

**NEW YORK STATE
TEACHERS' RETIREMENT SYSTEM**

**BOARD MEETING
January 27, 2022**

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NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
10 CORPORATE WOODS DRIVE, ALBANY, NY

THE ANNUAL MEETING OF THE NEW YORK STATE TEACHERS' RETIREMENT BOARD was held via WebEx, on January 27, 2022. The meeting was called to order at 8:30 a.m. by President David Keefe. Eric Iberger led the group in the Pledge of Allegiance.

ATTENDANCE via WebEx

Present: Juliet Benaquisto, Elizabeth Chetney, Phyllis Harrington, Eric Iberger, David Keefe, Jennifer Longtin, Christopher Morin, Oliver Robinson, Nicholas Smirensky and Thomas Lee

A. Election of Retirement Board Officers

N. Smirensky nominated D. Keefe for President and O. Robinson for Vice-President. There were no further nominations. Upon motion of N. Smirensky, seconded by P. Harrington and unanimously carried, D. Keefe and O. Robinson were elected as President and Vice President of the Board.

B. Introduction of Visitors

Pete Savage from NYSUT; Greg Berck from the NYSCOSS
Donna Martin from Albany, NY; Joe Ebsisa, Withintelligence (formerly Pageant Media); Bernard Tuchman, Divest NY; John Daley, NYSSBA; Ashley Dunning, Nossman (Fiduciary Counsel); Fred Herrmann and Michael Wolfe Jr., recently retired from NYSTRS.

C. Correspondence

There was no correspondence, but President Keefe acknowledged Noreen Jones' receipt of a 2021 System Merit Award for simultaneously providing exemplary leadership of two major NYSTRS' departments – Office of the Chief Financial Officer and Risk Management - for three years.

D. Approval of Board Minutes: October 28, 2021; November 23, 2021; December 2, 2021, December 17, 2021, December 28, 2021

There being no additions or corrections to the minutes of October 28, 2021; November 23, 2021; December 2, 2021, December 17, 2021, December 28, 2021, the minutes were approved with a motion made by N. Smirensky, seconded by J. Benaquisto and unanimously carried.

E. Resolution of Recognition – Frederick W. Herrmann (R1)

P. Harrington offered the following resolution, seconded by N. Smirensky and unanimously carried by the Board:

Whereas Frederick W. Herrmann served the New York State Teachers' Retirement System with excellence for 10 years as Managing Director of Public Equities;

Whereas he was responsible for capturing the highest equity market return at the lowest possible cost through a portfolio of domestic, international and global public equities;

Whereas under Mr. Herrmann's direction his team had a laser-like focus on developing internally managed strategies, balancing the portfolio with an appropriate mix of external managers, and fostering the development of the people, infrastructure and process to support the goals of the department;

Whereas he was committed to NYSTRS' strategic objective to safeguard System funds and invest them in a prudent manner, and he was deeply committed to ensuring the System fulfilled its mission to provide retirement security to our members;

Whereas during Mr. Herrmann's tenure with NYSTRS, the System's net assets grew from \$89.9 billion in 2011 to \$148.1 billion in 2021;

Whereas he served as mentor to his team and colleagues from across the System, and he was deeply respected for his dedication to NYSTRS; be it Resolved that the New York State Teachers' Retirement System Board hereby acknowledges Frederick W. Herrmann for his exemplary career; be it further

Resolved that the Retirement Board extends Mr. Herrmann and his family its best wishes for a happy and healthy retirement; and be it further

Resolved that a copy of this resolution be presented to Mr. Herrmann and be included in the proceedings of the NYSTRS Board meeting held January 27, 2022.

F. Resolution of Recognition – Michael A. Wolfe Jr. (R2)

P. Harrington offered the following resolution, seconded by J. Benaquisto

and unanimously carried by the Board:

Whereas Michael A. Wolfe Jr. served the New York State Teachers' Retirement System with distinction for 24 years, beginning in 1997 as a Senior Accountant in the Real Estate department and later transitioning to the Fixed Income department;

Whereas he was promoted to Manager of Fixed Income in 2005 and was named Managing Director of the department in 2008;

Whereas during his tenure he played an important role in ensuring that NYSTRS met its strategic objective to safeguard System funds and invest them in a prudent and diversified manner in order to achieve optimum long-term returns with an appropriate level of risk;

Whereas during Mr. Wolfe's tenure with NYSTRS, the System's net assets grew from \$65.1 billion in 1997 to \$148.1 billion in 2021;

Whereas he built a strong Fixed Income team that prudently manages NYSTRS' cash assets in order to fund the monthly pension payroll for the System's nearly 176,000 retired members and beneficiaries, and he was a key player in NYSTRS' master custody project, leading the team with great care and skill through this significant transition;

Whereas he was steadfastly committed to the System and its mission to provide our members with a secure retirement;

Whereas Mr. Wolfe is a well-respected mentor who leads by example and is highly regarded for his dedication to NYSTRS, our members and his colleagues; be it

Resolved that the New York State Teachers' Retirement System Board hereby acknowledges Michael A. Wolfe Jr. for his exemplary career; be it further

Resolved that the Retirement Board extends Mr. Wolfe and his family its best wishes for a healthy and happy retirement; and be it further

Resolved that a copy of this resolution be presented to Mr. Wolfe and be included in the proceedings of the NYSTRS Board meeting held January 27, 2022.

Committee Reports/Action Items

A. Audit Committee

O. Robinson, Chair, reported that the Committee had last met on December 8, 2021 and reviewed KPMG and internal staff reports. The Committee also reviewed

the Audit Committee charters and determined no changes or updates were needed.

B. Disability Review Committee

1. Disability Denial Resolution (R3)

O. Robinson offered the following resolution, seconded by E. Iberger and unanimously carried by the Board:

WHEREAS, After reviewing the medical information submitted in connection with the following members, the Medical Board has determined the members are not incapacitated for the performance of gainful employment and has recommended the members application be denied, be it

RESOLVED, That the applications for retirement on account of disability submitted by the following members be denied as recommended by the Medical Board:



C. Executive Committee

Upon motion of N. Smirensky, seconded by P. Harrington and unanimously carried by the Board, the following resolutions were moved and approved together, as consent agenda items:

- Resolution on Rule and Regulations Section 5000.1 (R4)

WHEREAS, members have had the option to utilize the United States Postal Service (USPS) registered or certified mail to file a form/application or send moneys to the System and this method allowed the item to be deemed received on the day mailed versus the day received by the System (“same day filing”), and

WHEREAS, Chapter 329 of the Laws of 2021 amended Education Law §508, subdivision 19, and expanded the list of mailing methods to be accepted for same day filing provided such postal mail service method has a tracking service confirming and producing in writing the date of the mailing, and

WHEREAS, the proposed amendments to section 5000.1 of the Rules and Regulations be amended to reflect the implementation of Chapter 329 of the Laws of 2021, be it therefore

RESOLVED, That, effective immediately, the existing section 5000.1 of the Rules and Regulations of the New York State Teachers' Retirement System be amended, a copy of which is annexed hereto and made a part thereof as Appendix A, pp. 14-15.

- Resolution on Rules and Regulations 5004.5 (R5)

WHEREAS, the rate of interest on member loans for members in Tiers 3 through 6 is defined to be one percent less than the valuation rate of interest as reflected in section 5004.5 of the Rules and Regulations, and

WHEREAS, the valuation rate of interest was lowered by the Retirement Board upon the recommendation of the Actuary at the Board Meeting on October 28, 2021, be it therefore

RESOLVED, That, effective July 1, 2022, the existing section 5004.5 of the Rules and Regulations of the New York State Teachers' Retirement System be amended, a copy of which is annexed hereto and made a part thereof as Appendix B, pp. 16-17.

- Resolution to Delegate Signatory Authority for Financial and Legal Document Execution (R6)

WHEREAS, Pursuant to Section 5 of Article II of the Retirement System's Bylaws, the Executive Director and Chief Investment Officer of the Retirement System is authorized to conduct the affairs of the Retirement System and to provide for the execution of all financial and legal documents as authorized by the Retirement Board; and

WHEREAS, In order to assure the proper and efficient operation of the Retirement System, it is necessary and desirable to provide for the delegation by the Executive Director and Chief Investment Officer of the authority to execute financial and legal documents to employees of the Retirement System; and

WHEREAS, the Retirement Board believes it is desirable to amend and restate the delegation resolution and, among other things, identify the employees of the Retirement System to whom the authority to execute financial and legal documents has been delegated by a separate resolution which may hereafter be amended as required; now therefore be it

I

Financial and Legal Documents

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to approve and execute financial and legal documents relating to the Retirement System, including those related to the administration of the Retirement System and its investments, or may delegate such authority to any other Executives or signatory designee of the Retirement System identified by said separate resolution; and be it

II

Identification of Signatories

RESOLVED, That, for the purposes of Section 5 of Article II of the Retirement System's Bylaws, the Retirement Board shall approve by separate resolution, the employees of the Retirement System to whom authority has been delegated by the Executive Director and Chief Investment Officer to approve and execute financial and legal documents, which resolution shall be reauthorized by the Retirement Board as necessary; and be it

III

Approval and Execution

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to duly enact Retirement System policy regarding the signatory process, including but not limited to the number of required signatures or approvals, and such policy may be set forth in the Administrative Policy Manual or other written policy as may be determined by Executive Director and Chief Investment Officer; and be it

IV

Rescission of All Prior Inconsistent Resolutions

RESOLVED, That all prior resolutions of the Retirement Board inconsistent with this resolution are hereby rescinded effective January 27, 2022; provided, however, that nothing herein shall affect the validity of any action previously authorized, approved or ratified by the Retirement Board

- Resolution Identifying Financial and Legal Document Signatories (R7)

WHEREAS, The Retirement Board has by resolution amended and restated the resolution of January 27, 2022 entitled Delegation Resolution - Financial and Legal Document Execution, providing for the delegation by the Executive Director and Chief Investment Officer of the authority to approve and execute financial and legal documents to other employees of the Retirement System; and

WHEREAS, The Retirement Board has by resolution adopted at its regular meeting on October 26, 1995, amended and restated periodically thereafter, and most recently on July 28, 2021, identifying those employees of the Retirement System that have been delegated such authority; and

WHEREAS, It is necessary to periodically update said resolution by identifying those employees of the Retirement System to whom such authority may be delegated; now therefore be it

RESOLVED, That the employees authorized to approve and execute financial and legal documents of said resolution are identified by department, management level within the organization and by name in the attachment entitled Signatory Authorization Grid- Financial and Legal Documents; and be it

RESOLVED, the attachment entitled Signatory Authorization Grid- Financial (Appendix C, p. 18) and Legal Documents sets forth the approvals and signatures needed to approve and execute financial and legal documents; and be it

RESOLVED, That this authorization shall remain in effect for individuals who are promoted within their department; and be it

RESOLVED, That between regular meetings of the Retirement Board, the Executive Director and Chief Investment Officer shall have the authority to designate in writing any such additional employees as may be required by business necessity to serve on an interim basis until the next regular meeting of the Retirement Board; and be it

RESOLVED, That this delegation shall be reviewed by the Retirement Board no less than annually; and be it further

RESOLVED, That this resolution shall take effect January 27 2022 and, upon taking effect, shall supersede the identifying resolution previously adopted by the Retirement Board on July 28, 2021.

- Resolution Identifying Warrant Signatories (R8)

WHEREAS, The Retirement Board has by resolution adopted at its regular meeting on October 26, 1995, amended and restated periodically thereafter, and most recently on July 28, 2021 and as further amended concurrent with this resolution, provided for the delegation by the Executive Director and Chief Investment Officer of the authority to execute warrants to other employees of the Retirement System; and

WHEREAS, It is necessary to implement said resolution by identifying those employees of the Retirement System to whom such authority may be delegated; be it

RESOLVED, That the signatories authorized to execute administrative, real estate investment, and fixed income, equity security and alternative investment warrants as provided in Parts II, III, IV, V and VI respectively of said resolution are identified by signatory group, organizational level within the organization and by name in the attached Signatory Authorization Grid (Appendix D, p. 19) dated July 28, 2021; and be it further

RESOLVED, That this authorization shall remain in effect for individuals that are promoted within or move among the designated signatory groups, and be it further

RESOLVED, That, between regular meetings of the Retirement Board, the Executive Director and Chief Investment Officer shall have the authority to designate in writing any such additional "A", "B", "C", "D", "E", "F", and "G" signatories as may be required by business necessity to serve on an interim basis until the next regular meeting of the Retirement Board; and be it further

RESOLVED, That this delegation shall be reviewed by the Retirement Board no

less than annually; and be it further

RESOLVED, That this resolution shall take effect January 27, 2022 and, upon taking effect, shall supersede the identifying resolution previously adopted on July 28, 2021.

- Resolution on Business Continuity Plan (R9)

RESOLVED, That the Business Continuity Plan, as presented to the Retirement Board reflecting changes through January 2022 is approved and accepted.

- Resolution on Disaster Response Plan (R10)

RESOLVED, That the Disaster Response Plan, as presented to the Retirement Board reflecting changes through January 2022 is approved and accepted.

D. Ethics Committee

C. Morin, Chair, reported that the Committee had met on January 26

to hear reports on annual disclosure statements.

E. Investment Committee

1. Consent Agenda Items A-B (Appendix E, pp. 20-21)

A. Renew Consultants

- Callan – General Investment Consultant (R11)

D. Keefe offered the following resolution, seconded by O. Robinson

and unanimously carried by the Board:

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the contract with Callan LLC to act as a general investment consultant and advise on (i) asset allocation, (ii) manager research & monitoring, and (iii) provide Board & staff education for a period of one year, commencing May 1, 2022, at an annual fee not to exceed \$493,319.

- Callan – Real Estate Consultant (R12)

E. Chetney offered the following resolution, seconded by O. Robinson

and unanimously carried by the Board:

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the contract with Callan LLC to serve as the System's real estate consultant and to perform such assignments as may be determined by the Executive Director and Chief Investment Officer or his designees in connection therewith, for the one year period commencing February 1, 2022 at an annual retainer not to exceed \$237,312 and at fees for individual fund due diligence not to exceed \$36,050 per domestic fund and \$46,350 per international fund, plus expenses, together with other services in accordance with the terms of the existing contract.

B. Renew Managers

Upon motion of P. Harrington, seconded by O. Robinson and unanimously carried by the Board, the following resolutions were moved and approved together, as consent agenda items:

- Ariel Investments LLC (R13)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Ariel Investments LLC to manage a portion of the System's assets as an MSCI ACWI ex-US international equity manager for a period of one year, effective April 10, 2022.

- Arrowstreet Capital LP (R14)

WHEREAS, Arrowstreet Capital LP was hired as an international equity manager on July 18, 2017 and as a global equity manager on March 26, 2019; now be it therefore

RESOLVED, That, the Executive Director and Chief Investment Officer is authorized to renew the agreement with Arrowstreet Capital LP for a period of one year, effective March 26, 2022, to manage (i) a portion of the System's assets as an international equity manager benchmarked to the MSCI ACWI ex-US index, and (ii) a portion of the System's assets as a global equity manager benchmarked to the MSCI ACWI index.

- Bank of NY Mellon (Securities Lending) (R15)

RESOLVED, the Executive Director and Chief Investment Officer is authorized to renew the agreement with The Bank of New York Mellon to act as an agency securities lender for a portion of the System's public securities assets for a period of one year, effective March 17, 2022

- Black Rock Financial Management, Inc. (CMBS) (R16)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Black Rock Financial Management,

Inc. to manage a portion of the System's assets in Commercial Mortgage Backed Securities ("CMBS"), for a period of one year, effective April 3, 2022.

- Cohen & Steers Capital Mgt – Multi Strategy (R17)

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with Cohen & Steers Capital Management, Inc. to manage a portion of the System's portfolio to be actively invested in the securities of real estate investment trusts ("REITs") and real estate operating companies ("REOCs") for a period of one year, effective February 12, 2022.

- Columbia Management Investment Advisers LLC (R18)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Columbia Management Investment Advisers, LLC to manage a portion of the System's assets as an active U.S. high yield manager benchmarked to the ICE BofAML BB-B US High Yield Constrained Index (HUC4) (f/k/a Bank of America Merrill Lynch BB-B U.S. High Yield Constrained Index) for a period of one year, effective March 6, 2022.

- J.P. Morgan Investment Management Inc. (R19)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with J.P. Morgan Investment Management Inc. to manage a portion of the System's assets as an active U.S. high yield manager benchmarked to the ICE BofAML BB-B US High Yield Constrained Index (HUC4) (f/k/a Bank of America Merrill Lynch BB-B U.S. High Yield Constrained Index) for a period of one year, effective March 5, 2021.

- Raith Capital Partners (R20)

RESOLVED, That the System's Executive Director and Chief Investment Officer is authorized to renew the agreement with Raith Capital Partners, LLC to act as a Debt separate account advisor and in such role to advise on the acquisition, management and exit of public and private opportunistic commercial real estate debt opportunities for a period of one year, effective February 7, 2022.

- Rhumblin Advisors (R21)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Rhumblin Advisors LP to manage a portion of the System's assets as a passive international equity manager, benchmarked to the MSCI ACWI ex-US Index, for a period of one year commencing March 30, 2022.

- Xponance (f/k/a FIS Group) (R22)

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to renew the agreement with Xponance (formerly known as FIS Group, Inc. with a name change to Xponance effective 4/1/20) to manage a portion of the System's assets as a manager of international equity managers, benchmarked to the ACWI ex-US Index, for a period of one year commencing April 25, 2022.

2. Resolution on Updated Stock Proxy Voting Section of IPM (R23)

D. Keefe offered the following resolution, seconded by E. Chetney

and unanimously carried by the Board:

RESOLVED, That the Investment Policy Manual, as presented to the Retirement Board reflecting changes to the Stock Proxy Voting section are approved.

3. Resolution on AEW Capital Management LP (R24)

O. Robinson offered the following resolution, seconded by J. Longtin

and unanimously carried by the Board:

RESOLVED, That the Executive Director and Chief Investment Officer, or his designees, is authorized to contract with AEW Capital Management, L.P. for a period of one year to manage a portion of the System's assets as a Domestic Real Estate Public Securities manager benchmarked to the applicable property sector sleeve of the FTSE NAREIT Equity index.

4. Resolution on Aon – Annual Board Evaluation and Governance Training (R25)

P. Harrington offered the following resolution, seconded by J. Longtin

and unanimously carried by the Board:

RESOLVED, That the Executive Director and Chief Investment Officer is authorized to contract with AON HEWITT INVESTMENT CONSULTING to act as a consultant, to provide services related to the annual board self-assessment and evaluation and governance training for a period of one year, commencing May 1, 2022, at an annual cost not to exceed \$60,000.

F. Risk Committee

C. Morin, Chair, reported that the Committee had met on January 26 and had heard reports on key risk indicators and investment risk and an update on completed and outstanding risk items from the 2017 Department of Financial Services examination.

Staff Reports

A. Old Business – none.

B. New Business

1. Litigation

J. Indelicato reviewed the Litigation report (Appendix F, pp. 22-25).

2. Member Relations Update

Board members received the Retirement Summary and Member Loan Reports prior to the meeting, a copy of which are attached as Appendix G, pp. 26-27.

3. DFS Task Force Update/Quality Assurance Update

NYSTRS formed a task force in March 2020 to coordinate and lead efforts to identify and correct benefit payment over and under payments. B. Dellea and B. Woolley provided an update on the task force's work to date and planned next steps. S. Bonesteel updated the Board on steps being taken by the newly formed Quality Assurance department to train staff, provide a multi-layered review of calculations, identify and initiate process improvements and provide reporting to management. A. Dunning, fiduciary counsel from Nossman, commented on the prudent process NYSTRS has undertaken to comply with its fiduciary duty as well as with DFS requirements on this matter (Appendix H, pp. 28-42).

4. DEI Strategic Plan Update

D Malavé provided an update on NYSTRS' DEI strategic planning process (Appendix I, pp. 43-45).

5. Update on Investment Infrastructure Modernization Project

N. Jones provided the Board with an update on the project.

6. Recognition Program

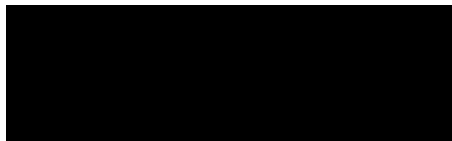
R. Kannan provided the Board with a summary overview of NYSTRS' recognition programs for its employees.

7. Estimated Employer Contribution Rate

R. Young gave an update on the estimated Employer Contribution Rate, a copy of which is attached as Appendix J, pp. 46-62.

With unanimous consent, the board meeting adjourned at 11:15 am.

Respectfully submitted,

A large black rectangular redaction box covering the signature of the official.

Thomas K. Lee

Section 5000.1 GENERAL PROVISIONS.

(a) All applications for membership, retirement, optional selections, loans, refunds, military service credit, prior service credit, transfer, and designation of beneficiary shall be made on appropriate forms to be furnished by the System and must be received at the System's office to be effective. Provided, however, whenever a statute requires that a document must be filed or moneys deposited with the System within a prescribed period of time or by a specified date in order for a member to be eligible for service credit or a benefit from the System, the document shall be deemed filed or the moneys deposited with the System on the day they are mailed either through (i) the United States Postal Service, provided the mailing is by registered or certified mail, or (ii) such other equivalent postal mail service specifically permitted by the System, provided a tracking service confirms and produces in writing a date of mailing.

Notwithstanding these provisions no such document shall be deemed filed or moneys deposited with the System on the mailing date unless actually received by the System as the result of such mailing.

Section 5000.1 GENERAL PROVISIONS.

(a) All applications for membership, retirement, optional selections, loans, refunds, military service credit, prior service credit, transfer, and designation of beneficiary shall be made on appropriate forms to be furnished by the System and must be received at the System's office to be effective. Provided, however, whenever a statute requires that a document must be filed or moneys deposited with the System within a prescribed period of time or by a specified date in order for a member to be eligible for service credit or a benefit from the System, the document shall be deemed filed or the moneys deposited with the System on the day they are mailed **either** through **(i)** the United States Postal Service, provided the mailing is by registered or certified mail, **or (ii) such other equivalent postal mail service specifically permitted by the System, provided a tracking service confirms and produces in writing a date of mailing.**

Notwithstanding these provisions no such document shall be deemed filed or moneys deposited with the System on the [~~day of~~] mailing **date** unless actually received by the System as [~~a~~] **the** result of such mailing.

Section 5004.5 INTEREST ON LOANS.

(b) For Tier 3 through 6 members, the rate of interest payable on loans shall be 1 percent less than regular interest pursuant to Education Law Section 501(9)(b); however, in no event shall the rate be less than set forth in Retirement and Social Security Law Sections 517(c) or 613(c). Whenever there is a change in the interest rate it shall be applicable to loans made or renegotiated after the date of such change in the interest rate. Effective July 1, 1991, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 7 percent per annum. Effective July 1, 2016, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 6.50 percent per annum. Effective July 1, 2018, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 6.25 percent per annum. Effective July 1, 2020, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 6.1 percent per annum. Effective July 1, 2022, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 5.95 percent per annum.

Section 5004.5 INTEREST ON LOANS.

(b) For Tier 3 through 6 members, the rate of interest payable on loans shall be 1 percent less than regular interest pursuant to Education Law Section 501(9)(b); however, in no event shall the rate be less than set forth in Retirement and Social Security Law Sections 517(c) or 613(c). Whenever there is a change in the interest rate it shall be applicable to loans made or renegotiated after the date of such change in the interest rate. Effective July 1, 1991, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 7 percent per annum. Effective July 1, 2016, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 6.50 percent per annum. Effective July 1, 2018, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 6.25 percent per annum. Effective July 1, 2020, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 6.1 percent per annum. **Effective July 1, 2022, for Tier 3 through 6 members, the rate of interest payable on loans shall be at the rate of 5.95 percent per annum.**

New York State Teachers' Retirement System
Signatory Authorization Grid - Financial and Legal Documents

Effective as of January 27, 2022

Department	Executive	Designees	
		Deputy / Managers / Counsel	Assistant Managers / Counsel
Administration	Miriam Dixon	Rebecca Kannan Jason Freeman	Shana Gainey
Fixed Income	Michael Federici	Aaron Vanderwiel	Joseph Wood (1)
Information Technology	Michael Gregoire	Vijay Madala Mark Gallagher Sarah Garrand	N/A
Internal Audit	Kenneth Kasper	N/A	Bruce Woolley Lei Zhang
Member Relations	Edward Rezny	Michael Contento Beth Dellea Erica Mortimore Shannon Bonesteel Heidi Brennan Heidi Travis	Colleen Laven Andy Whitney Cori Bichteman Timothy Mack
Office of the Actuary	Richard Young	Melody Prangle (1)	N/A
Office of the Chief Financial Officer	Noreen Jones	Margaret Andriola Christopher O'Grady	Christopher Brown David Robertson
Office of the General Counsel	Joseph Indelicato	Don Ampansiri Ben Lee Yiselle Ruoso	Janet Graham Adam Kinney
Private Equity	Gerald Yahoudy	Brad Woolworth Nicholas Chladek	N/A
Public Equities	Paul Cummins	David Tessitore Nathan Lee	Jennifer Wilcox
Real Estate	David Gillan	Kevin Maloney Michael Morrell	Andrew Bartell Jason Kearney Adrean Kreig
Risk Management	N/A	Matthew Albano	Matthew Tice

(1) New/promoted manager. Becomes eligible upon completion of new manager review period.

Changes from Prior Grid		
Department	Name	Comments
Additions:		
Fixed Income	Joseph Wood	Appointed to Assistant Manager of Fixed Income
Deletions:		
Public Equities	Frederick Herrmann	Separated from employment
Fixed Income	Michael Wolfe	Separated from employment
Other:		
Public Equities	Paul Cummins	Promoted to Managing Director of Public Equities
Fixed Income	Michael Federici	Promoted to Managing Director of Fixed Income
Risk Management	Matthew Albano	Promoted to Risk Officer
Public Equities	David Tessitore	Promoted to Manager of Trading
Private Equity	Nicholas Chladek	Promoted to Manager of Private Equity (International)
Office of the CFO	David Robertson	Added as a signatory

New York State Teachers' Retirement System
Signatory Authorization Grid - Disbursement Warrants

Effective as of January 27, 2022

Signatory Group		Executive	Deputy / Managers / Counsel	Assistant Managers / Counsel	Other Professionals
A	All Types	Joseph Indelicato Richard Young	Don Ampansiri Ben Lee Yiselle Ruoso Melody Prangley (1) Matthew Albano	Janet Graham Adam Kinney Matthew Tice	N/A
Signatory Group		Executive	Deputy / Managers	Assistant Managers	Other Professionals
B	Real Estate	David Gillan	Kevin Maloney Michael Morrell	Andrew Bartell Jason Kearney Adrean Kreig	N/A
C	Fixed Income	Michael Federici	Aaron VanDerwiel	Joseph Wood (1)	James Bone Dawn Sherman Mark Wood Michael Wollner (2) Endurance Aku (2)
D	Public Equities	Paul Cummins	David Tessitore Nathan Lee	Jennifer Wilcox	N/A
E	Private Equity	Gerald Yahoudy	Brad Woolworth Nicholas Chladek	N/A	N/A
F	Finance	Noreen Jones	Margaret Andriola Christopher O'Grady	Tedd Johnson David Robertson Christopher Brown Matthew Tice	N/A
G	Employee Payroll	Miriam Dixon	Rebecca Kannan	Shana Gainey	N/A

(1) New/promoted manager. Becomes eligible upon completion of new manager review period.

(2) New/promoted staff. Becomes eligible upon completion of probationary review period.

Changes from Prior Grid

Group	Name	Comments
Additions:		
C	Joseph Wood	Appointed as Assistant Manager of Fixed Income
C	Endurance Aku	Appointed as an Investment Officer 1
Deletions:		
D	Frederick Herrmann	Separated from employment
C	Michael Wolfe	Separated from employment
G	Ryan Warren	Transferred to the Risk Management Department
Other:		
D	Paul Cummins	Promoted to Managing Director of Public Equities
C	Michael Federici	Promoted to Managing Director of Fixed Income
A	Matthew Albano	Promoted to Risk Officer
D	David Tessitore	Promoted to Manager of Trading
E	Nicholas Chladek	Promoted to Manager of Private Equity (International)

Signatory Group Authority

Type of Disbursement	Warrant Type	Approver	Authorizer	
		Any Amount	Any Amount	Under Threshold*
Real Estate	B	B Group	A Group	B Group (Exec)
Fixed Income	C	C Group	A Group	C Group (Exec)
Public Equities	D	D Group	A Group	D Group (Exec)
Private Equity	E	E Group	A Group	E Group (Exec)
Finance	F	F Group	A Group	F Group
Employee Payroll	G	G Group	A Group	G Group (Exec)

The threshold for authorizing warrants is \$250,000*Signatories cannot sign as approver and authorizer on the same warrant**

Appendix E

Annual Retirement Board Meeting – Agenda pp. 1-2

January 27, 2022

Call to Order by President

- A. Election of Officers
- B. Introduction of Visitors
- C. Correspondence - None
- D. Approval of Minutes of October 28, 2021, November 23, 2021, December 2, 2021, December 17, 2021 and December 28, 2021 Meetings pp. 3-27
- E. Resolution of Recognition – Fred W. Herrmann (R1, p. 28)
- F. Resolution of Recognition – Michael A. Wolfe Jr. (R2, p. 29)

COMMITTEE REPORTS & ACTION ITEMS

- A. Audit Committee – O. Robinson, Chair
 - 1. Chairman’s Report
- B. Disability Review Committee – E. Chetney, Chair
 - 1. Disability Denial Resolution (R3, p.30)
- C. Executive Committee – D. Keefe, Chair
 - 1. Resolution on Rules and Regulations Section 5000.1 (R4, p.31)
 - 2. Resolution on Rules and Regulations Section 5004.5 (R5, pp. 32-33)
 - 3. Resolution to Delegate Signatory Authority for Financial and Legal Document Executive (R6, pp. 34-35)
 - 4. Resolution Identifying Financial and Legal Document Signatories (R7, p. 36)
 - 5. Resolution Identifying Warrant Signatories (R8, p. 37)
 - 6. Resolution on Business Continuity Plan (R9, p. 38)
 - 7. Resolution on Disaster Response Plan (R10, p. 39)
- D. Ethics Committee – C. Morin, Chair
- E. Investment Committee – N. Smirensky, Chair
 - 1. **Consent Agenda Items A-B** pp. 40-51
 - A. Renew Consultant
 - 1. Callan – General Investment Consultant (R11, p. 40)
 - 2. Callan – Real Estate Consultant (R12, p. 41)
 - B. Renew Agreements:
 - 1. Ariel Investments LLC (R13, p. 42)
 - 2. Arrowstreet (R14, p. 43)
 - 3. Bank of New York Mellon (Securities Lending) (R15, p. 44)
 - 4. BlackRock Financial Management, Inc. (CMBS) (R16, p. 45)
 - 5. Cohen & Steers Capital Mgt-Multi Strategy (R17, p. 46)
 - 6. Columbia Management Investment Advisers LLC (R18, p. 47)
 - 7. J.P. Morgan Investment Management Inc. (R19, p. 49)
 - 8. Raith Capital Partners (R20, p. 48)
 - 9. Rhumblin Advisors LP (R21, p. 50)
 - 10. Xponance (f/k/a FIS Group) (R22, p. 51)

- C. Resolution on Updated Stock Proxy Voting Section of IPM (R23, p.52
- D. Resolution on AEW Capital Management LP (R24, p. 53)
- E. Resolution on Aon – Annual Board Evaluation and Governance Training (R25, p. 54)
- F. Risk Committee – C. Morin, Chair
 - 1. Chairman’s Report

STAFF REPORTS

- A. Old Business
- B. New Business
 - 1. Litigation – J. Indelicato Jr. pp. 55-58
 - 2. Member Relations Update – E. Rezny pp.
 - A. DFS Task Force Update - B. Dellea, B. Wooley / Quality Assurance Update – S. Bonesteel pp. 59-80
 - 3. DEI Strategic Plan Update – D. Malavé pp. 81-83
 - 4. Update on Investment Infrastructure Modernization Project – N. Jones pp. 84-89
 - 5. Recognition Program Update – M. Dixon pp. 90-97
 - 6. Estimated Employer Contribution Rate Presentation – R. Young pp. 98-114

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM**Memorandum**

TO: Retirement Board
FROM: Joseph J. Indelicato, Jr.
RE: Status of System Litigation as of January 19, 2022
DATE: January 19, 2022
CC: T. Lee, D. Ampansiri, Jr.

UPDATE ON PENDING LAWSUITS SINCE THE LAST REPORT***Securities Litigation:*****In re The Chemours Company Securities Litigation**

Action commenced: 12/9/19

CURRENT STATUS: The Court heard oral arguments on the Defendant's motion to dismiss the Consolidated Complaint on January 14, 2022. The Court inquired whether the range of losses could be reasonably estimated and, on that point, requested that the parties provide letter submissions by January 21, 2022 discussing how often companies include "deemed remote" language in their public securities filings when disclosing the outer range of potential liability for environmental remediation costs.

Background:

On December 9, 2019, NYSTRS filed a motion for appointment as lead plaintiff in the federal securities class action In re The Chemours Company Securities Litigation, Case: 1:19-CV-01911-CFC (D. Del.). The complaint was filed on October 8, 2019 on behalf of purchasers of common stock of The Chemours Company ("Chemours") between February 16, 2017 and August 1, 2019.

Chemours was formed in July 2015 as a spin-off from E.I. du Pont de Nemours and Company (“DuPont”). Under the spin-off, DuPont divested to Chemours the assets and liabilities associated with its Performance Chemicals division, as well as numerous liabilities associated with other DuPont divisions.

This securities class action is based on securities fraud claims and focuses on Chemours’ alleged misrepresentations and understatements to investors about the extent of Chemours’ environmental liabilities, including legacy DuPont liabilities.

Benefits Litigation:

[Bernice Curry-Malcolm v. New York State Teachers’ Retirement System](#)

Action commenced: 10/28/19

Favorable Article 78 decision: 12/2/20

CURRENT STATUS: Petitioner perfected her appeal and NYSTRS filed a response to the appeal. Petitioner failed to appear for oral arguments scheduled for January 5, 2022. Petitioner made a motion for the Court to reschedule the oral argument when in-person appearances are permitted. We are awaiting the Court’s decision on the motion.

Summary of the case/background information:

Petitioner, a Tier 4 member, challenged the System’s determination that excluded for pension purposes all salary and service credit under a settlement agreement with Honeoye Falls-Lima School District as not pensionable (monies paid for time not worked), as well as excluding paid administrative leave from Rochester Central School District (leave tied to resignation).

The decision:

The Court noted that the System relied on employer reports regarding Petitioner’s earnings, her leave of absence and termination. The Court further noted that the System relied on the terms of the settlement agreement entered into between Petitioner and the District. The Court found that “as the determinations made by NYSTRS were rational and not arbitrary or capricious, this Court finds no reason to disturb them.”

LAWSUITS WITH NO UPDATES SINCE THE LAST REPORT

Jean M. Andre v. New York State Teachers' Retirement System & Greece Central School District

Action commenced: 8/6/21

CURRENT STATUS: Although the petition was filed, there is still no notice of petition setting a return date, and therefore no deadline for NYSTRS to provide a response.

Summary of the case/background information:

Petitioner, a Tier 4 member, challenged the System's determination that reduced her service credit by 2 months due to an employer reporting error from Greece Central School District. Petitioner was employed on a part-time basis for the school year 2005-06 but the district incorrectly reported her for a full year of service credit. System staff discovered the error when finalizing the calculation for Petitioner's pension benefits. The correction to her service credit brings her below the 30-year threshold for an unreduced benefit. As Petitioner is 59 years old, she is subject to as much as 15% reduction (prorated by month) to her pension benefits.

Subsequent to the above determination, staff further discovered a second reporting error; this time from East Irondequoit School District. The district incorrectly reported Petitioner for full years of service credit for 1997-98 and 1998-99 when she was in fact a part-time employee. This error resulted in a loss of an additional 4 months of service credit, thus leaving Petitioner with a total service credit of 29 years, 3 months. The System will issue an amended Final Determination letter addressing this new finding and allow the Petitioner to seek to amend her petition to include this further/additional reduction and/or seek to add the District as a party to the action.

Petitioner, however, does not dispute that she worked part-time during the at-issue years but rather argues that the System should be enjoined from correcting the error after her date of retirement. Statute (Education Law Section 525) and caselaw are both well settled on this matter and not only supports but also mandates that upon discovery of error in records (irrespective of timing) that the System "shall correct such error". Nonetheless, Petitioner is seeking an order to grant her the additional/at-issue months

that will inflate her actual service credit and bring her above the 30 year threshold. The Attorney General's office is representing NYSTRS in this action.

LAWSUITS COMMENCED SINCE LAST REPORT

None

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM

TO: Retirement Board
FROM: E. Rezny
CC: T. Lee
SUBJECT: Retirement Summary Report
DATE: January 4, 2022

The following is a summary of actions of the Benefits Department since the last report to the Retirement Board.

Members for whom retirement processing was finalized, by category:

Service	1,739
Deferred	145
Disability	11
Total	1,895

Additional retirement benefits finalized with an Alternative Option: 37

Retirees paid a lump sum in lieu of a retirement benefit pursuant to Education Law §537 certified by the Actuary to be of actuarial equivalent value to their benefit: 20

Revision of retirement benefits and retroactive adjustments to date of retirement: 121

A list of each group of members and retirees is available upon request to members of the Retirement Board.

New York State Teachers' Retirement System

MEMORANDUM

TO: Retirement Board

FROM: Thomas K. Lee

SUBJECT: Member Loans

DATE: January 27, 2022

<u>Total Loans Outstanding</u>	<u>December 31, 2021</u>	<u>December 31, 2020</u>	<u>Increase(Decrease)</u>
Direct Payments	3,106	3,125	(19)
Payroll Deductions	<u>19,748</u>	<u>21,415</u>	<u>(1,667)</u>
Total	22,854	24,540	(1,686)
Direct Payments	\$ 34,036,895	\$ 32,733,774	\$ 1,303,121
Payroll Deductions	<u>201,624,814</u>	<u>218,970,203</u>	<u>(17,345,389)</u>
Total	\$235,661,709	\$251,703,977	(\$16,042,268)

<u>Delinquent Loans</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
One Month	110	0.5	140	0.6
Two Months	52	0.2	33	0.1
Three Months	<u>22</u>	<u>0.1</u>	<u>22</u>	<u>0.1</u>
Total	184	0.8	195	0.8

<u>Loans Issued Annually</u>	<u>December 31, 2021</u>	<u>December 31, 2020</u>	<u>Increase(Decrease)</u>
Direct Payments	186	214	(28)
Payroll Deductions	<u>8,314</u>	<u>8,907</u>	<u>(593)</u>
Total	8,500	9,121	(621)
Direct Payments	\$ 1,522,507	\$ 1,732,878	(\$ 210,371)
Payroll Deductions	<u>67,513,161</u>	<u>68,530,660</u>	<u>(1,017,499)</u>
Total	\$69,035,668	\$70,263,538	(\$1,227,870)

Member Loans December 31, 2021



Pension Errors Task Force Report

Board Presentation January 27, 2022

Pension Errors Task Force Members

- BETH DELLEA, DEPUTY CHIEF CUSTOMER OFFICER
- MARK GALLAGHER, MANAGER IT BUSINESS SOLUTIONS
- ADAM KINNEY, ASSISTANT GENERAL COUNSEL
- YISELLE RUOSO, SENIOR MANAGING COUNSEL B/L
- MATTHEW TICE, ASSISTANT MANAGER OF RISK MANAGEMENT
- BRUCE WOOLLEY, ASSISTANT MANAGER OF INTERNAL AUDIT

Agenda

June 2018		August 2018	September 2018 – August 2019	April 2019 – September 2019		October 2019	November 2019 – February 2020	March 2020
Actuary	Member Benefits	Member	Member Benefits / Legal / Internal Audit	NYS Dept of Financial Services	Member Benefits	NYS Dept of Financial Services	Member Benefits / Internal Audit	Pension Error Task Force
Annual study identified member eligible for additional service credit under Article 19	<ul style="list-style-type: none"> Confirmed error Identified second error in 5-year final average salary Made adjustment and contacted the member to recover overpayment 	<ul style="list-style-type: none"> Retained counsel to dispute repayment Requested information Informed media Sought relief through state senator 	<ul style="list-style-type: none"> Provided member with salary and service explanation Researched potential reason for errors Identified errors in: <ul style="list-style-type: none"> Eligibility for Article 19 5-Year Final Average Salary 	<ul style="list-style-type: none"> Identified a newspaper article that described the benefit calculation error and System's attempts to recover Contacted the System to inquire about error and what steps taken to identify and correct similar errors Identified an error in option factor 	<ul style="list-style-type: none"> Confirmed error due to the date entered by staff for the option factor Made adjustment and contacted the member to recover overpayment 	Began a limited scope examination to review the System's efforts to resolve benefit errors	<p>Researched other potential errors by:</p> <ul style="list-style-type: none"> Eligibility for Article 19 5-Year Final Average Salary Option Factor <p>Internal Audit identified error in service credit</p>	<p>Coordinated and lead efforts to identify and correct errors</p> <p>Task Force members:</p> <ul style="list-style-type: none"> Member Relations Information Technology Legal Risk Management Internal Audit

Background



TASK FORCE REVIEWED

- ELIGIBILITY ARTICLE 19 SERVICE CREDIT
- 5 – YEAR FINAL AVERAGE SALARY
- OPTION FACTOR
- SERVICE CREDIT



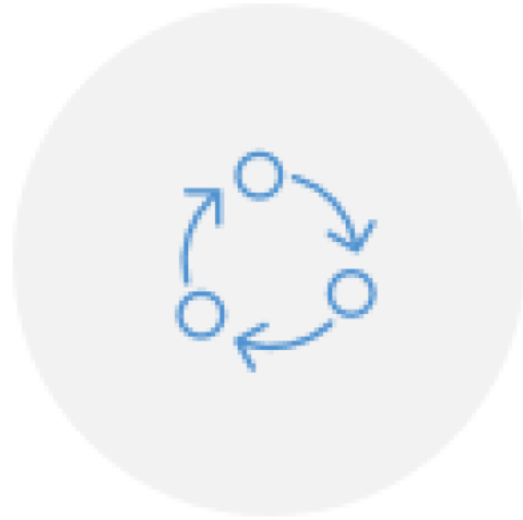
- ANALYZED
- IDENTIFIED
- CORRECTED
- MADE RECOMMENDATIONS



REPORT TO

- NYSTRS BOARD
- Department of Financial Services (DFS)

Pension Errors Task Force



Task Force Review

- Under Article 19 eligible Tier 1 and 2 members receive up to 18 months additional service credit in their benefit calculation

Actions Taken

- Over 37,000 retired members on retirement payroll in December 2019 were eligible for additional service credit under Article 19
- Member Relations and Internal Audit developed reports to ensure only eligible members received service credit for Article 19 in their benefit calculations

Analysis

- Analytical and manual review of all 37,000 members
- 51 required an adjustment
- Entry field (a check box) to record Article 19 eligibility was not adequately controlled

Process Improvements Made

- Removed access rights from staff who did not have a business need to make entries to record eligibility for Article 19
- Updated operating procedures and documentation
- Entries are reviewed

Next Steps

- Quality Assurance and Internal Audit continue to review or audit additional service credit for Article 19 used in benefit calculations

Background

34

- 5-year final average salary is created for eligible Tier 1 members from earnings reported by participating employers
- May 2005
 - Member Relations and Information Technology identified and corrected a programming error that calculated an incorrect 5-year final average salary
 - 282 members identified with incorrect earnings that may have been used in a 5-year final average salary prior to the programming change

Actions Taken

- 1,004 benefit calculations created with a 5-year final average salary between July 2004 and May 2005
- Member Relations and Internal Audit developed a report which identified 21 members with recorded earnings that did not agree with the earnings used to calculate a 5-year final average salary

Analysis

- Reviewed all 303 benefit calculations (282 + 21)
- 11 required an adjustment
- Manual entries for 5-year final average salary were incorrect
- Additional earnings reported and not included in the final benefit calculation

Process Improvements Made

- Manual entries for final average salary are reviewed
- A report was created to identify when additional earnings or service is posted to a member's record that may require a new benefit calculation
- Enhancements to procedures to identify when earnings may appear unreasonable

Next Steps

- Quality Assurance and Internal Audit continue to review or audit earnings used to create a final average salary for benefit calculations

Background

35

- Members can select an option that provides a future payment to a beneficiary and the calculation requires use of an option factor
- Pension Administration Module contains option factors for benefit calculations provided by the Actuary
- Additionally, staff can enter a unique option factor provided by the Actuary for certain benefit calculations **or** date used to determine the option factor found within the Pension Administration Module

Actions Taken

- Approximately 3,200 manually entered option factors for retired members on retirement payroll in December 2019
- Member Relations and Internal Audit developed reports that identified 22 members with a date used for the option factor that did not agree with the date of retirement or date of retirement before January 1, 2001

Analysis

- Reviewed all 22 benefit calculations
- 6 required an adjustment
- Manual entry fields to record option factors or dates were not adequately controlled

Process Improvements Made

- Removed access rights from staff to enter a date used to determine the option factor
- Updated operating procedures and documentation
- Manual entries for option factors are reviewed

Next Steps

- Internal Audit continues to audit manual entries for option factors used in a benefit calculation

- Pension factor used in a benefit calculation is calculated using the total number of years of service credit reported by participating employers
- A member was reported and identified with a warning message with 120 days of service credit, or 6 months, over a 3-month period for the fiscal year ended June 30, 2007

Actions Taken

- Over 16,000 members with a similar warning message for the fiscal year ended June 30, 2007
- Member Relations and Internal Audit developed a report to review 32 members from the same participating employer with the warning message that service credit may not be reasonable

Analysis

- Reviewed all 32 members identified from the same participating employer
- 2 required an adjustment
- High volume of warning messages to alert staff and manual process to inform participating employer of potential issues with service credit

Process Improvements Made

- Employer Secure Area on our website allows participating employers to respond in a timely manner
- Fine tuned warning messages to identify service credit that may appear unreasonable

Next Steps

- Internal Audit continues to audit other members with the same warning message

Potential Issues	Tested	Underpayment	Overpayment	Total	Status
Eligibility - Article 19 Service Credit	37,478	37	14	51	Complete
5 - Year Final Average Salary	303	6	5	11	Complete
Option Factor	22	0	6	6	On-going
Service Credit	32	1	1	2	On-going
Total	37,835	44	26	70	

Management agreed with the findings and quickly corrected the errors

Task Force has not identified a systemic flaw in the benefit process

Member Relations implemented the following:

- May 2005 programming change for 5 – Year final average salary calculation
- Reduced access rights to enter information for:
 - Eligibility for additional service credit allowed under Article 19
 - Option factors
- Review for manual entries used in a benefit calculation to ensure accuracy and completeness
- Improved documentation, operating procedures and training
- Quality Assurance Department established in April 2021

Internal Audit includes in their audit plan elements identified by the Task Force



Next Steps

Annual Audit Plan for fiscal year ending June 30, 2022

- Service Credit – Warning Message
 - Process and control related to service credit
 - Data analytics to determine if service credit appears reasonable
 - Confirm service credit with participating employers
- Service Retirement Benefit Process
 - Process and controls related to creating a benefit calculation
 - Data analytics identified by the Task Force:
 - Eligibility of additional service credit under Article 19
 - Earnings used in a final average salary
 - Manual entries for option factors
 - Service credit that may not appear reasonable
 - Substantive samples
 - Review supporting documentation

Review a total of 10% of final service retirement benefits created in a month

40

- High risk areas discussed with management from Member Benefits
 - 100% of Tier 1 members – salary and service are more complex
 - 100% Lump-sum distributions – error in final payment makes a recovery difficult
 - After training period for new staff to the department – ensure their understanding of the process to create a benefit
- Random sample

Pension Calculation Project under development to program a more efficient automated benefit calculation

- Parallel testing
 - Report identifies differences between the existing and developing program to calculate a benefit
 - Staff review the calculation results with IT and determine the cause for the differences either in data elements or the new developing automated benefit calculation

Analysis

- Lump-sum distributions
- Description of work

Process Improvements

- Requests for enhancements to identify when earnings or service may appear unreasonable
- Meetings with Member Benefits and Member & Employer Services on what they are finding

New monthly process to identify, monitor and report potential issues

- Quality Assurance, Member Benefits or Internal Audit identify potential issues
- Risk Management and Member Relations meet to monitor issues and determine reportable items to DFS
 - Administrative error – An error by the System (either manual or automated) that requires revision to finalized benefit payments. This would not include revisions to estimated benefits, errors or revisions made by participating employers, members or other parties.
 - A secondary review is performed by Quality Assurance or Internal Audit
- Reporting
 - Internal Audit will report administrative errors to DFS monthly
 - 12 reported in December that includes a rescinded disability retirement benefit
 - 5 reported in January
 - Quality Assurance will report to the Board semi-annually
 - Items reported to DFS
 - Other corrections to monthly benefits
 - Employer reporting errors
 - Staff errors in lump sum and initial benefit calculations

Questions?

Pension Errors Task Force

Diversity, Equity, & Inclusion (DEI)

Strategic Planning Update: NYSTRS DEI strategic planning process provides comprehensive direction to guide diversity, equity, and inclusion efforts at the System. A data-driven process, encompassing both quantitative and qualitative information, is central to the success of the plan. The below strategic planning update contextualizes the status of data collection, analysis, and timelines for future efforts.

Data Collection	Data Analysis
<p>Quantitative – 2021 VEDI Survey</p> <ul style="list-style-type: none"> • Enhance pre-existing data • Expand dataset – added categories • Data Integrity <p>Qualitative – Focus Groups & Interviews</p> <ul style="list-style-type: none"> • Adjusted Timeline 	<p>Outcomes</p> <ul style="list-style-type: none"> • Key data points <p>Benchmarking</p> <ul style="list-style-type: none"> • NYS Civil Service <p>Action Items</p> <ul style="list-style-type: none"> • Data-informed remedies

Diversity, Equity, and Inclusion Strategic Plan

Data Collection: In this initial phase, the collection of voluntary employee demographic information is essential in understanding representation at NYSTRS and establishing initial benchmarks to assess success of action items.

Data Collection

Quantitative – 2021 VEDI Survey

- Enhancement of pre-existing institutional data
 - **Age Diversity** - Average age of System employees declined slightly (45.6 years old)
 - **Gender Diversity** – Appx. 56/44 percent F/M disclosing employees
 - **Racial / Ethnic Diversity** – Slight increases in racial diversity over 5 years. *NOTE: Shifting terminology for contemporary definitions.*
- Expand dataset - Additional information yielded from 2021 VEDI Survey
 - **Ability Diversity**
 - **Caregiver Status Diversity**
 - **Sexuality Diversity**
- Data Integrity

Qualitative – Focus Groups & Interviews

- Executive Interviews
- Manager Focus Groups (Adjusted Timeline)
- All Staff Focus Groups

Diversity, Equity, and Inclusion Strategic Plan

Action Items: Utilizing results of the VEDI survey and prior institutional data, we have identified benchmarks to track the progress of our action items. Action items have been constructed using best practices to support continued data collection, the construction of employee learning opportunities, and internal retention mechanisms.

Data Analysis & Action Items

Action Items

- ***Age Diversity Action Items***
 - Multigenerational Workforce Employee Education
 - Focus Groups
- ***Gender Diversity Action Items***
 - Retention & Promotion Analysis
 - Mentorship/Sponsorship Development
- ***Racial/Ethnic Diversity Action Items***
 - Applicant Data Collection
 - Employee Resource Group

Benchmarking

- NYS Civil Service
- DEI Consortium

Timeline

- Management & Employee Focus Groups – Anticipated Q1

Presentation to the Retirement Board

The Estimated Employer Contribution Rate



Appendix I

Richard A. Young, Chief Actuary
Melody Prangle, Deputy Chief Actuary

January 27, 2022

Estimated ECR June 30, 2021 Actuarial Valuation

10.29% of Pay

An increase of 5% over current ECR of 9.80%

Estimated ECR Components

June 30, 2021 Valuation

Normal Rate	9.89%
Expense Rate	0.26%*
Group Life Rate	0.13%
<u>Excess Benefit Plan Rate</u>	<u>0.01%</u>
Estimated ECR	10.29%

*estimated

	6/30/2021	6/30/2020	Difference
Normal Rate	9.89%	9.41%	0.48%
Expense Rate	0.26%*	0.26%	0.00%
Group Life Rate	0.13%	0.13%	0.00%
<u>Excess Benefit Rate</u>	<u>0.01%</u>	<u>0.00%</u>	<u>0.01%</u>
Total Rate (ECR)	10.29%*	9.80%	0.49%

* estimated

Year to Year Comparison



When the 10.29% ECR Applies

- Will be multiplied by the 2022 – 2023 fiscal year salaries
- Will be collected in 2023 – 2024 fiscal year (September, October, November 2023)

2023

September

October

November

Employer Contributions

Collection Date	Employer Contribution	ECR
Fall 2018	\$1.6 billion	9.80%
Fall 2019	\$1.8 billion	10.62%
Fall 2020	\$1.5 billion	8.86%
Fall 2021	\$1.6 billion	9.53%
Fall 2022	\$1.7 billion*	9.80%
Fall 2023	\$1.8 billion*	10.29%

Rates of Return

Fiscal Year	Market Value Rate of Return (net of fees)
2016 – 2017	12.5%
2017 – 2018	9.0%
2018 – 2019	7.1%
2019 – 2020	3.5%
2020 – 2021	29.0%
5-year average:	11.9%

- 5-year geometric average:

$$[(1.125) \times (1.09) \times (1.071) \times (1.035) \times (1 + 0.29)]^{(1/5)} - 1 = 11.9\%$$

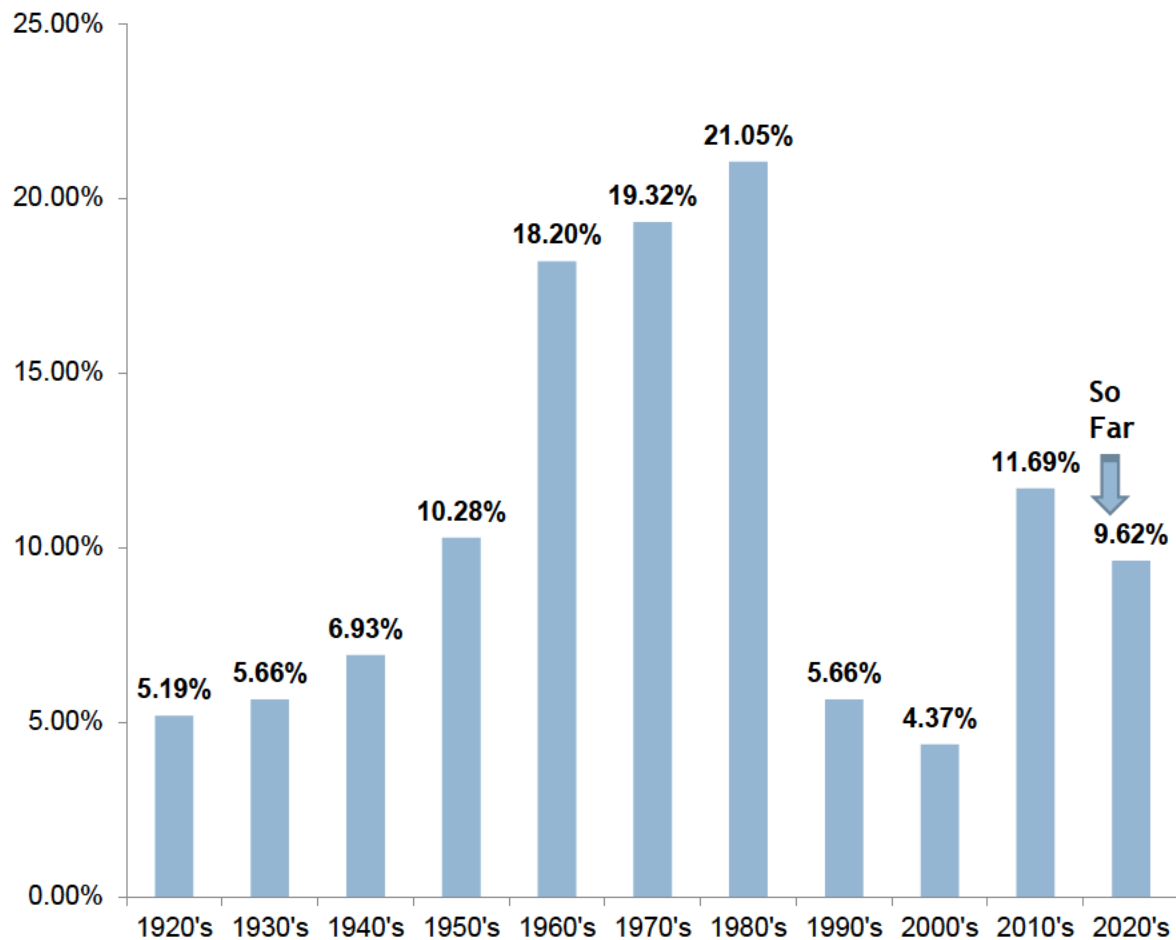
Period	Market Value Rate of Return (net of fees)
5-year	11.9%
10-year	10.1%
15-year	8.1%
20-year	7.8%
25-year	8.4%
30-year	9.2%

Long-Term Annualized Rates of Return as of June 30, 2021



'72 – '73	18.80%	'85 – '86	21.40%	'98 – '99	1.42%	'11 – '12	11.11% ⁵⁴
'73 – '74	18.80%	'86 – '87	18.80%	'99 – '00	1.43%	'12 – '13	11.84%
'74 – '75	18.80%	'87 – '88	16.83%	'00 – '01	0.43%	'13 – '14	16.25%
'75 – '76	19.40%	'88 – '89	14.79%	'01 – '02	0.36%	'14 – '15	17.53%
'76 – '77	19.40%	'89 – '90	6.87%	'02 – '03	0.36%	'15 – '16	13.26%
'77 – '78	20.40%	'90 – '91	6.84%	'03 – '04	2.52%	'16 – '17	11.72%
'78 – '79	21.40%	'91 – '92	6.64%	'04 – '05	5.63%	'17 – '18	9.80%
'79 – '80	22.49%	'92 – '93	8.00%	'05 – '06	7.97%	'18 – '19	10.62%
'80 – '81	23.49%	'93 – '94	8.41%	'06 – '07	8.60%	'19 – '20	8.86%
'81 – '82	23.49%	'94 – '95	7.24%	'07 – '08	8.73%	'20 – '21	9.53%
'82 – '83	23.49%	'95 – '96	6.37%	'08 – '09	7.63%	'21 – '22	9.80%
'83 – '84	22.90%	'96 – '97	3.57%	'09 – '10	6.19%	'22 – '23	10.29%*
'84 – '85	22.80%	'97 – '98	1.25%	'10 – '11	8.62%		

Historic 50 Years of ECR's



Average ECR's by Decade

Overall Average = 10.90%

Retirement System	Employer Contribution Rate (ECR)
NYS & Local ERS	11.60%
NYC ERS	25.50%
NYC TRS	28.80%
California PERS	29.22%
California STRS	23.978%
Florida Retirement System	11.37%
Ohio PERS / STRS	14.00%
Texas TRS	9.45%
Wisconsin Retirement System	7.20%
North Carolina Retirement System	15.74%
Washington State (teachers)	14.24%
New Jersey TPAF	33.7%
Oregon Public Employees	16.03% - 20.56%
Virginia Retirement (teachers)	16.62%

Peer Comparison

Based on the most recent actuarial valuation report released by the systems

NYSTRS
estimated ECR
= 10.29%

- Most reflect 2020 valuation results
- Some systems have different fiscal years than NYSTRS
- Systems have different actuarial assumptions and funding methods
- Some have ECR's fixed in statute
- Actuarial valuations for some are done every other year
- *Most systems have higher EECR's (employee contribution rates) than we do*
- *Every system has features which make it unique*

Peer Comparison

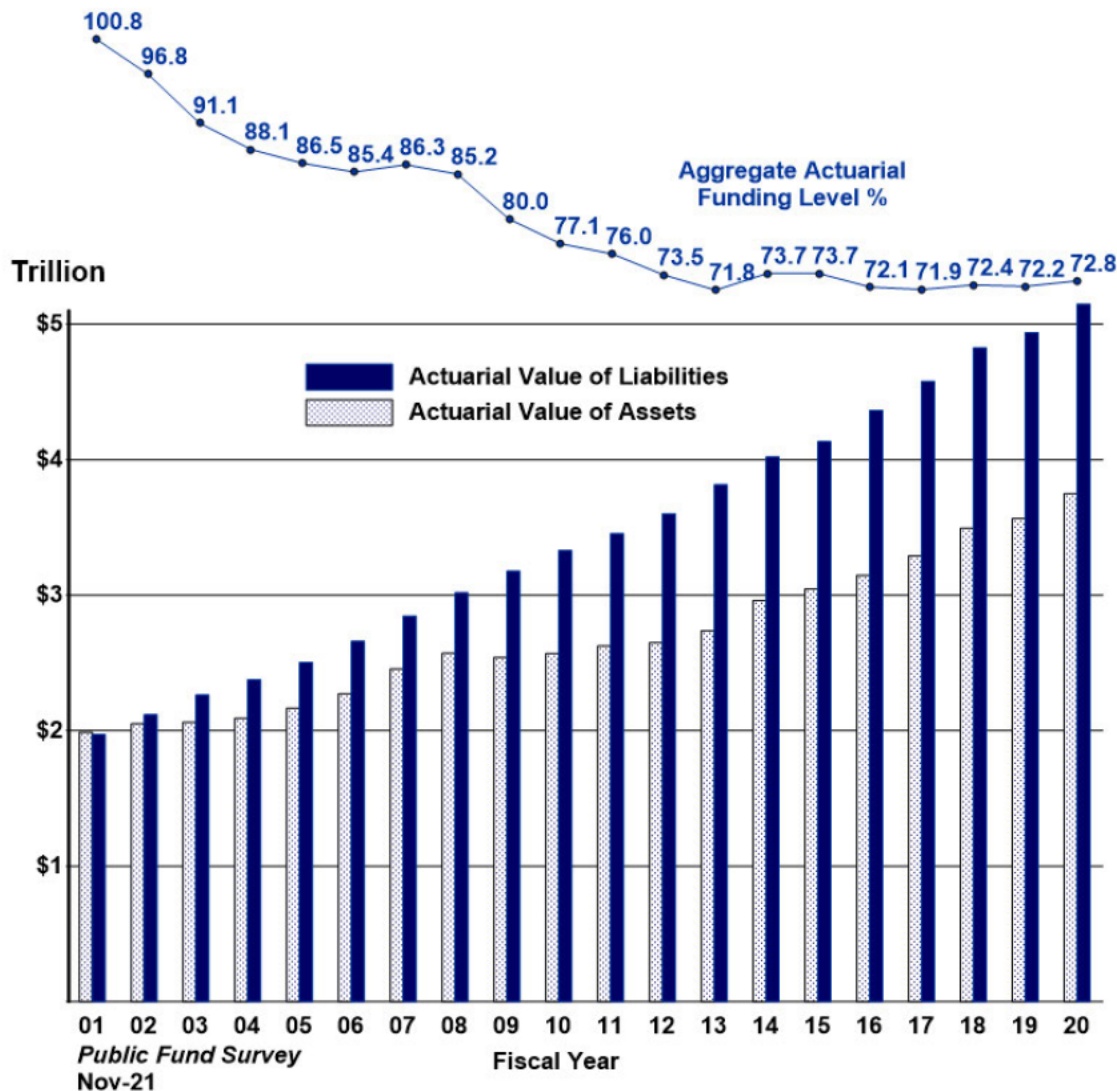
Differences/Items to Note

NYSTRS Funded Ratio History

Funded Ratio is the ratio of plan assets to accrued liabilities

FYE	Funded Ratio Based on MVA	Funded Ratio Based on AVA
6/30/2016	98.4%	97.9%
6/30/2017	99.8%	97.7%
6/30/2018	100.9%	99.2%
6/30/2019	101.2%	99.6%
6/30/2020	97.3%	98.9%
6/30/2021	113.0%	99.3%

Aggregate Public Plans Funded Level



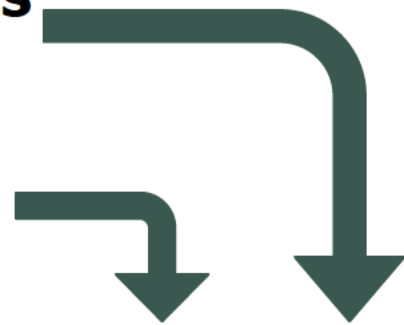
NYSTRS
6/30/2020
funding level was
98.9% compared
to the average
funding level of
72.8%

Thirty Year Period 1991 – 2021⁶⁰

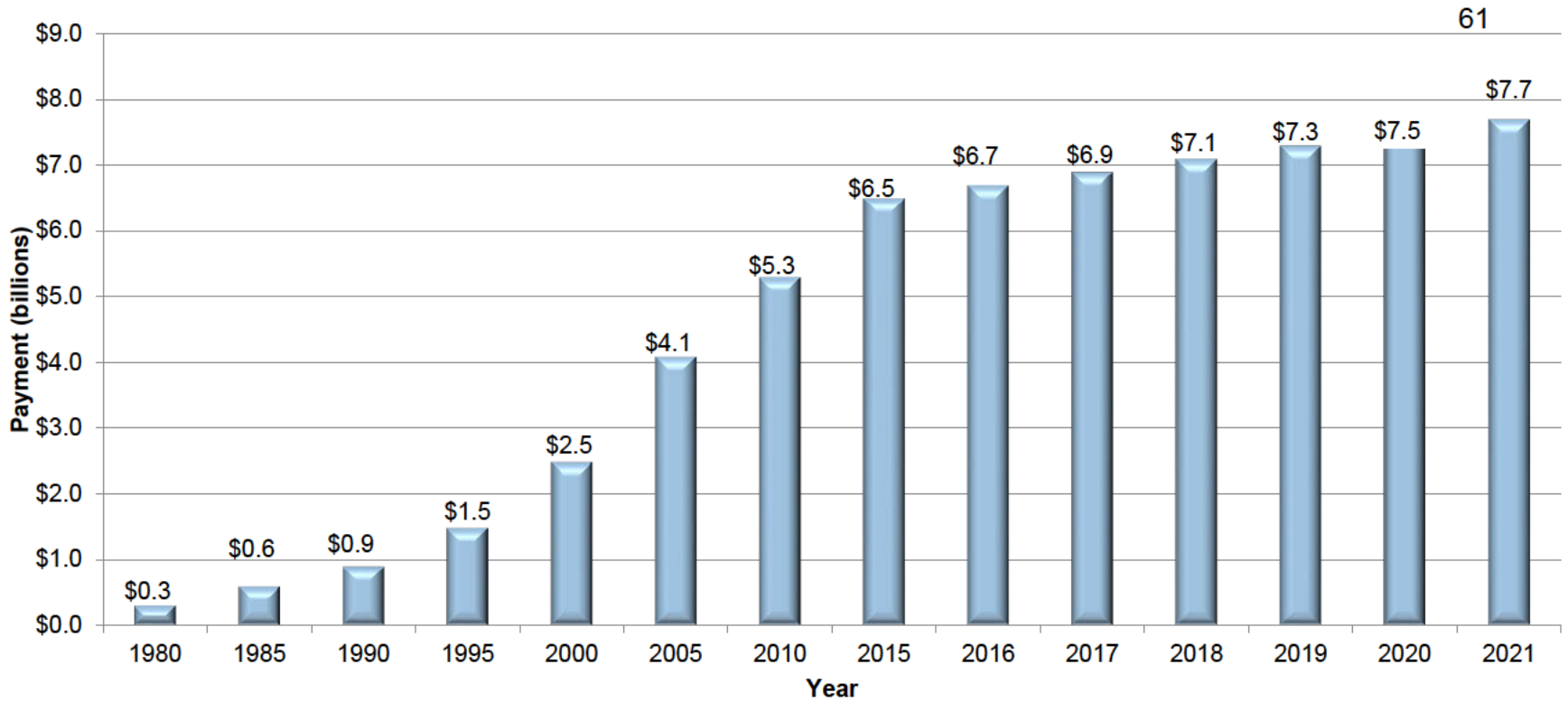
Employer Contributions
\$31.1 billion

Member Contributions
\$4.6 billion

Investment Income
\$219.5 billion



Market Value of Assets- 1991: \$26.5 B
Market Value of Assets- 2021: \$148.1 B



Annual Benefit Payments



Questions?