

## CREDIT OPINION

12 May 2016

New Issue

Rate this Research >>

### Contacts

Nicholas Samuels 212-553-7121  
 VP-Sr Credit Officer  
 nicholas.samuels@moodys.com

Emily Raimes 212-553-7203  
 VP-Sr Credit Officer  
 emily.raimes@moodys.com

## New York (City of)

New Issue - Moody's assigns Aa2 to \$800M NYC GO refunding bonds, Series 2016 E&F; outlook stable

### Summary Rating Rationale

Moody's Investors Service has assigned Aa2 rating to the City of New York's \$775 million General Obligation Bonds Fiscal 2016 Series E and \$25 million Series F. The ratings reflect the city's large and resilient economy, its extraordinarily large tax base, its institutionalized budgetary and financial management controls, its proactive responses to budget strain during economic downturns, the key but diminishing role of the volatile financial services sector, and a high budgetary burden from the combination of debt service, pension, and employee and retiree health care costs.

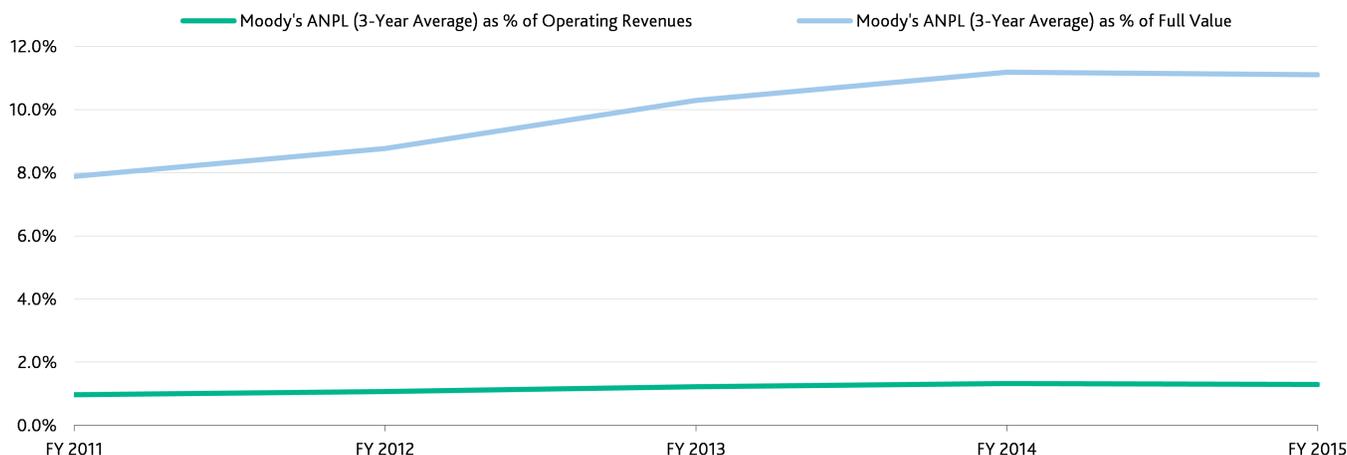
### Credit Strengths

- » Exceptionally large and diverse economy driven by city's position as an international center of the high-income financial services industry
- » Strong governance and financial best practices, tested through periods of fiscal stress
- » Strong liquidity

### Credit Challenges

- » High and growing burden from debt service, pension and retiree health care costs
- » Cyclical economic base driven by the financial services industry
- » Ongoing need to close out-year budget gaps

Exhibit 1

**New York City's Three Year Average ANPL More Moderate as Percentage of Operating Revenue than Full Value**

Source: Moody's Investors Service

**Rating Outlook**

The outlook for New York City's general obligation bonds is stable. The city's institutionalized budgetary controls and early recognition of future budget pressure help it maintain a balanced financial position and weather economic downturns. The city's economy is reliant on a volatile financial services sector, but it continues to diversify, and its finances will benefit. Despite its strong budgetary controls, high costs for debt service, pensions and retiree health care will continue to be a challenge for the city.

**Factors that Could Lead to an Upgrade**

- » Sustained reduction in the growth of the city's debt burden and other fixed costs, and establishment of formal policy for managing debt within prescribed constraints
- » Establishment of significant formal budget reserves to buffer the inherent volatility of the financial services sector
- » Improved and continuing growth in city employment and the property tax base

**Factors that Could Lead to a Downgrade**

- » Inability to manage rapidly rising costs in non-discretionary spending such as debt service, personnel costs, or pensions
- » Divergence from well-established fiscal practices
- » Emergence of significant liquidity strain and the need for large cash-flow borrowings

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on [www.moody.com](http://www.moody.com) for the most updated credit rating action information and rating history.

## Key Indicators

Exhibit 2

New York City	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Full Value (000s)	793,742,000	814,422,100	838,003,200	858,102,400	906,273,800
Full Value Per Capita	97,643	97,691	101,343	101,059	106,732
Median Family Income as % of US	106.1%	106.5%	108.3%	106.7%	N/A
Operating Revenue (000s)	64,889,788	66,603,415	70,631,865	72,387,292	77,608,673
Available Fund Balance as a % of Revenue	9.8%	6.9%	5.9%	6.1%	9.1%
Cash Balance as a % of Revenue	7.3%	12.4%	12.8%	16.4%	17.4%
Net Direct Debt (000's)	63,431,639	65,703,394	67,000,247	68,940,172	69,071,880
Net Direct Debt to Operating Revenue (x)	1.0x	1.0x	0.9x	1.0x	0.9x
Net Direct Debt as % of Full Value	8.0%	8.1%	8.0%	8.0%	7.6%
Moody's ANPL (3-Year Average) as % of Full Value	7.9%	8.8%	10.3%	11.2%	11.1%
Moody's ANPL (3-Year Average) as % of Operating Revenues	1.0%	1.1%	1.2%	1.3%	1.3%

Source: Moody's Investors Service; City of New York audits

## Recent Developments

Recent developments are incorporated into the sections below.

## Detailed Rating Considerations

### Economy and Tax Base

New York City's economy is notably large, with real GDP larger than all but four US states. The city's labor market has recovered remarkably well. Private sector employment in December 2015 was nearly 14% greater than the pre-recession peak in August 2008; for the year it increased 2.8%, slightly faster than the US rate but somewhat slower than in recent years. The city's unemployment rate had remained high as residents re-entered the labor force to seek jobs, but it has decreased to 5.5% as of March, just slightly higher than the US rate of 5.0%.

The important financial activities sector, which accounts for 10.9% of the city's employment, played a key role in helping the city regain jobs following the early 2000s recession, but employment performance is volatile. Jobs in the sector are still lower than their pre-recession levels but still account for 20% of wages in the city.

Tourism continues to hit record levels, even with a strong dollar, with an estimated 58.3 million visits in 2015, 3.2% more than 2014. The city's tourism bureau estimates tourism generates \$10.5 billion in tax revenue. The city's economy continues to diversify, with strong higher education and health care sectors and a burgeoning high tech industry. Growth in those areas will continue to mitigate the volatility of finance

Similar to the size of the city's economy overall, New York's real property tax base is the largest of any US city, with a fiscal 2016 full value of \$986 billion; for fiscal 2017, full values is estimated to have topped \$1 trillion. State law that limits the amount of real property tax that a municipality may levy in any year do not apply to New York City. Proposals from time to time would extend the limitation to the city and while one has never passed, if it did it would significantly constrain the city's financial flexibility.

### Financial Operations and Reserves

The city's updated financial plan reflects continued economic and financial health and a cautious approach to outyear challenges. Looking forward to a potential economic slowdown, the city has both buttressed its reserves and undertaken a savings program that reduces expenditures by \$1.3 billion in fiscal 2016, \$1.0 billion in fiscal 2017, \$1.02 billion in fiscal 2018, and \$1.06 billion in fiscal 2019. Forecasted budget gaps in future years are of similar magnitude to earlier estimates, at \$2.7 billion, \$2.9 billion and \$2.3 billion in fiscal years 2018, 2019 and 2020, respectively. Those gaps are manageable by the city although the fiscal 2017 gap has increased slightly as a proportion of revenue: the gaps equal 4.4%, 4.6%, and 3.4% of estimated city-funds revenue, respectively. By comparison, over the prior 12 years gaps average 8.0% of revenue.

Taxes are forecasted to grow in fiscal years, 2016, 2017, 2018, 2019 and 2020 by 3.5%, 1.7%, 4.7%, 4.4%, and 4.0% respectively, moderate estimates in our opinion since they include the phase-in of current property tax assessments as well as the city's other

more economically sensitive taxes. The budget also continues the city's recent efforts to bolster its reserves. The budget maintains the General Reserve at \$1 billion for all four years of the financial plan; in recent prior years, it had been funded at \$300 million. The Retiree Health Benefits Trust Fund is increased from \$3.4 billion to \$3.7 billion, and maintains a \$500 million Capital Stabilization Reserve in fiscal 2017. These funds can be used to cash fund capital expenditures, to defease debt, or pay for other capital-related costs and position the city in a favorable position to be able to weather the next economic downturn. The city's fiscal 2015 GAAP-basis available fund balance has increased to 9.1% of revenue, good progress but still lower than the fiscal 2014 Aa2 large local government median fund balance ratio of 12.3%.

The originally-proposed [New York state](#) budget included several provisions that would have pushed certain costs to the city. Those weren't enacted but a plan did pass to withhold \$600 million of city sales tax and instead keep it for the state between the current fiscal year and fiscal 2019; the move illustrates the relative strength of states and how their decisions can impact their local governments.

The city has subsidized its large public hospital system, [New York City Health + Hospitals](#) (formerly the Health and Hospitals Corporation, or HHC) since it was created, providing both operating and capital support, as well as a capital reserve replenishment obligation on the systems \$870 million of outstanding bonds. Amid increasing healthcare costs, declining federal reimbursements for the uninsured and underperforming patient revenue, the system faces significant financial challenges. The city is increasing its financial support significantly, by \$467 million in fiscal 2016 (to a total of \$2 billion) and \$180 million, \$173 million and \$179 million in fiscal years 2017, 2018 and 2019, respectively. That support includes both direct operating support payments and eliminating debt service reimbursements from the hospitals for capital projects financed with city-issued debt. The city and hospital system have formulated multi-year plan to increase revenue and decrease expenditures to stabilize the system's financial position. The increased size of the subsidies illustrates the enterprise risk the hospital system poses to the city, especially during a period of cost-cutting and considering the city's high fixed costs for debt service, pensions, and retiree health care.

#### LIQUIDITY

The city's liquidity position continues to be strong. The highest cash balances ever recorded were in fiscal 2014, while fiscal 2015 results were only slightly lower: the ending cash balance was \$9.50 billion and the average daily cash balance was \$9.46 billion. Amid the city's strong economic performance, during the second quarter of fiscal 2016 (October-December) the average daily balance was \$11.6 billion, and the ending cash balance as of March was \$13.9 billion.

#### Debt and Pensions

##### DEBT STRUCTURE

New York City, through general obligation, Transitional Finance Authority (TFA) and other debt issuance vehicles uses variable rate debt to lower its borrowing costs. Variable rate debt (reflecting general obligation, lease and TFA debt) amounts to 16% of the city's total outstanding net tax-supported debt. While that amount is sizeable, the annual interest rate risk it poses is manageable in the context of the city's \$82 billion fiscal 2016 all-funds budget, its strong liquidity, and the favorable terms of its bank liquidity facilities and interest rate agreements

The city has \$5.2 billion of general obligation variable rate demand debt outstanding, and the [Transitional Finance Authority](#) (TFA) has a total of \$3.5 billion of outstanding variable rate demand debt. Additionally, the city has \$30 million of appropriation-backed variable rate debt outstanding. Counterparty risk is mitigated through the use of a diverse array of liquidity providers: 18 banks provide liquidity support for general obligation variable rate debt and 17 support TFA variable rate demand debt.

The city manages its variable rate portfolio proactively to renew or replace expiring liquidity facilities or to convert variable rate bonds to fixed rate or other interest rate modes if necessary. In an effort to reduce its overall borrowing costs and mitigate bank exposure, the city has converted various variable demand bonds to floating rate index modes. Those bonds do not have the put risk associated with demand debt but the city must refinance most of them at specific dates or interest rates will step up to higher levels. Those risks are manageable given the city's record of market access. The city currently has \$1.0 billion of general obligation index mode bonds outstanding and \$434 million outstanding issued through TFA. The city also has \$635 million of general obligation auction rate bonds outstanding, and \$222 million issued through TFA.

#### DEBT-RELATED DERIVATIVES

The city has eight outstanding interest rate swap agreements associated with its general obligation bonds, with five separate counterparties, and two swaps related to city-appropriation backed debt issued through the Dormitory Authority of the State of New York (DASNY) with two counterparties. In our analysis, the swap portfolio's potential risks to the city are manageable: rating triggers that would cause the agreements to terminate early or post collateral are low, ranging between Baa1 and Baa3. As of March 31, 2016 the combined outstanding notional amount of the swaps was \$1.5 billion, with a mark-to-market value of -\$166.4 million

#### PENSIONS AND OPEB

Unlike most other large cities, no separate school district or county government exists that also finances New York City's capital costs, which results in a relatively greater bonded debt load when compared to similarly-rated local governments: New York City net debt as a percentage of full value is 7.6% compared to 3.1% for Aa2-rated large local governments, although unlike most property-tax dependent local governments, New York City's revenue base includes personal income taxes, sales taxes and other taxes. Based on the current financial plan, fixed costs for debt service, pensions and retiree health benefits (OPEB) are high, nearly 34% of fiscal 2016 estimated tax revenue and 22% of total revenue.

The city's pension system includes three multi-employer cost-sharing plans (the New York City Employees Retirement System, Teachers Retirement System, and Board of Education Retirement System), and separate plans for fire and police. The city's shares of the multi-employer plans are 55.5%, 97.3% and 99.9%, respectively. Reflecting those plans, the city's fiscal 2015 Moody's-adjusted net pension liability (ANPL) is \$100.4 billion, or 1.32 times operating revenues. While the city's three-year adjusted ANPL as a percentage of full value is the fourth largest of the 50 largest local governments, at 11%, the burden is more moderate as percentage of operating revenue: 129%, ranking 34th. Moody's adjustments improve comparability of reported pension liabilities, but the adjustments are not intended to replace the city's reported liability information. In 2012, the New York City Retirement Systems reduced the assumed investment rate of return to 7.0% from 8.0% and replaced the frozen initial liability actuarial funding method with the more commonly used entry age normal method. The change increases the city's pension expense, but over the long run will lead to greater stability, since using the 7% rate in its actuarial calculations will help to mitigate market-related volatility in asset performance.

#### Management and Governance

The city's financial management is characterized by strong, institutional financial management practices that emerged from the 1970s fiscal crisis. These include four-year financial planning and quarterly updates, which must be submitted to a state oversight board; the segregation of real property tax revenue into a General Debt Service Fund, held by the state comptroller, and the state's covenant not to impair the rights of city bondholders to be paid when due; a statutory requirement to phase-in changes in property tax billable assessed value over five years evens out ups and downs in the city's real estate market; quarterly interest rate derivatives reporting, submitted to a state oversight board; and oversight by a state control board and by the state comptroller.

#### Legal Security

The bonds are general obligation, full faith and credit obligations of the city, secured by a real property tax levied without limitation as to rate or base.

#### Use of Proceeds

The bonds will be used to refund outstanding general obligation bonds for debt service savings.

#### Obligor Profile

In addition to the notable size of its economy discussed above, New York City has population of 8.5 million people (the US Census Bureau's most current estimate, as of July 2014) and personal income per capita that is 128% of the US level.

#### Methodology

The principal methodology used in this rating was US Local Government General Obligation Debt published in January 2014. Please see the Rating Methodologies page on [www.moody.com](http://www.moody.com) for a copy of this methodology.

## Ratings

Exhibit 3

### New York (City of) NY

Issue	Rating
General Obligation Bonds, Fiscal 2016 Series E	Aa2
Rating Type	Underlying LT
Sale Amount	\$775,000,000
Expected Sale Date	05/18/2016
Rating Description	General Obligation
General Obligation Bonds, Fiscal 2016 Series F	Aa2
Rating Type	Underlying LT
Sale Amount	\$25,000,000
Expected Sale Date	05/18/2016
Rating Description	General Obligation

Source: Moody's Investors Service

© 2016 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND CREDIT RATINGS AND RESEARCH PUBLICATIONS PUBLISHED BY MOODY'S ("MOODY'S PUBLICATIONS") MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody's.com](http://www.moody's.com) under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER 1027190

## Contacts

Nicholas Samuels  
*VP-Sr Credit Officer*  
nicholas.samuels@moody's.com

212-553-7121

Emily Raimes  
*VP-Sr Credit Officer*  
emily.raimes@moody's.com

212-553-7203

## CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454