

CREDIT OPINION

9 March 2016

New Issue

Rate this Research >>

Contacts

Marcia Van Wagner 212-553-2952
 VP-Sr Credit Officer
 marcia.vanwagner@moody.com

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

New York City Transitional Finance Authority

New Issue - Moody's assigns Aa2 to \$750M of NYC TFA Building Aid Revenue Bonds; outlook stable

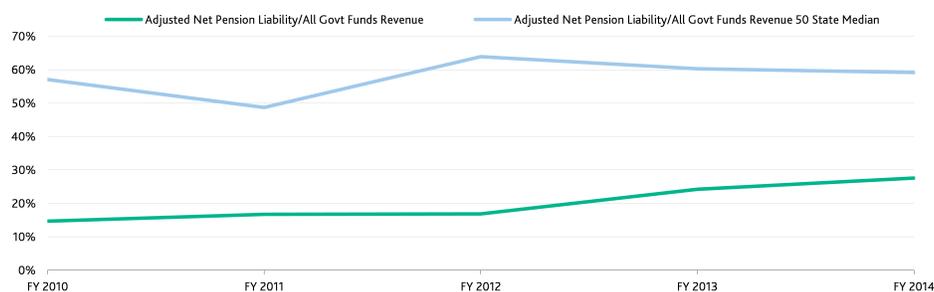
Summary Rating Rationale

Moody's Investors Service has assigned a Aa2 rating to the New York City Transitional Finance Authority's (TFA) \$750 million Building Aid Revenue Bonds, Fiscal 2016 Series S-1. The bonds will price March 14.

The Aa2 rating on the TFA Building Aid Revenue Bonds (BARBs) is one notch below New York State's Aa1 rating and reflects the state's strong commitment to provide building aid payments to New York City (Aa2 stable). The rating also reflects the subject-to-appropriation nature of the state aid payments securing the bonds, the state's constitutional mandate to fund education aid, a statutory framework that assigns the city's state building aid to the TFA, and non-impairment provisions.

Exhibit 1

Low Adjusted Net Pension Liabilities Offset High State Debt



Source: Moody's Investors Service

Credit Strengths

- » Long track record of state payments for New York City education aid
- » State non-impairment commitment

- » 1 times additional bonds test based on confirmed building aid received in every year
- » Healthy coverage in early years, although coverage declines in outyears

Credit Challenges

- » Confirmed building aid payments are subject to appropriation
- » The city's education aid is subject to certain competing claims

Rating Outlook

The bonds carry New York State's stable outlook. The outlook reflects our expectations that the state will preserve and improve upon the gains it has made in governance and its financial position.

Factors that Could Lead to an Upgrade

- » Stronger protection for the pledged revenues
- » State rating upgrade

Factors that Could Lead to a Downgrade

- » Significant decrease in debt service coverage
- » State rating downgrade, which could be triggered by growing structural budget gaps and reliance on non-recurring resources for recurring expenses

Key Indicators

Exhibit 2

New York	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Operating Fund Revenues (000s)	54,094,885	56,850,435	58,416,483	60,992,547	59,862,942
Balances as % of Operating Fund Revenues	-9.2%	-4.5%	-6.6%	-3.6%	-5.1%
Net Tax-Supported Debt (000s)	61,650,000	62,441,000	62,117,200	62,967,546	61,048,530
Net Tax-Supported Debt/Personal Income	6.5%	6.6%	6.3%	6.0%	5.7%
Net Tax-Supported Debt/Personal Income 50 State Median	2.8%	2.8%	2.8%	2.6%	2.5%
Debt/All Governmental Funds Revenue	48.0%	46.8%	48.4%	47.4%	45.3%
Debt/All Governmental Funds Revenue 50 State Median	23.4%	22.7%	24.3%	23.8%	23.0%
Adjusted Net Pension Liability/All Govt Funds Revenue	14.7%	16.7%	16.9%	24.2%	27.6%
Adjusted Net Pension Liability/All Govt Funds Revenue 50 State Median	57.1%	48.7%	63.9%	60.3%	59.2%
Total Non-Farm Employment Change (CY)	0.1%	1.4%	1.4%	1.5%	1.7%
*Per Capita Income as a % of US (CY)	123.5%	122.7%	122.4%	121.7%	121.9%

Source: NYS CAFR; Moody's Investors Service

Recent Developments

Recent developments are incorporated in the detailed rating considerations.

Detailed Rating Considerations

Economy

State employment growth rates lag the nation but have been fairly consistent and, since 2009, stronger than the average growth in the expansion of 2003–2008. In calendar year 2015, the state's job growth was about 1.7%, compared to 2.1% nationwide. The state's unemployment rate remained consistently below the US average during the recession, but has not fallen as rapidly during the

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's.com for the most updated credit rating action information and rating history.

economic recovery and has been about on par with the US rate. In January 2016, the state and US unemployment rates were identical at 4.9%.

The performance of the financial industry is important to New York's credit profile because the state's finances are highly sensitive to income tax payments from the wealthy and to employment in the high-paid securities industry. While accounting for 7.6% of total employment in 2013, financial activities generated 20.1% of the state's total wages in that year, demonstrating the economic power of the sector. This feature of the state's revenue structure means that New York's total employment trends are not as fiscally meaningful as elsewhere. For example, the state's loss of over 57,000 financial activity jobs from peak to trough during the downturn affected the state finances disproportionately given the progressive tax structure and the high percentage of operating funds tax revenue from income taxes (60% in fiscal 2015). Despite the state's better job performance during the recession, personal income declined more than in the US.

The financial activities sector in New York shed jobs in 2013 but rebounded in 2014 and has grown 0.8% annually since 2010, just shy of the nation's 1.1% pace. The state lagged the nation in adding jobs in business and professional services, and has lost manufacturing jobs during a period when they have grown nationally. Since 2010, the state's job growth has been more comparable to the nation in the information, health and education, and leisure and hospitality sectors. The state's per capita personal income remains very strong at 121.9% of the US level in 2014.

Finances and Liquidity

Fiscal 2015 Closed With Smaller GAAP Deficit

GAAP-based financial results show that the state continued to carry negative available balances (unassigned plus other available reserves) in fiscal 2015. Available balances at year end of negative \$2.044 billion, not quite -5% of adjusted revenues, were slightly improved from the approximately -\$3 billion registered at the end of fiscal 2014. The negative balances include the state's rainy day fund of \$540 million and the tax stabilization reserve of \$1.3 billion.

On a budgetary basis, fiscal 2015 ended with a \$7.3 billion general fund balance, bolstered by approximately \$5 billion from monetary settlements with financial institutions. Another \$3.6 billion is expected (or already received) in fiscal 2016. A total of \$4.55 billion of settlement funds is planned to be transferred in fiscal 2016 to a new "Dedicated Infrastructure Investment Fund" (DIIF) that will provide grants and financing for various projects around the state. The state used \$275 million as general fund support in 2015 and deposited \$316 million in its rainy day reserves bringing the reserves to \$1.8 billion or about 2.6% of projected fiscal 2016 general fund revenues. The state's reserves are below average for similarly rated states.

Fiscal 2016 Budget

The \$72 billion fiscal 2016 general fund budget includes the use of monetary settlement funds for the DIIF and to offset the cost of the settlement of a federal Medicaid disallowance (\$850 million). The settlement of the federal disallowance will also involve an additional annual payment of \$100 million for eleven years beginning in 2017. The 2016 budget uses \$627 million of settlement money for current year operating expenses.

Adjusting for these one-time disbursements, general fund spending grows about 6% in 2016, propelled primarily by growth in education aid to local school districts. However, state operating funds, which includes debt service and certain special revenue funds, is slated to grow within the 2% cap (before adjusting for fiscal 2015 prepayments of fiscal 2016 debt service) that has become the guiding policy for state budgeting in recent years.

Fiscal 2017 Executive Budget

The Executive Budget proposal, currently under consideration by the state legislature, totals \$70.6 billion in general fund spending, a reduction from 2016 because of smaller monetary settlement transfers. On an adjusted basis, general fund disbursement would grow \$1.5 billion, or 2.2%. Total state operating funds spending is projected to grow 1.7%, conforming to the 2% cap.

The fiscal 2017 budget closes a projected gap of nearly \$1.8 billion almost entirely through spending reductions and shifts. The budget proposes to revert responsibility for Medicaid cost growth to New York City, to claw back savings the city achieved through refunding

Sales Tax Asset Relief Corporation bonds, and increase the city's share of CUNY expenses. Fringe benefit savings would be achieved through certain health insurance costs and earlier payment of pension contributions, which would save interest costs.

The four-year financial plan projects gaps of \$2.8 billion in fiscal 2018, \$4.4 billion in 2019 and \$4.2 billion in fiscal 2020 before the proposed actions. Spending and revenue proposals in the financial plan bring those gaps to \$1.1 billion in fiscal 2018 and \$3.6 billion by fiscal 2020.

Maintaining the 2% spending cap in future years will become more challenging as the budget will need to absorb growth in K-12 education. While the state statutorily limits school aid growth (on a school fiscal year basis) to the growth in personal income, fiscal 2014, 2015 and fiscal 2016 budgets exceeded the limit. School aid disbursements are slated to grow 6.1% (school fiscal year basis) compared to the personal income growth benchmark of 1.7%. The growth is offset by reductions in higher education, mental hygiene and the benefit of fiscal 2015 debt service prepayments, which lowered debt service expenses in 2016. Political resistance to certain cost-reduction proposals such as the spending shifts to New York City may also make the cap challenging to adhere to. Even with some potential slippage from the 2% growth goal, however, continued discipline will ensure a more sustainable approach to state finances than in past periods when state spending growth rose rapidly. For example, from 2003 to 2009, state operating fund disbursements grew at a 6.7% compound rate.

LIQUIDITY

The state's liquidity position is about average compared to its peers and has improved due to the economic recovery and favorable revenue trends. The state has not borrowed externally for cash flow needs since fiscal 1994. The extraordinary legal settlement proceeds in fiscal 2015 and 2016 have contributed to higher end of month cash balances than year-ago levels: in January 2016, the General Fund cash balance was \$13.8 billion, compared to about \$10.4 billion a year earlier. The state has not engaged in deferrals or internal borrowing to address general fund liquidity issues since fiscal 2012.

Debt and Pensions

DEBT STRUCTURE

Net state tax-supported debt outstanding declined to about \$61 billion in 2015 from about \$61.3 billion in 2010, and from 6.5% to 5.7% of personal income, and the state projects continued declines in fiscal 2016. Our measure of the state's debt includes about \$8 billion in certain securities issued by the City of New York but backed by state aid payments.

The state constitution requires voter approval of general obligation debt. To meet its borrowing needs, the state issues most of its bonds via various public authorities, secured by dedicated revenues and legislative appropriations. Since their initial authorization in 2001, PIT bonds have been the primary vehicle for state borrowing and account for close to 60% of the state's state-supported outstanding debt. To diversify borrowing vehicles, in 2013 the state legislature authorized a new borrowing program of bonds backed by set-asides of sales tax receipts, which will reduce the reliance on PIT bonds in the state's portfolio in coming years.

Variable rate debt is limited by statute to up to 15 percent of outstanding State-supported debt. The state had \$2.1 billion in variable rate debt outstanding as of March 31, 2015, or about 3.5% of the state's net tax-supported debt. The state has no current plans to issue additional variable rate debt.

Statutorily defined state-supported debt issued after April 1, 2000 is limited by statute to 4% of state personal income, and debt service is limited to 5% of all funds receipts. The state estimates that its remaining debt capacity as of fiscal 2016 of \$4.4 billion. The state's projections indicate that with additional debt expected to be issued under the state's 5-year capital plan, capacity will narrow to a low \$189 million by fiscal 2020 before expanding somewhat to \$584 million in fiscal 2021.

Outstanding debt issued prior to 2000 and therefore not subject to the cap is projected to decline from \$10 billion in fiscal 2016 to \$3.5 billion in 2021.

DEBT-RELATED DERIVATIVES

Most of the state's VRDO debt is hedged with a swap portfolio of \$1.9 billion. State VRDO and swaps have declined significantly, with the swap portfolio falling from \$6.72 billion in 2008.

PENSIONS AND OPEB

New York has a well below-average leverage position with respect to its pension liabilities. The fiscal 2015 net pension liability reported according to new GASB Statement 67 rules was \$3.9 billion for the NYS Employees Retirement System and the Police and Fire Retirement System, which include the liabilities attributable to local governments.

Our most recent state pension medians report, covering fiscal year 2014, shows that the state's adjusted net pension liability was \$37.17 billion or 28% of all governmental fund revenues, well below the state median of 59%. Our methodology for adjusting reported pension data includes allocating cost-sharing liabilities among pension plan sponsors and discounting liabilities using the Citigroup Pension Liability Index. Under current market conditions, this index is considerably lower than the state's discount rate, resulting in significantly higher liabilities under the adjusted method.

Due to the state's amortization of pension contributions, which we view as a form of deficit borrowing, in 2015 the state contributed 80.3% of the required contribution to its pension plans, plus an additional payment for amortization of previous contributions. Given the NYS comptroller's office's current projections of employment contribution requirements, fiscal 2016 is the last year the state expects to amortize pension contributions. Reduced required contribution rates, announced in September, reflect new actuarial assumptions that acknowledge tempered inflation and salary trends, which more than offset the impacts of a more conservative new assumption about future investment returns on required funding. The state could resume delaying contributions if new developments lead to significant contribution rate increases.

The state implemented pension reforms for new employees hired starting on April 1, 2012 that raised the retirement age, increased employee contributions to their pension plan, and increased the number of years included in the calculation of final average salary, upon which pension benefits are based.

The state's unfunded liabilities for Other Post-employment Benefits (OPEB) as reported in the FY 2015 Basic Financial Statements, which consist primarily of retiree health benefits, is \$63.4 billion, not including SUNY-related liabilities of \$13.9 billion. The state funds its OPEB liabilities on a pay-as-you-go basis, contributing \$1.258 billion in 2015. In 2014, the state placed 20th in OPEB contributions relative to total revenues. The state had reduced its OPEB liabilities in 2010 by negotiating benefit changes, including greater retiree premium contributions and co-payments and implementing employer group waiver plan to receive federal drug coverage subsidies, but subsequently, new mortality tables have led the liabilities to increase due to longer expected life spans.

Governance

The state follows a number of strong management practices, including multi-year financial planning and consensus revenue forecasting, although the consensus forecast is not binding. The state had a long record of late budget adoption but has adopted its budget on time or close to on-time for almost every year of the past decade.

Some weaknesses in the state's financial management include the lack of robust reserves, given the state's reliance on a progressive personal income tax in the context of volatile capital gains income and very limited executive powers to address mid-year shortfalls.

Legal Security

In 2006, the TFA enabling act was amended pursuant to the School Financing Act to change the way the state provides support for New York City's educational capital plan. The amended law authorizes the issuance of building aid revenue bonds of up to \$9.4 billion outstanding to finance educational facilities; \$7.294 billion of this authorization is currently outstanding, not including this issuance. Under the act, the city assigns to the TFA all of the state building aid payable to the city, under Section 3602.6 of the state education law.

Educational projects in New York City's education capital plan, including new construction, building additions, and rehabilitations, are eligible for state building aid. When a project goes into contract, the School Construction Authority submits it to the State Education Department (SED). The SED approval process establishes an "aidable cost" of the project and creates a 30-year amortization schedule. Once SED has approved the project, the state is statutorily required to provide a 30-year stream of building aid payments, subject to annual appropriation.

The stream of building aid payments is a function of both the aidable cost and the current funding ratio, and provides the security for the bonds. The SED determines the amount of confirmed building aid payable annually by applying a building aid ratio to the amount

of aidable debt service for the year. The base building aid ratio has varied in past years and could vary in future years. For New York City schools, it averaged 51% from 2005 to 2010. The ratio has generally drifted down since 2010, and the city projects it will be 46% in fiscal 2016.

BARBS Subordinate to Pre-2007 Future Tax Secured Bonds

The TFA issues Future Tax-Secured Bonds backed by city personal income and sales taxes. Future Tax-Secured Bonds issued prior to Series 2007 S-1 have a senior claim on state building aid if tax revenues are insufficient to pay debt service. The risk of recourse to building aid to pay the senior claim is slim since the amount of pre-2007 bonds outstanding is a small portion (5%) of total tax-secured bonds outstanding and coverage of the tax-secured bonds by tax revenues is 8.76 times.

State Non-Impairment Covenant Adds Bondholder Protection

The state has covenanted not to impair the rights of bondholders in any way. Although the state is able to vary the building aid ratio on a year-to-year basis, which alters the amount of confirmed building aid payable to the city, we believe that given the covenant the state is not likely to reduce its building aid payments below the amortization level initially calculated for each project, with the provision that the interest rate used in the calculation may be reset every 10 years.

Further supporting bondholder security is the fact that the state aid intercept provision of Section 99-B of the School Finance Law is available to these bonds. However, since the 99-B program provides for post-default payment, with the state comptroller withholding education aid in amounts required to pay debt service if necessary, it does not add to the credit rating assigned to this transaction.

Competing Claims to Building Aid

New York City's education aid is subject to certain competing claims, including those from holders of State of New York Municipal Bond Bank Agency Special School Purpose Revenue Bonds. These claims are minimal in amount. There are also contingent competing claims from the 99-B intercept post-default program, holders of New York City Education Construction Fund Revenue Bonds, and possible withholdings by the state if the city fails to provide certain educational services. Through a memorandum of understanding (MOU) between the city, the TFA, the State Education Department, and the New York State Comptroller, the state comptroller has agreed to satisfy such competing claims from other school aid before state building aid. New York City has agreed to pay to the TFA any amounts of building aid that may be diverted for these claims.

1.0 Times Additional Bond Test Based on Historical Annual Confirmed Building Aid

The additional bonds test (ABT) requires 1.0 times coverage of outstanding state building aid appropriation bond debt service by confirmed building aid revenue in every year. This ABT does not rely on any future approval of New York City education capital projects or on the associated incremental building aid: it relies solely on approved projects for which the state has committed to provide a 30-year stream of building aid payments subject to annual appropriation.

Based on confirmed building aid through 2045 and debt service on outstanding Building Aid Revenue Bonds as well as projected debt service on the Series 2016 S-1 bonds, debt service coverage falls from 1.89x times in 2016 to a minimum of 1.01 times in 2045, reflecting the matching of confirmed state building aid to amortization schedules. As New York City continues to add capital projects for education in the future, incremental associated building aid will be added, increasing coverage and providing more debt capacity.

MOU Establishes Flow of Building Aid

Each year the state annually appropriates money to New York City to pay for educational needs of the city's students. A portion of this aid constitutes the state building aid. Until 2006, the state did not distinguish between the payment of education aid and building aid, making one lump sum payment to the city. To secure the bonds and separate building aid from the rest of the education aid, pursuant to the MOU the city, TFA, SED and the state comptroller determine the amount included in each general education aid payment that is attributable to state building aid. Prior to each general education aid payment, the TFA is required to calculate and certify to the SED, the comptroller and the state budget director the amount of the building aid payment included in each general education aid payment.

Additionally, a constitutional mandate to fund education supports the inclusion of appropriations for educational aid, including building aid, in the state's annual budget.

Use of Proceeds

Proceeds of the Series 2016 S-1 bonds will be used to pay a portion of the costs of educational facilities for the City of New York.

Obligor Profile

New York State is the 3rd largest US state by population. Located in the Northeastern US, New York has a large and diverse economy with high per capita income at 121% of the US average and gross state product of \$1.422 trillion.

The TFA was created in 1997 as a vehicle to fund a portion of New York City's capital program. The TFA Building Aid Revenue Bond program was authorized by the School Financing Act of 2006 to finance city educational facilities with the backing of state aid revenues.

Methodology

The principal methodology used in this rating was The Fundamentals of Credit Analysis for Lease-Backed Municipal Obligations published in December 2011. Please see the Ratings Methodologies page on www.moody.com for a copy of this methodology.

Ratings

Exhibit 3

NEW YORK CITY TRANSITIONAL FINANCE AUTHORITY, NY

Issue	Rating
Building Aid Revenue Bonds, Fiscal 2016 Series S-1	Aa2
Rating Type	Underlying LT
Sale Amount	\$750,000,000
Expected Sale Date	03/14/2016
Rating Description	Dependent (Rating moves with Parent)

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.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. ("MJJK") 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 MJJK. 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. MJJK 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.

MJJK 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 MJJK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJJK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

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

REPORT NUMBER 1019175