd Mkt Indx	INV	0.30%	0.41%	0.40%	0.35%	0.75%
JPM Core Bond	A	0.50%	0.99%	0.75%	0.35%	1.10%
Loomis Sayles Bd	Retail	0.35%	0.92%	0.92%	0.35%	1.27%
Templeton Global Bnd	A	0.25%+ .10% + \$12/participant	0.92%	0.92%	0.35%	1.27%
STABLE VALUE/MONEY MARKET						
JPMorgan US Govt MM	Reserve	0.50%	0.71%	0.70%	0.35%	1.05%

You should carefully consider the investment objectives, risks, charges and expenses of the Investment Options before investing. This and other information can be found in the prospectus or summary prospectus (if applicable), fund fact sheets or other disclosure documents. To obtain these documents please call 1-800-528-9009. Read them carefully before investing.

This table shows only the asset-based fees, charges and expenses deducted daily and associated with the investment choices of the group variable funding agreement. Please refer to the product prospectus or disclosure documents, as applicable, for information on other fees and charges that may apply to your plan's contract such as a contingent deferred sales charge, annual maintenance fee, and other fees or charges, if applicable.

† These are the Total Annual Fund Operating Expenses for each underlying fund as of its most recent prospectus. Total Annual Fund Operating Expenses are the expenses that are deducted from fund assets, including management fees, Rule 12b-1 distribution and/or service fees, and other expenses. Actual fees and expenses for the underlying funds vary daily. As a result, the fees and expenses for any given day may be greater or less than the Total Annual Fund Operating Expenses listed above in the table. The column under "Gross" lists each underlying fund's Total Annual Fund Operating Expenses before any fee waivers or reimbursements. The column under "Net" represents each underlying fund's Total Annual Fund Operating Expenses after any fee waivers or reimbursements. More detail concerning each underlying fund's fees and expenses is contained in the prospectus for each fund.

†† This reflects the Program and Administrative Expense deducted from the assets of the Separate Account. For some Contracts, the Program and Administrative Expense is deducted from Separate Account assets on a daily basis at the annual rate shown above. For other Contracts, the Program and Administrative Expense is deducted on a quarterly basis at the annual rate shown above. If the Program and Administrative Expense under a Contract is insufficient to cover actual costs incurred by us, we will bear the loss. If the Program and Administrative Expense exceeds these costs, we will keep the excess as profit. We may use these profits, as well as fees and payments received from the fund families, for any proper corporate purpose, including, among other things, payment of sales expenses, including our expenses of paying compensation to broker-dealers, financial institutions and other persons for selling the Contracts. We expect to make a profit from the Program and Administrative Expense.

Investment Option Menu Disclosure Chart

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We receive these fees and payments with respect to the Funds that are offered as variable investment options to your plan through your Contract (sometimes referred to generally as "revenue sharing" payments). We consider these fees and payments, among a number of other factors, when deciding to include a Fund in the Investment Option Menus. For more information about these fees and payments please refer to our Disclosure Statement - Reasonable Contract or Arrangement under ERISA Section 408(b)(2).

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¹ Generally target retirement date (lifecycle) investment options are designed to be held beyond the presumed retirement date to offer a continuing investment option for the investor in retirement. The year in the investment option name refers to the approximate year an investor in the option would plan to retire and likely would stop making new contributions to the investment option. However, investors may choose a date other than their presumed retirement date to be more conservative or aggressive depending on their own risk tolerance. Target retirement date (lifecycle) investment options are designed for participants who plan to withdraw the value of their accounts gradually after retirement. Each of these options follows its own asset allocation path ("glide path") to progressively reduce its equity exposure and become more conservative allocation in their target date year. Investors should consider their own personal risk tolerance, circumstances and financial situation. These options should not be selected solely on a single factor such as age or retirement date. Please consult the prospectus (if applicable) pertaining to the options to determine if their glide path is consistent with your long-term financial plan. Target retirement date investment options' stated asset allocation may be subject to change. **Investments in these options are not guaranteed and you may experience losses, including losses near, at, or after the target date. Additionally, there is no guarantee that the options will provide adequate income at and through retirement.**