RBC US Group Holdings LLC

Liquidity Coverage Ratio Disclosure

For the three months ended September 30, 2019

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I. Company Overview

The Royal Bank of Canada ("RBC") is a Schedule I bank chartered under the Bank Act (Canada). RBC and its subsidiaries ("RBC Group") operate under the public brand name RBC. RBC is the largest bank in Canada, and one of the largest banks in the world, based on market capitalization. The RBC Group is one of North America's leading diversified financial services companies and provides personal and commercial banking, wealth management services, insurance, corporate and investment banking and transaction processing services on a global basis.

RBC U.S. Group Holdings, LLC ("RIHC") is a wholly owned subsidiary of RBC and is a bank holding company organized under the laws of the State of Delaware. RIHC is also RBC's U.S. intermediate holding company under the Federal Reserve Board's Enhanced Prudential Standards for Foreign Banking Organizations ("Regulation YY"). RIHC is subject on a consolidated basis to the modified LCR requirements of the U.S. Liquidity Coverage Ratio rule ("U.S. LCR Rule").

RIHC businesses include RBC's U.S. retail, private and wholesale banking business. U.S. retail banking refers to the personal and private banking activities conducted under RBC's insured depositary institution subsidiaries, City National Bank, N.A. ("CNB") and RBC Bank Georgia, N.A. ("RBC Bank"). U.S. wholesale banking, including broker-dealer activities, refers to the institutional banking activities conducted under RBC Capital Markets, LLC ("CM LLC").

II. Liquidity Coverage Ratio

The U.S. LCR Rule sets forth minimum liquidity standards designed to ensure that covered banking organizations maintain adequate liquidity under a 30 calendar day period of stress. The U.S. LCR Rule requires RIHC to maintain an amount of unencumbered high quality liquid assets ("HQLA") that is sufficient to meet its estimated total net cash outflows over a prospective 30 calendar day period of significant stress. The Liquidity Coverage Ratio ("LCR") is required to be a minimum of 100%. Under the U.S. LCR Rule, the amount of HQLA held by RIHC that is in excess of the 100% minimum U.S. LCR requirement, and that is not transferable to nonbank affiliates, must be excluded from the RIHC's reported HQLA.

RIHC is subject to the modified LCR. A modified LCR holding company is required to disclose its average total net cash outflow amount after applying a factor of 0.7 (which reflects the fact that modified LCR holding companies are required to apply a factor of 0.7 to their average total net cash outflow amount under the U.S. LCR Rule). A modified LCR holding company is also not required to calculate a maturity mismatch add-on amount in row 31 of the disclosure template, below.

HQLA is categorized into Level 1, Level 2A and Level 2B assets. Under the U.S. LCR Rule, Level 1 assets are considered the most liquid with a haircut of 0% applied to the asset's fair value. Level 2A and Level 2B assets are less liquid and have prescribed 15% and 50% haircuts, respectively. Level 2 assets can account for no more than 40% of the total eligible HQLA, post-haircut. Level 2B assets, post-haircut, are limited to 15% of the total eligible HQLA.

III. LCR Disclosure Requirements

The U.S. LCR Disclosure Rule requires RIHC to make quantitative and qualitative disclosures related to RBC's U.S. LCR calculations and liquidity management practices on a calendar quarterly basis ("U.S. LCR Disclosures"). Within the U.S. LCR Disclosures, the unweighted amounts of eligible HQLA represent quarterly average balances prior to the application of prescribed regulatory haircuts and caps. The weighted amounts of eligible HQLA represent the unweighted amounts multiplied by the respective haircuts and caps. The unweighted amounts of cash outflows and cash inflows represent quarterly average balances prior to the application of prescribed regulatory cash outflow and cash inflow rates. The weighted amounts of cash outflows and cash inflows represent the unweighted amounts multiplied by the respective rates.

IV. LCR Quantitative Disclosure

The following table summarizes RIHC's average LCR for the three months or quarter ended September 30, 2019.

For calendar Q3 2019, RIHC had an average LCR of 128%, with average weighted eligible HQLA of $ 14,012 million and average weighted net cash outflows of $10,970 million.

Table 1, below, provides the simple average of the daily RIHC's LCR for three months or the quarter ended September 30, 2019.

Table 1	
Average Weighted Amount[1]	**Three months ended September 30, 2019**
HQLA[2] (in millions)	$ 14,012
Net Cash Outflows (in millions)	$ 10,970
LCR	**128%**
Excess HQLA[2] (in millions)	$ 3,042

Table 2, below, presents further detail on the RIHC's average LCR, and average unweighted and weighted amount of HQLA, cash outflows and cash inflows, for the three months or quarter ended September 30, 2019. The information is presented in separate columns for Average Unweighted and Average Weighted amounts. Values in the Average Unweighted column are shown before the application of prescribed factors for each category of HQLA, Outflows and Inflows. Calculation of the final ratio is based on the calculated Average Weighted (post-factor) amounts.

[1] Represents the average weighted amount after applying regulatory prescribed (1) HQLA haircuts and (2) cash outflow and inflow rates, respectively.

[2] Excludes average excess HQLA held at CNB, RBC Bank, and CM LLC, which are not transferable to non-bank affiliates.

Table 2			
	RBC US GROUP HOLDINGS LLC		
	LIQUIDITY COVERAGE RATIO DISCLOSURE TEMPLATE		
07/31/2019 to 09/30/2019 In millions of U.S. Dollars		Average Unweighted Amount	Average Weighted Amount
HIGH-QUALITY LIQUID ASSETS			
1	Total eligible high-quality liquid assets (HQLA)[1], of which:	14,254	14,012
2	Eligible level 1 liquid assets	13,383	13,383
3	Eligible level 2A liquid assets	555	471
4	Eligible level 2B liquid assets	316	158
CASH OUTFLOW AMOUNTS			
5	Deposit outflow from retail customers and counterparties, of which:	33,031	4,456
6	Stable retail deposit outflow	5,404	162
7	Other retail funding outflow	14,441	1,867
8	Brokered deposit outflow	13,186	2,427
9	Unsecured wholesale funding outflow, of which:	19,924	6,946
10	Operational deposit outflow	13,530	3,382
11	Non-operational funding outflow	6,361	3,531
12	Unsecured debt outflow	33	33
13	Secured wholesale funding and asset exchange outflow	34,378	7,981
14	Additional outflow requirements, of which:	16,595	3,354
15	Outflow related to derivative exposures and other collateral requirements	673	673
16	Outflow related to credit and liquidity facilities including unconsolidated structured transactions and mortgage commitments	15,922	2,681
17	Other contractual funding obligation outflow	1,682	1,682
18	Other contingent funding obligations outflow	-	-
19	**TOTAL CASH OUTFLOW**	**105,610**	**24,418**
CASH INFLOW AMOUNTS			
20	Secured lending and asset exchange cash inflow	34,973	7,445
21	Retail cash inflow	337	168
22	Unsecured wholesale cash inflow	1,368	1,076
23	Other cash inflows, of which:	58	58
24	Net derivative cash inflow	1	1
25	Securities cash inflow	57	57
26	Broker-dealer segregated account inflow	-	-
27	Other cash inflow	-	-
28	**TOTAL CASH INFLOW**	**36,735**	**8,748**
			Average Amount[2]
29	**HQLA AMOUNT**		**14,012**
30	**TOTAL NET CASH OUTFLOW AMOUNT EXCLUDING THE MATURITY MISMATCH ADD-ON**		**15,671**
31	**MATURITY MISMATCH ADD-ON**		**N/A**
32	**TOTAL NET CASH OUTFLOW AMOUNT**		**10,970**
33	**LIQUIDITY COVERAGE RATIO (%)**		**128%**

[1] Excludes eligible excess HQLA held at subsidiaries in excess of each subsidiary's standalone minimum LCR requirement.

[2] The amounts reported in this column may not equal the calculation of those amounts using component amounts reported in rows 1-28 due to technical factors such as the application of the level 2 liquid asset caps, the total inflow cap, and for depository institution holding companies subject to subpart G, the application of the modification to total net cash outflows.

V. LCR Qualitative Disclosure

V.A Changes in and Main Drivers of LCR

Changes in LCR

RIHC continues to maintain a stable average LCR well above the regulatory minimum of 100%. RIHC's average LCR was 128% and 131% for the three months ended September 30, 2019 and June 30, 2019, respectively. The average LCR decreased from the prior quarter due to an increase in modeled net outflows which more than offset the increase in average HQLA.

Main Drivers of LCR

RIHC's average LCR is driven by:

I. Changes in the RIHC's deposits from retail customers and counterparties;

II. Changes in RIHC's unsecured and secured wholesale funding; and

III. Asset exchange outflows offset by inflows primarily from secured lending and asset exchanges.

RIHC's estimated net cash outflows over the 30 calendar day period of stress are based on standardized stress outflow and inflow rates prescribed in the U.S. LCR Rule, which are applied to the balances of the RIHC's assets, sources of funds and obligations.

V.B The Composition of Eligible HQLA

Under the U.S. LCR Rule, liquid assets generally qualify as eligible HQLA if they are unencumbered, can quickly be converted into cash during a period of stress and are under the control of the management function that is charged with managing liquidity risk. The U.S. LCR Rule further prescribes asset haircuts to be applied to the fair market value of RIHC's assets by asset type.

Table 3

RBC US Group Holdings LLC HQLA Categories as a Percentage of Total Eligible HQLA

Asset Type	Average Unweighted	Average Weighted
Level 1 assets	93.9%	95.5%
Level 2A assets	3.9%	3.4%
Level 2B assets	2.2%	1.1%

V.C Concentration of Funding Sources

RIHC's funding strategy is centered on maintaining a funding profile that is diversified by structure and tenor. RIHC closely monitors and manages the tenor of funding sources to ensure it can meet liquidity needs under different stress scenarios and different time horizons.

RIHC's primary source of funding is unsecured deposits. CNB and RBC Bank deposits are originated from retail and small business customers as well as commercial clients. Deposits also include affiliated brokered sweep deposits under a deposit sweep program with CM LLC and RBC's wealth management affiliates, a substantial portion of which are considered to be a stable, low-cost and consistent source of funding. Additionally, RIHC uses secured financing activities, such as repurchase agreements and securities lending to fund the U.S. wholesale banking business.

V.D Derivatives Exposures and Potential Collateral Calls

RIHC enters into derivatives transactions primarily to hedge interest rate risk and foreign exchange currency risk. RIHC's LCR reflects estimated additional collateral calls in the event of potential valuation changes or downgrades in RBC's credit ratings. RIHC maintains sufficient liquidity reserves to counter potential liquidity outflows from derivatives activities under various stress scenarios.

V.E Currency Mismatch in the LCR

RIHC conducts business predominantly in U.S. dollars. Exposure from currency mismatches is closely monitored and managed through hedging activities, including hedging via derivatives contracts.

V.F Liquidity Management Function

RBC maintains a disciplined approach to managing potential exposure to liquidity risk by establishing a liquidity risk profile to meet internal and regulatory expectations. Liquidity risk is the risk that RBC's combined U.S. operations ("RBC CUSO"), which consists of the RIHC and RBC's U.S. branch and agency network, is unable to generate or obtain sufficient liquidity and/or collateral (E.g., cash or its equivalents) on a cost-effective basis to meet contractual and contingent commitments as they fall due. RBC's liquidity stress testing program plays a critical role in assessing the potential impact of a range of extreme, but plausible, events impacting RBC CUSO's liquidity risk profile. Liquidity stress test results are used to assess and enhance contingency funding plans and set internal risk tolerances and limits.

In line with Regulation YY, RBC monitors and manages RBC's liquidity risk management for RBC CUSO and has established a liquidity risk management governance framework and independent review function. The following governance is in place with respect to liquidity management:

I. At the Board governance level, the Joint RIHC /U.S. Risk Committee ("USRC"), which is a joint committee of the RIHC Risk Committee and the U.S. Risk Committee of RBC, regularly reviews RBC CUSO's liquidity position (at least quarterly) and approves RBC CUSO's Liquidity Risk Appetite (at least annually) defined by its selected target survival horizons, asset funding and asset pledging disciplines, and related liquidity risk strategies.

II. At the Management governance level, the RBC CUSO Risk Management Committee ("CUSO RMC") reviews RBC CUSO's liquidity risk profile (stress testing results and liquidity risk limits) and recommends to the USRC for approval.

III. Group Risk Management ("GRM"), as the second line of defense, is responsible for the ownership and maintenance of liquidity risk management policies approved by the USRC, along with associated limits, standards and processes which are designed such that consistent and efficient liquidity management approaches are applied across RBC CUSO. U.S. GRM-Liquidity Risk Oversight, within the GRM function, provides independent oversight, risk assessment, and effective challenge of the U.S. liquidity risk management program, including regular reviews of the adequacy and effectiveness of liquidity risk management processes. Additionally, the Internal Audit group, as the third line of defense, provides independent and objective assurance to the USRC regarding the reliability and effectiveness of key elements of the RBC's liquidity risk management, internal controls and governance processes.

VI. Forward Looking Information

From time to time, Royal Bank of Canada ("RBC" or "we" or "us") may make written or oral forward-looking statements within the meaning of certain securities laws, including the "safe harbor" provisions of the United States Private Securities Litigation Reform Act of 1995 and any applicable Canadian securities legislation. We may make forward-looking statements in this document, in filings with Canadian regulators or the U.S. Securities and Exchange Commission (SEC), in reports to shareholders and in other communications. Forward-looking statements in this document include, but are not limited to, statements relating to RIHC's liquidity coverage ratio, cash flows, and high quality liquid assets . The forward-looking information contained in this document is presented for the purpose of complying with the U.S. LCR Disclosure Rule and may not be appropriate for other purposes. The forward-looking information contained in this document is based on the assumptions prescribed by the U.S. LCR Rule and represents the views of management only as of the date hereof. Forward-looking statements are typically identified by words such as "believe", "expect", "foresee", "forecast", "anticipate", "intend", "estimate", "goal", "plan" and "project" and similar expressions of future or conditional verbs such as "will", "may", "should", "could" or "would".

By their very nature, forward-looking statements require us to make assumptions and are subject to inherent risks and uncertainties, which give rise to the possibility that our predictions, forecasts, projections, expectations or conclusions will not prove to be accurate, that our assumptions may not be correct. We caution readers not to place undue reliance on these statements as a number of risk factors could cause our actual results to differ materially from the expectations expressed in such forward-looking statements. These factors – many of which are beyond our control and the effects of which can be difficult to predict – include: credit, market, liquidity and funding, insurance, operational, regulatory compliance, strategic, reputation, legal and regulatory environment, competitive and systemic risks and other risks discussed in the risk sections of our Annual Report for the fiscal year ended October 31, 2018 (2018 Annual Report) and the Risk management section of our Q3 2019 Report to Shareholders, including global uncertainty, Canadian housing and household indebtedness, information technology and cyber risk, regulatory changes, digital disruption and innovation, data and third party related risks, climate change, the business and economic conditions in the geographic regions in which we operate, the effects of changes in government fiscal, monetary and other policies, tax risk and transparency, and environmental and social risk.

We caution that the foregoing list of risk factors is not exhaustive and other factors could also adversely affect our results. When relying on our forward-looking statements to make decisions with respect to us, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. Material economic assumptions underlying the forward-looking statements contained in this document are set out in the Economic, market, and regulatory review and outlook section and for each business segment under the Strategic priorities and Outlook headings in our 2018 Annual Report, as updated by the Economic, market and regulatory review and outlook section of our Q3 2019 Report to Shareholders. Except as required by law, we do not undertake to update any forward-looking statement, whether written or oral, that may be made from time to time by us or on our behalf. Additional information about these and other factors can be found in the risk sections of our 2018 Annual Report and the Risk management section of our Q3 2019 Report to Shareholders.