LIPA
Long Island Power Authority

Tamela Monroe
Chief Financial Officer
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February 16, 2021

To: Finance & Audit Committee
LIPA Board of Trustees

Re: Quarterly Report on Interest Rate Exchange Agreements
Quarter Ended December 31, 2020

Dear Finance & Audit Committee Members:

The Long Island Power Authority ("the Authority", "LIPA") is filing this report pursuant to reporting requirements outlined in the Comprehensive Guidelines for the Use of Interest Rate Exchange Agreements, as approved by the Board of Trustees on March 29, 2017.

Description of the Interest Rate Exchange Agreements

As of December 31, 2020, LIPA had the following interest rate swap agreements outstanding:

Counterparty	Type of Swap	Notional Outstanding ($000)	Effective Date	Maturity Date
UBS AG	Floating-to-Fixed	$587,225	6/1/2003	12/1/2029
Citibank, N.A.	Floating-to-Fixed	$251,510	9/1/2022	9/1/2042
Wells Fargo Bank, N.A.	Floating-to-Fixed	$164,860	9/1/2022	9/1/2029
Merrill Lynch Capital Services, Inc.	Basis Swap	$413,213	7/1/2004	8/15/2033
Citibank, N.A.	Basis Swap	$206,606	7/1/2004	8/15/2033
JPMorgan Chase & Co.	Basis Swap	$206,606	7/1/2004	8/15/2033
Wells Fargo Bank, N.A.	Total Return	$51,000	5/1/2020	6/29/2023
Wells Fargo Bank, N.A.	Total Return	$149,000	5/1/2020	6/29/2023
Wells Fargo Bank, N.A.	Total Return	$175,000	9/15/2016	9/1/2021

As of December 31, 2020, the estimated total mark-to-market value of the transactions was approximately negative $242 million (please see Appendix A). The mark-to-market value excludes transaction costs and is calculated at prevailing mid-market rates. Therefore, it represents the hypothetical amount that LIPA would owe to the counterparties if the transactions were terminated on that date, absent transaction costs.

Counterparty Ratings

As of December 31, 2020, the Authority's counterparties had the following ratings and outlooks:

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Counterparty	Moody's		S&P		Fitch	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
UBS	Aa3	Stable	A+	Stable	AA-	Negative
Merrill Lynch[1]	A2	Stable	A-	Stable	A+	Stable
Citibank	Aa3	Stable	A+	Stable	A+	Negative
JPMorgan[2]	A2	Stable	A-	Stable	AA-	Negative
Wells Fargo	Aa2	Negative	A+	Stable	AA-	Negative

[1]Guaranteed by Bank of America Corp.
[2]Original counterparty was Bear Stearns Capital Markets Inc.

Risks

The Authority is subject to certain risks under its interest rate swap transactions, including:

Counterparty Risk: the risk that a counterparty (or its guarantor) will fail to make a payment or default under the swap agreement and LIPA will lose the benefit of the hedge. If a counterparty were to default under its agreement when owing a termination payment to LIPA, LIPA may have to pay another entity to assume the position of the defaulting counterparty. The swap agreements contain various termination events and collateral posting provision to mitigate counterparty risk for lower-rated entities (see Appendix B).

Termination Risk: the risk that a counterparty will terminate a swap with LIPA owing a termination payment. Only LIPA is entitled to terminate these transactions from time-to-time for any reason; the counterparties may only terminate upon the occurrence of certain events such as payment defaults, other defaults which remain uncured for 30 days after notice, the bankruptcy or insolvency of LIPA (or similar events), certain downgrades of LIPA's and a swap insurer's (if any) credit rating, and events related to the underlying bonds. As of December 31, 2020, the credit ratings of LIPA and its swap insurer were as follows:

Entity	Moody's		S&P		Fitch	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
LIPA	A2	Stable	A	Stable	A	Stable
Assured Guaranty Municipal Corp.[1]	A2	Stable	AA	Stable	-	-

[1]Insurer on swaps with UBS and Merrill Lynch.

Collateral Posting Risk: the risk that LIPA will be required to post collateral to its counterparties to secure a negative mark-to-market valuation. LIPA is only required to post collateral should its ratings fall to certain levels (see Appendix B). As of December 31, 2020, there was no collateral posted by either LIPA or its counterparties.

Basis Risk: the risk of a mismatch in the variable rates paid and received by LIPA.

Under the floating-to-fixed swap with UBS, LIPA is subject to the risk that the variable-rate received (69.47% 1M LIBOR) does not offset the payments on the underlying bonds. LIPA

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has minimized this risk by issuing bonds based on the LIBOR index (including when accounting for the Total Return Swaps), thus closely matching the floating rates.

In December 2019, LIPA executed two forward-starting floating-to-fixed swaps with Citibank and Wells Fargo in anticipation of refunding certain bonds in 2022. The floating rate LIPA is set to receive on such swaps (70% 1M LIBOR, or any potential fallback upon the discontinuation of LIBOR), may be different than the rate payable on any variable-rate refunding bonds.

LIPA has three basis swap transactions whereby LIPA pays SIFMA and receives 70.5% of 1M LIBOR. On these swaps, LIPA is subject to the risk that SIFMA trades at a level higher than 70.5% 1M LIBOR, thus resulting in negative cash flows. The relationship between these two rates can be affected by multiple variables, including but not limited to absolute levels of interest rates, supply and demand considerations, and tax factors. The weekly SIFMA/1M LIBOR ratio has fluctuated over time, having averaged 72.1% since the inception of these swaps in 2004.

The Authority views basis risk as a limited form of variable-rate exposure, and therefore takes Basis Risk into account when analyzing outstanding interest rate exposure, as shown in Appendix C.

<u>Risk of Potential Discontinuation of LIBOR:</u> With the upcoming discontinuation of LIBOR, the Board of Governors of the Federal Reserve System, the FDIC and the Office of the Comptroller of the Currency announced that banks should transition away from LIBOR contracts while emphasizing that new activity using LIBOR is expected to cease by the end of 2021. ICE Benchmark Administration Limited ("IBA"), the LIBOR administrator, announced a consultation regarding the actual date on which LIBOR will stop being published, potentially affecting the transition of existing contracts. The new proposed cessation date is June 30, 2023, rather than the initial expected date of December 31, 2021. Following the consultation, an official announcement is expected.

Despite the possible extension, the Alternative Reference Rates Committee ("AARC") continues to strongly recommend that a fallback language is included in legacy LIBOR contracts, and that the transition risk is evaluated and managed. The Secured Overnight Financing Rate ("SOFR") index has been adopted as a replacement index for LIBOR. SOFR is the weighted average interest rate paid on overnight borrowings (repo) collateralized by US Treasury securities. To facilitate the market-wide transition, the International Swap Dealers Association ("ISDA") recently published its Fallback Protocol Supplement which defines the LIBOR Fallback Rate as consisting of SOFR plus an adjustment spread. The SOFR rate is the daily SOFR, compounded over the relevant period (for example, compounded monthly when replacing 1 Month LIBOR). The adjustment spread accounts for the difference between the unsecured loans (LIBOR) and the secured repo (SOFR), and the difference in the terms of the rates (e.g. 1 month vs overnight). The adjustment spread will be determined upon occurrence of certain trigger events, such as an announcement that LIBOR will no longer be published, or that it is no longer representative. The spread will be the same, regardless of the maturity of the transaction, and is calculated as the 5-year historic median difference between the replaced LIBOR and the adjusted overnight SOFR. The Authority has received board approval to convert its LIBOR exposure upon discontinuation

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and is considering adhering to the ISDA Fallback Protocol as a streamlined market approach to conversion of its swap portfolio.

Interest Rate Exposure As of December 31, 2020, LIPA's net floating rate exposure is -4.29% as summarized in Appendix C.

/s/ Tamela Monroe
Tamela Monroe
Chief Financial Officer

Appendix A: Swap Details

Swap Type	Floating-to-Fixed			Basis Swap			Total Return			Total
Counterparty	UBS	Citibank	Wells Fargo	Merrill Lynch Capital Services, Inc.	JPMorgan	Citibank	Wells Fargo	Wells Fargo	Wells Fargo	
Original Notional Amount	$587,225,000	$251,510,000	$164,860,000	$502,090,000	$251,045,000	$251,045,000	$51,000,000	$149,000,000	$175,000,000	**$2,382,775,000**
Outstanding Notional Amount	$587,225,000	$251,510,000	$164,860,000	$413,212,500	$206,606,250	$206,606,250	$51,000,000	$149,000,000	$175,000,000	**$2,205,020,000**
Effective Date	6/1/2003	9/1/2022	9/1/2022	7/1/2004	7/1/2004	7/1/2004	6/29/2015	6/29/2015	9/15/2016	-
Termination Date	12/1/2029	9/1/2042	9/1/2029	8/15/2033	8/15/2033	8/15/2033	6/29/2023	6/29/2023	9/1/2021	-
LIPA Pays	5.12%	1.8571%	1.315%	SIFMA	SIFMA	SIFMA	69.4% of 1-Month LIBOR + 0.36%	69.4% of 1-Month LIBOR + 0.36%	69.4% of 1-Month LIBOR + 0.30%	-
LIPA Receives	69.47% of 1-Month LIBOR	70% of 1-Month LIBOR	70% of 1-Month LIBOR	70.5% of 1-Month LIBOR	70.5% of 1-Month LIBOR	70.5% of 1-Month LIBOR	Bond Rate (MMD Index plus Spread)	Bond Rate (MMD Index plus Spread)	Bond Rate (MMD Index plus Spread)	-
First Counterparty Payment Date	7/1/2003	10/3/2022	10/3/2022	7/15/2004	7/15/2004	7/15/2004	11/6/2015	11/6/2015	11/8/2016	-
First LIPA Payment Date	7/1/2003	10/3/2022	10/3/2022	7/15/2004	7/15/2004	7/15/2004	7/1/2015	7/1/2015	10/3/2016	-
Up Front Cash Payment to LIPA	$82,000,000	-	-	$17,500,000	$8,750,000	$8,750,000	-	-	-	**$117,000,000**
Payments Made by LIPA as of 12/31/2020	($528,575,576)	-	-	($93,629,124)	($46,622,412)	($46,622,050)	($3,471,886)	($10,143,793)	($9,817,389)	**($738,882,230)**
Payments Received by LIPA as of12/31/2020 (excluding upfront payment)	$108,899,420	-	-	$92,419,593	$46,011,065	$46,009,719	$9,146,963	$25,353,509	$23,946,417	**$351,786,686**
LIPA Accrued Interest as of 12/31/2020	($2,505,493)	-	-	($17,274)	($8,637)	($8,637)	($20,527)	($59,970)	($61,393)	**($2,681,930)**
Counterparty Accrued Interest as of 12/31/2020	$53,470	-	-	$20,885	$10,442	$10,442	$183,487	$229,708	$632,528	**$1,140,962**
Mid Mark-to-Market Valuation @ 12/31/2020	($217,865,550)	($12,892,554)	($5,878,280)	($3,256,335)	($1,628,167)	($1,628,167)	$162,960	$169,738	$920,785	**($241,895,571)**
DV01 (Sensitivity to 1bp Increase in LIBOR Swap Rates) @ 12/31/2020	$402,536	$170,391	$54,836	($17,327)	($8,663)	($8,663)	-	-	-	**$593,109**
Ratio 01 (Sensitivity to 1% Increase in SIFMA/LIBOR Ratios @ 12/31/2020	-	-	-	($189,392)	($94,696)	($94,696)	-	-	-	**($378,784)**
Collateral Posted by LIPA @ 12/31/2020	-	-	-	-	-	-	-	-	-	-
Collateral Held by LIPA @ 12/31/2020	-	-	-	-	-	-	-	-	-	-

Appendix B: Additional Termination Events/Collateral Posting Thresholds

Terms Applicable to LIPA: A2 (Moody's), A (S&P), A (Fitch)					
Counterparty	**Citibank**	**JPMorgan**	**Merrill Lynch (BofA Corp.)**	**UBS**	**Wells Fargo**
Insurer			**Assured Guaranty**	**Assured Guaranty**	
Additional Termination Event (below)	Baa2 (Moody's) or BBB (S&P or Fitch)[1] Baa3 (Moody's) or BBB- (S&P or Fitch)	Baa3 (Moody's) or BBB- (S&P)	Baa3 (Moody's) or BBB- (S&P)	See Note 3	Baa3 (Moody's) or BBB- (S&P or Fitch)
Insurer Event (below)			A3 (Moody's) or A- (S&P)[2]	A2 (Moody's) and A (S&P)[3]	
Collateral Thresholds (Lowest Rating)	*N/A - No CSA*	*Moody's / S&P:*	*Moody's / S&P / Fitch:*	*N/A - No CSA*	*Moody's / S&P / Fitch:* [4]
Aa3 or AA- and above		Infinite	Infinite		Infinite
A1 or A+		Infinite	Infinite		Infinite
A2 or A		Infinite	Infinite		Infinite
A3 or A-		Infinite	Infinite		Infinite
Baa1 or BBB+		Infinite	Infinite		Infinite
Baa2 or BBB		Infinite	Infinite		Infinite
Baa3 or BBB-		Zero	$30,000,000		Zero
Below Baa3 or BBB- / NR		Zero	Zero		Zero

Notes:

[1]It shall constitute an ATE if LIPA has been notified of the downgrade and within 20 days does not (a) provide a guarantee/insurance, (b) transfer to an acceptable counterparty, or (c) execute a CSA.

[2]insurance provisions and insurer event pertain to SIFMA/LIBOR basis swap only. It shall constitute an ATE if, within 30 days of notice, LIPA has not provided a substitute insurance policy or other credit enhancement reasonably acceptable (compliance with CSA provisions is deemed as credit enhancement reasonably acceptable).

[3]It shall constitute an ATE if, within 30 days of receiving notice of an Insurer Event, LIPA does not provide a Credit Support Provider, deliver proof of ratings of A3 (Moody's) or A- (S&P), or execute a CSA.

[4]LIPA is not subject to collateral posting on the Total Return Swaps.

Appendix B (continued):

Terms Applicable to Counterparties					
Counterparty (Moody's / S&P / Fitch)	**Citibank Aa3 / A+ / A+**	**JPMorgan A2 / A- / AA-**	**Merrill Lynch (BofA Corp.) A2 / A- / A+**	**UBS Aa3 / A+ / AA-**	**Wells Fargo Aa2 / A+ / AA-**
Additional Termination Event (below)	A3 (Moody's) or A- (S&P or Fitch)[1] Baa3 (Moody's) or BBB- (S&P or Fitch)	Baa3 (Moody's) or BBB- (S&P)	A3 (Moody's) or A- (S&P)	A3 (Moody's) or A- (S&P)[2]	Baa1 (Moody's) or BBB+ (S&P or Fitch)
Collateral Thresholds (Lowest Rating)	*N/A - No CSA*	*Moody's / S&P:*	*Moody's / S&P / Fitch:*	*N/A - No CSA*	*Moody's / S&P / Fitch:*
Aa3 or AA- and above		Infinite	Infinite		Infinite
A1 or A+		Infinite	Infinite		Infinite
A2 or A		Infinite	Infinite		Infinite
A3 or A-		Infinite	Infinite		Infinite
Baa1 or BBB+		$25,000,000	Zero		Zero
Baa2 or BBB		$10,000,000	Zero		Zero
Baa3 or BBB-		Zero	Zero		Zero
Below Baa3 or BBB- / NR		Zero	Zero		Zero
Notes:	[1]It shall constitute an ATE if Citibank has been notified of the downgrade and within 20 days does not (a) provide a guarantee/insurance, (b) transfer to an acceptable counterparty, or (c) execute a CSA. [2]May also include an equivalent rating determined by a nationally-recognized ratings service acceptable to both parties. It shall constitute an ATE if, within 30 days, UBS does not execute a CSA.				

Appendix C	
Long Island Power Authority & UDSA Floating Rate Exposure	12/31/2020
Fixed Rate Bonds	
1998 A	82,960,144
2000 A	265,117,553
2003 C	36,645,000
2010 B	194,715,000
2011 A	685,000
2012 A	166,970,000
2012 B	179,035,000
2014A	413,070,000
2014B	94,010,000
2015B	110,370,000
2016B	368,260,000
2017	345,000,000
2018	430,000,000
2019 A	215,675,000
2019 B	284,250,000
2020 A	237,975,000
2020 B	250,000,000
2020 C	113,975,000
Sub-Total (LIPA)	3,788,712,698
Utility Debt Securitization Authority	
UDSA Series 2013	1,560,590,000
UDSA Series 2015	1,002,115,000
UDSA Series 2016A	636,770,000
UDSA Series 2016B	317,270,000
UDSA Series 2017	366,030,000
Sub-Total (UDSA)	3,882,775,000
Sub-Total (LIPA & UDSA)	**7,671,487,698**
Floating Rate Bonds	
2013 A RCA	200,000,000
2014 C Floating Rate Note	150,000,000
2015 A MMD FRN Rate (1)	200,000,000
2015 C Floating Rate Note	149,000,000
2016 A MMD FRN Rate (1)	175,000,000
General Revenue Notes -1	60,000,000
General Revenue Notes - 2	85,000,000
General Revenue Notes - 3	100,000,000
General Revenue Notes - 4	170,000,000
General Revenue Notes - 5	0
General Revenue Notes - 6	0
Sub-Total	**$1,289,000,000**
TOTAL BONDS ISSUED (a)	**$8,960,487,698**
Total Floating Rate Bonds	**$1,289,000,000**
Net Floating Rate Exposure of Swaps	
Floating-to-Fixed (2)	(585,842,058)
Basis Swap (Floating) (3)	243,795,375
Total Net Floating Rate Exposure of Swaps	**(342,046,683)**
Cash & Short-Term Investments Net of Restricted Funds	**(1,331,593,975)**
NET FLOATING RATE BONDS (b)	**($384,640,657)**
Net Floating Rate Exposure (b) / (a)	-4.29%

1) The 2015A and 2016A Bonds have associated Total Return Swaps whereby LIPA receives the rate paid on the Bonds (MMD Index plus a spread) and pays a rate of 69.4% 1-Month LIBOR plus a spread.
2) Swap with UBS treated as having floating rate exposure equal to the net differential between the floating receiver rate on the swap and the floating rate obligation on LIBOR-based bonds. For purposes of this analysis (netting LIBOR vs. LIBOR exposure) Series 2016A is assumed to be hedged; however, upon the refunding of Series 2012C by 2016A, an equal amount of the UBS swap, previously assigned to Series 2012, was reassigned per the swap documentation to both Series 2015C and GR CP-1 ($86.775mm and $88.225mm, respectively). As of March 23, 2018, GR Notes replaced GR CP-1.
3) Basis Swaps treated as having floating rate exposure equal to a SIFMA/LIBOR ratio of 100% minus the receiver ratio of 70.5%.