TWILIO INC Form SC 13G February 07, 2018

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No.)*

NAME OF ISSUER: Twilio Inc.

TITLE OF CLASS OF SECURITIES: Common Stock

CUSIP NUMBER: 90138F102

DATE OF EVENT WHICH REQUIRES FILING OF THIS STATEMENT: December 31, 2017

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

[X] Rule 13d-1(b)
[] Rule 13d-1(c)
[] Rule 13d-1(d)

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be 'filed' for the purpose of Section 18 of the Securities Exchange Act of 1934 ('Act') or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP NUMBER: 90138F102

- (1) Names of Reporting Persons The Bank of New York Mellon Corporation IRS Identification Nos. of Above Persons IRS No.13-2614959
- (2) Check the Appropriate Box if a Member of a Group (See Instructions) (a) () (b) ()
- (3) SEC use only

(4) Citizenship or Place of Organization New York
 Number of Shares
 (5) Sole Voting Power
 3,697,977

Beneficially(6)Shared Voting Power26,950Owned by Each(6)Shared Voting Power3,870,047With(7)Sole Dispositive Power3,870,047(8)Shared Dispositive Power30,700

(9) Aggregate Amount Beneficially Owned by Each Reporting Person 3,900,747

(10) Check if the Aggregated Amount in Row (9) Excludes Certain

Shares (see Instructions)	()
(11) Percent of Class Represented by Amount in F	Row (9) 5.67%
(12) Type of Reporting Person (See Instructions)	HC

SCHEDULE 13G

Item 1(a) Name of Issuer: Twilio Inc.		
Item 1(b) Address of Issuer's Principal Executive Office: 375 Beale Street, Suite 300 San Francisco, California 94105 United States		
Item 2(a) Name of Person Filing: The Bank of New York Mellon Corporation and any other reporting person(s) identified on the second part of the cover page(s) and Exhibit I		
Item 2(b) Address of Principal Business Office, or if None, Residence: C/O The Bank of New York Mellon Corporation 225 Liberty Street New York, New York 10286 (for all reporting persons)	n	
Item 2(c) Citizenship: See cover page and Exhibit I		
Item 2(d) Title of Class of Securities: Common Stock		
CUSIP Number 90138F102		
Item 3 See Item 12 of cover page(s) ("Type of Reporting Person ") for each reporting person.		
Symbol Category		
BD = Broker or Dealer registered under Section 15 of the Securities Exchange Act of 1934		
BK = Bank as defined in Section 3(a)(6) of the Securities Exchange Act of 1934		
<pre>IV = Investment Company registered under Section 8 of the Investment Company Act of 1940</pre>		
IA = Investment Advisor registered under Section 203 of the Investment Advisors Act of 1940		
EP = Employee Benefit Plan, Pension Fund which is subject to the provisions of the Employee Retirement Income Security Act of 1974 or Endowment Fund; see Section 240.13 - d(1)(b)(1)(ii)(F)		
HC = Parent Holding Company, in accordance with Section 240.13-d(1)(b)(1)(ii)(G)		
Item 4 Ownership: See Item 5 through 9 and 11 of cover page(s) as to each reporting person.		

The amount beneficially owned includes, where appropriate, securities not outstanding which are subject to options, warrants, rights or conversion privileges that are exercisable within 60 days. The securities reported herein as beneficially owned may exclude securities of the issuer with respect to which voting and/or dispositive power is exercised by subsidiaries of The Bank of New York Mellon Corporation, or departments or units thereof, independently from the exercise of those powers over the securities reported herein. See SEC Release No. 34-39538 (January 12, 1998). The filing of this Schedule 13G shall not be construed as an admission that The Bank of New York Mellon Corporation, or its direct or indirect subsidiaries, including The Bank of New York Mellon and BNY Mellon, National Association, are for the purposes of Section 13(d) or 13(g) of the Act, the beneficial owners of any securities covered by this Schedule 13G.

The following information applies if checked: () The Bank of New York Mellon and/or () The Bank of New York Mellon Trust Company, National Association is/are the trustee of the issuer's employee benefit plan (the Plan), which is subject to ERISA. The securities reported include all shares held of record by such reporting person(s) as trustee of the Plan which have not been allocated to the individual accounts of employee participants in the Plan. The reporting person, however, disclaims beneficial ownership of all shares that have been allocated to the individual accounts of employee participants in the Plan for which directions have been received and followed.

Item 5 Ownership of Five Percent or Less of a Class:

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following () $\,$

Item 6 Ownership of More than Five Percent on Behalf of Another Person:

All of the securities are beneficially owned by The Bank of New York Mellon Corporation and its direct or indirect subsidiaries in their various fiduciary capacities. As a result, another entity in every instance is entitled to dividends or proceeds of sale. The number of individual accounts holding an interest of 5% or more is ()

- Item 7 Identification and Classification of the Subsidiary Which Acquired the Security Being Reported by the Parent Holding Company: See Exhibit I.
- Item 8 Identification and Classification of Members of the Group: N/A

Item 9 Notice of Dissolution of Group:

Item 10 Certification:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired and are not held in connection with or as a participant in any transaction having such purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct. This filing is signed by The Bank of New York Mellon Corporation on behalf of all reporting entities pursuant to Rule

N/A

13d-1(k)(1) promulgated under the Securities and Exchange Act of 1934, as amended.

Date: February 07, 2018

THE BANK OF NEW YORK MELLON CORPORATION

By: /s/ IVAN R. ARIAS

Ivan R. Arias Attorney-In-Fact

EXHIBIT I

The shares reported on the attached Schedule 13G are beneficially owned by the following direct or indirect subsidiaries of The Bank of New York Mellon Corporation, as marked (X):

- (A) The Item 3 classification of each of the subsidiaries listed below is
 "Item 3(b) Bank as defined in Section 3(a)(6) of the Act" (15 U.S.C. 78c) or "Item 3(j)A non-U.S. institution in accordance with Rule 240.13d-1
 (b) (1) (ii) (J) "
 - (X) The Bank of New York Mellon (parent holding company of Mellon Overseas Investment Corporation; BNY International Financing Corporation; The Bank of New York Mellon SA/NV; Cutwater Holdings, LLC)
 - () The Bank of New York Mellon Trust Company, National Association
 - (X) BNY Mellon, National Association
 - (X) BNY Mellon Trust of Delaware
 - () The Bank of New York Mellon SA/NV (parent holding company of BNY Mellon Service Kapitalanlage-Gesellschaft mbH)
- (B) The Item 3 classification of each of the subsidiaries listed below is
 "Item 3(e) An investment adviser in accordance with Section 240.13d-1
 (b) (1) (ii) (E) " or "Item 3(j) A non-U.S. institution in accordance with Rule 240.13d-1(b) (1) (ii) (J) "
 - () ARX Investimentos Ltda (parent holding company of BNY Mellon Alocacao de Patrimonia Ltda.)
 - () BNY Mellon Alocacao de Patrimonia Ltda
 - () BNY Mellon Servicos Financeiros Distribuidora de Titulos e Valores Mobiliarios S.A.(parent holding company of BNY Mellon Administracao de Ativos Ltda.)
 - () BNY Mellon Administracao de Ativos Ltda.
 - (X) The Boston Company Asset Management LLC
 - (X) The Dreyfus Corporation (parent holding company of MBSC Securities Corporation)
 - () Insight Investment Management (Global) Limited
 - () Lockwood Advisors, Inc.
 - (X) Mellon Capital Management Corporation
 - () Newton Investment Management (North America) Limited
 - () Newton Investment Management Limited
 - () Standish Mellon Asset Management Company LLC
 - CenterSquare Investment Management Holdings, Inc.(parent holding company of CenterSquare Investment Management, Inc.)
 - () CenterSquare Investment Management, Inc.
 - () Walter Scott & Partners Limited
 - () BNY Mellon Wealth Management, Advisory Services, Inc.
 - () BNY Mellon Trust Company(Cayman) Limited
 - () BNY Mellon Investment Management Cayman Limited
 - () Cutwater Asset Management Corporation

- () Cutwater Investor Services Corporation
- () Pareto Investment Management Limited
- () BNY Mellon Asset Management Japan Limited
- (C) The Item 3 classification of each of the subsidiaries listed below is "Item 3(a) Broker or dealer registered under Section 15 of the Act" (15 U.S.C. 78c) or "Item 3(j) A non-U.S. institution in accordance with Rule 240.13d-1(b)(1)(ii)(J)"
 - (X) BNY Mellon Capital Markets, LLC
 - () MBSC Securities Corporation
 - (X) Pershing LLC
- (D) The Item 3 classification of each of the subsidiaries listed below is "Item 3(g) a parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G)"
 - (X) The Bank of New York Mellon Corporation
 - (X) B.N.Y. Holdings (Delaware) Corporation (parent holding company of BNY Mellon Trust of Delaware)
 - (X) BNY Mellon IHC, LLC (as parent holding company of MBC Investments Corporation)
 - (X) MBC Investments Corporation (parent holding company of Mellon Capital Management Corporation; BNY Mellon Investment Management (Jersey) Ltd.; BNY Mellon Investment Management APAC LP; Standish Mellon Asset Management Company LLC; The Boston Company Asset Management LLC; The Dreyfus Corporation; ARX Investimentos Ltda. - Brazil
 - () BNY Mellon Investment Management (Jersey) Ltd. (parent holding company of BNY Mellon Investment Management (Europe) Ltd.)
 - BNY Mellon Investment Management (Europe) Ltd. (parent holding company of BNY Mellon Investment Management Europe Holdings Ltd.; BNY Mellon Investment Management Cayman Ltd.)
 - () BNY Mellon Investment Management Europe Holdings Ltd. (parent holding company of BNY Mellon International Asset Management Group Limited)
 - BNY Mellon International Asset Management Group Limited (parent holding company of Newton Management Limited; BNY Mellon International Asset Management (Holdings) Limited; Insight Investment Management Limited)
 - Newton Management Limited (parent holding company of Newton Investment Management (North America) Limited; Newton Investment Management Limited)
 - BNY Mellon International Asset Management (Holdings) Limited (parent holding company of BNY Mellon International Asset Management (Holdings) No. 1 Limited)
 - () BNY Mellon International Asset Management (Holdings) No. 1 Limited (parent holding company of Walter Scott & Partners Limited)
 - () Insight Investment Management Limited (parent holding company of Insight Investment Management (Global) Limited; Pareto Investment Management Limited)
 - () BNY Mellon Investment Management APAC LP (Parent holding company of BNY Mellon Investment Management (APAC) Holdings Limited
 - () BNY Mellon Investment Management (APAC) Holdings Limited (parent holding company of BNY Mellon Asset Management Japan Limited)
 - (X) Pershing Group LLC (parent holding company of Lockwood Advisors, Inc; Pershing LLC)
 - () Mellon Overseas Investment Corporation (parent holding company of Mellon Canada Holding Company; BNY Mellon Participacoes Ltda.)
 - Mellon Canada Holding Company (parent holding company of BNY Mellon Wealth Management, Advisory Services, Inc)
 - BNY Mellon Participacoes Ltda. (parent holding company of BNY Mellon Servicos Financeiros Distribuidora de Titulos e Valores Mobiliarios S.A.)

- () BNY International Financing Corporation (parent holding company of BNY Mellon Trust Company (Cayman) Limited)
- Cutwater Holdings LLC (parent holding company of Cutwater Asset Management Corporation; Cutwater Investor Services Corporation)
- (X) BNY Capital Markets Holdings, Inc. (parent holding company of BNY Mellon Capital Markets, LLC)

NOTE: ALL OF THE LEGAL ENTITIES LISTED UNDER (A), (B), (C) AND (D) ABOVE ARE DIRECT OR INDIRECT SUBSIDIARIES OF THE BANK OF NEW YORK MELLON CORPORATION. BENEFICIAL OWNERSHIP OF MORE THAN FIVE PERCENT OF THE CLASS BY ANY ONE OF THE SUBSIDIARIES OR INTERMEDIATE PARENT HOLDING COMPANIES LISTED ABOVE IS REPORTED ON A JOINT REPORTING PERSON PAGE FOR THAT SUBSIDIARY ON THE ATTACHED SCHEDULE 13G AND IS INCORPORATED IN THE TOTAL PERCENT OF CLASS REPORTED ON THE BANK OF NEW YORK MELLON CORPORATION'S REPORTING PERSON PAGE. (DO NOT ADD THE SHARES OR PERCENT OF CLASS REPORTED ON EACH JOINT REPORTING PERSON PAGE ON THE ATTACHED SCHEDULE 13G TO DETERMINE THE TOTAL PERCENT OF CLASS FOR THE BANK OF NEW YORK MELLON CORPORATION).

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS that each of the undersigned (each a "Company") does hereby make, constitute and appoint each of Nicholas R. Darrow, Ivan Arias and Andrew Weiser (and any other employee of The Bank of New York Mellon Corporation, or one of its affiliates, associated with the Global Holdings Reporting Group and designated in writing by one of the attorneys-in-fact), acting individually, its true and lawful attorney to execute and deliver in its name and on its behalf, whether the Company is acting individually or as representative of others, any and all filings, be they written or oral, required to be made by the Company with respect to securities which may be deemed to be beneficially owned by the Company or under the Company's investment discretion under:

- *the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including those filings required to be submitted on Form 13F, Schedule 13G, Schedule 13D and Forms 3, 4 and 5, and
- *the laws of any jurisdiction other than the United States of America, including those filings made to disclose securities holdings as required to be submitted to regulatory agencies, exchanges and/or issuers,

giving and granting unto each said attorney-in-fact power and authority to correspond with issuers, regulatory authorities, and other entities as is required in support of the filings referenced above, and to act in the premises as fully and to all intents and purposes as the Company might or could do to comply with the applicable regulations if personally present by one of its authorized signatories (including, but not limited to, instructing local counsel on a Company's behalf), hereby ratifying and confirming all that said attorney-in-fact shall lawfully do or cause

THIS POWER OF ATTORNEY shall remain in full force and effect until either revoked in writing by the Company or until such time as the person or to whom power of attorney has been hereby granted cease(s) to be an persons employee of The Bank of New York Mellon Corporation or one of its affiliates.

This Power of Attorney may be executed in any number of counterparts all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the undersigned hereby execute this Agreement effective as of the date set forth below. _____ Banks/Bank Holding Companies _____ THE BANK OF NEW YORK MELLON BNY MELLON, NATIONAL ASSOCIATION CORPORATION By: /S/ MITCHELL E.HARRIS By: /S/ DONALD HEBERLE _____ _____ Mitchell E. Harris Donald Heberle Chief Executive Officer, Chief Executive Officer Investment Management Date: March 17, 2017 Date: September 16, 2015 BNY MELLON, NATIONAL ASSOCIATION THE BANK OF NEW YORK MELLON SA/NV By: /S/ THOMAS J. DICKER By: /S/ LAURA AHTO _____ _____ Thomas J. Dicker Laura Ahto Chief Operating Officer Chief Executive Officer Date: October 9, 2015 Date: May 17, 2016 THE BANK OF NEW YORK MELLON THE BANK OF NEW YORK MELLON By: /S/ MITCHELL E. HARRIS By: /S/ CURTIS ARLEDGE _____ _____ Mitchell E. Harris Curtis Arledge Senior Executive Vice President Vice Chairman Date: September 18, 2015 Date: August 26, 2015 THE BANK OF NEW YORK MELLON TRUST THE BANK OF NEW YORK MELLON TRUST COMPANY, NATIONAL ASSOCIATION COMPANY, NATIONAL ASSOCIATION By: /S/ ANTONIO PORTUONDO By: /S/ KURTIS R. KURIMSKY _____ _____ Antonio Portuondo Kurtis R. Kurimsky Executive Vice President President Date: October 20, 2015 Date: March 8, 2016 BNY MELLON TRUST OF DELAWARE BNY MELLON TRUST OF DELAWARE By: /S/ JAMES P. AMBAGIS By: /S/ LEE JAMES WOOLLEY _____ _____ James P. Ambagis Lee James Woolley President Chairman and Chief Executive Officer Date: October 21, 2015 Date: October 19, 2015 _____ Investment Advisers and/or Broker-Dealers

PERSHING LLC

BNY MELLON CAPITAL MARKETS, LLC

By: /S/ CLAIRE SANTANIELLO _____ Claire Santaniello Chief Administrative Officer and Chief Risk Officer Date: May 24, 2016 ARX INVESTIMENTOS LTDA By: /S/ CAMILA SOUZA _____ Camila Souza Director Date: January 4, 2016 BNY MELLON SERVICOS FINANCEIROS DISTRIBUIDORA DE TITULOS E VALORES MOBILIARIOS S.A. By: /S/ CARLOS ALBERTO SARAIVA By: /S/ MARCUS VINICIUS MATHIAS PEREIRA _____ Carlos Alberto Saraiva Director Date: May 5, 2016 BNY MELLON ADMINISTRACAO DE ATIVOS LTDA LTDA By: /S/ CARLOS ALBERTO SARAIVA _____ Carlos Alberto Saraiva Director Date: May 5, 2016 BNY MELLON ALOCACAO DE PATRIMONIO I TDA By: /S/ GUSTAVO CASTELLO BRANCO _____ Gustavo Castello Branco Director Date: January 4, 2016 THE BOSTON COMPANY ASSET MANAGEMENT LLC By: /S/ BART GRENIER _____ Bart Grenier Chairman and Chief Executive Officer Date: July 16, 2015

THE DREYFUS CORPORATION

By: /S/ JEFF GEARHART ------Jeff Gearhart Chief Operating Officer Date: October 19, 2016

ARX INVESTIMENTOS LTDA

By: /S/ GUILHERME ABRY ------Guilherme Abry Director Date: January 4, 2016

BNY MELLON SERVICOS FINANCEIROS DISTRIBUIDORA DE TITULOS E VALORES MOBILIARIOS S.A.

_____ Marcus Vinicius Mathias Pereira Director Date: May 5, 2016

BNY MELLON ADMINISTRACAO DE ATIVOS

By: /S/ MARCUS VINICIUS MATHIAS PEREIRA _____ Marcus Vinicius Mathias Pereira Director Date: May 5, 2016

BNY MELLON ALOCACAO DE PATRIMONIO LTDA

By: /S/ CAMILA SOUZA _____ Camila Souza Director

Date: January 4, 2016

BNY MELLON ASSET MANAGEMENT JAPAN LIMITED

By: /S/ SHIZU KISHIMOTO _____ Shizu Kishimoto Representative Director and President Date: August 5, 2015

INSIGHT INVESTMENT MANAGEMENT (GLOBAL) LIMITED

By: /s/ CHARLES FARQUHARSON By: /S/ JAMES BITETTO _____ _____ James Bitetto Charles Farquharson Secretary Chief Risk Officer Date: July 30, 2015 Date: February 16, 2016 LOCKWOOD ADVISORS, INC. STANDISH MELLON ASSET MANAGEMENT COMPANY LLC By: /S/ JOHN J. BRETT By: /S/ DAVID LEDUC _____ _____ John J. Brett David Leduc Chairman Chief Executive Officer and Chief Investment Officer Date: July 30, 2015 Date: October 23, 2015 MELLON CAPITAL MANAGEMENT MBSC SECURITIES CORPORATION CORPORATION By: /S/ W. CHRISTOPHER APPLER By: /S/ KENNETH J. BRADLE _____ _____ W. Christopher Appler Kenneth J. Bradle Managing Director and President Chief Compliance Officer Date: August 4, 2015 Date: April 29, 2016 NEWTON INVESTMENT MANAGEMENT LIMITED NEWTON INVESTMENT MANAGEMENT (NORTH AMERICA) LIMITED By: /S/ JAMES HELBY By: /S/ JAMES HELBY _____ _____ James Helby James Helby Chief Risk Officer Director Date: July 17, 2015 Date: June 30, 2016 CENTERSQUARE INVESTMENT MANAGEMENT CENTERSQUARE INVESTMENT MANAGEMENT, HOLDINGS, INC. INC. By: /S/ R. JOSEPH LAW By: /S/ R. JOSEPH LAW _____ _____ R. Joseph Law R. Joseph Law Chief Financial Officer and Chief Financial Officer and Chief Compliance Officer Chief Compliance Officer Date: July 15, 2015 Date: July 15, 2015 WALTER SCOTT & PARTNERS LIMITED PARETO INVESTMENT MANAGEMENT LIMITED By: /S/ RODGER NISBET By: /S/ CHARLES FARQUHARSON _____ _____ Rodger Nisbet Charles Farguharson Chief Risk Officer Executive Chairman Date: July 15, 2015 Date: February 16, 2016 BNY MELLON WEALTH MANAGEMENT,

ADVISORY SERVICES, INC.

BNY MELLON INVESTMENT MANAGEMENT CAYMAN LTD

By: /S/ MARIE-CLAUDE LEPAGE By: /S/ BRENDON J. DONNELLAN _____ _____ Marie-Claude Lepage Brendon J.Donnellan Chief Compliance Officer Director Date: May 9, 2016 Date: August 22, 2016 BNY MELLON TRUST COMPANY BNY MELLON TRUST COMPANY (CAYMAN) LIMITED (CAYMAN) LIMITED By: CANELLA SECRETARIES By: CANELLA SECRETARIES (CAYMAN) LTD, SECRETARY (CAYMAN) LTD, SECRETARY By: /S/GILLIAN NELSON By: /S/ PATRICIA BRUZIO ------_____ Gillian Nelson Patricia Bruzio Authorized Person Authorized Person Date: May 17, 2016 Date: May 17, 2016 CUTWATER INVESTOR SERVICES CUTWATER ASSET MANAGEMENT CORPORATION CORPORATION By: /S/ CLIFFORD CORSO By: /S/ CLIFFORD CORSO _____ _____ Clifford Corso Clifford Corso Chief Executive Officer Chief Executive Officer Date: March 16, 2015 Date: March 16, 2015 _____ Parent Holding Companies/Control Persons _____ B.N.Y. HOLDINGS (DELAWARE) CORPORATION PERSHING GROUP LLC By: /S/ JAMES P. AMBAGIS By: /S/ CLAIRE SANTANIELLO ------_____ James P. Ambagis Claire Santaniello President Chief Administrative Officer and Chief Risk Officer Date: October 21, 2015 Date: May 11, 2016 BNY MELLON INVESTMENT MANAGEMENT BNY MELLON INVESTMENT MANAGEMENT (APAC) HOLDINGS LIMITED (APAC) HOLDINGS LIMITED By: /S/ EMILY CHAN By: /S/ DONI SHAMSUDDIN _____ _____ Emily Chan Doni Shamsuddin Director Director Date: April 19, 2016 Date: April 19, 2016 BNY MELLON INTERNATIONAL ASSET NEWTON MANAGEMENT LIMITED MANAGEMENT GROUP LIMITED By: /S/ GREG BRISK By: /S/ HELENA MORRISSEY _____ _____ Greg Brisk Helena Morrissey Director Director Date: October 21, 2015 Date: July 17, 2015

BNY MELLON IHC, LLC

By: /S/ KURTIS R. KURIMSKY

Kurtis R. Kurimsky Vice President and Controller Date: March 29, 2017

MELLON OVERSEAS INVESTMENT CORPORATION

BNY INTERNATIONAL FINANCING CORPORATION

BNY MELLON INVESTMENT MANAGEMENT EUROPE HOLDINGS LIMITED

By: /S/ GREG BRISK Greg Brisk Director Date: October 21, 2015

BNY MELLON INVESTMENT MANAGEMENT (JERSEY)LIMITED

By: /S/ GREG BRISK Greg Brisk Director

Date: October 21, 2015

BNY MELLON INTERNATIONAL ASSET MANAGEMENT (HOLDINGS) LIMITED

By: /S/ GREG BRISK Greg Brisk Director Date: October 21, 2015 MBC INVESTMENTS CORPORATION

By: /S/ PAUL A. GRIFFITHS Paul A. Griffiths Chairman, President and Chief Executive Officer Date: April 29, 2016

INSIGHT INVESTMENT MANAGEMENT LIMITED

By: /S/ CHARLES FARQUHARSON Charles Farquharson Chief Risk Officer Date: February 16, 2016

BNY INTERNATIONAL FINANCING CORPORATION

By: /S/ JOHN M. ROY John M. Roy Vice President Date: August 15, 2016

BNY MELLON INVESTMENT MANAGEMENT (EUROPE)LIMITED

By: /S/ GREG BRISK Greg Brisk Director Date: October 21, 2015

BNY CAPITAL MARKETS HOLDINGS, INC.

By: /S/ THOMAS P. GIBBONS Thomas P. Gibbons Vice Chairman and Chief Financial Officer Date: October 24, 2015

BNY MELLON INTERNATIONAL ASSET MANAGEMENT (HOLDINGS) No. 1 LIMITED

By: /S/ GREG BRISK Greg Brisk Director Date: October 21, 2015

MELLON CANADA HOLDING COMPANY CUTWATER HOLDINGS, LLC By: /S/ KELLY SCHWARTZ By: /S/ CLIFFORD CORSO _____ _____ Kelly Schwartz Clifford Corso President and Director Chief Executive Officer Date: May 3, 2016 Date: March 16, 2015 BNY MELLON PARTICIPACOES LTDA BNY MELLON PARTICIPACOES LTDA By: /S/ CARLOS ALBERTO SARAIVA By: /S/ MARCUS VINICIUS MATHIAS PEREIRA _____ _____ Carlos Alberto Saraiva Marcus Vinicius Mathias Pereira Director Director Date: May 5, 2016 Date: May 5, 2016 BNY MELLON INVESTMENT MANAGEMENT APAC LP By: BNY MELLON INVESTMENT MANAGEMENT HOLDINGS, LLC, GENERAL PARTNER By: /S/ PAUL A. GRIFFITHS _____ Paul A. Griffiths President Date: April 29, 2016 _____ Fund Administrators _____ BNY MELLON SERVICE KAPITALANLAGE-BNY MELLON SERVICE KAPITALANLAGE-GESELLSCHAFT mbH GESELLSCHAFT mbH By: /S/ CAROLINE SPECHT By: /S/ KATARINA MELVAN _____

Katarina Melvan Managing Director(Chairman) Date: August 19, 2016 Caroline Specht Managing Director

Managing Director Date: August 19, 2016

JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the undersigned hereby agree to any and all joint filings required to be made on their behalf on Schedule 13G (including amendments thereto) under the Exchange Act, with respect to securities which may be deemed to be beneficially owned by them under the Exchange Act, and that this Agreement be included as an Exhibit to any such joint filing. This Agreement may be executed in any number of counterparts all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the undersigned hereby execute this Agreement effective as of the date set forth below.

Banks/Bank l	Holding Companies
THE BANK OF NEW YORK MELLON CORPORATION	BNY MELLON, NATIONAL ASSOCIATION
By: /S/ MITCHELL E.HARRIS	By: /S/ DONALD HEBERLE
Mitchell E. Harris Chief Executive Officer, Investment Management Date: March 17, 2017	Donald Heberle Chief Executive Officer Date: September 16, 2015
BNY MELLON, NATIONAL ASSOCIATION	THE BANK OF NEW YORK MELLON SA/NV
By: /S/ THOMAS J. DICKER	By: /S/ LAURA AHTO
Thomas J. Dicker Chief Operating Officer Date: October 9, 2015	Laura Ahto Chief Executive Officer Date: May 17, 2016
THE BANK OF NEW YORK MELLON	THE BANK OF NEW YORK MELLON
By: /S/ MITCHELL E. HARRIS	By: /S/ CURTIS ARLEDGE
Mitchell E. Harris Senior Executive Vice President Date: August 27, 2015	Curtis Arledge Vice Chairman Date: August 26, 2015
THE BANK OF NEW YORK MELLON TRUST COMPANY, NATIONAL ASSOCIATION	THE BANK OF NEW YORK MELLON TRUST COMPANY, NATIONAL ASSOCIATION
By: /S/ ANTONIO PORTUONDO	By: /S/ KURTIS R. KURIMSKY
Antonio Portuondo President Date: October 20, 2015	Kurtis R. Kurimsky Executive Vice President Date: March 8, 2016
BNY MELLON TRUST OF DELAWARE	BNY MELLON TRUST OF DELAWARE
By: /S/ JAMES P. AMBAGIS	By: /S/ LEE JAMES WOOLLEY
James P. Ambagis President	Lee James Woolley Chairman and
Date: October 21, 2015	Chief Executive Officer Date: October 19, 2015
Investment Advise	rs and/or Broker-Dealers
PERSHING LLC	BNY MELLON CAPITAL MARKETS, LLC
By: /S/ CLAIRE SANTANIELLO	By: /S/ JEFF GEARHART
Claire Santaniello	Jeff Gearhart

Chief Administrative Officer Chief Operating Officer and Chief Risk Officer Date: May 24, 2016 Date: October 19, 2016 ARX INVESTIMENTOS LTDA ARX INVESTIMENTOS LTDA By: /S/ CAMILA SOUZA By: /S/ GUILHERME ABRY _____ _____ Guilherme Abry Camila Souza Director Director Date: January 4, 2016 Date: January 4, 2016 BNY MELLON SERVICOS FINANCEIROS BNY MELLON SERVICOS FINANCEIROS DISTRIBUIDORA DE TITULOS E VALORES BNY MELLON SERVICOS FINANCEIROS DISTRIBUIDORA DE TITULOS E VALORES MOBILIARIOS S.A. MOBILIARIOS S.A. By: /S/ CARLOS ALBERTO SARAIVA By: /S/ MARCUS VINICIUS MATHIAS PEREIRA -----_____ Carlos Alberto Saraiva Marcus Vinicius Mathias Pereira Director Director Date: May 5, 2016 Date: May 5, 2016 BNY MELLON ADMINISTRACAO DE ATIVOS BNY MELLON ADMINISTRACAO DE ATIVOS LTDA I TDA By: /S/ CARLOS ALBERTO SARAIVA By: /S/ MARCUS VINICIUS MATHIAS PEREIRA _____ _____ Carlos Alberto Saraiva Marcus Vinicius Mathias Pereira Director Director Date: May 5, 2016 Date: May 5, 2016 BNY MELLON ALOCACAO DE PATRIMONIO BNY MELLON ALOCACAO DE PATRIMONIO LTDA LTDA By: /S/ GUSTAVO CASTELLO BRANCO By: /S/ CAMILA SOUZA _____ _____ Gustavo Castello Branco Camila Souza Director Director Date: January 4, 2016 Date: January 4, 2016 THE BOSTON COMPANY ASSET MANAGEMENT BNY MELLON ASSET MANAGEMENT JAPAN LLC LIMITED By: /S/ BART GRENIER By: /S/ SHIZU KISHIMOTO _____ _____ Bart Grenier Shizu Kishimoto Representative Director Chairman and Chief Executive Officer and President Date: July 16, 2015 Date: August 5, 2015 INSIGHT INVESTMENT MANAGEMENT THE DREYFUS CORPORATION (GLOBAL) LIMITED By: /S/ JAMES BITETTO By: /s/ CHARLES FARQUHARSON _____ _____ James Bitetto Charles Farquharson

Chief Risk Officer Secretary Date: July 30, 2015 Date: February 16, 2016 LOCKWOOD ADVISORS, INC. STANDISH MELLON ASSET MANAGEMENT COMPANY LLC By: /S/ JOHN J. BRETT By: /S/ DAVID LEDUC _____ _____ John J. Brett David Leduc Chief Executive Officer Chairman and Chief Investment Officer Date: July 30, 2015 Date: October 23, 2015 MELLON CAPITAL MANAGEMENT MBSC SECURITIES CORPORATION CORPORATION By: /S/ W. CHRISTOPHER APPLER By: /S/ KENNETH J. BRADLE /S/ W. CHRISIS. _____ W. Christopher Appler Kenneth J. Bradle President Managing Director and Chief Compliance Officer Date: August 4, 2015 Date: April 29, 2016 NEWTON INVESTMENT MANAGEMENT LIMITED NEWTON INVESTMENT MANAGEMENT (NORTH AMERICA) LIMITED By: /S/ JAMES HELBY By: /S/ JAMES HELBY _____ _____ James Helby James Helby Director Chief Risk Officer Date: July 17, 2015 Date: June 30, 2016 CENTERSQUARE INVESTMENT MANAGEMENT CENTERSQUARE INVESTMENT MANAGEMENT, HOLDINGS, INC. INC. By: /S/ R. JOSEPH LAW By: /S/ R. JOSEPH LAW _____ _____ R. Joseph Law R. Joseph Law Chief Financial Officer and Chief Financial Officer and Chief Compliance Officer Chief Compliance Officer Date: July 15, 2015 Date: July 15, 2015 WALTER SCOTT & PARTNERS LIMITED PARETO INVESTMENT MANAGEMENT LIMITED By: /S/ RODGER NISBET By: /S/ CHARLES FARQUHARSON _____ _____ Rodger Nisbet Charles Farquharson Executive Chairman Chief Risk Officer Date: July 15, 2015 Date: February 16, 2016 BNY MELLON INVESTMENT MANAGEMENT BNY MELLON WEALTH MANAGEMENT, ADVISORY SERVICES, INC. CAYMAN LTD By: /S/ BRENDON J. DONNELLAN By: /S/ MARIE-CLAUDE LEPAGE _____ _____ Marie-Claude Lepage Brendon J.Donnellan

Chief Compliance Officer Director Date: May 9, 2016 Date: August 22, 2016 BNY MELLON TRUST COMPANY BNY MELLON TRUST COMPANY (CAYMAN) LIMITED (CAYMAN) LIMITED By: CANELLA SECRETARIES By: CANELLA SECRETARIES (CAYMAN) LTD, SECRETARY (CAYMAN) LTD, SECRETARY By: /S/GILLIAN NELSON By: /S/ PATRICIA BRUZIO _____ _____ Gillian Nelson Patricia Bruzio Authorized Person Authorized Person Date: May 17, 2016 Date: May 17, 2016 CUTWATER INVESTOR SERVICES CUTWATER ASSET MANAGEMENT CORPORATION CORPORATION By: /S/ CLIFFORD CORSO By: /S/ CLIFFORD CORSO _____ _____ Clifford Corso Clifford Corso Chief Executive Officer Chief Executive Officer Date: March 16, 2015 Date: March 16, 2015 _____ Parent Holding Companies/Control Persons _____ B.N.Y. HOLDINGS (DELAWARE) CORPORATION PERSHING GROUP LLC By: /S/ JAMES P. AMBAGIS By: /S/ CLAIRE SANTANIELLO _____ _____ James P. Ambagis Claire Santaniello Chief Administrative Officer President and Chief Risk Officer Date: May 11, 2016 Date: October 21, 2015 BNY MELLON INVESTMENT MANAGEMENT BNY MELLON INVESTMENT MANAGEMENT (APAC) HOLDINGS LIMITED (APAC) HOLDINGS LIMITED By: /S/ EMILY CHAN By: /S/ DONI SHAMSUDDIN ------_____ Emily Chan Doni Shamsuddin Director Director Date: April 19, 2016 Date: April 19, 2016 BNY MELLON INTERNATIONAL ASSET NEWTON MANAGEMENT LIMITED MANAGEMENT GROUP LIMITED By: /S/ GREG BRISK By: /S/ HELENA MORRISSEY _____ ------Greg Brisk Helena Morrissey Director Director Date: October 21, 2015 Date: July 17, 2015 BNY MELLON IHC, LLC MBC INVESTMENTS CORPORATION

By: /S/ KURTIS R. KURIMSKY

Kurtis R. Kurimsky Vice President and Controller Date: March 29, 2017

MELLON OVERSEAS INVESTMENT CORPORATION

BNY INTERNATIONAL FINANCING CORPORATION

BNY MELLON INVESTMENT MANAGEMENT EUROPE HOLDINGS LIMITED

By: /S/ GREG BRISK Greg Brisk Director Date: October 21, 2015

BNY MELLON INVESTMENT MANAGEMENT (JERSEY)LIMITED

By: /S/ GREG BRISK Greg Brisk Director

Date: October 21, 2015

BNY MELLON INTERNATIONAL ASSET MANAGEMENT (HOLDINGS) LIMITED

By: /S/ GREG BRISK

Greg Brisk Director Date: October 21, 2015

MELLON CANADA HOLDING COMPANY

By: /S/ KELLY SCHWARTZ

By: /S/ PAUL A. GRIFFITHS _____ Paul A. Griffiths Chairman, President and Chief Executive Officer Date: April 29, 2016 INSIGHT INVESTMENT MANAGEMENT LIMITED By: /S/ CHARLES FARQUHARSON _____ Charles Farquharson Chief Risk Officer Date: February 16, 2016 BNY INTERNATIONAL FINANCING CORPORATION By: /S/ JOHN M. ROY _____

John M. Roy Vice President Date: August 15, 2016

BNY MELLON INVESTMENT MANAGEMENT (EUROPE)LIMITED

By: /S/ GREG BRISK Greg Brisk Director Date: October 21, 2015

BNY CAPITAL MARKETS HOLDINGS, INC.

By: /S/ THOMAS P. GIBBONS Thomas P. Gibbons Vice Chairman and Chief Financial Officer Date: October 24, 2015

BNY MELLON INTERNATIONAL ASSET MANAGEMENT (HOLDINGS) No. 1 LIMITED

By: /S/ GREG BRISK Greg Brisk Director Date: October 21, 2015

CUTWATER HOLDINGS, LLC

By: /S/ CLIFFORD CORSO

_____ _____ Kelly Schwartz Clifford Corso President and Director Chief Executive Officer Date: May 3, 2016 Date: March 16, 2015 BNY MELLON PARTICIPACOES LTDA BNY MELLON PARTICIPACOES LTDA By: /S/ CARLOS ALBERTO SARAIVA By: /S/ MARCUS VINICIUS MATHIAS PEREIRA -----_____ Marcus Vinicius Mathias Pereira Carlos Alberto Saraiva Director Director Date: May 5, 2016 Date: May 5, 2016 BNY MELLON INVESTMENT MANAGEMENT APAC LP By: BNY MELLON INVESTMENT MANAGEMENT HOLDINGS, LLC, GENERAL PARTNER By: /S/ PAUL A. GRIFFITHS _____ Paul A. Griffiths President Date: April 29, 2016 _____ Fund Administrators _____ BNY MELLON SERVICE KAPITALANLAGE-BNY MELLON SERVICE KAPITALANLAGE-GESELLSCHAFT mbH GESELLSCHAFT mbH By: /S/ KATARINA MELVAN By: /S/ CAROLINE SPECHT _____ _____ Caroline Specht Katarina Melvan Managing Director(Chairman) Managing Director Date: August 19, 2016 Date: August 19, 2016