

ROYAL BANK OF CANADA  
Form 424B5  
September 10, 2018

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Filed Pursuant to Rule 424(b)(5)  
Registration Statement No. 333-227001  
Product Prospectus Supplement REVCON-1 to the Prospectus dated September 7, 2018 and  
the Prospectus Supplement dated September 7, 2018  
Royal Bank of Canada  
Senior Global Medium-Term Notes, Series H  
Reverse Convertible Notes Linked to an Equity Security or an Exchange Traded Fund

#### GENERAL TERMS

Royal Bank of Canada may offer and sell reverse convertible notes (the “notes”) from time to time of any maturity. The prospectus dated September 7, 2018, the prospectus supplement dated September 7, 2018 and this product prospectus supplement describe terms that will apply generally to the notes, including any notes you purchase. A separate pricing supplement will describe the terms that apply specifically to your notes, including any changes to the terms specified below. If the terms described in the relevant pricing supplement are inconsistent with those described in this document or in the accompanying prospectus supplement or prospectus, the terms described in the relevant pricing supplement will control.

The notes are non-principal-protected unsecured notes linked to the performance of a Reference Stock, which will be either an equity security or an exchange-traded fund (“ETF”).

During the term of the notes, you will receive payments of interest at the rate, and on the dates, specified in the applicable pricing supplement.

At maturity, you will receive (a) any accrued and unpaid interest on the notes and (b) either the principal amount of the notes or, under the circumstances described in this product prospectus supplement, shares of the Reference Stock or, at our election, the cash value of those shares. The market value of the shares of Reference Stock that may be delivered to you at maturity, or the cash value of those shares, will most likely be less than the principal amount of your notes, and may be zero.

The notes will not be listed on any securities exchange.

Your investment in the notes involves certain risks. See “Additional Risk Factors Specific to Your Notes” beginning on page PS-3 to read about investment risks relating to the notes. Unless otherwise specified in the applicable pricing supplement, the principal of the notes is not protected, and you could lose your entire investment.

The price at which you purchase the notes includes hedging costs and profits that Royal Bank of Canada or its affiliates expect to incur or realize. These costs and profits will reduce the secondary market price, if any secondary market develops, for the notes. As a result, you will experience an immediate and substantial decline in the value of your notes on the issue date.

None of the Securities and Exchange Commission (the “SEC”), any state securities commission or any other regulatory body has approved or disapproved of the notes or passed upon the accuracy of this product prospectus supplement or the accompanying prospectus and prospectus supplement. Any representation to the contrary is a criminal offense. We may use this product prospectus supplement in the initial sale of a note. In addition, RBC Capital Markets, LLC or one of our other affiliates may use this product prospectus supplement in a market-making transaction in a note after its initial sale. Unless we or our agent informs the purchaser otherwise in the confirmation of sale, this product prospectus supplement is being used in a market-making transaction.

The notes will not constitute deposits insured by the Canada Deposit Insurance Corporation, the U.S. Federal Deposit Insurance Corporation or any other Canadian or U.S. governmental agency or instrumentality.

RBC Capital Markets, LLC

Product Prospectus Supplement dated September 10, 2018.

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In this product prospectus supplement, references to the “accompanying prospectus” mean the accompanying prospectus, dated September 7, 2018, as supplemented by the accompanying prospectus supplement, dated September 7, 2018, of Royal Bank of Canada. References to the “relevant pricing supplement” mean the pricing supplement that describes the specific terms of your notes.

## SUMMARY

The information in this “Summary” section is qualified by the more detailed information set forth in this product prospectus supplement, the prospectus supplement and the prospectus, as well as the relevant pricing supplement.

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|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Issuer:                   | Royal Bank of Canada (“Royal Bank”).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Reference Stock:          | As specified in the relevant pricing supplement. Each Reference Stock will be either an equity security, including an American Depositary Receipt Share (“ADR”), or a share of an ETF.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Interest Rate (Coupon):   | As specified in the relevant pricing supplement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Interest Payment Dates:   | As specified in the relevant pricing supplement, subject to any prior automatic call, if applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Minimum Investment:       | As specified in the relevant pricing supplement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Denominations:            | Unless otherwise specified in the relevant pricing supplement, each note will be issued in denominations of \$1,000 and integral multiples of \$1,000.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Monitoring Method:        | As specified in the relevant pricing supplement, as further described below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Monitoring Period:        | As specified in the relevant pricing supplement. For example, the Monitoring Period may (a) include the period from pricing date through the final valuation date, (b) be limited to the final valuation date or (c) be of any other length set forth in the relevant pricing supplement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Automatic Call:           | As specified in the relevant pricing supplement, as further described below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Payment at Maturity:      | <p>Payment at maturity will be based on the performance of the applicable Reference Stock. For each \$1,000 principal amount of the notes, you will receive \$1,000 plus any accrued and unpaid interest at maturity, unless:</p> <ul style="list-style-type: none"> <li>(i) the Final Reference Stock Price is less than the Initial Reference Stock Price; and</li> <li>(ii) (a) for notes subject to Intra-Day Monitoring, at any time during the Monitoring Period, the price of the Reference Stock quoted on the relevant exchange is less than the applicable Barrier Price; or</li> <li>(b) for notes subject to Close of Trading Day Monitoring, on any trading day during the Monitoring Period, the closing price of the Reference Stock is less than the Barrier Price.</li> </ul> <p>If the events described in (i) and (ii) both occur, at maturity you will receive, instead of the principal amount of the notes, the number of shares of the Reference Stock equal to the Physical Delivery Amount, as calculated below, or, at our election, the Cash Delivery Amount, as calculated below. You will also receive at maturity any accrued and unpaid interest on the notes. If we deliver shares of the Reference Stock, fractional shares will be paid in cash.</p> <p>The market value of the Physical Delivery Amount or the cash value will most likely be less than the principal amount of the notes, and may be zero.</p> <p>The relevant pricing supplement will specify the Monitoring Method applicable to the notes, and will specify Intra-Day Monitoring, Close of Trading Day Monitoring, or another method for monitoring the Reference Stock. For example, the relevant pricing supplement may specify weekly Reference Stock monitoring for purposes of determining whether the price of the Reference Stock has decreased to a level below the Barrier Price.</p> |
| Physical Delivery Amount: | <p>Unless otherwise specified in the relevant pricing supplement, for each \$1,000 principal amount of notes, the Physical Delivery Amount shall be equal to the number of shares of the Reference Stock determined by dividing \$1,000 by the Initial Reference Stock Price. The Initial Reference Stock Price is subject to adjustment based upon certain corporate events that may affect the issuer of the Reference Stock, as described below.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------|---------------|--------------------------------------------------|-----------------------|--------------------------------------------------|
| Cash Delivery Amount:          | The amount in cash equal to the value of the Physical Delivery Amount. Unless otherwise specified in the relevant pricing supplement, the Cash Delivery Amount will equal the product of the Physical Delivery Amount, as calculated above, multiplied by the Final Reference Stock Price.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Automatic Call Provisions:     | If the Automatic Call feature is specified in the relevant pricing supplement as being “Applicable,” then the following provisions will apply to the notes: <table> <tr> <td>Automatic Call:</td><td>If, on the Call Date, the closing price of the applicable Reference Stock is greater than the Call Price, then the notes will be automatically called.</td></tr> <tr> <td>Payment if Called:</td><td>If the notes are automatically called, then, on the Call Settlement Date, for each \$1,000 principal amount, you will receive \$1,000 plus any accrued and unpaid interest to but excluding the Call Settlement Date.</td></tr> <tr> <td>Call Price:</td><td>As specified in the relevant pricing supplement.</td></tr> <tr> <td>Call Date(s):</td><td>As specified in the relevant pricing supplement.</td></tr> <tr> <td>Call Settlement Date:</td><td>As specified in the relevant pricing supplement.</td></tr> </table> | Automatic Call: | If, on the Call Date, the closing price of the applicable Reference Stock is greater than the Call Price, then the notes will be automatically called. | Payment if Called: | If the notes are automatically called, then, on the Call Settlement Date, for each \$1,000 principal amount, you will receive \$1,000 plus any accrued and unpaid interest to but excluding the Call Settlement Date. | Call Price: | As specified in the relevant pricing supplement. | Call Date(s): | As specified in the relevant pricing supplement. | Call Settlement Date: | As specified in the relevant pricing supplement. |
| Automatic Call:                | If, on the Call Date, the closing price of the applicable Reference Stock is greater than the Call Price, then the notes will be automatically called.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Payment if Called:             | If the notes are automatically called, then, on the Call Settlement Date, for each \$1,000 principal amount, you will receive \$1,000 plus any accrued and unpaid interest to but excluding the Call Settlement Date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Call Price:                    | As specified in the relevant pricing supplement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Call Date(s):                  | As specified in the relevant pricing supplement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Call Settlement Date:          | As specified in the relevant pricing supplement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Initial Reference Stock Price: | As specified in the relevant pricing supplement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Final Reference Stock Price:   | The closing price of one share of the Reference Stock on the valuation date or the arithmetic average of the closing prices of the Reference Stock on each of more than one valuation dates, or any other dates specified in the relevant pricing supplement, subject to anti-dilution adjustment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Barrier Price:                 | As specified in the relevant pricing supplement. For example, the relevant pricing supplement may specify that the Barrier Price is equal to 80% of the Initial Reference Stock Price.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Valuation Date(s):             | The Final Reference Stock Price will be determined on one or more valuation dates, as specified in the relevant pricing supplement. Unless otherwise specified in the relevant pricing supplement, the valuation date (if there is one valuation date) or the final valuation date (if there is more than one valuation date) will be the third trading day prior to the maturity date, subject to extension for up to ten trading days if a market disruption event occurs.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Maturity Date:                 | As specified in the relevant pricing supplement, subject to any prior automatic call, if applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Record Dates:                  | Unless otherwise specified in the relevant pricing supplement, five business days before each interest payment date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Clearance and Settlement:      | DTC global (including through its indirect participants Euroclear and Clearstream, Luxembourg, as described under “Description of Debt Securities—Ownership and Book-Entry Issuance” in the accompanying prospectus).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Listing:                       | The notes will not be listed on any securities exchange or quotation system.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |
| Calculation Agent:             | RBC Capital Markets, LLC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |                                                                                                                                                        |                    |                                                                                                                                                                                                                       |             |                                                  |               |                                                  |                       |                                                  |

## ADDITIONAL RISK FACTORS SPECIFIC TO YOUR NOTES

An investment in your notes is subject to the risks described below, as well as the risks described under “Risk Factors” in the prospectus and the prospectus supplement. Your notes are not secured debt and are riskier than ordinary unsecured debt securities. Also, investing in your notes is not equivalent to investing directly in the applicable Reference Stock. You should carefully consider whether the notes are suited to your particular circumstances. This product prospectus supplement should be read together with the prospectus, the prospectus supplement and the relevant pricing supplement. The information in the prospectus and prospectus supplement is supplemented by, and to the extent inconsistent therewith replaced and superseded by, the information in this product prospectus supplement and the relevant pricing supplement. This section describes the most significant risks relating to the terms of the notes. We urge you to read the following information about these risks, together with the other information in this product prospectus supplement and the prospectus, the prospectus supplement and the relevant pricing supplement, before investing in the notes.

### Your Investment in the Notes May Result in a Loss.

Unless otherwise set forth in the applicable pricing supplement, the notes do not guarantee any return of principal. The return of your principal at maturity is only protected if (a) the Final Reference Stock Price is greater than or equal to the Initial Reference Stock Price, and (b) if the Final Reference Stock Price is less than the Initial Reference Stock Price, the price of the Reference Stock did not decrease to a trading price or a closing price (as applicable) below the Barrier Price during the Monitoring Period. If the Final Reference Stock Price is less than the Initial Reference Stock Price, and during the Monitoring Period, either the closing price or trading price (as applicable) of the Reference Stock decreased below the Barrier Price, you will receive at maturity a number of shares of the Reference Stock equal to the Physical Delivery Amount (or at our election, the cash value of those shares). The value of the shares or cash will most likely be less than the principal amount of your notes, and may be zero. Accordingly, you may lose the entire principal amount of your notes.

You Will Not Benefit from any Appreciation in the Reference Stock above the Initial Reference Stock Price, and You Should Not Expect to Receive a Payment at Maturity or upon an Automatic Call with a Value Greater than Your Principal Amount, Plus Accrued and Unpaid Interest.

At maturity or upon an automatic call, you will receive no more than the principal amount of your notes plus accrued and unpaid interest. The total of the payments that you receive over the term of the notes will not exceed the principal amount of your notes plus interest. Even if the Final Reference Stock Price exceeds the Initial Reference Stock Price, you will receive only the principal amount of the notes, despite the appreciation in the value of the Reference Stock.

Your Yield May Be Lower than the Yield on a Standard Debt Security of Comparable Maturity.

The yield that you will receive on your notes, which could be negative, may be less than the return you could earn on other investments.

There May Not Be an Active Trading Market for the Notes—Sales in the Secondary Market May Result in Significant Losses.

There may be little or no secondary market for the notes. The notes will not be listed on any securities exchange. RBC Capital Markets, LLC and other affiliates of Royal Bank may make a market for the notes; however, they are not required to do so. RBC Capital Markets, LLC or any other affiliate of Royal Bank may stop any market-making activities at any time. Even if a secondary market for the notes develops, it may not provide significant liquidity or trade at prices advantageous to you. We expect that transaction costs in any secondary market would be high. As a result, the difference between bid and asked prices for your notes in any secondary market could be substantial.

If you sell your notes before maturity, you may have to do so at a substantial discount from the issue price, and as a result, you may suffer substantial losses.

#### Your Notes May be Subject to Automatic Early Call

Depending on their terms, your notes may be automatically callable if the Reference Stock trades or closes at a specified level. If we call your notes, depending on the market condition at the time of redemption, you may not be able to reinvest the call proceeds in a security with a comparable return.

#### Owning the Notes Is Not the Same as Owning the Reference Stock or a Security Directly Linked to the Performance of the Reference Stock.

The return on your notes will not reflect the return you would realize if you actually owned the Reference Stock or its components or a security directly linked to the performance of the Reference Stock and held that investment for a similar period because:

- the maximum return on your notes will be limited to the payment of the principal amount, plus accrued and unpaid interest; and
- your notes may be subject to automatic redemption if the market price of the Reference Stock reaches a price set forth in the applicable pricing supplement.

Your notes may trade quite differently from the Reference Stock. Changes in the price of the Reference Stock may not result in comparable changes in the market value of your notes. Even if the price of the Reference Stock increases from the Initial Reference Stock Price during the term of the notes, the market value of the notes prior to maturity may not increase to the same extent. It is also possible for the market value of the notes prior to maturity to decrease while the price of the Reference Stock increases.

#### The Market Value of Your Notes May Be Influenced by Many Unpredictable Factors.

The following factors, which are beyond our control, may influence the market value of your notes:

- the market price of the Reference Stock, including whether it trades or closes below the applicable Barrier Price during the Monitoring Period;
- the likelihood of an automatic call, if your notes are subject to an automatic call;
  - the volatility (i.e., the frequency and magnitude of changes) of the price of the Reference Stock;
- the proximity in time to the next interest payment;
- the dividend rate on the applicable Reference Stock or the stocks held by any Reference Stock that is an ETF;
- economic, financial, political, military, regulatory, legal and other events that affect the applicable securities markets generally and the U.S markets in particular, and which may affect the price of the Reference Stock;
- interest and yield rates in the market; and
- the time remaining to maturity of the notes.

These factors may influence the market value of your notes if you sell your notes before maturity. Our creditworthiness, as represented by our credit ratings or as otherwise perceived in the market will also affect the

market value of your notes. If you sell your notes prior to maturity, you may receive less than the principal amount of your notes.

Payments on the Notes Are Subject to Our Credit Risk, and Changes in Our Credit Ratings Are Expected to Affect the Market Value of the Notes.

The notes are Royal Bank's senior unsecured debt securities. As a result, your receipt of interest payments and the amount due on the maturity date are dependent upon Royal Bank's ability to repay its obligations at that time. This will be the case even if the price of the Reference Stock increases after the pricing date. No assurance can be given as to what our financial condition will be at any time during the term of the notes.

The Market Value of Your Notes May Decrease at an Accelerated Rate as the Market Price of the Reference Stock Approaches and Decreases Below the Barrier Price.

When the price of the Reference Stock on any trading day decreases from the Initial Reference Stock Price to a price near the Barrier Price for the first time, the market value of the notes may decrease at a greater rate than the market value of the Reference Stock. If the Reference Stock trades (in the case of Intra-Day monitoring) or closes (in the case of Close of Trading Day) at prices that are near or below the Barrier Price, we expect that the market value of the notes will decrease, to reflect the fact that you may receive at maturity shares of the Reference Stock or cash with a value that is less than the principal amount of your notes. All other factors remaining constant, the longer the Monitoring Period is for your notes, the more likely it will be that the Reference Stock will trade or close (as applicable) at a price that is less than the applicable Barrier Price.

The Amount of Shares or Cash to Be Paid at Maturity Will Not Be Affected by All Developments Relating to the Reference Stock.

Changes in the price of the Reference Stock during the term of the notes before the valuation date or valuation dates will not be reflected in the calculation of the payment at maturity, except to the extent that the Reference Stock trades or closes (as applicable) below the Barrier Price during the Monitoring Period, or to the extent that the notes are subject to an automatic call. The calculation agent will calculate the amount to be paid at maturity by comparing the Final Stock Reference Price to the Initial Stock Reference Price. As a result, you may receive shares or cash at maturity with a value that is less than the principal amount of your notes, even if the price of the Reference Stock has increased at certain times during the term of the notes before decreasing to a level below the Initial Stock Reference Price.

We Will Not Hold Any Shares of the Reference Stock for Your Benefit.

The indenture and the terms governing your notes do not contain any restriction on our ability or the ability of any of our affiliates to sell, pledge or otherwise convey all or any shares of the Reference Stock that we or they may acquire. Neither we nor our affiliates will pledge or otherwise hold any such shares for your benefit. Consequently, in the event of our bankruptcy, insolvency or liquidation, any of those assets that we own will be subject to the claims of our creditors generally and will not be available for your benefit specifically.

You Must Rely on Your Own Evaluation of the Merits of an Investment Linked to the Reference Stock.

In the ordinary course of their business, our affiliates may have expressed views on expected movements in any Reference Stock (or in the case of an ETF, the shares that it holds), and may do so in the future. These views or reports may be communicated to our clients and clients of our affiliates. However, these views are subject to change from time to time. Moreover, other professionals who transact business in markets relating to any Reference Stock may at any time have significantly different views from those of our affiliates. For these reasons, you are encouraged to derive information concerning the applicable Reference Stock from multiple sources, and you should not rely solely on views expressed by our affiliates.

Trading and Other Transactions by Royal Bank or its Affiliates Relating to the Reference Stock, Futures, Options, or Other Derivative Products May Adversely Affect the Market Value of the Notes.

As described below under “Use of Proceeds and Hedging,” we or one or more affiliates may hedge our obligations under the notes by purchasing or selling shares of the Reference Stock, futures or options relating to the Reference Stock, or other derivative instruments with returns linked or related to changes in the performance of the Reference Stock. We or our affiliates may adjust these hedges by, among other things, purchasing or selling those assets at any time. Although they are not expected to, any of these hedging activities may adversely affect the price of the Reference Stock, and, therefore, the market value of the notes. It is possible that we or one or more of our affiliates could receive substantial returns from these hedging activities while the market value of the notes decreases.

We or one or more of our affiliates may also engage in trading relating to the Reference Stock on a regular basis as part of our general broker-dealer and other businesses, for proprietary accounts, for other accounts under management or to facilitate transactions for customers, including block transactions. Any of these activities could adversely affect the price of the Reference Stock and, therefore, the market value of the notes. We or one or more of our affiliates may also issue or underwrite other securities or financial or derivative instruments with returns linked or related to changes in the performance of the Reference Stock. By introducing competing products into the marketplace in this manner, we or one or more of our affiliates could adversely affect the market value of the notes.

The Inclusion in the Purchase Price of the Notes of a Selling Concession and of Our Cost of Hedging Our Market Risk under the Notes is Likely to Adversely Affect the Market Value of the Notes.

The price at which you purchase the notes includes a selling concession (including a broker’s commission), as well as the costs that we (or one of our affiliates) expect to incur in the hedging of our market risk under the notes. The hedging costs include the expected cost of undertaking this hedge, as well as the profit that we (or our affiliates) expect to realize in consideration for assuming the risks inherent in providing the hedge. As a result, assuming no change in market conditions or any other relevant factors, the price, if any, at which you may be able to sell your notes prior to maturity will likely be less than your original purchase price. We expect that this effect will be greater if it occurs earlier in the term of the notes than if it occurs later in the term of the notes.

The Business Activities of Royal Bank or Its Affiliates May Create Conflicts of Interest.

As noted above, we and our affiliates expect to engage in trading activities related to the Reference Stock that are not for the account of holders of the notes or on their behalf. These trading activities may present a conflict between the holders’ interests in the notes and the interests we and our affiliates will have in their proprietary accounts, in facilitating transactions, including options and other derivatives transactions, for their customers and in accounts under their management. These trading activities, if they influence the price of the Reference Stock, could be adverse to the interests of the holders of the notes. We and one or more of our affiliates may, at present or in the future, engage in business with the issuer of the applicable Reference Stock, or the component stocks of any index (an “Underlying Index”) that is tracked by a Reference Stock that is an ETF, including making loans to or providing advisory services to those companies. These services could include investment banking and merger and acquisition advisory services. These activities may present a conflict between our or one or more of our affiliates’ obligations and your interests as a holder of the notes. Moreover, we and our affiliates may have published, and in the future expect to publish, research reports that relate to the Reference Stock or the stocks held by an ETF that is a reference stock. This research is modified from time to time without notice and may express opinions or provide recommendations that are inconsistent with purchasing or holding the notes. Any of these activities by us or one or more of our affiliates may affect the price of the Reference Stock and, therefore, the market value of the notes.

The Calculation Agent Can Postpone the Determination of the Final Reference Stock Price if a Market Disruption Event Occurs.

The determination of the Final Reference Stock Price may be postponed if the calculation agent determines that a market disruption event has occurred or is continuing on a valuation date. If such a postponement occurs, the calculation agent will use the closing price of the Reference Stock on the first subsequent business day on which no market disruption event occurs or is continuing. In no event, however, will any valuation date be postponed by



more than ten trading days. As a result, if a market disruption event occurs or is continuing on a valuation date, the maturity date for the notes could also be postponed, although not by more than ten trading days.

If the determination of the price of the Reference Stock for any valuation date is postponed to the last possible day, but a market disruption event occurs or is continuing on that day, that day will nevertheless be the date on which the price of the Reference Stock will be determined by the calculation agent. In such an event, the calculation agent will make a good faith estimate in its sole discretion of the price that would have prevailed in the absence of the market disruption event. See “General Terms of the Notes—Market Disruption Events.”

**There Are Potential Conflicts of Interest Between You and the Calculation Agent.**

The calculation agent will, among other things, determine the amount of your payment at maturity on the notes. Our wholly-owned subsidiary, RBC Capital Markets, LLC, will serve as the calculation agent. We may change the calculation agent after the original issue date without notice to you. The calculation agent will exercise its judgment when performing its functions. For example, the calculation agent may have to determine whether a market disruption event affecting the Reference Stock has occurred. This determination may, in turn, depend on the calculation agent’s judgment whether the event has materially interfered with our ability or the ability of one of our affiliates to unwind our hedge positions. Since this determination by the calculation agent will affect the payment at maturity on the notes, the calculation agent may have a conflict of interest if it needs to make a determination of this kind.

**Non-U.S. Investors May Be Subject to Certain Additional Risks.**

The notes will be denominated in U.S. dollars. If you are a non-U.S. investor who purchases the notes with a currency other than U.S. dollars, changes in rates of exchange may have an adverse effect on the value, price or returns of your investment.

This product prospectus supplement contains a general description of certain U.S. tax considerations relating to the notes. In the event you are a non-U.S. investor, you should consult your tax advisors as to the consequences, under the tax laws of the country where you are resident for tax purposes, of acquiring, holding and disposing of the notes and receiving the payments that might be due under the notes.

This product prospectus supplement also contains a general description of certain Canadian tax considerations relating to the notes. If you are not a Non-resident Holder (as defined in the section titled “Tax Consequences—Canadian Taxation” in the accompanying prospectus) or if you acquire the notes in the secondary market, you should consult your tax advisors as to the consequences of acquiring, holding and disposing of the notes and receiving the payments that may be due under the notes.

**Significant Aspects of the Tax Treatment of an Investment in the Notes Are Uncertain.**

The tax treatment of an investment in the notes is uncertain. We do not plan to request a ruling from the Internal Revenue Service or the Canada Revenue Agency regarding the tax treatment of an investment in the notes, and the Internal Revenue Service, the Canada Revenue Agency or a court may not agree with the tax treatment described in this product prospectus supplement.

The Internal Revenue Service has released a notice that may affect the taxation of holders of “prepaid forward contracts” and similar instruments. According to the notice, the Internal Revenue Service and the U.S. Treasury Department are actively considering whether the holder of such instruments should be required to accrue ordinary income on a current basis. While it is not clear whether the notes would be viewed as similar to such instruments, it is possible that any future guidance could materially and adversely affect the tax consequences of an investment in the notes, possibly with retroactive effect.

Please read carefully the section entitled “Supplemental Discussion of U.S. Federal Income Tax Consequences” in this product prospectus supplement, the section “Tax Consequences” in the accompanying

prospectus and the section entitled “Certain Income Tax Consequences” in the accompanying prospectus supplement. You should consult your tax advisor about your own tax situation.

For a more complete discussion of the Canadian federal income tax consequences of investing in the notes, please see “Tax Consequences—Canadian Taxation” in the accompanying prospectus. If you are not a Non-resident Holder (as that term is defined in “Tax Consequences—Canadian Taxation” in the accompanying prospectus) or if you acquire the notes in the secondary market, you should consult your tax advisors as to the consequences of acquiring, holding and disposing of the notes and receiving the payments that might be due under the notes.

**A 30% U.S. Federal Withholding Tax Will Be Withheld on Interest Payments to Non-U.S. Holders.**

While the U.S. federal income tax treatment of the notes is uncertain, U.S. federal income tax at a 30% rate (or at a lower rate under an applicable income tax treaty) will be withheld in respect of the interest payments made to a non-U.S. holder (as defined below) unless such payments are effectively connected with the conduct by the non-U.S. holder of a trade or business in the United States (in which case, to avoid withholding, the non-U.S. holder will be required to provide a Form W-8ECI). We will not pay any additional amounts in respect of such withholding. Please read carefully the sections entitled “Supplemental Discussion of U.S. Federal Income Tax Consequences” in this product prospectus supplement, the section “Tax Consequences” in the accompanying prospectus and the section entitled “Certain Income Tax Consequences” in the accompanying prospectus supplement. You should consult your tax advisor about your own tax situation.

**Certain Considerations for Insurance Companies and Employee Benefit Plans.**

Any insurance company or fiduciary of a pension plan or other employee benefit plan that is subject to the prohibited transaction rules of the Employee Retirement Income Security Act of 1974, as amended, which we call “ERISA,” or the Internal Revenue Code of 1986, as amended, including an IRA or a Keogh plan (or a governmental plan to which similar prohibitions apply), and that is considering purchasing the notes with the assets of the insurance company or the assets of such a plan, should consult with its counsel regarding whether the purchase or holding of the notes could become a “prohibited transaction” under ERISA, the Internal Revenue Code or any substantially similar prohibition in light of the representations a purchaser or holder in any of the above categories is deemed to make by purchasing and holding the notes. For additional information, please see the discussion under “Employee Retirement Income Security Act” below.

**Risks Relating to the Reference Stocks**

**You Will Not Have Any Shareholder Rights Prior to Maturity of the Notes.**

Investing in your notes will not make you a holder of the Reference Stock unless and until the notes are converted into shares at maturity. Until any such conversion occurs, you will not have any voting rights, any right to receive dividends or other distributions or any other rights with respect to shares of the Reference Stocks.

**The Issuer of the Reference Stock Will Not Have Any Role or Responsibilities with Respect to the Notes.**

The issuer of the Reference Stock will not have authorized or approved the notes, and will not be involved in any offering. The issuer of the Reference Stock will not have any financial or legal obligation with respect to the notes or the amounts to be paid to you, including any obligation to take our needs or your needs into consideration for any reason, including taking any corporate actions that might affect the value of the Reference Stock or the notes. The issuer of the Reference Stock will not receive any of the proceeds from any offering of the notes. No issuer of a Reference Stock will be responsible for, or participate in, the determination or calculation of the amounts receivable by holders of the notes.

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An Investment in the Notes May Be Subject to Risks Associated with Non-U.S. Securities Markets.

The Reference Stock, or shares held by an ETF to which the notes are linked, may have been issued by one or more non-U.S. companies. An investment in securities linked to the value of non-U.S. equity securities involves particular risks. Non-U.S. securities markets may be more volatile than U.S. securities markets, and market developments may affect non-U.S. securities markets differently from the U.S. securities markets. Direct or indirect government intervention to stabilize these non-U.S. securities markets, as well as cross shareholdings among non-U.S. companies, may affect trading prices and volumes in those markets. In addition, there is generally less publicly available information in the U.S. about non-U.S. companies than about those U.S. companies that are subject to the reporting requirements of the SEC, and non-U.S. companies are subject to accounting, disclosure, auditing and financial reporting standards and requirements that differ from those applicable to U.S. reporting companies.

Prices of securities in non-U.S. countries are subject to political, economic, financial and social factors that may be unique to the particular country. These factors, which could negatively affect the non-U.S. securities markets, include the possibility of recent or future changes in the economic and fiscal policies of non-U.S. governments, the possible imposition of, or changes in, currency exchange laws or other non-U.S. laws or restrictions applicable to non-U.S. companies or investments in non-U.S. equity securities, the possibility of fluctuations in the rate of exchange between currencies, the possibility of outbreaks of hostility and political instability and the possibility of natural disaster or adverse public health developments in the region. Moreover, the economies of certain foreign countries may differ favorably or unfavorably from the U.S. economy in important respects, such as growth of gross national product, rate of inflation, trade surpluses or deficits, capital reinvestment, resources and self-sufficiency.

We Do Not Control the Issuer of Any Reference Stock and Are Not Responsible for Any Disclosure Made by Any Other Company.

Neither we nor any of our affiliates have the ability to control the actions of any issuer of a Reference Stock, or the issuers of the shares that are held by a Reference Stock that is an ETF. We do not assume any responsibility for the adequacy or accuracy of any publicly available information about any of these companies, unless (and only to the extent that) our securities or the securities of our affiliates are represented by that Reference Stock. We are not responsible for any other issuer's public disclosure of information on itself or the Reference Stock, whether contained in Securities Exchange Commission filings or otherwise. We will not perform any due diligence procedures with respect to the issuer of the applicable Reference Stock. You should make your own investigation into the issuer of the Reference Stock, or the issuers of the shares that are held by a Reference Stock that is an ETF.

You Will Have Limited Anti-Dilution Protection.

The calculation agent will adjust the Initial Reference Stock Price, the Barrier Price and any Call Price for stock splits, reverse stock splits, stock dividends, extraordinary dividends and other events that affect the applicable issuer's capital structure, but only in the situations we describe in "General Terms of the Notes—Anti-Dilution Adjustments Relating to a Reference Stock" below. The calculation agent will not be required to make an adjustment for every corporate event that may affect the relevant security. For example, the calculation agent will not make any adjustments for events such as an offering by the relevant issuer of equity securities, a tender or exchange offer for the issuer's shares at a premium to its then-current market price by that issuer or a tender or exchange offer for less than all outstanding shares of that issuer by a third party. Those events or other actions by the applicable issuer or a third party may nevertheless adversely affect the price of the Reference Stock, and adversely affect the value of your notes.

The Historical Performance of the Reference Stock Should Not Be Taken as an Indication of Their Future Performance.

The price of the Reference Stock will determine the amount to be paid on the notes at maturity or whether the notes are subject to an automatic call. The historical performance of the Reference Stock does not necessarily give an indication of its future performance. As a result, it is impossible to predict whether the price of the

Reference Stock will rise or fall during the term of the notes. The price of the Reference Stock will be influenced by complex and interrelated political, economic, financial and other factors.

**Risks Relating to Reference Stocks that Are ADRs**

**The Value of the Reference Stock May Not Accurately Track the Value of the Common Shares of the Applicable Company.**

If the Reference Stock is an ADR, each share of the Reference Stock will represent shares of the relevant company (an “Underlying Company”). The trading patterns of the ADRs will generally reflect the characteristics and valuations of the underlying common shares; however, the value of the ADRs may not completely track the value of those shares.

Trading volume and pricing on the applicable non-U.S. exchange may, but will not necessarily, have similar characteristics as the ADRs. For example, certain factors may increase or decrease the public float of the ADRs and, as a result, the ADRs may have less liquidity or lower market value than the underlying common shares.

**Adverse Trading Conditions in the Applicable Non-U.S. Market May Negatively Affect the Value of the Underlying Stock.**

Holders of the Underlying Company’s ADRs may usually surrender the ADRs in order to receive and trade the underlying common shares. This provision permits investors in the ADRs to take advantage of price differentials between markets. However, this provision may also cause the market prices of the underlying stock to more closely correspond with the values of the common shares in the applicable non-U.S. markets. As a result, a market outside of the U.S. for the underlying common shares that is not liquid may also result in an illiquid market for the ADRs.

**Additional Risks Relating to Exchange Traded Fund Reference Stocks**

**Changes that Affect an Underlying Index Will Affect the Market Value of the Notes and the Amount You Will Receive at Maturity.**

The policies of the applicable index sponsor concerning the calculation of the applicable index, additions, deletions or substitutions of the components of that index and the manner in which changes affecting those components, such as stock dividends, reorganizations or mergers, may be reflected in the index and, therefore, could affect the amount payable on the notes at maturity, and the market value of the notes prior to maturity. The amount payable on the notes and their market value could also be affected if the index sponsor changes these policies, for example, by changing the manner in which it calculates the index, or if the index sponsor discontinues or suspends calculation or publication of the index, in which case it may become difficult to determine the market value of the notes.

**We Have No Affiliation with Any Index Sponsor and Will Not Be Responsible for Any Actions Taken by an Index Sponsor.**

Unless otherwise specified in the relevant pricing supplement, no index sponsor is an affiliate of ours or will be involved in any offerings of the notes in any way. Consequently, we have no control of the actions of any index sponsor, including any actions of the type that might impact the value of the notes. No index sponsor has any obligation of any sort with respect to the notes. Thus, no index sponsor has any obligation to take your interests into consideration for any reason, including in taking any actions that might affect the value of the notes. None of our proceeds from any issuance of the notes will be delivered to any index sponsor.

**There Are Liquidity and Management Risks Associated with an ETF.**

Although shares of an ETF that is a Reference Stock will be listed for trading on a securities exchange and a number of similar products have been traded on various exchanges for varying periods of time, there is no

assurance that an active trading market will continue for the shares of the Reference Stock or that there will be liquidity in that trading market.

An ETF is subject to management risk, which is the risk that the investment adviser's investment strategy, the implementation of which is subject to a number of constraints, may not produce the intended results.

We Cannot Control Actions by the Investment Adviser which May Adjust the ETF in a Way that Could Adversely Affect the Payments on the Notes and Their Market Value, and the Investment Adviser Has No Obligation to Consider Your Interests.

The policies of the applicable investment adviser concerning the calculation of the ETF's net asset value, additions, deletions or substitutions of securities or other investments held by the ETF and the manner in which changes affecting the Underlying Index are reflected in the ETF could affect the market price per share of the Reference Stock and, therefore, the amounts payable on the notes and their market value. The amounts payable on the notes and their market value could also be affected if the investment adviser changes these policies, for example, by changing the manner in which it calculates the ETF's net asset value, or if the investment adviser discontinues or suspends calculation or publication of the ETF's net asset value, in which case it may become difficult to determine the value of your notes. If events such as these occur or if the closing price per share of the Reference Stock is not available on a valuation date, the calculation agent may determine the closing price per share of the Reference Stock on that valuation date; as a result, the calculation agent would determine the price of the Reference Stock in a manner it considers appropriate, in its sole discretion.

The Performance of the Reference Stock and the Performance of the Underlying Index May Vary.

The performance of the Reference Stock and that of its Underlying Index (or other underlying asset) generally will vary due to transaction costs, certain corporate actions and timing variances. If the Reference Stock maintains a "representative sampling" strategy as to an Underlying Index, the performance of the Reference Stock will differ to some degree from that of the Underlying Index.

In addition, because the shares of the Reference Stock are traded on a securities exchange and are subject to market supply and investor demand, the market value of one share of the Reference Stock may differ from its net asset value per share; shares of the Reference Stock may trade at, above, or below their net asset value per share.

For the foregoing reasons, the performance of the Reference Stock may not match the performance of the Underlying Index (or other underlying asset) over the same period. Because of this variance, the return on the notes to the extent dependent on the return of the Reference Stock may not be the same as an investment directly in the securities or other investments included in the underlying asset or the same as a debt security with a payment at maturity linked to the performance of the underlying asset.

Time Zone Differences Between the Cities Where the Underlying Asset and the Reference Stock Trade May Create Discrepancies in Trading Levels.

As a result of the time zone difference, if applicable, between the cities where the securities or commodities comprising the underlying asset trade and where the shares of the Reference Stock trade, there may be discrepancies between the values of the underlying asset and the market value of the notes. In addition, there may be periods when the foreign securities or commodities markets are closed for trading (for example, during holidays in a country other than the United States) that may result in the values of the underlying asset remaining unchanged for multiple trading days in the city where the shares of the Reference Stock trade. Conversely, there may be periods in which the applicable foreign securities or commodities markets are open, but the securities market on which the Reference Stock trades is closed.

## GENERAL TERMS OF THE NOTES

Please note that in this section entitled “General Terms of the Notes,” references to “holders” mean those who own notes registered in their own names, on the books that we or the trustee maintain for this purpose, and not those who own beneficial interests in notes registered in street name or in notes issued in book-entry form through The Depository Trust Company (“DTC”) or another depository. Owners of beneficial interests in the notes should read the section entitled “Description of the Notes We May Offer—Legal Ownership” in the accompanying prospectus supplement and “Description of Debt Securities—Ownership and Book-Entry Issuance” in the accompanying prospectus.

In addition to the terms described in the “Summary” section above, the following general terms will apply to the notes, including your notes:

### Specified Currency

Unless otherwise specified in the relevant pricing supplement and unless we deliver shares of the Reference Stock at maturity, all payments of principal and interest will be made in U.S. dollars (“\$”).

### Form and Denomination

The notes will be issued only in global form through DTC. Unless otherwise specified in the relevant pricing supplement, the denomination of each note will be \$1,000 and integral multiples in excess of \$1,000.

### No Listing

Your notes will not be listed on any securities exchange.

### Defeasance, Default Amount, Other Terms

Neither full defeasance nor covenant defeasance will apply to your notes. The following will apply to your notes: the default amount will be payable on any acceleration of the maturity of your notes as described under “—Special Calculation Provisions” below;

- anti-dilution provisions will apply to your notes as described under “—Anti-dilution Adjustments” below;
- a business day for your notes will have the meaning described under “—Special Calculation Provisions” below; and
- a trading day for your notes will have the meaning described under “—Special Calculation Provisions” below.

Please note that the information about the settlement or pricing date, issue price discounts or commissions and net proceeds to Royal Bank in the relevant pricing supplement relates only to the initial issuance and sale of your notes. If you have purchased your notes in a market-making transaction after the initial issuance and sale, any such relevant information about the sale to you will be provided in a separate confirmation of sale.

### Reference Stock and Reference Stock Issuer

In this product prospectus supplement, when we refer to the Reference Stock, we mean the shares of the Reference Stock specified in the relevant pricing supplement, and when we refer to the Reference Stock issuer, we

mean that issuer, except as described under “—Anti-dilution Adjustments—Reorganization Events” and “—Anti-dilution Adjustments—Distribution Property” below. The Reference Stock may consist of ADRs or the shares of an ETF.

#### Automatic Call

If the Automatic Call feature is specified in the relevant pricing supplement as being “Applicable,” and on the Call Date, the closing price of the applicable Reference Stock is greater than the Call Price, then the notes will be automatically called. Any Automatic Call is subject to the provisions described below.

#### Payment at Maturity

At maturity, you will receive \$1,000 for each \$1,000 in principal amount of the notes, plus any accrued and unpaid interest unless, as determined by the Calculation Agent, the Final Reference Stock Price is less than the Initial Reference Stock Price and

for notes subject to Intra-Day Monitoring:

Ø at any time during the Monitoring Period, the price of the Reference Stock quoted on the relevant exchange is less than the Barrier Price, or

for notes subject to Close of Day Monitoring:

Ø on any day during the Monitoring Period, the Closing Price of the Reference Stock is less than the Barrier Price.

Or if your note is monitored by a different method, that method will be specified in the relevant pricing supplement, as well as the conditions of payment at maturity.

If both of the above mentioned conditions are met, we will deliver to you a number of shares of the Reference Stock equal to the Physical Delivery Amount, calculated as described below. At our election, we may deliver to you the cash value of those shares (the “Cash Delivery Amount”) which will be calculated as described below. You will also receive any accrued and unpaid interest.

#### Calculating the Physical Delivery Amount

In order to determine the number of shares of the Reference Stock to be delivered for each \$1,000 in principal amount of the notes, we will divide \$1,000 by the Initial Reference Stock Price.

$$\text{Physical Delivery Amount} = \frac{\$1,000}{\text{Initial Reference Stock Price}}$$

Any fractional shares will be paid in cash, in an amount equal to that fraction multiplied by the Final Reference Stock Price. The number of shares or the amount of cash that we may deliver to you is subject to adjustment, as described below under “—Anti-dilution Adjustments” and “—Consequences of Market Disruption Events.”

The cash or market price of the shares you receive in exchange for your notes at maturity likely will be less than the principal amount of your notes.

#### Cash Delivery Amount

At our election, instead of delivering to you shares of the Reference Stock equal to the Physical Delivery Amount, we may deliver to you the Cash Delivery Amount.

In order to determine the Cash Delivery Amount, we will multiply the Final Reference Stock Price by the Physical Delivery Amount.

$$\text{Cash Delivery Amount} = \text{Final Reference Stock Price} \times \text{Physical Delivery Amount}$$

The Final Reference Stock Price will be the closing price of one share of the Reference Stock on the valuation date, or the arithmetic average of the closing prices of the Reference Stock on each of the valuation dates, or any other dates specified in the relevant pricing supplement, as applicable, subject to anti-dilution adjustment. The Initial Reference Stock Price, which will be specified in the relevant pricing supplement, may be adjusted, with respect to both the amount and type of consideration, as a result of dilution events, as we describe below under “—Anti-dilution Adjustments.”

#### Valuation Date

Unless otherwise specified in the relevant pricing supplement, the valuation date (if there is only one valuation date applicable to the notes) or the final valuation date (if there is more than one valuation date applicable to the notes) will be the third trading day before the maturity date specified in the relevant pricing supplement. If the calculation agent determines that a market disruption event occurs or is continuing on any valuation date applicable to the notes, the Final Reference Stock Price will be determined as described in “—Market Disruption Events” below.

#### Maturity Date

Unless otherwise specified in the relevant pricing supplement, the maturity date will be the third scheduled business day following the valuation date or the final valuation date, as applicable, unless that date is not a business day, in which case the maturity date will be the next following business day. The maturity date will be postponed by the same number of trading days as the valuation date or the final valuation date, as applicable, if a market disruption event occurs or is continuing as described above. No interest will accrue past the maturity date specified in the relevant pricing supplement.

#### Consequences of Market Disruption Events

If the calculation agent determines that, on a valuation date and/or, if the Automatic Call feature is specified in the relevant pricing supplement as being “Applicable,” on the call date, a market disruption event has occurred or is continuing with respect to the Reference Stock, the determination of the Final Reference Stock Price and/or, if applicable, the closing price of the applicable Reference Stock, may be postponed. If such a postponement occurs, the calculation agent will use the closing price of the Reference Stock on the first subsequent trading day on which no market disruption event occurs or is continuing. However, in no event will the determination of the Final Reference Stock Price and/or, if applicable, the closing price of the applicable Reference Stock, be postponed by more than ten trading days.

If the determination of the Final Reference Stock Price and/or, if applicable, the closing price of the applicable Reference Stock, is postponed to the last possible day, but a market disruption event for the Reference Stock occurs or is continuing on that day, that day will be the date on which the Final Reference Stock Price and/or, if applicable, the closing price of the applicable Reference Stock, will be determined by the calculation agent. In such an event, the calculation agent will make a good faith estimate in its sole discretion of the Final Reference Stock Price and/or, if applicable, the closing price of the applicable Reference Stock, that would have prevailed in the absence of the market disruption event.



Any of the following will be a market disruption event:

- a suspension, absence or limitation of trading in (i) that security in its primary market, as determined by the calculation agent, or (ii) futures or options contracts relating to that security in the primary market for those contracts, as determined by the calculation agent;
- any event that disrupts or impairs, as determined by the calculation agent, the ability of market participants to (i) effect transactions in, or obtain market values for, the security in its primary market, or (ii) effect transactions in, or obtain market values for, futures or options contracts relating the security in its primary market;
- the closure on any day of the primary market for that security on a scheduled trading day prior to the scheduled weekday closing time of that market (without regard to after hours or any other trading outside of the regular trading session hours) unless such earlier closing time is announced by the primary market at least one hour prior to the earlier of (i) the actual closing time for the regular trading session on such primary market on such scheduled trading day for such primary market and (ii) the submission deadline for orders to be entered into the relevant exchange system for execution at the close of trading on such scheduled trading day for such primary market;
- any scheduled trading day on which (i) the primary market for that security or (ii) the exchanges or quotation systems, if any, on which futures or options contracts on that security are traded, fails to open for trading during its regular trading session; or
- any other event, if the calculation agent determines in its sole discretion that the event interferes with our ability or the ability of any of our affiliates to unwind all or a portion of a hedge with respect to the notes that we or our affiliates have effected or may effect as described below under “Use of Proceeds and Hedging” in this product prospectus supplement.

#### Interest Payments

Interest will accrue on the principal amount of your notes and will be calculated and paid as described in the accompanying prospectus with regard to fixed rate notes, as modified by the pricing supplement. The interest payment dates will be those specified in the relevant pricing supplement. As long as your notes are in global form, the regular record date for each interest payment date will be the fifth preceding business day, unless otherwise specified in the relevant pricing supplement. If the maturity date does not occur on the date specified in the relevant pricing supplement, however, the interest payment date scheduled for that date will instead occur on the maturity date.

#### Automatic Call

If, on the Call Date, the closing price of the applicable Reference Stock is greater than the Call Price, then the notes will be automatically called.

#### Payment if Called

If the notes are automatically called, then, on the Call Settlement Date, for each \$1,000 in principal amount, you will receive \$1,000 plus any accrued and unpaid interest to but excluding the Call Settlement Date.

#### Call Date

The call date will be the date specified in the relevant pricing supplement, unless the calculation agent determines that a market disruption event occurs or is continuing on that day. If a market disruption event occurs, then the call date will be the first following trading day on which the calculation agent determines that a market disruption event is not continuing. We describe market disruption events under “—Consequences of Market Disruption Events” below.

#### Call Settlement Date

The call settlement date will be the third business day after the call date. The call settlement date will be postponed by the same number of business days as the call date, if the call date is postponed due to a market disruption event.

#### Call Price

The Call Price will be as specified in the relevant pricing supplement.

#### Anti-dilution Adjustments

The Initial Reference Stock Price, the Barrier Price and the Call Price (if applicable) will be specified in the relevant pricing supplement. The calculation agent will adjust the Initial Reference Stock Price, the Barrier Price and the Call Price if any of the dilution events described below occurs with respect to the Reference Stock after the applicable pricing date.

The calculation agent will adjust the Initial Reference Stock Price, the Barrier Price and the Call Price as described below, but only if an event below under this section occurs with respect to the Reference Stock and only if the relevant event occurs during the period described under the applicable subsection. The Initial Reference Stock Price, the Barrier Price and the Call Price will be subject to the adjustments described below, independently and separately, with respect to the dilution events that affect the Reference Stock.

If more than one anti-dilution event requiring adjustment occurs with respect to the Initial Reference Stock Price, the Barrier Price and the Call Price the calculation agent will adjust that Initial Reference Stock Price, the Barrier Price and the Call Price for each event, sequentially, in the order in which the events occur, and on a cumulative basis.

Therefore, having adjusted the Initial Reference Stock Price, the Barrier Price and the Call Price for the first event, the calculation agent will adjust the Initial Reference Stock Price, the Barrier Price and the Call Price for the second event, applying the required adjustment to the Initial Reference Stock Price, the Barrier Price and the Call Price as already adjusted for the first event, and so on for each event. If an event requiring an anti-dilution adjustment occurs, the calculation agent will make the adjustment with a view to offsetting, to the extent practical, any change in the economic position of the holder and us, relative to your note, that results solely from that event. The calculation agent may, in its sole discretion, modify the anti-dilution adjustments as necessary to ensure an equitable result.

#### Stock Splits and Stock Dividends

A stock split is an increase in the number of a corporation's outstanding shares of stock without any change in its stockholders' equity. When a corporation pays a stock dividend, it issues additional shares of its stock to all holders of its outstanding stock in proportion to the shares they own. Each outstanding share will be worth less as a result of a stock split or stock dividend.

If the Reference Stock is subject to a stock split or receives a stock dividend, then the calculation agent will adjust the Initial Reference Stock Price, the Barrier Price and the Call Price by dividing the prior Initial Reference Stock Price—that is, the Initial Reference Stock Price, the Barrier Price and the Call Price before the stock split or stock dividend—by the number equal to: (1) the number of shares of the Reference Stock outstanding immediately after the stock split or stock dividend becomes effective; divided by (2) the number of shares of the Reference Stock outstanding immediately before the stock split or stock dividend becomes effective. The Initial Reference Stock Price, the Barrier Price and the Call Price will not be adjusted, however, unless:

- in the case of a stock split, the first day on which the Reference Stock trades without the right to receive the stock split occurs after the pricing date and on or before the applicable valuation date or call date; or

in the case of a stock dividend, the ex-dividend date occurs after the pricing date and on or before the applicable valuation date or call date.

The ex-dividend date for any dividend or other distribution with respect to the Reference Stock is the first day on which the Reference Stock trades without the right to receive that dividend or other distribution.

#### Reverse Stock Splits

A reverse stock split is a decrease in the number of a corporation's outstanding shares of stock without any change in its stockholders' equity. Each outstanding share will be worth more as a result of a reverse stock split.

If the Reference Stock is subject to a reverse stock split, then the calculation agent will adjust the Initial Reference Stock Price, the Barrier Price and the Call Price by multiplying the prior Initial Reference Stock Price, the Barrier Price and the Call Price by a number equal to: (1) the number of shares of the Reference Stock outstanding immediately before the reverse stock split becomes effective; divided by (2) the number of shares of the Reference Stock outstanding immediately after the reverse stock split becomes effective. The Initial Reference Stock Price, the Barrier Price and the Call Price will not be adjusted, however, unless the reverse stock split becomes effective after the pricing date and on or before the applicable valuation date or call date.

#### Extraordinary Dividends

Any distribution or dividend on the Reference Stock determined by the calculation agent to be a distribution or dividend that is not in the ordinary course of the issuer's historical dividend practices will be deemed to be an extraordinary dividend. The calculation agent will determine if the dividend is an extraordinary dividend and, if so, the amount of the extraordinary dividend. Each outstanding share will be worth less as a result of an extraordinary dividend.

If any extraordinary dividend occurs with respect to the Reference Stock, the calculation agent will adjust the Initial Reference Stock Price, the Barrier Price and the Call Price to equal the product of: (1) the prior Initial Reference Stock Price, the Barrier Price and the Call Price, times (2) a fraction, the numerator of which is the amount by which the closing price of the Reference Stock on the business day before the ex-dividend date exceeds the extraordinary dividend amount and the denominator of which is the closing price of the Reference Stock on the business day before the ex-dividend date. The Initial Reference Stock Price, the Barrier Price and the Call Price will not be adjusted, however, unless the ex-dividend date occurs after the pricing date and on or before the applicable valuation date or call date.

The extraordinary dividend amount with respect to an extraordinary dividend for the Reference Stock equals:

for an extraordinary dividend that is paid in lieu of a regular quarterly dividend, the amount of the extraordinary dividend per share of the Reference Stock minus the amount per share of the immediately preceding dividend, if any, that was not an extraordinary dividend for the Reference Stock; or  
for an extraordinary dividend that is not paid in lieu of a regular quarterly dividend, the amount per share of the extraordinary dividend.

To the extent an extraordinary dividend is not paid in cash, the value of the non-cash component will be determined by the calculation agent. A distribution on the Reference Stock that is a stock dividend, an issuance of transferable rights or warrants or a spin-off event and also an extraordinary dividend will result in an adjustment to the Initial Reference Stock Price, the Barrier Price and the Call Price only as described under "—Stock Splits and Stock Dividends" above, "—Transferable Rights and Warrants" below or "—Reorganization Events" below, as the case may be, and not as described here.

#### Transferable Rights and Warrants

If the issuer of the Reference Stock issues transferable rights or warrants to all holders of the Reference Stock to subscribe for or purchase the Reference Stock at an exercise price per share that is less than the closing price of the Reference Stock on the business day before the ex-dividend date for the issuance, then the applicable Initial Reference Stock Price, the Barrier Price and the Call Price will be adjusted by multiplying the prior Initial Reference Stock Price, the Barrier Price and the Call Price by the following fraction:

The numerator will be the number of shares of the Reference Stock outstanding at the close of business on the day before that ex-dividend date plus the number of additional shares of the Reference Stock that the aggregate offering price of the total number of shares of the Reference Stock so offered for subscription or purchase pursuant to the transferable rights or warrants could purchase at the closing price on the business day before the ex-dividend date, with that number of additional shares being determined by multiplying the total number of shares so offered by the exercise price of those transferable rights or warrants and dividing the resulting product by the closing price on the business day before that ex-dividend date.

The denominator will be the number of shares of the Reference Stock outstanding at the close of business on the day before that ex-dividend date plus the number of additional shares of the Reference Stock offered for subscription or purchase under those transferable rights or warrants.

The Initial Reference Stock Price, the Barrier Price and the Call Price will not be adjusted, however, unless the ex-dividend date described above occurs after the pricing date and on or before the applicable valuation date or call date.

#### Reorganization Events

If the issuer of the Reference Stock undergoes a reorganization event in which property other than the Reference Stock—e.g., cash and securities of another issuer—is distributed in respect of the Reference Stock, then, for purposes of calculating the price of the Reference Stock, the calculation agent will determine the closing price of the Reference Stock on the valuation date to equal the value of the cash, securities and other property distributed in respect of one share of the Reference Stock.

If the calculation agent determines that, by valuing such cash, securities and other property, a commercially reasonable result is not achieved, then the calculation agent will, in its sole discretion, substitute another stock for that Reference Stock.

Each of the following is a reorganization event with respect to the Reference Stock:

- the Reference Stock is reclassified or changed;
- the issuer of the Reference Stock has been subject to a merger, consolidation or other combination and either is not the surviving entity or is the surviving entity but all the outstanding stock is exchanged for or converted into other property;
- a statutory share exchange involving the outstanding stock and the securities of another entity occurs, other than as part of an event described in the two bullet points above;
- the issuer of the Reference Stock sells or otherwise transfers its property and assets as an entirety or substantially as an entirety to another entity;
- the issuer of the Reference Stock effects a spin-off—that is, issues to all holders of the Reference Stock equity securities of another issuer, other than as part of an event described in the four bullet points above;

the issuer of the Reference Stock is liquidated, dissolved or wound up or is subject to a proceeding under any applicable bankruptcy, insolvency or other similar law; or another entity completes a tender or exchange offer for all of the outstanding stock of the issuer of the Reference Stock.

#### Valuation of Distribution Property

If a reorganization event occurs with respect to the Reference Stock, and the calculation agent does not substitute another stock for the Reference Stock as described in “—Substitution” below, then the calculation agent will determine the applicable closing price on each valuation date so as to equal the value of the property—whether it be cash, securities or other property—distributed in the reorganization event in respect of one share of the Reference Stock, as the Reference Stock existed before the date of the reorganization. We refer to the property distributed in a reorganization event as distribution property, a term we describe in more detail below. The calculation agent will not make any determination for a reorganization event, however, unless the event becomes effective (or, if the event is a spin-off, unless the ex-dividend date for the spin-off occurs) after the pricing date and on or before the applicable valuation date or call date.

For the purpose of making a determination required by a reorganization event, the calculation agent will determine the value of each type of distribution property, in its sole discretion. For any distribution property consisting of a security, the calculation agent will use the closing price for the security on the relevant date. The calculation agent may value other types of property in any manner it determines, in its sole discretion, to be appropriate. If a holder of the Reference Stock may elect to receive different types or combinations of types of distribution property in the reorganization event, the distribution property will consist of the types and amounts of each type distributed to a holder that makes no election, as determined by the calculation agent in its sole discretion.

If a reorganization event occurs and the calculation agent adjusts the closing price of the Reference Stock on a valuation date to equal the value of the distribution property distributed in the event, as described above, the calculation agent will make further determinations for later events that affect the distribution property considered in determining the closing price. The calculation agent will do so to the same extent that it would make determinations if the Reference Stock were outstanding and were affected by the same kinds of events.

For example, if the issuer of the Reference Stock merges into another company and each share of the Reference Stock is converted into the right to receive two common shares of the surviving company and a specified amount of cash, then on each valuation date the closing price of a share of the Reference Stock will be determined to equal the value of the two common shares of the surviving company plus the specified amount of cash. The calculation agent will further determine the common share component of such closing price to reflect any later stock split or other event, including any later reorganization event, that affects the common shares of the surviving company, to the extent described in “—Anti-Dilution Adjustments” or as described above in this “—Reorganization Events” section as if the common shares were the Reference Stock. In that event, the cash component will not be redetermined but will continue to be a component of the closing price.

When we refer to distribution property, we mean the cash, securities and other property distributed in a reorganization event in respect of the Reference Stock or in respect of whatever securities whose value determines the closing price on a valuation date if any adjustment resulting from a reorganization event has been made in respect of a prior event. In the case of a spin-off, the distribution property also includes the Reference Stock in respect of which the distribution is made.

If a reorganization event occurs, the distribution property distributed in the event will be substituted for the Reference Stock as described above. Consequently, in this product prospectus supplement, when we refer to the Reference Stock, we mean any distribution property that is distributed in a reorganization event in respect of the Reference Stock. Similarly, when we refer to the issuer of the Reference Stock, we mean any successor entity in a reorganization event.

### Substitution

If the calculation agent determines that a commercially reasonable result is not achieved by valuing distribution property with respect to the Reference Stock upon becoming subject to a reorganization event, then the calculation agent will, in its sole discretion, substitute another stock for the Reference Stock. In such case, the adjustments described above in “—Valuation of Distribution Property” will not apply.

If the calculation agent so determines, it may choose, in its sole discretion, the stock of a different company listed on a national securities exchange or quotation system as a substitute for the Reference Stock. For all purposes, the substitute stock will be deemed to be a stock for purposes hereof.

The calculation agent will determine, in its sole discretion, the Initial Reference Stock Price, the Barrier Price and the Call Price and/or the manner of valuation of the substitute stock. The calculation agent will have the right to make such adjustments to the calculation of the individual stock performance as it determines in its sole discretion are necessary to preserve as nearly as possible our and your relative economic position prior to the reorganization event.

### Adjustments Relating to ADRs

The Reference Stock may consist of ADRs of the Underlying Company. As a result, for purposes of any adjustments relating to ADRs, the calculation agent will consider the effect of any of the relevant events on the holders of the Reference Stock. For example, if a holder of the Reference Stock receives an extraordinary dividend, the provisions described in this section would apply to the Reference Stock. On the other hand, if a spin-off occurs, and the Reference Stock represents both the spun-off security as well as the existing Reference Stock, the calculation agent may determine not to effect the anti-dilution adjustments set forth in this section. More particularly, the calculation agent may not make an adjustment (1) if holders of the Reference Stock are not eligible to participate in any of the events that would otherwise require anti-dilution adjustments as set forth in this section or (2) to the extent that the calculation agent determines that the Underlying Company or the depositary for the ADRs has adjusted the number of common shares of the Underlying Company represented by each share of Reference Stock so that the market price of the Reference Stock would not be affected by the corporate event in question.

If the Underlying Company or the depositary for the ADRs, in the absence of any of the events described in this section, elects to adjust the number of common shares of the Underlying Company represented by each share of Reference Stock, then the calculation agent may make the appropriate anti-dilution adjustments to reflect such change. The depositary for the ADRs may also make adjustments in respect of the ADRs for share distributions, rights distributions, cash distributions and distributions other than shares, rights, and cash. Upon any such adjustment by the depositary, the calculation agent may adjust such terms and conditions of the notes as the calculation agent determines appropriate to account for that event.

### Other Events and Adjustments

The calculation agent may make such adjustments to the terms of the notes with respect to any of the events described above, as it deems in its discretion is necessary to ensure an equitable result.

### Delisting of ADRs or Termination of an ADR Facility

If the Reference Stock is no longer listed or admitted to trading on a U.S. securities exchange registered under the Exchange Act or included in the OTC Bulletin Board Service operated by FINRA, or if the ADR facility between the Underlying Company and the ADR depositary is terminated for any reason, then, on and after the date that the Reference Stock is no longer so listed or admitted to trading or the date of such termination, as applicable (the “termination date”), the notes will be deemed to be linked to the common shares of the Underlying Company, and the calculation agent will determine the payment at maturity by reference to such common shares. Under such circumstances, the calculation agent may modify any terms of the notes as it deems necessary, in its sole discretion, to ensure an equitable result. On and after the termination date, for all purposes, including the determination of the Final Reference Stock Price, the closing price of the Underlying Company’s common shares on their primary

exchange will be converted to U.S. dollars using such exchange rate as the calculation agent, in its sole discretion, determines to be commercially reasonable.

#### Payment of Additional Amounts

We will pay any amounts to be paid by us on the notes without deduction or withholding for, or on account of, any and all present or future income, stamp and other taxes, levies, imposts, duties, charges, fees, deductions or withholdings ("taxes") now or hereafter imposed, levied, collected, withheld or assessed by or on behalf of Canada or any Canadian political subdivision or authority that has the power to tax, unless the deduction or withholding is required by law or by the interpretation or administration thereof by the relevant governmental authority. At any time a Canadian taxing jurisdiction requires us to deduct or withhold for or on account of taxes from any payment made under or in respect of the notes, we will pay such additional amounts ("Additional Amounts") as may be necessary so that the net amounts received by each holder (including Additional Amounts), after such deduction or withholding, shall not be less than the amount the holder would have received had no such deduction or withholding been required. However, no Additional Amounts will be payable with respect to a payment made to a holder of a note or of a right to receive payments in respect thereto (a "Payment Recipient"), which we refer to as an "Excluded Holder," in respect of a beneficial owner or Payment Recipient:

- (i) with whom we do not deal at arm's length (within the meaning of the Income Tax Act (Canada)) at the time of making such payment;
  - who is subject to such taxes by reason of its being connected presently or formerly with Canada or any province or territory thereof otherwise than by reason of the holder's activity in connection with purchasing the notes, the holding of notes or the receipt of payments thereunder;
- (ii) who is, or who does not deal at arm's length with a person who is, a "specified shareholder" (within the meaning of subsection 18(5) of the Income Tax Act (Canada)) of Royal Bank of Canada (generally a person will be a "specified shareholder" for this purpose if that person, either alone or together with persons with whom the person does not deal at arm's length, owns 25% or more of (a) our voting shares, or (b) the fair market value of all of our issued and outstanding shares);
  - who presents such note for payment (where presentation is required) more than 30 days after the relevant date (except to the extent that the holder thereof would have been entitled to such Additional Amounts on presenting a note for payment on the last day of such 30 day period); for this purpose, the "relevant date" in relation to any payments on any note means:
- (iii) (a) the due date for payment thereof, or
  - if the full amount of the monies payable on such date has not been received by the trustee on or prior to such due date, the date on which the full amount of such monies has been received and notice to that effect is given to holders of the notes in accordance with the indenture;
- (iv) who could lawfully avoid (but has not so avoided) such withholding or deduction by complying, or procuring that any third party comply, with any statutory requirements necessary to establish qualification for an exemption from withholding or by making, or procuring that any third party make, a declaration of non-residence or other similar claim for exemption to any relevant tax authority; or
  - who is subject to deduction or withholding on account of any tax, assessment, or other governmental charge that is imposed or withheld by reason of the application of Section 1471 through 1474 of the United States Internal Revenue Code of 1986, as amended (the "Code") (or
- (v)
- (vi)

any successor provisions), any regulation, pronouncement, or agreement thereunder, official interpretations thereof, or any law implementing an intergovernmental approach thereto, whether currently in effect or as published and amended from time to time.

For the avoidance of doubt, we will not have any obligation to pay any holders Additional Amounts on any tax which is payable otherwise than by deduction or withholding from payments made under or in respect of the notes at maturity.

We will also make such withholding or deduction and remit the full amount deducted or withheld to the relevant authority in accordance with applicable law. We will furnish to the trustee, within 30 days after the date the payment of any taxes is due pursuant to applicable law, certified copies of tax receipts evidencing that such payment has been made or other evidence of such payment satisfactory to the trustee. We will indemnify and hold harmless each holder of notes (other than an Excluded Holder) and upon written request reimburse each such holder for the amount of (x) any taxes so levied or imposed and paid by such holder as a result of payments made under or with respect to the notes, and (y) any taxes levied or imposed and paid by such holder with respect to any reimbursement under (x) above, but excluding any such taxes on such holder's net income or capital.

For additional information, see the section entitled "Supplemental Discussion of Canadian Tax Consequences."

#### Default Amount on Acceleration

Unless otherwise specified in the relevant pricing supplement, in case an event of default with respect to the notes shall have occurred and be continuing, the amount declared due and payable on the notes upon any acceleration of the notes will be determined by the calculation agent and will be an amount in shares of the Reference Stock or cash equal to the amount payable as described under the caption "—Payment at Maturity," calculated as if the date of acceleration were the final valuation date.

If the maturity of the notes is accelerated because of an event of default, we will, or will cause the calculation agent to, provide written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, and to the depository, of the amount due with respect to the notes as promptly as possible and in no event later than two business days after the date of acceleration.

#### Manner of Payment and Delivery

Any payment on or delivery of the notes at maturity will be made to accounts designated by you and approved by us, or at the office of the trustee in New York City, but only when the notes are surrendered to the trustee at that office.

We also may make any payment or delivery in accordance with the applicable procedures of the depository.

#### Role of Calculation Agent

The calculation agent will make all determinations regarding the Final Reference Stock Price, anti-dilution adjustments, market disruption events, the default amount and the amount payable on your notes. Absent manifest error, all determinations of the calculation agent will be final and binding on you and us, without any liability on the part of the calculation agent.

Our subsidiary, RBC Capital Markets, LLC, is currently serving as the calculation agent for the notes. We may change the calculation agent for your notes at any time.



## Special Calculation Provisions

### Business Day

When we refer to a business day with respect to your notes, we mean a day that is a business day of the kind described in the accompanying prospectus, unless otherwise specified in the relevant pricing supplement. If the relevant pricing supplement specifies a different meaning for the term business day, we will use that modified definition in determining each interest payment date as well as the maturity date for your notes, all as described in this product prospectus supplement.

### Trading Day

When we refer to a trading day with respect to your notes, we mean a day on which the principal securities market for the Reference Stock is open for trading, unless otherwise specified in the relevant pricing supplement.

### Closing Price

The closing price for any Reference Stock on any day will equal the closing sale price or last reported sale price, regular way, for the security or the ETF, on a per-share or other unit basis:

- on the principal national securities exchange on which that Reference Stock is listed for trading on that day, or
- if that security or ETF is not quoted on any national securities exchange on that day, on any other market system or quotation system that is the primary market for the trading of that Reference Stock.

If that Reference Stock is not listed or traded as described above, then the closing price for that Reference Stock on any day will be the average, as determined by the calculation agent, of the bid prices for the Reference Stock obtained from as many dealers in that Reference Stock selected by the calculation agent as will make those bid prices available to the calculation agent. The number of dealers need not exceed three and may include the calculation agent or any of its or our affiliates.

#### HYPOTHETICAL RETURNS ON YOUR NOTES

The relevant pricing supplement may include a table or chart showing a hypothetical Cash Delivery Amount that could be delivered—or the number of shares of the Reference Stock that could be delivered—for your notes at maturity, based on a range of hypothetical Final Reference Stock Prices and on various key assumptions shown in the relevant pricing supplement.

Any table or chart showing hypothetical Cash Delivery payments will be provided for purposes of illustration only. It should not be viewed as an indication or prediction of future investment results. Rather, it is intended merely to illustrate the impact that various hypothetical market prices of the Reference Stock on the valuation date(s) could have on the Cash Delivery payments to be made on the notes, as calculated in the manner described in the relevant pricing supplement and assuming all other variables remained constant. The hypothetical Cash Delivery Amounts listed in the relevant pricing supplement will be entirely hypothetical. They will be based on market prices for the Reference Stock that may not be achieved on the relevant valuation date(s) and on assumptions that may prove to be erroneous. As calculated in the relevant pricing supplement, the hypothetical Cash Delivery Amounts on your notes at maturity may bear little or no relationship to the actual market value of your notes on that date or at any other time, including any time you might wish to sell your notes. In addition, you should not view the hypothetical Cash Delivery payments to be made on the notes as an indication of the possible financial return on an investment in your notes, since the financial return will be affected by various factors, including taxes, that the hypothetical information does not take into account. Moreover, whatever the financial return on your notes might be, it may bear little relation to—and may be much less than—the financial return that you might achieve were you to invest in the Reference Stock directly. Among other things, the financial return on the Reference Stock would not be limited by the principal amount of your notes and could include substantial dividend payments, which you will not receive as an investor in your notes, and an investment in the Reference Stock is likely to have tax consequences that are different from an investment in your notes.

We describe various risk factors that may affect the market value of your notes, and the unpredictable nature of that market value, under “Additional Risk Factors Specific to Your Notes” above.

We cannot predict the market price of the Reference Stock or, therefore, the Final Reference Stock Price or the Cash Delivery Amount—or the number of shares of the Reference Stock that could be delivered—for your notes. Moreover, the assumptions we make in connection with any hypothetical information in the relevant pricing supplement may not reflect actual events. Consequently, that information may give little or no indication of the Cash Delivery Amount that will be delivered (or the number of shares of the Reference Stock that will be delivered) in respect of your notes at maturity, nor should it be viewed as an indication of the financial return on your notes or of how that return might compare to the financial return on an investment directly in the Reference Stock.

#### USE OF PROCEEDS AND HEDGING

We will use the net proceeds we receive from the sale of the notes for the purposes we describe in the attached prospectus supplement under “Use of Proceeds.” We or our affiliates may also use those proceeds in transactions intended to hedge our obligations under the notes as described below.

In anticipation of the sale of the notes, we or our affiliates expect to enter into hedging transactions involving purchases of the Reference Stock and/or listed and/or over-the-counter derivative instruments linked to the Reference Stock prior to or on the pricing date. From time to time, we or our affiliates may enter into additional hedging transactions or unwind those we have entered into. In this regard, we or our affiliates may:

- acquire or dispose of the Reference Stock;
- acquire or dispose of long or short positions in listed or over-the-counter derivative instruments related to the price of the Reference Stock; or
- any combination of the above two.

We or our affiliates may acquire a long or short position in securities similar to the notes from time to time and may, in our or their sole discretion, hold or resell those similar securities.

We or our affiliates may close out our or their hedge on or before the valuation date(s). That step may involve sales or purchases of the Reference Stock or over-the-counter derivative instruments linked to the Reference Stock.

The hedging activity discussed above may adversely affect the market value of the notes from time to time. See “Additional Risk Factors Specific to Your Notes—Trading and Other Transactions by Royal Bank or its Affiliates Relating to the Reference Stock May Adversely Affect the Market Value of the Notes” and “—The Business Activities of Royal Bank or Its Affiliates May Create Conflicts of Interest” in this product prospectus supplement for a discussion of these adverse effects.

#### REFERENCE STOCK ISSUER

In the relevant pricing supplement, we will provide summary information on the business of the Reference Stock issuer based on its publicly available documents.

#### Where Information About the Reference Stock Issuer Can Be Obtained

The Reference Stock will be registered under the United States Securities Exchange Act of 1934, as amended (“Exchange Act”). Companies with securities registered under the Exchange Act are required to file financial and other information specified by the U.S. Securities and Exchange Commission (“SEC”) periodically. This information is filed with the SEC and can be inspected and copied by you at the SEC’s Public Reference Room located at 100 F Street, N.E., Washington, D.C. 20549, at prescribed rates. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, information filed by the Reference Stock issuer with the SEC electronically is available to the public over the Internet at the SEC’s website at <http://www.sec.gov>. In addition, information about the Reference Stock issuer may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated information. We make no representation or warranty as to the accuracy or completeness of any such information.

For notes linked to a Reference Stock that is an ETF, the Reference Stock may be an investment fund that seeks investment results that correspond generally to the price and yield performance, before fees and expenses, and with certain variations for timing mismatches, of an underlying equity securities index. While ETFs track the performance of an index, ETFs also trade as securities on stock exchanges. Information about the ETF that may comprise the Reference Stock of your notes will be provided in the relevant pricing supplement.

#### Historical Trading Price Information

We may provide historical price information on the Reference Stock in the relevant pricing supplement. You should not take any such historical prices of the Reference Stock as an indication of the future performance. We cannot give you any assurance that the price of the Reference Stock will not decrease, thus preventing you from receiving an amount of shares or cash with a value equal to the principal amount of your notes at maturity.

**SUPPLEMENTAL DISCUSSION OF CANADIAN TAX CONSEQUENCES**

Investors should read carefully the description of material Canadian federal income tax considerations relevant to a Non-resident Holder owning debt securities under “Tax Consequences—Canadian Taxation” in the accompanying prospectus.

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## SUPPLEMENTAL DISCUSSION OF U.S. FEDERAL INCOME TAX CONSEQUENCES

The following is a general description of the material U.S. tax considerations relating to the notes. It does not purport to be a complete analysis of all tax considerations relating to the notes. Prospective purchasers of the notes should consult their tax advisors as to the consequences under the tax laws of the country of which they are resident for tax purposes and the tax laws of Canada and the U.S. of acquiring, holding and disposing of the notes and receiving payments under the notes. This summary is based upon the law as in effect on the date of this product prospectus supplement and is subject to any change in law that may take effect after such date.

### Supplemental U.S. Tax Considerations

The following disclosure—including the opinion of Morrison & Foerster LLP—has been prepared without regard to any particular note that you may purchase in the future and, therefore, is provided solely as a matter of general information. You should not rely upon the following disclosure, or the disclosure under “Tax Consequences—United States Taxation” in the prospectus or “Certain Income Tax Consequences—United States Taxation” in the prospectus supplement, with regard to an investment in any particular note because it does not take into account the terms of any particular note or the tax consequences of investing in or holding any particular note unless the pricing supplement applicable to your notes indicates that you may rely on the following disclosure and expressly states that you may rely on the opinion of Morrison & Foerster LLP. Any note that you purchase may have terms that would result in a tax treatment that is significantly different from the treatment described below. Consequently, any tax disclosure relevant to any note you may purchase will be set forth only in the pricing supplement relating to your note, and, unless the pricing supplement indicates otherwise, you should not rely on the tax disclosure below or in the prospectus supplement or prospectus in deciding whether to invest in any note. In addition, this tax disclosure assumes the following for all notes issued off of this product supplement: (i) the Reference Stock will be stock of a U.S. corporation that is traded on a public exchange and is not a “United States real property holding corporation” (as such term is defined in Section 897 of the Code); (ii) interest will be paid at least annually and at equal intervals; (iii) the Interest Payment (as defined in the relevant pricing supplement) will not be below the market rate for non-contingent debt with terms similar to the notes; (iv) there is a significant possibility of a significant loss of principal on an investment in the notes; (v) initial purchasers will acquire the notes for an amount equal to their principal amount; and (vi) there is a reasonable likelihood that the Final Reference Stock Price will be greater than or equal to the Initial Reference Stock Price. This discussion does not address the tax consequences applicable to any holders under Section 451(b) of the Code. Moreover, in all cases, you should consult with your own tax advisor concerning the consequences of investing in and holding any particular note you propose to purchase.

The following section supplements the discussion of U.S. federal income taxation in the accompanying prospectus and prospectus supplement. It applies only to those initial holders who are not excluded from the discussion of U.S. federal income taxation in the accompanying prospectus.

You should consult your tax advisor concerning the U.S. federal income tax and other tax consequences of your investment in the notes in your particular circumstances, including the application of state, local or other tax laws and the possible effects of changes in federal or other tax laws.

We intend to treat coupon payments as U.S. source income for U.S. federal income tax purposes.

We will not attempt to ascertain whether any issuer of any Reference Stock (or, in the case of an ETF, any issuer of the shares that it holds) would be treated as a “passive foreign investment company” within the meaning of Section 1297 of the Code, or a “U.S. real property holding corporation” within the meaning of Section 897 of the Code. If any issuer of any Reference Stock (or, in the case of an ETF, any issuer of the shares that it holds) were so treated, certain adverse U.S. federal income tax consequences could possibly apply to a holder. You should refer to any available information filed with the SEC and other authorities by the issuer of any Reference Stock (or, in the case of an ETF, any issuer of the shares that it holds) and consult your tax advisor regarding the possible consequences to you in this regard.

NO STATUTORY, JUDICIAL OR ADMINISTRATIVE AUTHORITY DIRECTLY DISCUSSES HOW THE NOTES SHOULD BE TREATED FOR U.S. FEDERAL INCOME TAX PURPOSES. AS A RESULT, THE U.S. FEDERAL INCOME TAX CONSEQUENCES OF AN INVESTMENT IN THE NOTES ARE UNCERTAIN.

BECAUSE OF THE UNCERTAINTY, YOU SHOULD CONSULT YOUR TAX ADVISOR IN DETERMINING THE U.S. FEDERAL INCOME TAX AND OTHER TAX CONSEQUENCES OF YOUR INVESTMENT IN THE NOTES, INCLUDING THE APPLICATION OF STATE, LOCAL OR OTHER TAX LAWS AND THE POSSIBLE EFFECTS OF CHANGES IN FEDERAL OR OTHER TAX LAWS.

The U.S. federal income tax treatment of your investment in the notes will depend on whether (i) the term of your notes will exceed one year, or (ii) the term of your notes will not exceed one year, without regard to the effect of an extension in the event of a market disruption event. Accordingly, we set forth a separate subsection for each of the situations described in the previous sentence.

#### Where the Term of Your Notes Will Exceed One Year

##### General

In the opinion of our counsel, Morrison & Foerster LLP, it would be reasonable to treat your notes as an investment unit consisting of (i) a non-contingent debt instrument issued by us to you (the “Debt Portion”) and (ii) a put option with respect to the Reference Stock written by you and purchased by us (the “Put Option”). The balance of this disclosure assumes this treatment is proper and will be respected for U.S. federal income tax purposes.

##### Treatment as an Investment Unit

If your notes are properly treated as an investment unit consisting of a Debt Portion and Put Option, it is likely that the Debt Portion of your notes would be treated as having been issued for the principal amount of the notes (if you are an initial purchaser) and that interest payments on the notes would be treated in part as payments of interest and in part as payments for the Put Option. Amounts treated as interest would be included in income in accordance with your regular method of accounting for interest for U.S. federal income tax purposes. Amounts treated as payment for the Put Option would be deferred and accounted for upon the sale, call or maturity of the notes, as discussed below.

If you were to receive a cash payment of the full principal amount of your notes upon the call or maturity of your notes, such payment would likely be treated as (i) payment in full of the principal amount of the Debt Portion (which would not result in the recognition of gain or loss if you are an initial purchaser of your notes) and (ii) the lapse of the Put Option which would likely result in your recognition of short-term capital gain in an amount equal to the amount paid to you for the Put Option and deferred as described above. If you were to receive a cash payment upon the maturity of your notes (excluding cash received as a coupon) of less than the full principal amount of your notes, such payment would likely be treated as (i) payment in full of the principal amount of the Debt Portion (which would not result in the recognition of gain or loss if you are an initial purchaser of your notes) and (ii) the cash settlement of the Put Option pursuant to which you paid to us an amount equal to the excess of the principal amount of your notes over the amount that you received upon the maturity of your notes (excluding cash received as a coupon) in order to settle the Put Option. If the aggregate amount paid to you for the Put Option and deferred as described above is greater than the amount you are deemed to have paid to us to settle the Put Option, you will likely recognize short-term capital gain in an amount that is equal to such excess. Conversely, if the amount paid to you for the Put Option and deferred as described above is less than the amount you are deemed to have paid to us to settle the Put Option, you will likely recognize short-term capital loss in an amount that is equal to such difference. The deductibility of capital losses is subject to limitations.

If, instead of making a cash payment to you, we were to exchange your notes for shares of the Reference Stock of equivalent value, the receipt of such stock upon the maturity of your notes would likely be treated as (i) payment in full of the principal amount of the Debt Portion (which would likely not result in the recognition of gain or loss if you are an initial purchaser of your notes) and (ii) the exercise by us of the Put Option and your purchase of the shares of stock you receive for an amount equal to the principal amount of your notes. The U.S. federal income tax basis of the shares of stock you receive with respect to each note would equal the principal amount of the note less the amount of payments you received for the Put Option and deferred as described above. The holding period in the shares of stock you receive would begin the day after you beneficially receive such shares of stock. If you receive cash in lieu of a fractional share of stock, you will be treated as having received such fractional share and then having received cash in exchange for such fractional share. You generally will recognize short-term capital gain or loss based on the difference between the amount of cash received in lieu of the fractional share and the U.S.

federal income tax basis allocated to such fractional share. The deductibility of capital losses is subject to limitations. Upon the sale of your notes, you would be required to apportion the value of the amount you receive between the Debt Portion and Put Option on the basis of the values thereof on the date of the sale. You would recognize gain or loss with respect to the Debt Portion in an amount equal to the difference between (i) the amount apportioned to the Debt Portion and (ii) your adjusted U.S. federal income tax basis in the Debt Portion (which would generally be equal to the principal amount of your notes if you are an initial purchaser of your notes). Except to the extent attributable to accrued but unpaid interest with respect to the Debt Portion, such gain or loss would be long-term capital gain or loss if your holding period is greater than one year. The amount of cash that you receive that is apportioned to the Put Option (together with any amount of premium received in respect thereof and deferred as described above) would be treated as short-term capital gain. If the value of the Debt Portion on the date of the sale of your notes is in excess of the amount you receive upon such sale, you would likely be treated as having made a payment (to the purchaser in the case of a sale) equal to the amount of such excess in order to extinguish your rights and obligations under the Put Option. In such a case, you would likely recognize short-term capital gain or loss in an amount equal to the difference between the premium you previously received in respect of the Put Option and the amount of the deemed payment made by you to extinguish the Put Option. The deductibility of capital losses is subject to limitations.

If you are a secondary purchaser of your notes, you would be required to allocate your purchase price for your notes between the Debt Portion and Put Option based on the respective fair market values of each on the date of purchase. If, however, the portion of your purchase price allocated to the Debt Portion is at a discount from, or is in excess of, the principal amount of your notes, you may be subject to the market discount or amortizable bond premium rules described in the accompanying prospectus under “Tax Consequences—United States Taxation—Market Discount” and “Tax Consequences—United States Taxation—Debt Securities Purchased at a Premium” with respect to the Debt Portion. The portion of your purchase price that is allocated to the Put Option would likely be offset for tax purposes against amounts you subsequently receive with respect to the Put Option (including amounts received upon a sale of the notes that are attributable to the Put Option), thereby reducing the amount of gain or increasing the amount of loss you would recognize with respect to the Put Option or with respect to the sale of any Reference Stock you receive upon the exercise of the Put Option. If, however, the portion of your purchase price allocated to the Debt Portion as described above is in excess of your purchase price for your notes, you would likely be treated for tax purposes as having received a payment for the Put Option (which will be deferred as described above) in an amount equal to such excess.

#### Alternative Characterizations

There is no judicial or administrative authority discussing how your notes should be treated for U.S. federal income tax purposes. Therefore, other treatments would also be reasonable and the Internal Revenue Service might assert that treatment other than that described above is more appropriate.

For example, it is possible that your note could be treated as a single debt instrument subject to the special tax rules governing contingent payment debt instruments. If your note is so treated, you would be required to accrue interest income over the term of your note based upon the yield at which we would issue a non-contingent fixed-rate debt instrument with other terms and conditions similar to your note. You would recognize gain or loss upon the sale, call or maturity of your note in an amount equal to the difference, if any, between the amount you receive at such time and your adjusted basis in your note. In general, your adjusted basis in your note would be equal to the amount you paid for your note, increased by the amount of interest you previously accrued with respect to your note. Any gain you recognize upon the sale, call or maturity of your note would generally be ordinary income and any loss recognized by you at such time would generally be ordinary loss to the extent of interest you included in income in the current or previous taxable years with respect to your note, and thereafter would be capital loss. The deductibility of capital losses is subject to limitations.

If your note is treated as a contingent payment debt instrument and you purchase your note in the secondary market at a price that is at a discount from, or in excess of, the adjusted issue price of your note, such excess or discount would not be subject to the generally applicable market discount or amortizable bond premium rules described in the accompanying prospectus but rather would be subject to special rules set forth in U.S. Treasury



Department regulations governing contingent payment debt instruments. Accordingly, if you purchase your note in the secondary market, you should consult your tax advisor as to the possible application of such rules to you.

In addition, the Internal Revenue Service has released a notice that may affect the taxation of holders of “prepaid forward contracts” and similar instruments. According to the notice, the Internal Revenue Service and the U.S. Treasury Department are actively considering whether the holder of such instruments should be required to accrue ordinary income on a current basis. While it is not clear whether the notes would be viewed as similar to such instruments, it is possible that any future guidance could materially and adversely affect the tax consequences of an investment in the notes, possibly with retroactive effect.

Because of the absence of authority regarding the appropriate tax characterization of your note, it is possible that the Internal Revenue Service could seek to characterize your note in a manner that results in tax consequences to you that are different from those described above. For example, it is possible that you may be required to include the entire coupon into income when it is received. It is also possible that your note may be characterized in whole or in part as a notional principal contract or as a different type of derivative contract. You should consult your tax advisor as to the tax consequences of possible alternative characterizations of your note for U.S. federal income tax purposes.

Where the Term of the Notes Will Not Exceed One Year Without Regard to the Effect of an Extension in the Event of a Market Disruption Event

#### General

In the opinion of our counsel, Morrison & Foerster LLP, it would be reasonable to treat your notes as an investment unit consisting of (i) a non-contingent debt instrument subject to the rules governing short-term debt instruments (as described under “Tax Consequences—United States Taxation—Original Issue Discount—Short-Term Debt Securities” in the accompanying prospectus) issued by us to you (the “Short-Term Debt Portion”) and (ii) a Put Option.

#### Treatment as an Investment Unit

If your notes are properly treated as an investment unit consisting of a Short-Term Debt Portion and Put Option, it is likely that the Short-Term Debt Portion of your notes would be treated as having been issued for the principal amount of the notes and that interest payments on the notes would be treated in part as payments of interest and in part as payments for the Put Option. Amounts treated as interest would be subject to the rules governing short-term debt instruments (as described under “Tax Consequences—United States Taxation—Original Issue Discount—Short-Term Debt Securities” in the accompanying prospectus). Amounts treated as payment for the Put Option would be deferred and accounted for upon sale, call or maturity of the notes, as discussed below.

If you were to receive a cash payment of the full principal amount of your notes upon the call or maturity of your notes, such payment would likely be treated as (i) payment in full of the principal amount of the Short-Term Debt Portion (which would not result in the recognition of gain or loss if you are an initial purchaser of your notes) and (ii) the lapse of the Put Option which would likely result in your recognition of short-term capital gain in an amount equal to the amount paid to you for the Put Option and deferred as described above. If you were to receive a cash payment upon the maturity of your notes (excluding cash received as a coupon) of less than the full principal amount of your notes, such payment would likely be treated as (i) payment in full of the principal amount of the Short-Term Debt Portion (which would not result in the recognition of gain or loss if you are an initial purchaser of your notes) and (ii) the cash settlement of the Put Option pursuant to which you paid to us an amount equal to the excess of the principal amount of your notes over the amount that you received upon the maturity of your notes (excluding cash received as a coupon) in order to settle the Put Option. If the aggregate amount paid to you for the Put Option and deferred as described above is greater than the amount you are deemed to have paid to us to settle the Put Option, you will likely recognize short-term capital gain in an amount that is equal to such excess. Conversely, if the amount paid to you for the Put Option and deferred as described above is less than the amount you are deemed to have paid to us to settle the Put Option, you will likely recognize short-term capital loss in an amount that is equal to such difference. The deductibility of capital losses is subject to limitations.

If, instead of making a cash payment to you, we were to exchange your notes for shares of the Reference Stock of equivalent value, the receipt of such stock upon the maturity of your notes would likely be treated as (i)

payment in full of the principal amount of the Short-Term Debt Portion (which would likely not result in the recognition of gain or loss if you are an initial purchaser of your notes) and (ii) the exercise by us of the Put Option and your purchase of the shares of stock you receive for an amount equal to the principal amount of your notes. The U.S. federal income tax basis of the shares of stock you receive would equal the principal amount of your notes less the amount of payments you received for the Put Option and deferred as described above. The holding period in the shares of stock you receive would begin the day after you beneficially receive such shares of stock. If you receive cash in lieu of a fractional share of stock, you will be treated as having received such fractional share and then having received cash in exchange for such fractional share. You generally will recognize short-term capital gain or loss based on the difference between the amount of cash received in lieu of the fractional share and the U.S. federal income tax basis allocated to such fractional share. The deductibility of capital losses is subject to limitations.

Upon the sale of your notes, you would be required to apportion the value of the amount you receive between the Short-Term Debt Portion and Put Option on the basis of the values thereof on the date of the sale. You would recognize gain or loss with respect to the Short-Term Debt Portion in an amount equal to the difference between (i) the amount apportioned to the Short-Term Debt Portion and (ii) your adjusted U.S. federal income tax basis in the Debt Portion. Except to the extent attributable to accrued but unpaid interest with respect to the Short-Term Debt Portion, such gain or loss would be short-term capital gain or loss. If you are a cash basis taxpayer and do not elect to accrue interest currently, your adjusted basis in your notes should generally be the purchase price of your notes. If you are an accrual basis holder, or a cash basis holder that elects to accrue interest on your notes currently, your adjusted basis in your notes should generally be the purchase price of your notes increased by the amount of accrued interest and decreased by any interest that is paid in respect of the Short-Term Debt Portion.

Upon the sale of your notes, the amount of cash that you receive that is apportioned to the Put Option (together with any amount of premium received in respect thereof and deferred as described above) would be treated as short-term capital gain. If the value of the Short-Term Debt Portion on the date of the sale of your notes is in excess of the amount you receive upon such sale, you would likely be treated as having made a payment (to the purchaser in the case of a sale) equal to the amount of such excess in order to extinguish your rights and obligations under the Put Option. In such a case, you would likely recognize short-term capital gain or loss in an amount equal to the difference between the premium you previously received in respect of the Put Option and the amount of the deemed payment made by you to extinguish the Put Option. The deductibility of capital losses is subject to limitations.

If you are a secondary purchaser of your notes, you would be required to allocate your purchase price for your notes between the Short-Term Debt Portion and Put Option based on the respective fair market values of each on the date of purchase. If the portion of your purchase price allocated to the Short-Term Debt Portion is in excess of the principal amount of your notes, you may be subject to the amortizable bond premium rules described in the accompanying prospectus under “Tax Consequences—United States Taxation—Debt Securities Purchased at a Premium” with respect to the Short-Term Debt Portion. If the portion of your purchase price allocated to the Short-Term Debt Portion is at a discount from the principal amount of the notes, special market discount rules applicable to short-term debt instruments may apply. You should consult your tax advisor with respect to such rules in such case. The portion of your purchase price that is allocated to the Put Option would likely be offset for tax purposes against amounts you subsequently receive with respect to the Put Option (including amounts received upon a sale of the notes that are attributable to the Put Option), thereby reducing the amount of gain or increasing the amount of loss you would recognize with respect to the Put Option or with respect to the sale of any stock you receive upon the exercise of the Put Option. If, however, the portion of your purchase price allocated to the Short-Term Debt Portion as described above is in excess of your purchase price for your notes, you would likely be treated for tax purposes as having received a payment for the Put Option (which will be deferred as described above) in an amount equal to such excess.

#### Alternative Characterizations

There is no judicial or administrative authority discussing how your notes should be treated for U.S. federal income tax purposes. Therefore, other treatments would also be reasonable and the Internal Revenue Service might assert that treatment other than that described above is more appropriate. For example, the Internal Revenue Service might assert that your notes should be treated as a single debt instrument as described in “Tax Consequences—United States Taxation” in the accompanying prospectus. Pursuant to such characterization, the notes would generally be subject to the rules concerning short-term debt instruments as described under the heading “Tax

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Consequences—United States Taxation—Original Issue Discount—Short-Term Debt Securities” in the accompanying prospectus. It is also possible that you may be required to include the entire coupon in income when it is received. Further, your note may be characterized in whole or in part as a notional principal contract or as a different type of derivative contract. In addition, if the term of your notes may exceed one year in the event of a market disruption event, your notes may be treated as notes with a term in excess of one year. In such case, your notes would be subject to the rules described under “Where the Term of Your Notes Exceeds One Year” above.

In addition, the Internal Revenue Service has released a notice that may affect the taxation of holders of “prepaid forward contracts” and similar instruments. According to the notice, the Internal Revenue Service and the U.S. Treasury Department are actively considering whether the holder of such instruments should be required to accrue ordinary income on a current basis. While it is not clear whether the notes would be viewed as similar to such instruments, it is possible that any future guidance could materially and adversely affect the tax consequences of an investment in the notes, possibly with retroactive effect. You should consult your tax advisor as to the tax consequences of possible alternative characterizations of your note for U.S. federal income tax purposes.

#### Backup Withholding and Information Reporting

Payments made with respect to the notes and proceeds from the call, sale or maturity of the notes may be subject to a backup withholding tax unless, in general, the holder complies with certain procedures or is an exempt recipient. Any amounts so withheld generally will be refunded by the Internal Revenue Service or allowed as a credit against the holder's U.S. federal income tax liability, provided the holder makes a timely filing of an appropriate tax return or refund claim to the Internal Revenue Service.

Reports will be made to the Internal Revenue Service and to holders that are not exempted from the reporting requirements.

#### Non-U.S. Holders

The following discussion applies to non-U.S. holders of the notes. You are a non-U.S. holder if you are a beneficial owner of a note and are for U.S. federal income tax purposes a non-resident alien individual, a foreign corporation, or a foreign estate or trust.

As discussed above, the U.S. federal income tax treatment of the notes is uncertain and Royal Bank and its affiliates will withhold U.S. federal income tax at a 30% rate (or at a lower rate under an applicable income tax treaty) in respect of interest payments made on the notes to a non-U.S. holder unless such payments are effectively connected with the conduct by the non-U.S. holder of a trade or business in the United States (in which case, to avoid withholding, the non-U.S. holder will be required to provide a Form W-8ECI). We will not pay any additional amounts in respect of such withholding. To claim benefits under an income tax treaty, a non-U.S. holder must obtain a taxpayer identification number and certify as to its eligibility under the appropriate treaty's limitations on benefits article, if applicable (which certification may generally be made on a Form W-8BEN or W-8BEN-E, or a substitute or successor form). In addition, special rules may apply to claims for treaty benefits made by corporate non-U.S. holders. A non-U.S. holder that is eligible for a reduced rate of U.S. federal withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the Internal Revenue Service. The availability of a lower rate of withholding or an exemption from withholding under an applicable income tax treaty will depend on the proper characterization of the interest payments under U.S. federal income tax laws and whether such treaty rate or exemption applies to such interest payments. No assurance can be provided on the proper characterization of the interest payments for U.S. federal income tax purposes and, accordingly, no assurance can be provided on the availability of benefits under any income tax treaty. Non-U.S. holders must consult their tax advisors in this regard.

If you do not hold your notes through an account with Royal Bank or its affiliates, the institution through which you hold the notes may determine to withhold U.S. federal income tax in respect of interest payments made on the notes as described above.

You will generally not be subject to U.S. federal income or withholding tax on any gain upon the sale or maturity of the notes, provided that (i) you comply with applicable certification requirements, which certification may be made on an Form W-8BEN or W-8BEN-E (or a substitute or successor form) on which you certify, under penalties of perjury, that you are not a U.S. person and provide your name and address, (ii) your gain is not



effectively connected with your conduct of a U.S. trade or business, and (iii) if you are a non-resident alien individual, you are not present in the U.S. for 183 days or more during the taxable year of the sale or maturity of the notes. In the case of (ii) above, you generally would be subject to U.S. federal income tax with respect to any income or gain in the same manner as if you were a U.S. holder and, if you are a corporation, you may also be subject to a branch profits tax equal to 30% (or such lower rate provided by an applicable U.S. income tax treaty) of a portion of your earnings and profits for the taxable year that are effectively connected with its conduct of a trade or business in the U.S., subject to certain adjustments. Payments made to you may be subject to information reporting and to backup withholding unless you comply with applicable certification and identification requirements as to your foreign status.

A “dividend equivalent” payment is treated as a dividend from sources within the United States and such payments generally would be subject to a 30% U.S. withholding tax if paid to a non-U.S. holder. Under U.S. Treasury Department regulations, payments (including deemed payments) with respect to equity-linked instruments (“ELIs”) that are “specified ELIs” may be treated as dividend equivalents if such specified ELIs reference an interest in an “underlying security,” which is generally any interest in an entity taxable as a corporation for U.S. federal income tax purposes if a payment with respect to such interest could give rise to a U.S. source dividend. However, the IRS has issued guidance that states that the U.S. Treasury Department and the IRS intend to amend the effective dates of the U.S. Treasury Department regulations to provide that withholding on dividend equivalent payments will not apply to specified ELIs that are not delta-one instruments and that are issued before January 1, 2019. Accordingly, if the notes are not delta-one instruments and are issued before January 1, 2019, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the notes. However, it is possible that the notes could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events affecting the underlying or the notes, and following such occurrence the notes could be treated as subject to withholding on dividend equivalent payments. Non-U.S. holders that enter, or have entered, into other transactions in respect of the underlying or the notes should consult their tax advisors as to the application of the dividend equivalent withholding tax in the context of the notes and their other transactions. If any payments are treated as dividend equivalents subject to withholding, we (or the applicable paying agent) would be entitled to withhold taxes without being required to pay any additional amounts with respect to amounts so withheld.

As discussed above, alternative characterizations of the notes for U.S. federal income tax purposes are possible. Should an alternative characterization, by reason of change or clarification of the law, by regulation or otherwise, cause payments as to the notes to become subject to withholding tax, or if we or the institution through which you hold the notes determine withholding is appropriate under current law, we or such institution will withhold tax at the applicable statutory rate. We will not be required to pay any additional amounts in respect of such withholding. Prospective investors should consult their own tax advisors in this regard.

#### Foreign Account Tax Compliance Act

The Foreign Account Tax Compliance Act (“FATCA”) imposes a 30% U.S. withholding tax on certain U.S. source payments, including interest (and original issue discount), dividends, other fixed or determinable annual or periodical gain, profits, and income, and on the gross proceeds from a disposition of property of a type which can produce U.S. source interest or dividends (“Withholdable Payments”), if paid to a foreign financial institution (including amounts paid to a foreign financial institution on behalf of a holder), unless such institution enters into an agreement with the U.S. Treasury Department to collect and provide to the U.S. Treasury Department certain information regarding U.S. financial account holders, including certain account holders that are foreign entities with U.S. owners, with such institution or otherwise complies with FATCA. In addition, the notes may constitute a “financial account” for these purposes and thus, be subject to information reporting requirements pursuant to FATCA. FATCA also generally imposes a withholding tax of 30% on Withholdable Payments made to a non-financial foreign entity unless such entity provides the withholding agent with a certification that it does not have any substantial U.S. owners or a certification identifying the direct and indirect substantial U.S. owners of the entity. Under certain circumstances, a holder may be eligible for refunds or credits of such taxes.

The U.S. Treasury Department and the IRS have announced that withholding on payments of gross proceeds from a sale or redemption of the notes will only apply to payments made after December 31, 2018. If we determine withholding is appropriate with respect to the notes, we will withhold tax at the applicable statutory rate, and we will not pay any additional amounts in respect of such withholding. Foreign financial institutions and non-financial foreign entities located in jurisdictions that have an intergovernmental agreement with the United States

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governing FATCA may be subject to different rules. Prospective investors are urged to consult with their own tax advisors regarding the possible implications of FATCA on their investment in the notes.

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## EMPLOYEE RETIREMENT INCOME SECURITY ACT

This section is only relevant to you if you are an insurance company or the fiduciary of a pension plan or an employee benefit plan (including a governmental plan, an IRA or a Keogh Plan) proposing to invest in the notes.

The Employee Retirement Income Security Act of 1974, as amended (“ERISA”), imposes certain requirements on “employee benefit plans” (as defined in Section 3(3) of ERISA) subject to ERISA, including entities such as collective investment funds and separate accounts whose underlying assets include the assets of such plans (collectively, “ERISA Plans”) and on those persons who are fiduciaries with respect to ERISA Plans. Each fiduciary of an ERISA Plan should consider the fiduciary standards of ERISA in the context of the ERISA Plan’s particular circumstances before authorizing an investment in the covered bonds. Accordingly, among other factors, the fiduciary should consider whether the investment would satisfy the prudence and diversification requirements of ERISA and would be consistent with the documents and instruments governing the ERISA Plan.

In addition, Section 406 of ERISA and Section 4975 of the Internal Revenue Code prohibit certain transactions involving the assets of an ERISA Plan, as well as those plans that are not subject to ERISA but which are subject to Section 4975 of the Internal Revenue Code, such as individual retirement accounts, including entities whose underlying assets include the assets of such plans (together with ERISA Plans, “Plans”) and certain persons (referred to as “parties in interest” or “disqualified persons”) having certain relationships to such Plans, unless a statutory or administrative exemption is applicable to the transaction. Governmental plans may be subject to similar prohibitions. Therefore, a plan fiduciary considering purchasing notes should consider whether the purchase or holding of such instruments might constitute a “prohibited transaction.”

Royal Bank and certain of its affiliates each may be considered a “party in interest” or a “disqualified person” with respect to many employee benefit plans by reason of, for example, Royal Bank (or its affiliate) providing services to such plans. Prohibited transactions within the meaning of ERISA or the Internal Revenue Code may arise, for example, if notes are acquired by or with the assets of a Plan, and with respect to which Royal Bank or any of its affiliates is a “party in interest” or a “disqualified person,” unless those notes are acquired under an exemption for transactions effected on behalf of that Plan by a “qualified professional asset manager” or an “in-house asset manager,” for transactions involving insurance company general accounts, for transactions involving insurance company pooled separate accounts, for transactions involving bank collective investment funds, or under another available exemption. Section 408(b)(17) provides an additional exemption for the purchase and sale of securities and related lending transactions where neither the issuer of the securities nor any of its affiliates have or exercise any discretionary authority or control or render any investment advice with respect to the assets of any Plan involved in the transaction and the Plan pays no more than “adequate consideration” in connection with the transaction. The person making the decision on behalf of a Plan or a governmental plan shall be deemed, on behalf of itself and any such plan, by purchasing and holding the notes, or exercising any rights related thereto, to represent that (a) such purchase, holding and exercise of the notes will not result in a non-exempt prohibited transaction under ERISA or the Internal Revenue Code (or, with respect to a governmental plan, under any similar applicable law or regulation) and (b) neither Royal Bank nor any of its affiliates is a “fiduciary” (within the meaning of Section 3(21) of ERISA) with respect to the purchaser or holder in connection with such person’s acquisition, disposition or holding of the notes, or any exercise related thereto or as a result of any exercise by Royal Bank or any of its affiliates of any rights in connection with the notes, and no advice provided by Royal Bank or any of its affiliates has formed a primary basis for any investment decision by or on behalf of such purchaser or holder in connection with the notes and the transactions contemplated with respect to the notes.

If you are an insurance company or the fiduciary of a pension plan or an employee benefit plan, and propose to invest in the notes, you should consult your legal counsel.

#### SUPPLEMENTAL PLAN OF DISTRIBUTION

With respect to each note to be issued, Royal Bank will agree to sell to RBC Capital Markets, LLC, and RBC Capital Markets, LLC will agree to purchase from Royal Bank, the principal amount of the note specified, at the price specified under “Proceeds to Royal Bank,” in the relevant pricing supplement. RBC Capital Markets, LLC intends to resell each note it purchases at the original issue price specified in the relevant pricing supplement. In the future, RBC Capital Markets, LLC or another of our affiliates may repurchase and resell the notes in market-making transactions, with resales being made at prices related to prevailing market prices at the time of resale or at negotiated prices. For more information about the plan of distribution, the distribution agreement and possible market-making activities, see “Supplemental Plan of Distribution” in the accompanying prospectus supplement.

The notes are not intended for purchase by any investor that is not a United States person, as that term is defined for U.S. federal income tax purposes, and RBC Capital Markets, LLC and its affiliates will not make offers of the notes to any such investor in the initial offering of the notes or in any secondary market.

No Prospectus (as defined in Directive 2003/71/EC (as amended, the “Prospectus Directive”)) will be prepared in connection with these notes. Accordingly, these notes may not be offered to the public in any member state of the European Economic Area (the “EEA”), and any purchaser of these notes who subsequently sells any of these notes in any EEA member state must do so only in accordance with the requirements of the Prospectus Directive, as implemented in that member state.

The notes are not intended to be offered, sold or otherwise made available to, and should not be offered, sold or otherwise made available to, any retail investor in the EEA. For these purposes, the expression “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe the notes, and a “retail investor” means a person who is one (or more) of: (a) a retail client, as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “MiFID II”); or (b) a customer, within the meaning of Insurance Distribution Directive 2016/97/EU, as amended, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (c) not a qualified investor as defined in the Prospectus Directive. Consequently, no key information document required by Regulation (EU) No 1286/2014 (as amended, the “PRIIPs Regulation”) for offering or selling the notes or otherwise making them available to retail investors in the EEA has been prepared, and therefore, offering or selling the notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

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No dealer, salesman or other person has been authorized to give any information or to make any representation not contained in this product prospectus supplement or the accompanying prospectus or prospectus supplement and, if given or made, such information or representation must not be relied upon as having been authorized by Royal Bank of Canada or RBC Capital Markets, LLC. This product prospectus supplement, the accompanying prospectus and prospectus supplement do not constitute an offer to sell or a solicitation of an offer to buy any securities other than the securities described in this product prospectus supplement nor do they constitute an offer to sell or a solicitation of an offer to buy the securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. The delivery of this product prospectus supplement, the accompanying prospectus and prospectus supplement at any time does not imply that the information they contain is correct as of any time subsequent to their respective dates.

Royal Bank of Canada

Senior Global Medium-Term Notes, Series H

Reverse Convertible Notes Linked to an Equity Security or an Exchange Traded Fund

September 10, 2018

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