



# New York City Retirement Systems

## Administrative Review Report

June 4, 2019

# Bolton

*Submitted by:*

**Erika B. Bode, CEBS**

(443) 573-3907

[ebode@boltonusa.com](mailto:ebode@boltonusa.com)

**Kari Szabo, CEBS**

(443) 573-3919

[kszabo@boltonusa.com](mailto:kszabo@boltonusa.com)

**James J. McPhillips, FSA, EA**

(484) 319-5283

[jmcphillips@boltonusa.com](mailto:jmcphillips@boltonusa.com)

# Table of Contents

---

	Page
Transmittal Letter .....	1
Section I      Background .....	3
Section II     Executive Summary .....	4
Section III    Administrative Review Process .....	19
Section IV    Results - NYCERS .....	24
Section V     Results - TRS .....	31
Section VI    Results - BERS .....	39
Section VII   Results - POLICE .....	46
Section VIII   Results - FIRE .....	52
Section IX    Results - OA .....	58
Appendix     Acknowledgements .....	65



Employee Benefits, Actuarial & Investment Consulting

June 4, 2019

The Honorable Scott M. Stringer  
New York City Comptroller  
Office of the New York City Comptroller  
One Centre Street  
New York, NY 10007

*Re: Administrative Review of the New York City Retirement Systems*

Dear Comptroller Stringer:

Bolton Partners, Inc. is pleased to present this Administrative Review Report, which is a key deliverable under our second biennial engagement to serve as Independent Actuary under Section 96 of the New York City Charter.

This report summarizes the results of our review, which covered:

- Processes for gathering, validating, and transmitting data for the actuarial valuations;
- Processes for performing retirement calculations and having them certified;
- Methods for participant communications;
- Procedures for maintaining security of confidential member information; and
- Status of implementation of recommendations from prior Administrative Reviews.

Overall, we found that the Systems and the Office of the Actuary are very knowledgeable about their roles and responsibilities and take their work seriously. The Systems have robust data management systems and processes in place that, in our opinion, provide sufficient quality data to the Office of the Actuary for their valuations.

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, which would impair the objectivity of our work.

Sincerely,

**BOLTON PARTNERS, INC.**

A handwritten signature in black ink, appearing to read "Erika Bode".

Erika B. Bode, CEBS

A handwritten signature in black ink, appearing to read "Kari Szabo".

Kari Szabo, CEBS

A handwritten signature in black ink, appearing to read "James J. McPhillips".

James J. McPhillips, FSA, EA

## Section I. Background

Bolton Partners, Inc. was retained by the New York City Comptroller's Office to serve as Independent Actuary under Section 96 of the New York City Charter. The engagement relates to the five pension funds that collectively comprise the New York City Retirement Systems (NYCRS), which are:

- New York City Employees' Retirement System (NYCERS);
- Teachers' Retirement System of the City of New York (TRS);
- Board of Education Retirement System of the City of New York (BERS);
- New York City Police Pension Fund (POLICE);
- New York City Fire Pension Fund (FIRE).

This report summarizes our second Administrative Review. This review did not constitute a full-scale audit of plan administration but was a broad review of administrative procedures and practices. For example, we did not check individual benefit calculations. The areas covered in the Administrative Review include:

- Processes for gathering, validating, and transmitting data for the actuarial valuations;
- Processes for performing retirement calculations and having them certified;
- Methods for participant communications;
- Procedures for maintaining security of confidential member information; and
- Status of implementation of recommendations from prior Administrative Reviews.

Due to the short amount of time between the First and Second Engagements, our process for the Second Engagement focused on gathering information about any changes in processes or procedures, determining which items identified in the First Engagement are still relevant, and determining if any new recommendations should be made. We had meetings with the OA in January 2019 and each of the Systems individually in February and March 2019. The remainder of this report provides our discussions from the First Engagement, with updates throughout based on our meetings during the Second Engagement. **The updates from the Second Engagement are in bold font throughout the report.**

We received a great deal of assistance from the staffs at the Office of the Actuary (OA) and each of the Systems. We could not have completed our work without drawing upon their expertise. We are most appreciative of the time and effort spent by these staff members to explain their processes and procedures and answer our many questions. The names of those who assisted us are listed in the appendix.

## Section II. Executive Summary

### General Conclusions

Overall, we were very impressed by the knowledge and dedication of the Systems' staff. The Systems care deeply about their members and provide them the best possible service. Comprehensive data storage systems have been put in place to manage the tremendous amounts of member data and most of the Systems have recently or are currently upgrading their data systems for technology improvements.

We were also very impressed by the staff at the OA and the strong relationships they have with the Systems. All parties work well together, and given the low staff turnover on both sides, they have developed efficient, streamlined methods for data handling.

### Summary of Key Issues

In this section, we summarize some areas for improvement or increased efficiency we discovered during our review in the First Engagement. We addressed these items specifically in our meetings with the OA and each of the systems in the Second Engagement and provide updates as necessary. Additional details can be found in the Results section of this report.

### NYCERS – First Engagement Recommendations and Responses

1. Continue moving toward a new pension administration system. If possible, involve the OA in the development process, to ensure all data they require will be able to be fulfilled with the new system.

#### Second Engagement Update

***NYCERS is nearing completion of an RFP to be issued to retain a vendor to develop a new system. The technical requirements for the RFP have been completed and are being reviewed internally. NYCERS is requesting that as part of the proposal, each bidder specify an implementation schedule for the project. The OA has been involved in discovery related to their data needs for the RFP and will be consulted again when a vendor is selected.***

2. Utilize the secure FTP to transmit data to the OA. We understand this is not a capability of the current pension administration system but should be included in any new system.

#### Second Engagement Update

***NYCERS is now submitting all data to the OA through a secure electronic application called WS FTP. No data is being submitted via CD.***

## Section II. Executive Summary

3. Supply ITHP and required member contribution data to OA. This is a prior recommendation that we understand is slated to be a part of the new system, but it is worth mentioning since it is valuable information for the OA.

### **Second Engagement Update**

***This ability will be included in the development of the new data system.***

4. Consider including the ability to flag static data changes in the development of the new system, to reduce data questions from the OA. Also, focus on automating, as the current system requires many manual edits or entries. Documentation of new system will be important and should be a major focus as the system is rolled out.

### **Second Engagement Update**

***This ability will be included in the development of the new data system and documentation will be prepared as the system is developed.***

5. Compare the data the OA provides for the annual valuation to the data stored in the PROD system and flag any discrepancies for the OA. This would be an extra layer of validation for the OA's data.

### **Second Engagement Update**

***This ability will be included in the development of the new data system. There is continued confidence in the accuracy of the data in the PROD system.***

6. Consider performing periodic death audits for joint annuitants of living retirees who are receiving benefits in a joint and survivor form. If a beneficiary is found to be deceased, the valuation liability for the benefit becomes less since no survivor benefit will have to be provided. This would also make the processing of death benefits more efficient. We understand that this is not commonly done, but it may be worth consideration as it could impact the valuation.

### **Second Engagement Update**

***The OA is not aware that any System has implemented the recommendation of death audits for joint annuitants of living retirees. However, the OA stated that there is a surprisingly small percentage of retirees who elect a joint and survivor form of payment, so they would not expect to see a significant reduction in liabilities if this recommendation was implemented.***

## Section II. Executive Summary

### NYCERS – Second Engagement Recommendations

1. ***Ensure deputies are trained and proficient on senior job roles in their departments. This will aid in succession planning and allow promotion from within the organization.***
2. ***Continue to devote resources to the development and implementation of a new pension management system.***
3. ***Reach out to TRS and BERS about the rollouts of their new pension management systems to learn from their successes and mistakes. This will help NYCERS set appropriate expectations for their own system rollout process.***
4. ***Continue to engage with the OA to understand their data needs.***
5. ***Review and update documentation of policies (particularly records retention). This should be a constant effort as policies evolve and change.***
6. ***Clearly define metrics for measuring the “success” of the pension outreach division (POP). Monitoring these metrics will help NYCERS decide on and devote necessary resources to this division.***

### TRS – First Engagement Recommendations and Responses

1. Continue to work with CUNY (and whoever may have any authority over CUNY) to obtain better quality data for CUNY employees who participate in TRS. ASPEN has the functionality to receive data directly from the CUNY Human Resources system, but this data is not always accurate or timely. TRS has done significant outreach, but CUNY and the State payroll agency seem unwilling or unable to assist. TRS expressed frustration at not being able to provide the best possible service to CUNY members.

#### **Second Engagement Update**

***The data process with CUNY has finally begun to improve. CUNY has begun sending regular bi-weekly payroll feeds with service and salary information, but only for full-time employees. When this started, the data was inconsistent and of poor quality, but through testing and collaborative correction of errors, data quality has improved, and the data seems to have now stabilized. This has enabled TRS staff to enroll CUNY employees much sooner and provide them better service. However, TRS staff is not yet enabled to serve the CUNY members fully. The enhanced data feeds from CUNY will be consumed by TRS processes with the modernization phases in ASPEN. The CUNY data (for enrollment and demographic updates) is expected to be included in the ASPEN migration after phase 4 is complete. Employment and service credit information will be made available in phase 6.***

## Section II. Executive Summary

2. Consider renewing discussion with the OA about a “pre-certified” benefit calculator. This had been in discussion with OA in the past, but discussions fell off. Having a pre-certified calculator for routine calculations would cut down on the work load for both TRS and OA.

### **Second Engagement Update**

***There has been no further progress made toward a pre-certified calculation for any System, although TRS is open to the idea. Additional research into the issues surrounding this should be done before any resources are devoted to this initiative. TRS notes that the OA always wants to certify each retirement case individually based on the member’s individual data.***

3. Continue work toward updating the SPDs for Tiers 4 and 6. The versions on the TRS website were last updated in 2007. TRS says this is in progress but the completion target is not known. ERISA plans are required to update SPDs every five years if there have been changes during the five years; this is a good rule of thumb for how often TRS should update their SPDs.

### **Second Engagement Update**

***As of the date of our meeting with TRS (March 2019), the Tier 4 SPD had been completed and forwarded to the Digital Communication group to be added to the TRS website. It was expected to be published within two to three weeks. The Tier 6 SPD is also in progress and should be published to the TRS website shortly after the Tier 4 SPD.***

4. Consider performing periodic death audits for joint annuitants of living retirees who are receiving benefits in a joint and survivor form. If a beneficiary is found to be deceased, the valuation liability for the benefit becomes less since no survivor benefit will have to be provided. This would also make the processing of death benefits more efficient. We understand that this is not commonly done, but it may be worth consideration as it could impact the valuation.

### **Second Engagement Update**

***The OA is not aware that any System has implemented the recommendation of death audits for joint annuitants of living retirees. However, the OA stated that there is a surprisingly small percentage of retirees who elect a joint and survivor form of payment, so they would not expect to see a significant reduction in liabilities if this recommendation was implemented.***



## Section II. Executive Summary

### TRS – Second Engagement Recommendations

1. *Continue to explore the use of “voice signatures” for confirming that overseas retirees are still living, and possibly extend the use of this technology to U.S. retirees.*
2. *Reach out to BERS about the rollout of their new pension management system to learn from their successes and mistakes. This will help TRS set appropriate expectations for the remaining phases of their own system rollout process.*
3. *Consider providing a test file of data to the OA prior to the live implementation of phase 4 of ASPEN. This could enable TRS to address any timing or data issues that may exist in the new system so when the valuation data requests come in, they’re fully prepared.*
4. *Continue work with CUNY to obtain better, more timely data for their part-time members. Good progress has been made with the data for the full-time members; hopefully now that CUNY better understands what TRS needs, they can make similar improvements for the part-time members.*
5. *Regularly monitor and update, if necessary, the Summary Plan Descriptions. The SPDs should be updated when significant plan changes occur, and at least every five years.*

### BERS – First Engagement Recommendations and Responses

1. Prepare new, or modify existing, written documentation of internal processes to reflect the implementation of the new data management system.

#### **Second Engagement Update**

*BERS understands the need for documentation surrounding CPMS. However, creation of the documentation has been delayed until CPMS upgrades have been completed. BERS’ current focus is on documenting specific workarounds that have been created to supplement the training materials provided by Vitech.*

2. Continue working to provide valuation data and benefit calculations to the OA via secure FTP, and consider giving the OA access to the data system to aid in the benefit certification process.

#### **Second Engagement Update**

*BERS is submitting valuation data and benefit calculations to the OA using secure electronic transmission. BERS believes that if the OA needs access to underlying member data to perform their certifications, they should go to the original source of the data (DOE, FISA, etc.) instead of to BERS.*

## Section II. Executive Summary

3. Enhance online member services, including the ability for members to run their own benefit estimates, and apply for loans and service purchases. This would reduce the amount of manual entry required by BERS staff thereby reducing human error in the data.

### **Second Engagement Update**

***Online member services are part of the development process for the CPMS upgrades and should be implemented by 2021.***

4. Work with Charter Schools to have them submit member data electronically.

### **Second Engagement Update**

***All member data and payroll information is provided electronically; however, some is sent as a spreadsheet attachment to an email. This data cannot be directly imported into CPMS. Since BERS has no control over these entities' individual systems and BERS reports that these payrolls have very few members, they do not believe it is worth the effort that would be involved to change the format of these submissions.***

5. Continue toward becoming a paperless office using the new data system to aid this process.

### **Second Engagement Update**

***Electronic document management is part of the development process for the CPMS upgrades and should be implemented by 2021. BERS is also exploring the possibility of providing benefit statements electronically to members. The CPMS upgrade will enable BERS to have that capability.***

6. Renew discussion with the OA about a “pre-certified” benefit calculator and consider allowing the OA access to the underlying data used in benefit calculations for their certification process. Having a pre-certified calculator for routine calculations would cut down on the work load for both BERS and OA.

### **Second Engagement Update**

***There has been no further progress made toward a pre-certified calculation for any System, although BERS is open to the idea. Additional research into the issues surrounding this should be done before any resources are devoted to this initiative.***

## Section II. Executive Summary

7. Reach out earlier to members who have been terminated for five years, to initiate payment of benefits.

### **Second Engagement Update**

***This initiative is still on BERS' to-do list. With resources dedicated to the implementation of CPMS, there was not sufficient staffing to undertake this project at this time. BERS has internally identified the population of terminated non-vested members who have been terminated for five or more years. The Operations and Outreach departments are currently working together to follow up with this group.***

8. Increase focus on data and office security. Consider implementing a yearly internal training and certification process for employees. While the office entry is secure, and there is a private meeting area for members to receive retirement counseling, the office space is shared and not separately locked. It is important that staff be vigilant and member data be protected.

### **Second Engagement Update**

***BERS provides training on data security through lynda.com. They now have a formal onboarding process involving HR, IT and CPMS to regulate access to sensitive information. BERS is working on creating better documentation of the processes related to oversight and control of access to CPMS. In addition, due to growth in the number of staff, BERS expects to move to a new location in the next six to twelve months. One of the specifications of the new space is better separation of operations from member service areas. BERS has also implemented a clean desk policy to ensure the protection of member data.***

9. Consider creating communication materials in languages other than English. While we realize there may be a cost/benefit constraint on providing these materials, it would be beneficial to non-English speaking members.

### **Second Engagement Update**

***BERS has counseling staff who speak multiple languages and are available to meet with members. The call center and website also offer resources in languages other than English. The DOE also has a translation office available to employees. BERS plans to include documents in languages other than English in future marketing efforts to enroll and educate employees.***

10. Consider performing periodic death audits for joint annuitants of living retirees who are receiving benefits in a joint and survivor form. If a beneficiary is found to be deceased, the valuation liability for the benefit becomes less since no survivor benefit will have to be provided. This would also make the processing of death benefits more efficient. We understand that this is not commonly done, but it may be worth consideration as it could impact the valuation.

## Section II. Executive Summary

### Second Engagement Update

*The OA is not aware that any System has implemented the recommendation of death audits for joint annuitants of living retirees. However, the OA stated that there is a surprisingly small percentage of retirees who elect a joint and survivor form of payment, so they would not expect to see a significant reduction in liabilities if this recommendation was implemented.*

### **BERS – Second Engagement Recommendations**

- 1. Reach out to TRS about their preparation of their members for electronic statement delivery. TRS had a very successful implementation of electronic statement delivery that was well-received by members. BERS has concerns about member satisfaction related to electronic statements, and TRS likely experienced similar concerns and handled them well.*
- 2. Work with entities that provide member data to BERS to correct data errors at the source. BERS is considering adding staff to their quality assurance division to handle these errors, but unless the errors can be eliminated at the source, the internal data validation will become cumbersome.*
- 3. Continue to devote the necessary resources to the “Velocity” upgrades to the CPMS system. As upgrades are completed, ensure that documentation of policies and procedures keeps pace.*
- 4. As additional staff is added, consider devoting staff to outreach for terminated non-vested members due refunds five years after their termination date. BERS has expressed their desire to be more proactive in their outreach to these members, but has not had sufficient staff to take this on.*

### **POLICE – First Engagement Recommendations and Responses**

1. Enhance online member services, including the ability for members to run their own benefit estimates, and apply for loans and service purchases. We understand that this is on the “wish list” for the new COPS2.0 system. This would reduce the amount of manual entry required by POLICE staff thereby reducing human error in the data.

## Section II. Executive Summary

### Second Engagement Update

*Three of the four phases of the COPS2.0 rollout will include improvements to online member services. Phase 1, called “member self-service lite”, is scheduled to be rolled out internally in July 2019 and to members in a tiered fashion in August and September 2019. The enhanced functionality included in this phase allows members to submit documents electronically and track the status of any applications they have submitted. POLICE will also be able to push out secure notifications and information by member type. Phase 3, which is scheduled to be implemented by May 2023, will include more robust member self-service capabilities such as the ability to electronically manage contributions, request and receive buyback information, upload required documentation, and view benefit statements. The fourth and final phase of the COPS2.0 rollout will be a mobile application that will allow members to access the member portal using specific mobile devices. Phase 4 is expected to be released in March 2024.*

2. Continue efforts to move toward becoming a paperless office aided by COPS2.0 features as developed.

### Second Engagement Update

*Phases 1 and 2 of the COPS 2.0 rollout will include several paperless processes. In phase 1, a central document management system with digital workflow is planned, along with ability for members to submit documents electronically instead of on paper. In phase 2, retiring members will be able to submit documents electronically. Retirement requests will be able to be submitted electronically in phase 3.*

*In addition, POLICE has digitized the archives of member documents. Upon receipt, new paper documents received are now timestamped, scanned, certified, and digitally routed to the operations unit to process the request. The paper version is scheduled for shredding after 30 days. To protect sensitive member data, all mailed original documents never leave the administrative services department.*

3. Initiate discussion with the OA about a “pre-certified” benefit calculator and consider allowing the OA access to the underlying data used in benefit calculations for their certification process. Having a pre-certified calculator for routine calculations would cut down on the work load for both POLICE and OA.

## Section II. Executive Summary

### **Second Engagement Update**

***There has been no further progress made toward a pre-certified calculation for any System, although POLICE is open to the idea. Additional research into the issues surrounding this should be done before any resources are devoted to this initiative.***

4. Consider a second level of death searches beyond Social Security. POLICE stated in our meeting that they are considering using LexisNexis for batch death searches; we think this, or something similar is a good idea.

### **Second Engagement Update**

***After finding inconsistencies between LexisNexis and the Social Security administration death feed, POLICE reached out to the other City pension systems to learn about other death search tools. POLICE contracted with the National Association for Public Health Statistics and Information Systems (NAPHISIS) to assist with death searches and provide more accurate information. POLICE performs death audits internally on a monthly basis and uses NAPHISIS on a quarterly basis for their death audits.***

5. Talk to building management about possible improvements to security for building access. When we came for our onsite meeting, we did not have to give our names or show identification. We told the guard with whom we were meeting, and then were shown to the elevator. POLICE has its own security measures in place on their floors of the building, but we believe requesting heightened security in the lobby would create an additional layer of safety for employees, and better protect sensitive data and all internal systems.

### **Second Engagement Update**

***POLICE discussed the possible enhancement of security measures with building management. Building management does not plan any changes at this time.***

6. Include OA in development of project requirements for COPS2.0.

### **Second Engagement Update**

***POLICE is keeping the OA abreast of the schedule for the implementation of COPS2.0. The OA will be included in discussions during the development of phase 3, since that is the most data-intensive phase of the rollout.***

## Section II. Executive Summary

7. Consider performing periodic death audits for joint annuitants of living retirees who are receiving benefits in a joint and survivor form. If a beneficiary is found to be deceased, the valuation liability for the benefit becomes less since no survivor benefit will have to be provided. This would also make the processing of death benefits more efficient. We understand that this is not commonly done, but it may be worth consideration as it could impact the valuation.

### **Second Engagement Update**

***The OA is not aware that any System has implemented the recommendation of death audits for joint annuitants of living retirees. However, the OA stated that there is a surprisingly small percentage of retirees who elect a joint and survivor form of payment, so they would not expect to see a significant reduction in liabilities if this recommendation was implemented.***

## **POLICE – Second Engagement Recommendations**

1. ***Explore ways to accelerate the process of clearing the backlog of calculations that require reprocessing. In June 2017 there were approximately 5,400 calculations, and by March 2019 there were still approximately 4,100.***
2. ***If budget permits, plan to perform vulnerability testing on a regular basis. With the COPS2.0 system upgrades, members will be allowed to access and upload documents electronically and it will be imperative that the system is secure to protect sensitive member data.***
3. ***Reach out to TRS and BERS about the rollouts of their new pension management systems to learn from their successes and mistakes. This will help POLICE set appropriate expectations for their own system rollout.***
4. ***Ensure documentation on processes and procedures keeps pace with the development of COPS2.0.***

## **FIRE – First Engagement Recommendations and Responses**

1. Hire additional staff. Now that corpus funding is in place, FIRE plans to hire eight to ten new staff members across several areas (IT, retirement counseling, and benefit processing).

### **Second Engagement Update**

***As of the date of our meeting in March 2019, FIRE has job openings posted for the calculation and buyback units. They recently hired an administrative assistant with experience creating process and training manuals. They are using FDNY IT staff to assist with updates to the e-UPS system, and have retained a third-party vendor for other IT needs. Decisions about hiring additional staff will be based on budget, to be determined in the next couple of months.***



## Section II. Executive Summary

2. Move toward becoming a paperless office. Each member currently has a paper file stored onsite; files are only sent to offsite storage upon the member's retirement.

### **Second Engagement Update**

***FIRE has engaged GRM to implement their Visual Vault product, whereby member files are digitized as read-only documents. GRM is currently digitizing historical files, with the goal of eventually digitizing files immediately when a new member class comes in. Paper files are still maintained onsite for active members. These files are sent to offsite storage once a member retires, and kept there for the required number of years before destruction.***

3. Continue working with the OA to send benefit calculations via FTP transfer, rather than via messenger. This project has been started; we believe it is important to see it through to completion to improve security and efficiency of the calculation and certification process.

### **Second Engagement Update**

***FIRE reports that all calculations are being sent to the OA using SFTP (Secure File Transfer Protocol).***

4. Consider a second level of death searches beyond Social Security. FIRE stated in our meeting that they use LexisNexis as a verification of information found through the Social Security death search; we think this, or a similar service should be used in tandem with the Social Security search.

### **Second Engagement Update**

***In July 2018, upon recommendation from TRS, FIRE started using PBI for death searches. They continue to use LexisNexis on an individual basis, generally for returned mail or additional verification of information found by PBI.***

5. Enhance online member services by extending portal access beyond fire station locations.

### **Second Engagement Update**

***A website that includes member self-service capabilities is on FIRE's wish list. However, FIRE believes that the member portal access at fire stations is widely used and appreciated by active members. Further, FIRE adds that retired members currently have electronic access for self-service transactions (changing withholding or direct deposit, requesting statements and 1099s) through OPA/FISA.***



## Section II. Executive Summary

6. Initiate discussion with the OA about a “pre-certified” benefit calculator and consider allowing the OA access to the underlying data used in benefit calculations for their certification process. Having a pre-certified calculator for routine calculations would cut down on the work load for both FIRE and OA.

### **Second Engagement Update**

***There has been no further progress made toward a pre-certified calculation for any System, although FIRE is open to the idea. Additional research into the issues surrounding this should be done before any resources are devoted to this initiative.***

7. Update computer systems to enhance security and decrease the use of manual edits and calculations.

### **Second Engagement Update**

***Replacing the current e-UPS system is not currently under consideration, as FIRE reports that e-UPS satisfies their needs, and they do not have the staff or budget for a full system upgrade. FDNY IT staff performs updates to e-UPS as needed to maintain functionality of the system.***

8. Enhance e-UPS system to include capabilities to track terminated participants after 2012 and WTC disability elections and reclassifications for all members.

### **Second Engagement Update**

***Several enhancements are in the works for e-UPS, but the capabilities mentioned above are not currently priority items. FDNY IT staff has recently or will be soon updating e-UPS for new actuarial factors, tier reinstatement calculations, enhanced final average earnings calculations, and new laws and lawsuit settlements.***

9. Create and expand training program. Due to the FIRE staff being so small for many years, training was mostly accomplished by shadowing a senior employee. Since the corpus funding was put into place, there are plans to increase the staff by 30-40%. The need for a more formal training program complete with documentation of processes will become more crucial to maintaining quality standards.

### **Second Engagement Update**

***The recent additions to FIRE’s staff have come from other pension funds, so they do have some pertinent knowledge and experience. FIRE recently hired an administrative assistant with background in creating process manuals who will be tasked with developing training materials within the next year or so.***

## Section II. Executive Summary

10. Consider performing periodic death audits for joint annuitants of living retirees who are receiving benefits in a joint and survivor form. If a beneficiary is found to be deceased, the valuation liability for the benefit becomes less since no survivor benefit will have to be provided. This would also make the processing of death benefits more efficient. We understand that this is not commonly done, but it may be worth consideration as it could impact the valuation.

### **Second Engagement Update**

***The OA is not aware that any System has implemented the recommendation of death audits for joint annuitants of living retirees. However, the OA stated that there is a surprisingly small percentage of retirees who elect a joint and survivor form of payment, so they would not expect to see a significant reduction in liabilities if this recommendation was implemented.***

### **FIRE – Second Engagement Recommendations**

1. ***Prioritize hiring IT staff, so that FIRE will be less dependent on outside entities (FDNY and an outside vendor) for IT needs and e-UPS updates. FDNY IT staff has been more responsive to FIRE's needs since the corpus funding was installed, but FIRE's IT needs require staff devoted full time to making upgrades.***
2. ***Create a more formal process/priority schedule for e-UPS system upgrades.***
3. ***Consider moving active members' files to offsite storage once they have been digitized. It is redundant and takes up office space unnecessarily to have paper files onsite if the information is available to staff electronically.***
4. ***Continue to devote resources to training process documentation. As new staff is hired this will become increasingly important.***
5. ***Create a website for FIRE pension, even if only at first for general information and documents. Currently, such information is only available on the Comptroller's website, which makes it difficult to find.***

### **OA**

1. Work with Systems to get only data that is needed. IT is concerned that OA maintains data with Social Security numbers, which are not necessarily needed, and which are a security issue in case of a breach.

## Section II. Executive Summary

### **Second Engagement Update**

***The OA specifically requested that the Systems NOT provide Social Security numbers with the June 30, 2018 data feeds. However, they discovered that the data reconciliation process was complicated by the lack of a truly unique identifier. While member number is usually reliable, it is not always unique. The OA will return to requesting Social Security numbers in future data requests, but will continue to look for ways to better ensure that the data is secure and protected.***

2. Explore possible precertification of the benefit calculation programs with each System.

### **Second Engagement Update**

***There has been no further progress made toward a pre-certified calculation for any System, although the OA is open to the idea. Additional research into the issues surrounding this should be done before any resources are devoted to this initiative.***

3. Continue to work toward fully automated processes with the Systems. This will save paper, increase data security, and make inventory management much smoother in the upcoming years.

### **Second Engagement Update**

***All of the Systems are submitting valuation data and benefit calculations electronically via secure FTP, so there is not much new paper coming in to the OA.***

## **OA – Second Engagement Recommendations**

1. ***Determine if a precertified benefit calculator is allowed by law. If it is not, we do not recommend pursuing this idea any further.***
2. ***Reach out to BERS, TRS, and NYCERS for feedback on their valuation reports, now that formal reports are being provided. Ask all Systems if they would like the OA to present the valuation report to staff members. At least one System expressed interest in such a presentation, believing that a better understanding of what the OA does would improve the data process even further.***
3. ***Review the annual data collection process (this is a current “wish list” item for the OA). Discuss with each System any additional information the OA would like to obtain. These additional requests could factor into the design or upgrades of each group’s internal system. Meetings have already occurred with several of the Systems, with additional meetings scheduled with other providers of payroll information.***

## Section III. Administrative Review Process

We began work on the Administrative Review by gathering publicly-available documents containing plan provisions, so that we could familiarize ourselves with the complex workings of the plans. We utilized the website for each System to obtain Summary Plan Descriptions, CAFRs, and other member communication materials.

The Office of the Actuary provided copies of data request letters that were sent to the Systems, minutes from the “kick-off meetings” between the OA and each System at the beginning of the valuation process, and the latest valuation reports prepared for POLICE and FIRE.

The Systems provided any relevant documents they had available. These documents included meeting minutes, process manuals, internal memoranda describing policies, financial audit reports and management letters, and documentation of internal audits.

Further, we obtained copies of the last several Administrative Review Reports, and reviewed them, paying close attention to their conclusions and recommendations.

Once we were familiar with the plan provisions and processes, we prepared questionnaires that would serve as agendas for onsite meetings with the OA and each System. We sent the questionnaires in advance, so the staff could gather their thoughts and be prepared for our questions. We decided to meet first with the OA, to get an overview of their processes for all five Systems. We then met with each System separately.

### First Engagement Meeting with the OA

We met with the OA on June 6, 2017. The meeting began with discussion with the Valuation Services Division about valuation data collection for the Systems generally, followed by discussion of specific issues and differences among the Systems. We then met with the Certification Services Division to talk about their processes for certifying retirement calculations, and the methods by which the requests and results are transmitted between the OA and each System. Lastly, we spoke with Information Security about infrastructure in place to maintain data security, and staff training in that regard. The agenda for the four-hour meeting was as follows:

1. Data collection
  - a. Is there an annual kick-off meeting with the System? Who attends? What is the meeting agenda?
  - b. From where does the OA get member data?
  - c. How is member data transmitted to the OA?
  - d. What procedures are in place for verifying/validating data?
  - e. How are member records tracked year over year?
  - f. What happens to any data that is suspect?
  - g. What is the target date for receipt of data?
  - h. Do you generally have a lot of questions about the data? How are the questions resolved? How long does the process generally take?

## Section III. Administrative Review Process

- i. If you identify data issues that are eventually corrected, do you check in subsequent years that the corrections have been made and stored in the member database?
  - j. How is the OA informed of any plan changes for each System?
- 2. Benefit calculation process
  - a. How are calculations transmitted to the OA for certification?
  - b. How many people at the OA are involved with a given benefit calculation? How long does the certification process generally take?
  - c. Does the OA have access to the same member data that the System uses in the calculations? Is the data compared to the valuation data? What data validation is done by the OA?
  - d. Are any calculations performed by the OA rather than the System? In what kinds of cases? What are the processes for any such calculations?
  - e. If errors or inconsistencies are found in a calculation, how are they resolved?
  - f. How is the certification transmitted back to the System?
  - g. Does the validation process include election forms and other necessary paperwork required upon termination/retirement?
- 3. Internal security policies and procedures
  - a. Has there been any movement toward a paperless office system? How far along is it and what is the process to complete it if it isn't already there?
  - b. Describe security procedures in terms of:
    - i. Employee office access
    - ii. Visitor office access
    - iii. After-hours office access
    - iv. Remote access
    - v. Cell phone use
    - vi. Locking of desk drawers/cabinets
    - vii. Clean desk
    - viii. Sending files to offsite storage
    - ix. Outside vendor access to system
  - c. What are the processes for data backup and recovery? How often is data restoration tested? How often is disaster recovery tested?
  - d. Are system breach tests performed? How, and how frequently?
- 4. Data transmission to outside parties
  - a. What outside parties receive data from the OA? For what purpose?
  - b. How is data transmitted? What security protocols are in place?
  - c. How does the OA ensure that the vendor maintains the security of the data?
- 5. Staff training
  - a. How are new staff members trained?
  - b. Are staff members cross-trained on other functions besides their primary function?
  - c. How are staff members trained on any changes (new security procedures, or law changes that would affect data and benefits)?
  - d. Do any staff members participate in outside continuing education programs? Are such programs supported by the OA?
- 6. Status of recommendations from prior administration reviews
- 7. Wish lists

## Section III. Administrative Review Process

### First Engagement Meetings with the Systems

After our meeting with the OA, we met with each System separately. (The order of the meetings was for no other reason than scheduling and availability of the staff necessary to address the topics on the agenda.) In 2017, we met with FIRE on June 7, POLICE on June 15, BERS on June 16, TRS on June 22, and NYCERS on June 28. Each meeting lasted about three hours, and followed the same agenda:

1. Data collection, validation, and transmission to the OA
  - a. Where does member data come from?
  - b. How frequently is member data updated?
  - c. How is data entered and stored in the System's databases?
  - d. What procedures are in place for verifying/validating data? Is data verified as received, or at some other interval?
  - e. What happens to any data that is suspect?
  - f. Are termination dates provided in the member data feeds? Does that trigger another process for benefit calculation or distribution?
  - g. How are transfers handled? How is data stored for terms and rehires?
  - h. How is data transmitted to the OA? What is the target date for transmission? When data is requested, how difficult is it to compile the data to send to the OA?
  - i. What is the data reconciliation process with the OA? Does the OA generally have a lot of questions? How are the questions resolved? How long does the process generally take?
  - j. If the OA identifies data issues that are eventually corrected, how does the System ensure that the corrections are stored in the member database? How are corrections documented?
2. Retiree maintenance
  - a. Who is responsible for maintaining retiree data and processing payments?
  - b. How is information about new retirees transmitted to the party responsible for making the payments?
  - c. Are retiree death audits undertaken routinely? How are they done? What is the process for confirming a beneficiary's entitlement to survivor benefits and starting the payments?
  - d. Are there beneficiary death audits?
3. Benefit processing (retirement, disability, death discussed separately to extent processes are different)
  - a. What is the process for retirement, from the member's initial contact to the start of the payments? How long does that process generally take?
  - b. Is data from the member database used for the benefit calculation? What data sources are used for calculations (same as valuation data sources)?
  - c. Is any data supplied by the member? Do members supply data via paper, email, fax? Does the member have an opportunity to review the data and make any corrections?
  - d. How many people at the System are involved with a given benefit calculation?



## Section III. Administrative Review Process

- e. Are any “special types” of calculations performed manually? How does the process differ for those?
- f. Are any calculations performed by OA rather than the System? In what kinds of cases? What are the processes for any such calculations?
- g. How is the completed calculation transmitted to OA? Does OA have access to all the data used by the System to do the calculation?
- h. How is the certification transmitted back to the System? How long does it generally take?
- i. Are signatures on election forms required to be notarized? Does the System have notaries on staff to assist?
- j. How are terminated members handled? Is there a process to reach out to those who’ve reached retirement age? What paperwork is provided to members upon termination?
- 4. Contribution-related election processing (loans, withdrawals, ITHP, buybacks)
  - a. How is a new loan initiated?
  - b. What is the process for members repaying loans and having their accounts properly credited?
  - c. What is the process/timing for a loan default?
  - d. Certain plans/tiers allow members to suspend contributions or make additional voluntary contributions. What is the process for this? How is this data maintained in the system?
  - e. What is the process by which members can buy back certain service credit?
- 5. Benefit statement processes
  - a. How are statements generated? Directly from the member database, or from a different system?
  - b. How are statements distributed?
  - c. What can members do if they find errors on the statement?
  - d. How are member errors corrected?
  - e. Are member statements or benefit modeling capabilities available online?
- 6. Internal security policies and procedures
  - a. Has there been any movement toward a paperless office system? How far along is it and what is the process to complete it if it isn’t already there?
  - b. Describe security procedures in terms of:
    - i. Employee office access
    - ii. Visitor office access
    - iii. After-hours office access
    - iv. Remote access
    - v. Cell phone use
    - vi. Locking of desk drawers/cabinets
    - vii. Clean desk
    - viii. Sending files to offsite storage
    - ix. Outside vendor access to system
  - c. What are the processes for data backup and recovery? How often is data restoration tested? How often is disaster recovery tested?
  - d. Are system breach tests performed? How, and how frequently?

## Section III. Administrative Review Process

7. Data transmission to outside parties
  - a. What outside parties receive data from the System? For what purpose?
  - b. How is data transmitted? What security protocols are in place?
  - c. How does the System ensure that the vendor maintains the security of the data?
8. Staff training
  - a. How are new staff members trained?
  - b. Are staff members cross-trained on other functions besides their primary function?
  - c. How are staff members trained on any changes (new security procedures, or law changes that would affect data and benefits)?
  - d. Do any staff members participate in outside continuing education programs? Are such programs supported by the System?
9. Status of recommendations from prior administration reviews
10. Wish lists

### Second Engagement Meeting with the OA

We had our second meeting with the OA on January 30, 2019. The agenda was more free-form than in our First Engagement meeting; we asked about any changes to processes or procedures generally, and then asked about several specific items from the First Engagement on which we wanted updates or additional information. We summarized our discussion and provided the OA the opportunity to review our notes for accuracy. Those specific items are highlighted in the “Results – OA” section of this report.

### Second Engagement Meetings with the Systems

We had our second meetings with the Systems on the following dates in 2019: NYCERS – March 21, TRS – March 4, BERS – February 26, POLICE – February 27, FIRE – March 7. These meetings had agendas specific to issues found and recommendations made in the First Engagement, so the agenda was different for each meeting. We summarized our discussion and provided each System with the opportunity to review our notes for accuracy. The specific items discussed are highlighted in the respective “Results” sections of this report.



## Section IV. Results - NYCERS

### General

NYCERS is the largest of the five Systems. They currently use a pension administration system called PROD, but are in the procurement process for designing and building a new system. The PROD system is a 35-year-old COBOL-based system. The new system requirements are being developed and will include increased functionality, capabilities to provide online statements to members, and increased access for the OA. NYCERS has included the OA in the development of the discovery of requirements, in an effort to address any issues that the OA has with their data feeds. They have also reviewed the data questions received annually from the OA and are planning to address as many of them as possible in the development of the new system. Since the plans for the new system are still in the development phase, there has been no identifiable timeline or completion date set as of the date of our first meeting. We will continue to monitor the progress in our second engagement. ***Second Engagement Update – NYCERS is nearing finalization of an RFP for a vendor to develop a new system. The technical requirements have been written and are in review. NYCERS expects to issue the RFP in April or May 2019. All bidders will be asked to provide an implementation plan/timeline as part of the proposal. The implementation is expected to occur in phases over several years.***

NYCERS is a very well organized and thorough organization. They take employee training and data security very seriously. Their internal processes are well-documented, and their data security and disaster recovery is state-of-the-art. The development and implementation of a new pension administration system will further enhance data quality and efficiency in the future.

***Second Engagement Update – In an effort to improve member relations, NYCERS restarted its pension outreach activities in June, 2017 and the Pension Outreach Program (POP) Division was subsequently established later that year. Current staff members were rededicated to staff this division. POP is tasked with four specific responsibilities:***

- 1. Participation in events sponsored by City agencies and labor unions across the five boroughs, including new hire orientation and benefit fairs. Members and non-members attend these events.***
- 2. Onsite presentations to members on the benefits and requirements of their plan, with an emphasis on getting ready for retirement.***
- 3. Attendance at quarterly pre-retirement seminars in partnership with the City Office of Labor Relations and the Social Security Administration.***
- 4. Providing pension-related literature to unions for publication in their active-member and retiree newsletters.***

***Staff members are equipped with laptop computers on field visits to allow them to provide benefit estimates on the spot and assist members with enrolling on the member portal. Since POP's inception, two full-time employees have been hired to staff POP. In addition, a Customer Service employee has been assigned to assist on an as-needed basis with preparation of seminar materials, and employees from other divisions are assigned to support events on an as-needed basis.***

## Section IV. Results - NYCERS

### Data Collection and Validation

NYCERS receives payroll feeds for each pay period from the Office of Payroll Administration (OPA) and several other employer payroll systems. These files are aggregated, if necessary, and uploaded into the PROD system each pay period. The files contain member ID number, Social Security number, and payroll information only. All member demographic data is entered into the system separately from these data feeds. Since there are multiple payroll systems reporting information to NYCERS, the payroll uploads are constantly occurring. While there are no validation checks done on individual records at the time of upload, a process is followed to ensure accuracy and a reconciliation of deduction amounts is performed with each upload to identify possible data issues that may need correction.

For the annual valuation, the OA sends NYCERS files containing data collected from OPA and seven other small employers' payroll feeds (whose employees are not paid through OPA). They also send a pensioner payment file. The OA requests that NYCERS update the file for status changes from the prior year, and add new members. NYCERS uses their production system to fill in the data the OA has requested, and sends it back in the format detailed by the OA in the data request. They also provide a file containing withdrawal, service, loan, WTC, and union leave information.

***Second Engagement Update – Marks Paneth LLP, the current outside auditor for NYCERS recently discovered that in the data provided to the OA, approximately 2,900 members were miscoded as having transferred out of the plan instead of having transferred in. As a result, these members were omitted from the valuation. Both NYCERS and the OA believe this error has been resolved through meetings to discuss and improve NYCERS' understanding of the issue, and additional in-house validation of the data for these members. NYCERS reports that this was not an issue of data integrity within PROD, but an issue in the transmission of the data to the OA only.***

Terminated non-vested members stay in the PROD system and on the active data feed provided to the OA for five years from termination date. This is because a terminated member's membership continues for five years in case they are rehired within the System. Once a membership expires, the contribution balance is payable to the member and they are removed from the file if not vested or kept as vested. The active file also contains vested member information. The data is provided in component pieces to the OA, and the OA calculates their deferred benefit amount for valuation purposes in-house. NYCERS processes these members' calculations when they elect to begin receipt of their benefit. ***Second Engagement Update – NYCERS runs periodic checks to identify members who have been terminated for more than five years. Once a member is identified, the Vested Unit reviews the case to confirm the member's vested status. NYCERS reaches out to non-vested members to notify them that their membership has expired, and they are eligible to receive a refund of their contributions. The member must then submit a refund application in order to receive their refund. NYCERS continues to reach out to members who do not respond.***

## Section IV. Results - NYCERS

Once the OA processes the data, they send a list of questions to NYCERS. These are generally questions to confirm changes in data and salary changes. NYCERS researches the questions individually and corrects any errors within PROD. There is currently no capability in PROD to allow tracking of any data changes that occur on a year-over-year basis to be flagged.

NYCERS transmits data to and from the OA via CD. The current system does not include capabilities to transfer data via FTP, so NYCERS has included a requirement in the design for the new pension administration system to allow for FTP transfer with the OA. ***Second Engagement Update – NYCERS now provides all data to the OA using a secure electronic application called WS FTP. No data is transmitted via CD.***

NYCERS uses an outside vendor Pension Benefit Information, Inc (PBI) to assist with death audits. PBI provides a death match with Social Security monthly, and also supplies death matches from State vital records departments as well as nation-wide obituaries. Affidavits are sent to retirees over age 85 and beneficiaries over age 87 on alternating years. For any deaths found, NYCERS proactively locates the beneficiary to start payment and/or takes the necessary actions to recoup any overpayments. A death certificate is required before any beneficiary payment is made.

### Benefit Calculations

Members file an application in person or by mail to initiate the retirement process. NYCERS has a client services team with 13 counselors on staff who deal primarily with retirement processing. Members can meet with a counselor who provides information on retirement, benefit estimates, assistance with filling out forms, and explanation of benefit options.

Vested members are tracked in PROD, and contacted 90 days before their normal retirement date to apply for vested benefits. Members who cannot be located continue to be tracked in the PROD system until their address can be found. If a valid address cannot be obtained, the member file is marked that mail is being returned and no mail will be sent until a new address is provided.

NYCERS Retirement Eligibility Unit (Operations Division) reviews and determines the eligibility of members who file for service retirement. The Vested Unit (Operations Division) and an independent Medical Unit (Client Services Division) determine the eligibility of vested and disability applicants, respectively.

Advance payment (AP) for service and vested retirees as well as for members who have been approved for disability retirement is then initiated. The member is paid a partial benefit amount as an advance payment while the benefit calculation is processed. The advance payment amount is predetermined, but hardship exceptions are made for members who contact NYCERS requesting an increase, if the situation is applicable. This would be processed manually using an Excel-based system.

## Section IV. Results - NYCERS

The Service Processing Unit (Service and Disbursement Division) calculates the member's years of service, the Retirement Calculations Unit (Operations Division) reviews the earnings and calculates the compensation base, and the Active Accounts Review Unit (Service and Disbursement Division) reviews the required amount. The calculations, service, and required amount are then reviewed by the Edit and Annuity Unit (Operations Division) before being forwarded to the Data and Benefit Certification Unit (Operations Division) to calculate benefit options. Once the options are completed and reviewed, they are sent to the member to make their selection. Once their paperwork is returned, the system is updated, and a Report of Benefit is generated. The case is then forwarded to the Pension Payroll Unit (Service and Disbursement Division) to adjust the pension benefit accordingly. Option selection usually occurs two to four months after the member's retirement date, depending on the volume of cases received in a specific month.

On average, benefit calculations take about four to six months to finalize. An exception report is generated monthly to identify members who remain on AP for six or more months. The Option Selection Unit reviews this report and sends out follow-up letters to those members to obtain the needed documentation/forms required to finalize their benefit.

There is a Revision process that occurs 15 – 20 months after the retirement allowance is finalized where the calculation is reviewed again for accuracy and for any additional payments or checks received after the case is finalized. These payments include, but are not limited to, retroactive contractual increases in salaries, overtime payments, cancelled checks subsequent to the retirement process, changes in laws, procedures, and/or legal settlements. During this process, an overall review or update of the service, compensation base, annuity account balance, loan balance, refunds, and required contribution is completed. This information is provided by agencies before OA's review. The calculations and relevant updates are then forwarded electronically to the OA for certification. The OA is given access to the NYCERS system to perform their calculation review. Once completed, the OA returns the certified Report of Actuary (ROA) to NYCERS reflecting the revised benefit allowance.

An estimated 700 benefit calculations are performed monthly. A recent contract settlement has created a backlog of around 27,000 calculations that required adjustment. When we met with NYCERS in June 2017, NYCERS had processed over 50% of these recalculations. ***Second Engagement Update – As of February 2019, the backlog is 87% complete. Approximately 3,700 calculations still require adjustment. About 1,100 of these calculations require adjustment due to structured settlements. NYCERS must obtain waivers from those retirees acknowledging that once the recalculation is complete, there will be no further revisions in the future. The timeline for completing the recalculations is dependent on receipt of those waivers.***

In general, all benefit calculations are performed in-house, except Social Security offset calculations (for Tier 4 members with Tier 3 rights and Tier 3 22-year plan members), 415 limits, survivor benefit calculations, death gambles, and present value requests, which are forwarded to the OA for processing.

## Section IV. Results - NYCERS

### Data Security

Visitor access to the building requires that the visitor provide identification and pass through security. NYCERS offices require a security card to open the door, and the front desk requires visitors to sign in and provide identification. Member-facing teams reside on the mezzanine level, which has a separate entry to allow for visitor access. Offsite data centers require security card access where only specific IT personnel are allowed access.

Employees have building access from 7:00 am until 5:30 pm, Monday through Friday. Senior staff and IT staff have 24-hour access. After-hours access and remote network access is limited and must be approved. Network access is only allowed through a NYCERS-approved device; personal phones and devices cannot connect to the NYCERS network. NYCERS enforces a clean desk policy where all sensitive information must be secured when the employee is not at their desk. To enforce the policy, routine walkthroughs are done, and violations are documented.

An internal recertification process occurs two times a year, during which all levels of employee access are reviewed, verified, and adjusted if necessary. Employee access to the PROD system is reviewed and adjusted, if necessary, every 90 days. Terminated employee access to network and systems is revoked within 24 hours.

The network is routinely backed up. Disaster recovery tests are performed two times a year, and the outcome shows that crucial systems, such as call center, website, and production system, were up and running within one to four hours. Disaster simulations are performed, recently including finance information, to make sure pensioners' checks could be processed in the test. Vulnerability scans are performed by an outside "white hat" group of computer security specialists at least every two years. The Information Security unit runs scripts and vulnerability scans internally to test the system routinely and identify possible problems.

NYCERS has a document control area where scanning, indexing, and archiving takes place. All member applications are scanned into the system. All paper files go through a document destruction process after they are aged out (around nine months). The paper files are stored onsite at NYCERS or in a Long Island City facility.

***Second Engagement Update – Marks Paneth LLP recent audit found that NYCERS' documentation of data backup and records retention policies was out of date, and that the current procedures do not follow the documentation. NYCERS is now in the process of updating that documentation.***

Any data being shared with a vendor or within the City of New York requires the recipient of the data to ensure the data will be stored securely. The recipient must also disclose what the data will be used for. NYCERS has internal consultant policies which define access control, require confidentiality agreements, and detail contractual requirements to obtain access to the system.

## Section IV. Results - NYCERS

### Staff Training

NYCERS conducts a multi-phase onboarding process where new employees are taught agency policies and citywide rules and regulations, provided an employee handbook, and shown how to log onto the employee portal to review their basic information. Specific areas are highlighted to the employees on day one, especially as they pertain to office policies and the employee handbook. New employees also attend a seven-day new employee training where they learn the basics of the NYCERS plans, tiers, contributions, loans, etc. Other training is performed onsite through working with a senior level employee, shadowing (especially in the member facing teams), and in a classroom setting.

There are also mandatory annual training sessions, including, but not limited to Code of Conduct, EEO training, conflict of interest, safety, and right to know. Plan changes and legal issues are handled through emails to notify employees of law changes initially. Directives are created that outline the new policy based on the law; internal meetings are subsequently conducted to inform employees of new policies.

Staff members are also allowed to participate in up to 70 hours of outside training per year. These additional training opportunities require manager approval, and focus mainly on technical knowledge, management training, compliance, and requirements related to specific fields and designations.

***Second Engagement Update – There have been no material changes to overall staffing levels at NYCERS in the last two years. However, there have been some staff member changes at the senior management level. NYCERS has a new Executive Director, Director of Finance, Chief Information Officer, and Chief Operating Officer. A new position was created, Agency Privacy Officer, in response to a City-wide requirement to increase data security. In addition, several deputy positions were added (two in IT, one in Finance, one in Human Resources, and one in Internal Audit) to add depth to their staffing.***

### Other

The NYCERS website contains a wealth of information for members. Copies of Summary Plan Descriptions and other benefit summaries and instructional videos are available for easy reference.

There is also a secure member portal, on which members can view their estimated benefit, apply for loans, obtain information about service purchases, and view historical pension payment amounts. NYCERS provides two types of benefit statements annually: an estimated retirement benefit for members who are eligible for retirement, and employee contribution balances, beneficiary information, and loan information for all active members.



## Section IV. Results - NYCERS

### Status of Recommendations from Prior Administrative Reviews

1. Involve the OA in the development of the new pension administration system.

Response: NYCERS has included the OA in the development of the discovery of requirements in an effort to address any issues that the OA has with their data feeds. They have also reviewed the data questions received annually from the OA and are planning to address as many of them as possible in the development of the new system.

2. Reach out to TRS to learn about its employee security education program.

Response: A Security Awareness Program to address physical security concerns has been incorporated into all NYCERS employee training programs. Employees also participate in Ethics Training provided by the Conflicts of Interest Board and Corruption Awareness Training sponsored by the Department of Investigation. Employees are reminded that they are part of the security solution at NYCERS. The phone number of the Security Directors and security desk are indicated on the rear of all Identification cards. Employees are encouraged to report any suspicious activity or unidentified people attempting to gain access to NYCERS. In our opinion, the security training at NYCERS is as strong, even if not exactly the same, as the training provided to employees at TRS.

3. Work with the OA and data management to become the single source of data.

Response: NYCERS reports data to the OA in the same manner as they have historically. NYCERS receives an active file from the OA containing data collected from OPA and seven other small employers' payroll feeds (that aren't paid through OPA). They also receive a pensioner payment file from the OA. NYCERS uses these files to fill in any missing data the OA has requested and sends it back in the format they detail in the data request. This process will remain unchanged until the pension administration system is implemented with the required functionalities to facilitate the annual valuation process.

4. Share service purchase information with the OA and work with the OA to determine if this information would be useful to the OA in the development of a service purchase assumption or estimation of potential service purchase liabilities.

Response: NYCERS provides service purchase information to the OA as a part of the annual valuation data collection process.

5. Supply the Increased Take-Home Pay (ITHP) and required employee contributions to the OA.

Response: As of the date of our meeting, NYCERS is in the procurement process for a new pension administration system that will be able to provide this information to the OA.

## Section V. Results - TRS

### General

TRS has a full-time staff of about 370 employees. ***Second Engagement Update – There are still about 370 employees at TRS. There have been only a few retirements in the last two years, all at the manager level and below. There are currently just a few open positions.*** They currently use an administration system called UPS. TRS is undergoing a modernization process/total upgrade in which they are gradually migrating to a new system called ASPEN (created by SagiTech). The migration will have seven phases. Three have been completed; the remainder are expected to be complete by 2022. For now, anything done or processed in ASPEN bridges back to UPS, so all information in UPS is up to date. UPS is still being used to generate the data for OA. ***Second Engagement Update – TRS is “very close” to going live with phase 4 of the ASPEN migration. Phase 4 contains an online payment portal for members to repay loans or pay for service purchases. It also contains death benefit processing capabilities, including death notification, benefit processing, and the beneficiary claim process. Capabilities for non-periodic payments, 1099-R forms, and TDA annuitization calculations are also part of phase 4. The remaining phases are as follows:***

***Phase 5 – Retirement Payroll, will automate all aspects of payments to pensioners***

***Phase 6 – Member Accounts, will have online capabilities for TDA and QPP account maintenance (including loans), service purchases, and full retirement calculations***

***Phase 7 – Statements, will allow for creation and electronic delivery of member statements.***

***The release schedule will likely extend beyond the original plan to have all seven phases implemented by 2022, but there are no firm release dates available at this time. TRS realized that additional development time was needed to create a fully capable system that will meet their usage needs.***

TRS takes security and staff training very seriously. They proudly state that clear accountabilities and roles relative to information security management are established across TRS. The Information Security Officer leads the Information Security Program sponsored by the Executive Director. It is the responsibility of all associates to help maintain the highest possible degree of security. Information Security roles and responsibilities are documented in TRS' Enterprise Information Security Policy and communicated across TRS. Information security responsibilities are taken into account during each employee's performance evaluation. The TRS website for members is state-of-the-art, and their critical processes are very well documented. Data quality continues to improve, with fewer issues found by the OA each year.



## Section V. Results - TRS

### Data Collection and Validation

TRS receives bi-weekly data feeds from the Department of Education (DOE) which contain demographic and service information. They also receive bi-weekly feeds from OPA with payroll information.

As of the date of our meeting with TRS, there are twelve Charter Schools with employees who participate in TRS. Data for those employees comes directly from each Charter School. The data is submitted electronically; the timing differs depending on the school (some submit bi-weekly, others submit monthly).

City University of New York (CUNY) employees are given the choice between participating in a TIAA defined contribution plan or in TRS. Those who do not affirmatively elect the TIAA plan within 30 days from appointment date default into TRS. Since CUNY senior college employees are paid by the State, the State's payroll agency is responsible for providing payroll data for those employees to TRS. However, despite repeated requests by TRS, the State is unable to provide all of the information TRS needs in a timely manner. Therefore, TRS relies on the payroll secretaries of each individual senior college to inform TRS of employees who are mandated into TRS following the period in which they can elect to join TIAA. This notification often does not occur in a timely manner, leaving TRS to rely on these members to proactively enroll in TRS by paper form, resulting in a delay of enrollment and missed required contributions that must be billed as contribution deficits directly to the member since the State's payroll agency will not support payroll deductions for contribution deficits.

***Second Engagement Update - CUNY has begun sending regular bi-weekly payroll feeds with service and salary information, but only for full-time employees. When this started, the data was inconsistent and of poor quality, but through testing and collaborative correction of errors, the quality has improved, and the data seems to have stabilized. This has enabled TRS staff to enroll CUNY employees much sooner and provide them better service. However, TRS staff is not yet enabled to serve the CUNY members fully. The enhanced data feeds from CUNY will be consumed by TRS processes with the modernization phases in ASPEN. The CUNY data (for enrollment and demographic updates) is expected to be included in the ASPEN migration after phase 4 is complete. Employment and service credit information will be made available in phase 6.***

## Section V. Results - TRS

If any data is missing on a feed, TRS deals directly with the member and gets their birth certificate or other verification of the missing information. TRS policy prevents members from accessing services (taking a loan, for example) without complete information on file. Some data comes into ASPEN and is updated there, but all data bridges back to UPS. UPS is updated for all data feeds once a month. ***Second Engagement Update – Once phase 4 of ASPEN has been rolled out, TRS expects to use ASPEN to generate information regarding pensioner deaths for the OA instead of UPS. Upon rollout of phase 6, TRS expects to submit all member data to the OA using ASPEN instead of UPS. There are no plans to maintain UPS for any significant length of time after all seven phases of ASPEN have been implemented.*** TRS has a daily process to validate data, so they believe it is generally of very good quality before year-end. When the data is being compiled for OA, they have testers look at control totals and spot check data again.

TRS sends the following files to OA: Active members (includes members terminated with money left in the plan and members on leave of absence), deceased, new pensioner, withdrawal, and “exceptions” file (shows flags of notable data changes from prior year, as well as transfers and anything else unusual). These files show any transactions dated during the year. For example, if a member retired years ago but has a recalculation or revision to their benefit in the current year, that will show on the “new” pensioner file in the current year. Inactive members (terminated not vested, due a contribution refund) stay in UPS and on the file to the OA for seven years from termination date. This is because a terminated member’s membership continues for seven years in case they are rehired by the DOE. Once a membership expires, the contribution balance is distributed to the member and they are removed from the file if not vested or kept as terminated vested.

Transfer contributors are members who change jobs within the City but elect to remain TRS members. Pay data for these members comes through on the OPA feed, but the service and demographic changes are provided manually from the new employer. This data is not always the most up-to-date. There are very few of these members.

Data is generally sent to OA at the end of August using secure FTP. Since most retirements occur in June, we wondered if this timing was problematic in making sure all retirements were captured. TRS does not have a concern in this regard, since they believe they are able to catch retirements daily and report actual status at June 30.

## Section V. Results - TRS

There are many ways by which TRS finds out about member deaths. Often, the beneficiary notifies TRS of the death. TRS uses an outside vendor, PBI, to assist with death audits. PBI provides a death match with Social Security monthly, looks for obituaries, and uses LexisNexis as well. Affidavits are sent to retirees who have moved overseas, once every two years. TRS is looking into outsourcing this to a vendor based on discussions with peer systems. For any deaths found, TRS proactively locates the beneficiary and starts payments. A death certificate is required before any beneficiary payment is made. ***Second Engagement Update – TRS continues to use PBI to assist with death audits, and is adding data matching services that are directly linked with state Vital Statistics agencies through a vendor called NAPHSIS. PBI offers matches not just against the Social Security death index, but from certain US state records as well. PBI also included TRS data in a matching algorithm used on electronically sourced obituaries. The PBI service has provided faster and more frequent results. TRS augments PBI with other sources of information; specifically, about a year ago they added a service called Life Status 360 which reports matches daily. When PBI's obituary search services were retained, it allowed TRS to review older cases where deaths were suspected but never confirmed. This has led to a noticeable cleanup of the pensioner data.***

***TRS is still considering a vendor for the overseas affidavit process. However, they have found that it is very difficult to verify the credentials of foreign doctors. A new approach being considered is voice print matching, whereby a pensioner would register his/her voice as his/her “signature” and would call in each year to confirm that he/she is still living. This is being considered as a possible addition to phase 6 or phase 7.***

### Benefit Calculations

When approaching retirement, members typically first go to their union for a pension consultation, and to get an estimate of their benefit. They then file a retirement application up to 90 days ahead of the retirement date. After receiving the application, TRS does an extensive review of service, and bills the member for any prior service or membership service deficits. Then the calculation is performed, including available options. Almost all calculations are done electronically in UPS. Seven staff members are trained to do years of service calculations; eight more are trained to do the retirement calculations. One staff member checks the routine calculations done in UPS before certification by the OA. Complex calculations involving multiple positions, breaks in service, and transfers are sometimes seen by four different TRS employees. UPS can do QDRO calculations, after the legal department reviews the QDRO and provides the benefit split. ***Second Engagement Update – Calculations will begin to be performed in ASPEN when phase 6 is implemented.***

All calculations are then sent to OA for certification. This is an automated process using Lotus Notes. A work list is automatically created, and the OA can certify electronically (including an e-signature). OA has access to all underlying data; this was automated in 2007.

## Section V. Results - TRS

Advance payments are made upon retirement, based on a conservative estimate (generally 85% of the finalized benefit). The process from application to benefit finalization averages three to four months. TRS will escalate the advance payment by 10% if the process is delayed beyond that timeframe. Administrative delay interest at a rate of 5% per annum is applied on retroactive payments. The retired members can see all the details of the retirement calculation in a benefit letter sent to them at finalization.

### Data Security

TRS has documented information security policies that are based on the City's policies and best industry practices. The Risk Department leads the information security program but takes joint responsibility with the IT Department for data security. The Risk Department was created based on recommendations from a prior audit.

Visitor access to the building requires that the visitor's name be on a list at the lobby desk. Visitors must show identification, and have a photo taken for a security badge. Visitors must also pass through a metal detector.

No TRS staff members work from home on a regular basis. Remote connections are available via virtual desktop for "disaster" scenarios. This is tested three times per year by allowing "critical" staff to access from home ("critical" is defined based on business impact analysis plan). To be given remote access (for example, if an employee is unable to come to the office for medical reasons for an extended period), employees can submit a request to IT with their unit manager approval. If approved, IT will provide the employee remote access, which includes an RSA key. Outside vendors do not access the network except when guided by IT.

Personal devices are not allowed to access the network. Guest wi-fi is separate from the local network. Remote email access through TRS-issued phones is allowed if the employee requests access. IT can remove access from devices if lost.

Incoming mail is opened, scanned, authenticated, and sent to Iron Mountain for storage.

***Second Engagement Update – Boxes are now sent to GRM, a New Jersey-based storage firm that does most of the City's records storage.*** Boxes are sent to Iron Mountain at least weekly, or more frequently if necessary. Boxes are sometimes retrieved for cases like death calculations for members who retired long ago (generally, records were not scanned for members retired prior to 1985). To try to eliminate the need to retrieve those boxes, TRS sent out letters to approximately 36,000 retirees, asking them to confirm their beneficiaries. About 20,000 have responded, and the responses were scanned, so the paper files are generally no longer needed for them. ***Second Engagement Update – About 3,000 more have responded, so there are now about 13,000 case files still in storage. There are no plans currently for additional outreach to this group.***

## Section V. Results - TRS

TRS maintains online data centers in New York and New Jersey. Backups are also done to tape nightly. Encrypted tape backups are stored at Iron Mountain. Once a year, IT goes to Iron Mountain and verifies the tapes are there. There is a regular need for restoring files (for example, accidentally deleted emails) so the recovery process is continually being tested.

***Second Engagement Update – TRS is moving away from the tape backups, since they already have two data centers. These tapes are now used only to back up the two data centers.*** TRS is on an initiative to go paperless, however, they are being very careful to not destroy files unless they are sure they are no longer needed. Destruction of data in offsite storage follows a written retention policy.

### Staff Training

New employees get mentored by another staff member and spend much time shadowing that staff member to learn their functions. New hire orientation provides an overview of the different departments and their functions. There is also City-wide diversity and equal employment opportunity training that is required every two years. ***Second Engagement Update – The City-wide diversity and equal employment opportunity training is now required every year.*** DCAS (City-sponsored), AMA, Cornell, etc. are used for outside technical training or career development. Certain training may be brought in-house if enough staff needs training on a topic.

Critical processes are documented well. Documentation is being improved and updated as part of the modernization roadmap. There is/will be formal training for each new phase of the modernization as it is implemented, for staff that will be using it. A system called Policytech houses procedure and policy documents.

TRS doesn't have high staff turnover. They have done succession planning for critical staff nearing retirement. Cross-training is promoted, depending on department, to ensure backup on all functions. TRS has recently added staff at lower levels, to move people up for implementation of modernization.

New employees have security training within a week of hire and must sign an agreement to comply with IT policies, before being certified to access the network. There is mandatory annual security training for all employees. Annual performance reviews cover information security, based on their role in TRS. TRS also uses creative methods to remind employees of security policies, like poster competitions, or "red cards" left on desks of employees violating the clean desk policy. There are stickers on printers to remind employees to shred personal information.

TRS maintains a data leakage prevention system. IT is notified if a staff member tries to email out something secure without the proper protection. The IT Service Desk can release such an email if a manager determines necessary or due to a false positive screening.

## Section V. Results - TRS

### Other

The TRS website contains a wealth of information for members. Copies of Summary Plan Descriptions and other benefit summaries on a topical basis are available for easy reference. Although the benefit summaries are updated frequently, the SPDs have not been updated since 2007. TRS is currently in the process of updating the SPDs. ***Second Engagement Update - As of the date of our meeting with TRS (March 2019), the Tier 4 SPD had been completed and forwarded to the Digital Communication group to be added to the TRS website. It was expected to be published within two to three weeks. The Tier 6 SPD is in progress and should be published to the TRS website shortly after the Tier 4 SPD.***

There is also a secure member portal, on which members can apply for loans, review and update beneficiary information, obtain information about service purchases, and view benefit statements. TRS provides two types of benefit statements: a quarterly statement of account balances, and an annual statement of estimated pension benefits. Starting in 2018, TRS plans to discontinue mailing of any paper statements and only print paper statements upon member request. ***Second Engagement Update – Both types of benefit statements are now being delivered electronically through the member portal. Of the 126,000 members who receive statements, only about 100 requested paper delivery. Pensioners with TDA deferral accounts also receive statements, and since many of them pushed back against electronic delivery, a paper option was added for them. Any such members over age 80 receive paper statements rather than electronic, and the reaction from that very small group was very positive. The cost savings realized from electronic delivery was significant, and there was a substantial increase in member portal usage. TRS undertook a multi-faceted campaign to alert members to the new statement format. An email blast was sent three months prior to the statement availability, and a second blast was sent when the statements became available. If TRS did not have an email address for a member, letters were mailed to their home address. In addition, the member newsletter featured a mention of the new format, a news blog was added to the member portal, and the last paper statement provided also notified members that their next statement would be delivered electronically.***

## Section V. Results - TRS

### Status of Recommendations from Prior Administrative Reviews

1. Reach out to NYCERS to gather information on its paperless system/process

Response: TRS collaborates with the other City pension systems, as well as pension systems worldwide through CEM Pension Benchmarking. They feel that this keeps them abreast of new developments and best practices in the industry. A paperless initiative has been started at TRS but will be fully implemented as part of the modernization roadmap.

2. Review process of storing boxes of information waiting for transportation to offsite facilities

Response: The previous administrative review found that boxes of sensitive information sometimes sit at TRS for two to three weeks before being sent to offsite storage. TRS now reports that boxes are sent at least weekly, or more frequently if needed.

3. Some active member data, such as from CUNY and Charter Schools, are entered into the TRS database manually. TRS should explore secure electronic methods of receiving this data and entering it into the TRS database.

Response: Charter Schools data is being received electronically, directly from each Charter School. CUNY data has been a continuing and well-documented struggle for TRS. TRS would like more buy-in from the State payroll agency and CUNY so that they can better serve the CUNY employees who participate in TRS. ***Second Engagement Update – CUNY is now providing full-time member data electronically, in a more timely and accurate fashion.***



## Section VI. Results - BERS

### General

The BERS Pension Fund employs a staff of approximately 90. ***Second Engagement Update – BERS currently employs 111 staff members, and is looking to hire an additional 15 full-time staff. They are outgrowing their current office space and have plans to move in the next six to twelve months. There have been several staffing and organizational changes recently at BERS. BERS has also developed additional organizational groups to handle investment strategy and data analytics.***

Effective June 1, 2017, BERS went live with a new data management system called CPMS, which replaced a Prudential system that had been in place for decades. In addition to the new system, BERS has recently created a quality assurance department that is concerned with the data flow, origins of data, and filtering systems to identify and modify issues within the data.

Prior to going live with CPMS, an internal database scrub of data from 1990 forward was completed. The data was reviewed extensively to create a complete, accurate employment history for each member. During this process, checks were performed to ensure that the correct employee contributions are being withheld. Previously, due to the large number of part-time members who work multiple jobs and have separate payrolls for each position, employee information wasn't always consistent and the primary employer wasn't always easy to identify. DOE payroll is reported across 5 pay cycles, representing 7 payroll numbers making payroll verification an important component of data management. The quality assurance team is tasked with creating documentation on how to load payroll feeds into CPMS. ***Second Engagement Update – In the process of scrubbing the data during the migration to CPMS, BERS found “horrible data corruption,” gaps, and inconsistencies. When data coming in from any of the payroll feeds has errors, those errors tend to be repeated in future submissions rather than corrected at the source. For these reasons, BERS is considering a 30% increase in staff on the quality assurance team to continue to monitor quality of member data.***



## Section VI. Results - BERS

The implementation of CPMS has been a tremendous step forward for BERS. BERS is keeping a “wish list” for future enhancement of CPMS as issues arise. BERS is considering connecting member forms to CPMS electronically, to reduce manual data entry and paper flow in the office. They are also working to create and fine-tune logical edits in the system with the hopes of reducing human error. The data historically provided by BERS was of lesser quality than what the other Systems provided, but we believe CPMS should provide data of much better quality to the OA going forward, thanks to the extensive clean-up of data and the new systems capabilities. We will be able to review this further in our next engagement. ***Second Engagement Update – Although CPMS has been a tremendous step forward, BERS learned there were usage and functionality gaps within the system that still needed to be addressed. Therefore, BERS is now developing “Velocity,” an upgrade to the CPMS system to optimize the system’s functionality. Velocity will add functionality for member self-service transactions, digital workflow, and document management. Velocity will be rolled out in two stages, the first in July 2020 and the second in 2021.***

### Data Collection and Validation

For active members, payroll information is loaded into the system from an electronic feed from FISA-OPA and reconciled internally. The DOE provides service data including hours for part-time employees. Member breaks in service can be identified from the City’s payroll system since payroll data is loaded on each pay date. There are 60 - 70 payroll sources from which information is loaded each month. The information is loaded into CPMS from three electronic and four manual sources. ***Second Engagement Update - The manual data sources are actually spreadsheet attachments to emails sent to BERS. In this format, the data cannot be uploaded into CPMS but must be hand-entered. BERS states that these are very small groups, and that it would not be worth the effort of trying to obtain data in a different format since they have no control over the entities’ internal systems.***

CPMS has the capability to identify DOE employees who can enter BERS and transfer in service. This allows BERS to proactively reach out to these employees to notify them of their eligibility. BERS is currently staffing an outreach program to conduct informational seminars to assist in enrolling eligible employees. There are about 11,000 - 12,000 employees who are eligible to join BERS but have not yet done so. ***Second Engagement Update – There are now approximately 16,000 employees who are eligible to join BERS but have not done so. Legislation that would automatically enroll employees in BERS has been vetoed by the governor two years in a row. BERS continues to support such legislation. In the meantime, BERS is working with the employee unions to educate them on the benefits of BERS membership. BERS will also be releasing an RFP this fall to hire a behavioral consulting and marketing firm to help develop an enrollment campaign. This is expected to be a multi-year project.***

## Section VI. Results - BERS

BERS and the OA have an annual kickoff meeting where they discuss plan changes, agree on deadlines, and review the data request, noting any changes. BERS has a good working relationship with the OA and feels the data requests are being fulfilled in a timely, efficient manner. However, due to the implementation of the new data system, the data was provided to the OA about six weeks later than usual this year. ***Second Engagement Update – The OA has received other requested items from BERS in a timely fashion, so the expectation is that this one-time delay was due to the implementation of the new CPMS.***

An FTP connection has been established between the OA and BERS. A 2017 supplemental file was sent recently to the OA and confirmed received. BERS intends to use this FTP connection going forward to transmit data and benefit calculations to the OA. ***Second Engagement Update – All data is being sent to the OA via FTP.***

The OA identifies any data issues and sends questions to BERS for confirmation or correction. Member demographic data is changed only when a proof document is shown, which is scanned and kept digitally. Any data issues are researched and resolved within CPMS.

### Benefit Calculations

About 99% of members attend a personal counseling session prior to retiring. BERS has eight staff members who can conduct the counseling sessions. Approximately 300 individualized sessions are provided each month. If possible, benefit calculations are provided at the session, benefit options are discussed, and assistance is provided with completing paperwork. Proof documents are required in some circumstances (for example, beneficiary date of birth); all proof documents are scanned and stored electronically in CPMS. There are notaries onsite.

Members initiate retirement by completing an application. Once the application is processed, BERS aims for a six-week turnaround to have the member's retirement processed for payment. BERS performs 100 to 150 retirement calculations per month. Calculations are performed for members once actual retirement occurs. Employee data is stored in CPMS, but all Tier 1 and 2 benefit calculations are processed manually outside of CPMS. All other tiers' benefit calculations are performed within CPMS. Benefit estimates are done within CPMS. BERS has plans to write standard operating procedures for benefit calculations once the calculations can be processed in CPMS. There is a plan to assemble a library of training materials and process documents as CPMS continues to develop.

## Section VI. Results - BERS

The benefit calculation team of eight employs a enterer/verifier/approver process. Calculations are performed and reviewed on-site for accuracy. Once a calculation has been checked and reviewed, it is sent to the OA for certification. Currently, benefit calculations are sent via messenger to the OA for review. BERS upgraded the file transmission to a secure FTP transfer this year. **Second Engagement Update – All calculations for certification are being sent via FTP.** When we met with BERS in June 2017, there was a backlog of about 400 calculations that needed processing, mostly due to the system upgrade. As of the date of this report, the calculation backlog has been resolved. If there is a dispute with a member about a benefit calculation, the member may provide proof documents, which are scanned and saved electronically in CPMS, to initiate a recalculation.

All calculations, including those for members who elect to annuitize their TDA balance at retirement, are processed in-house by BERS. Calculations for Tier 1 and Tier 2 members are mostly automated but do include some manual edits.

The member is initially paid 80% of their calculated benefit amount until their benefit can be finalized. The temporary disposition is no longer in practice and BERS is back to 100% payment. BERS finalizes the calculation after the OA review. Once a union contract is adopted, members who are in receipt of benefit but may be affected by the new contract are identified and their benefits are verified again. There is no identifier of finalized vs. non-finalized benefits in CPMS.

Terminated members, when identified, are put into a suspended status until the status change can be verified. Terminated members can continue to appear on the payroll feeds for up to 18 months, appearing with \$0 earnings. However, \$0 earnings on the payroll feed can also identify part-time members and employees on leave without pay, so it cannot be relied upon to show that a member's employment has terminated. To properly discern terminations, it is necessary to obtain Leave Status codes and to a lesser extent, Reason codes.

Membership remains active for five years after employment has ceased, due to the fact that interest crediting continues for five years after termination. Non-vested members receive account balance statements for five years after employment ceases. When a Leave Status or Reason code appears on the payroll data, the employee's termination can be verified. BERS reaches out to non-vested members after five years to initiate payment. BERS staff would like to be more proactive and reach out earlier to members who are coming up on five years for payment. **Second Engagement Update - This initiative is still on BERS' to-do list. With resources dedicated to the implementation of CPMS, there was not sufficient staffing to undertake this project at this time. With the recent addition of a Data Analytics Department, BERS will be better able to source and analyze data regarding these members. BERS has identified the population of terminated non-vested members who have been terminated for five or more years. The Operations and Outreach departments are currently working together to follow up with this group.**

## Section VI. Results - BERS

Deceased members are identified through a Social Security death match. LexisNexis is also used to provide death notifications. In certain situations, such as checks going uncashed for several months, the retiree is contacted and asked to provide proof of life. BERS also relies on information from family members, payroll information, affidavits, etc. to identify deceased members.

### Data Security

BERS is focused on going paperless in the next few years. There is an imaging group on staff that digitizes member information; so far, close to nine million images have been scanned. The digital copy must be certified before the original paper copy can be destroyed. Paper copies of files already digitized are stored in a basement file room, with limited staff access. BERS has the goal of digitizing documents at the beginning of the process instead of the end.

A security guard is stationed in the building lobby. Visitors must be signed in and show photo identification to enter the building. Employees must show their department identification to enter the building, and need security cards to enter office space. Office access can be restricted on a person by person basis. BERS policy states that visitors may never be left unaccompanied in the office space. There is private space available in the office for members to meet with retirement counselors.

Remote computer access is allowed for a few select, authorized staff members, using VPN. DOE controls the VPN, which is monitored by the Department of Information, Technology and Telecommunications (DoITT). A few executives have BERS issued phones, but those with only personal phones may not use them to access the network. There are internal directives on securing sensitive data, and locked file storage, where access is allowed only for staff members in a specific group. ***Second Engagement Update - BERS has also implemented a clean desk policy to ensure the protection of member data.***

Data is backed up to tape daily. The tapes are sent to offsite storage at Iron Mountain once a week. Tapes are maintained at Iron Mountain for four years. Tapes are not generally retrieved to test whether the data is intact, but there was an instance recently where data needed to be restored from a tape and it was located and usable. DOE runs periodic system breach testing and controls system access.

## Section VI. Results - BERS

### Staff Training

There has been a fair amount of IT and leadership turnover in the past few years, necessitating staff training policies. Most training is done by having a new staff member partner with a senior staff member to learn and understand processes. The implementation of CPMS required online training sessions and manuals. For the retirement counselors, scripts are provided for training purposes and to ensure that all items are discussed and all relevant information is provided to the member. There is a focus to increase cross-training between teams, to increase staff knowledge and ability to shift roles when specific groups receive surges in requests.

### Other

The BERS website contains general plan information and documents such as SPDs and forms that can be downloaded and printed. The ability to apply for loans or view statements online does not currently exist. ***Second Engagement Update – Member self-service features are included in the development of Velocity and should be completed by 2021.***

Statements of account balances are mailed to members twice a year, as of June 30 and December 31. An estimated 10% are returned undeliverable. BERS attempts to resend the returned statements after trying to locate member's address through the payroll system. Currently, BERS is considering moving to electronic delivery method for statements. Thousands of members call in after the statements are issued, most with general questions or requests to change beneficiary information. If an error is identified, the member is asked to fill out a form to identify the error, and return it with the statement. The adjustment is made in the system and if necessary, a revised statement is issued. ***Second Engagement Update – Member account balance statements are expected to be sent in March 2019. The last member statements were provided in December 2016. BERS intentionally held off on sending statements from 2017 – 2019 mainly due to the data problems that were uncovered during the migration to CPMS. BERS did, however, send statements upon request during the lapse. With CPMS now in place, BERS plans to resume bi-annual statement mailing to members. As part of the Velocity upgrades, BERS will have the capability to deliver statements electronically, and they are considering it. However, BERS is sensitive to the fact that many of their members will not be receptive to electronic delivery, so they intend to have more thorough discussions on this topic before implementing any new process.***

### Status of Recommendations from Prior Administrative Reviews

1. Develop a formal set of business rules to use in the data verification process.

Response: BERS has recently created a quality assurance department that is tasked with creating documentation concerning data loading and processing. The data verification process was also incorporated into the development of CPMS.

## Section VI. Results - BERS

2. Work with DOE to improve credited service reporting for the annual valuation.

Response: An internal database scrub of data from 1990 forward was completed. The data was reviewed extensively to create a complete, accurate employment history for each member. The new CPMS system has accrued service for all members but there are still many variables to be resolved as the system continues to be rolled out.

3. Involve the OA in the development of the new administration system.

Response: The OA was involved in the selection and implementation of the new system.

4. Share the Administrative Review Report with staff.

Response: Staff has indicated that the hard copy of the final Administrative Review Report is routinely made available to all staff interested in reviewing it.

5. There is no specific documentation of BERS' process to provide active member data to the OA. BERS should document its active data process in writing.

Response: With the implementation of CPMS, BERS is reviewing, updating, and creating new documents covering all CPMS-related projects. We will follow up on the progress of this in our next engagement. ***Second Engagement Update – BERS has delayed development of process and procedures manuals until the Velocity upgrades are complete. BERS has focused on developing interim documentation for certain workarounds they have created within CPMS.***

6. BERS does not supply full-time employees' service and part-time employees' hours to the OA for the valuation. The OA and BERS should work together to validate this data, and if valid, it should be provided to the OA.

Response: This data is now housed in CPMS, and will be provided to the OA. We will follow up on this in our next engagement. ***Second Engagement Update – BERS provided this data to the OA in the last valuation submission.***

7. The active valuation data process depends too heavily on the involvement of Prudential. BERS should complete the effort to replace the Prudential data system.

Response: This has been accomplished with the implementation of CPMS.



## Section VII. Results - POLICE

### General

POLICE employs approximately 150 staff members to administer the Police Pension Fund. ***Second Engagement Update – POLICE recently hired 10 additional staff members in preparation for the implementation of COPS2.0.*** They utilize a database management system called COPS (Comprehensive Officer Pension System) which houses all active member data, except for the three remaining active members in Tier 1. COPS was first developed in 2002, and was designed to handle only one tier of benefits. Since there are now multiple tiers, POLICE is currently in a procurement process to develop COPS2.0. It is expected that COPS2.0 will be able to handle multiple tiers of benefits, and will also have enhanced security and enable member self-service transactions. The development of COPS2.0 is expected to involve three or four rollouts and take up to four years to complete. ***Second Engagement Update – Vitech Systems Group, Inc., the developers of the original COPS system, have been retained to develop COPS2.0. The development of COPS2.0 began in May 2018. COPS2.0 will be rolled out in four phases:***

- ***Phase 1, Member Self-Service Lite, will create a central document management system and high-level digital workflow. In addition, members will be able to submit documents and track the status of any applications electronically, and POLICE will be able to securely transmit information and notifications electronically by member type. Phase 1 will be rolled out internally in July 2019, and then to members in a tiered fashion in August and September 2019. POLICE is working on plans for how to educate and inform members about the system and how to enroll.***
- ***Phase 2, Retiree Processing, will complete the integration of the document management systems with COPS2.0. In addition, enhancements will be made so that the system will follow a member all the way from date of retirement through to the death of their beneficiary. Members will be able to upload documentation, and receive updates from the system through the retirement process. This phase will not include the ability for POLICE staff to calculate pension amounts; these amounts will be calculated in COPS and entered manually into COPS2.0. Phase 2 is expected to be rolled out in September 2020.***
- ***Phase 3, Member Processing, is the most significant enhancement in COPS2.0. This phase will include all aspects of member tracking, from date of hire to retirement. Members will be able to submit retirement requests, electronically manage contributions, request and receive buyback information, and prepare benefit estimates online. This phase will also allow POLICE staff to complete retirement calculations for all benefit tiers within the system. Phase 3 is scheduled to be implemented in May 2023.***



## Section VII. Results - POLICE

- ***Phase 4, Mobile Application, includes the development of a mobile application that will allow members to access the member portal using specific electronic devices. Phase 4 is expected to be completed in March 2024.***

POLICE is at the forefront of data security and disaster recovery. They unfortunately dealt with a data breach several years ago, and with Hurricane Sandy more recently, which tested their processes and led them to improvements they may not have otherwise considered. Data quality continues to improve, with fewer questions from the OA each year. The implementation of COPS2.0 will be a major step forward for POLICE, by further enhancing data quality and allowing member self-service transactions.

### Data Collection and Validation

COPS serves as the member data warehouse for POLICE. Data is entered into COPS in three different ways:

1. OPA provides an electronic data feed every other week. This feed includes demographic data, payroll figures, and amounts of any pension-related transactions such as loans, payroll deductions, contributions, account adjustments, and termination information. This data is uploaded into COPS every other week (in off-payroll weeks) through an automated process. The process is first run in a pre-production environment where any errors (for example, invalid dates) can be corrected before the data is actually fed into COPS for staff use.
2. The NYPD provides an electronic data feed daily, which is uploaded into COPS each night. This feed contains members' name, Social Security number, address, rank, and command. There is generally no review of changes that appear in these feeds; any changes are assumed to have been initiated by the member.
3. Certain transactions are initiated by the member and handled on paper forms, such as loans, buy-backs, and service purchases. This information is manually entered into COPS. There is a record-level audit trail within COPS where any manual entries or changes can be viewed.

COPS does not track or store member service. Instead, it creates an "equated date" equal to the appointment date, adjusted for leaves of absence, purchased service, etc.

Each year, the OA sends POLICE a "seed" file containing member data as of the prior valuation date, and asks POLICE to update the data to the current valuation date. Most of the data for the OA is produced in batch processing through COPS. There are a few members (Tier 1 members, reinstated members, and a few dozen managers) who require manual processing. The Financial Information Service Agency (FISA) sends retiree data to the OA, and OPA sends payroll data to the OA. All of the data is sent using secure FTP transmission.

## Section VII. Results - POLICE

Within a few days of their receipt of the data, the OA sends an initial list of questions to POLICE. These are generally questions regarding changes in static data. After two to three weeks, the OA sends a more comprehensive and detailed list of questions. Questions are researched in COPS, and if corrections are needed, the corrections are made in COPS so they will be maintained in future years.

POLICE believes that they are being asked fewer data questions every year. They attribute this to better internal documentation of the data process, better understanding among staff of the OA's needs, and continuing improvement in data quality due to member feedback on the annual pension statements.

POLICE gets a Social Security Administration death feed once a month to compare payees to the death match index. There are additional safeguards in place to identify possibly deceased members, such as returned mail, uncashed checks, and rejected direct deposits. Also, often the family notifies the NYPD of the member's death. Affidavits are sent to overseas and Puerto Rico retirees that require members to certify their status. POLICE currently uses LexisNexis as a cross-reference to verify deaths discovered in other ways. They are considering using LexisNexis on a bi-monthly basis as a second source to identify deceased members. Once it is determined that a member is deceased, beneficiary information is researched and confirmed. Beneficiaries are contacted via mail or phone. ***Second Engagement Update – After finding inconsistencies between LexisNexis and the Social Security Administration death feed, POLICE reached out to other City pension systems to learn about other death search tools. POLICE contracted with NAPHSIS to assist with death searches and provide more accurate information. POLICE performs death audits internally on a monthly basis and uses NAPHSIS on a quarterly basis for their death audits. POLICE currently runs its entire payroll (members, beneficiaries and alternate payees) against LexisNexis in conjunction with Social Security.***

### Benefit Calculations

Active members planning to retire schedule an appointment to meet with a retirement counselor. There are eleven POLICE staff members who counsel members. At the counseling session, the member is given a benefit estimate (which may be prepared in advance or can be prepared on the spot in COPS). They discuss tax and direct deposit information, verify the data used in the estimate, discuss retirement benefit and health insurance options, and can sign necessary forms and have them notarized. The amounts of the benefit options are not provided at the counseling session, but the counselors do have some "rules of thumb" for estimating the reductions for the various options. Only about 8% of members elect an option other than the maximum, since they believe the reductions are too steep.

Vested members are tracked in COPS, and contacted only once approximately four to six months in advance of their normal retirement date. A locator service is used to find addresses for anyone whose address in COPS is no longer valid. Members who cannot be located continue to be tracked in COPS until they are located. Payments are made retroactive to the twenty-year anniversary if the member is late to apply for retirement.

## Section VII. Results - POLICE

Most benefit calculations are performed in the COPS system. COPS is currently unable to process calculations for Tier 3 members, so any calculations for those members are done manually. Since Tier 3 is relatively new, there are not many retirements in that tier. The OA also performs line of duty death benefit calculations and death gamble calculations as well as provides the benefit options for all retirement, disability, and death benefits. Current plans for COPS2.0 include the ability to calculate member benefit options.

The member initially receives monthly benefits equal to 90% of the estimated benefit until finalization occurs. Once the member selects their payment option and the benefit calculation is finalized, the member's benefit is increased to the full amount, and a back payment (with no interest adjustment) is processed within one month of finalization of the benefit. Finalization cannot occur until union contracts are settled, which sometimes takes years. ***Second Engagement Update – POLICE believes that COPS2.0 will shorten the finalization period to 2-3 months, since they will have the ability to batch calculations for finalization upon contract settlement. POLICE will re-examine the 90% initial payment process during the development of phase 3.*** As of the date of our meeting with POLICE in June 2017, there was a backlog of approximately 5,400 calculations due to a recent contract settlement. ***Second Engagement Update – As of the date of our meeting in February 2019, the backlog of calculations is down to about 4,100. POLICE continues to use rededication of staff and overtime to clear the backlog and keep up with the approximately 1,600 new calculations each year.***

### Data Security

A security guard is always in the building lobby. Access to the POLICE offices is only available with swipe cards. Paper files are maintained onsite, in the 19<sup>th</sup> floor office space. POLICE is working toward going paperless. They support a clean desk policy, whereby all files are placed into locked storage at the end of the workday. ***Second Engagement Update – Phases 1 and 2 of the COPS 2.0 rollout will include several advancements towards becoming a paperless office. In phase 1, a central document management system with digital workflow is planned, along with ability for members to submit documents electronically instead of on paper. In phase 2, retiring members will be able to submit documents electronically. In phase 3, members will be able to submit retirement requests electronically. In addition, POLICE has digitized the archives of member documents. Upon receipt, new paper documents received are now timestamped, scanned, certified, and digitally routed to the operations unit to process the request. The paper version is scheduled for shredding after 30 days. To protect sensitive member data, all mailed original documents never leave the administrative services department.***

## Section VII. Results - POLICE

When counseling staff runs seminars offsite, a member of the IT department attends and brings laptop computers that connect back to COPS remotely. No POLICE staff members have remote access capability, except for a few senior staff and IT. Only a few senior staff have work-issued cell phones. There is no strict policy for personal cell phones, except that personal devices cannot be connected to POLICE computers. There is very limited internet access on workstations, only business-related sites are available. Access is very restricted and granted only on an as-needed basis.

POLICE maintains a data recovery site on Staten Island. The data recovery site has its own power source, cooling system, and security. Only a few select IT employees have access to that location. Data is backed up daily, and tapes are stored offsite at Iron Mountain. Tapes are regularly brought back to have certain files restored. System breach tests were performed in 2007 and 2009. A security consultant is being brought in for the COPS2.0 implementation to help perform intrusion and penetration tests. Breach tests may be performed annually going forward, depending on budget.

### Other

The POLICE website contains general plan information, such as Summary Plan Descriptions, financial information, and member forms that can be downloaded, printed, and completed. There is no member portal, but this is on the POLICE wish list for COPS2.0.

Benefit statements are mailed to members annually. The statements have been a tool by which member data in COPS has been improved, when members contact POLICE to question or correct the data shown.

### Status of Recommendations from Prior Administrative Reviews

1. Review NYCERS policies/program regarding a paperless office

Response: POLICE spoke to NYCERS, and to other retirement systems across the country, to learn more about what other systems are doing with regards to a paperless office. They have created a two-stage implementation process for going paperless. In COPS, paper flows through the office and ends up online by the end of the specific process. A goal with the COPS2.0 development is to have paper scanned at the beginning of the process or to have information received electronically. ***Second Engagement Update –POLICE has digitized the archives of member documents. Upon receipt, new paper documents received are now timestamped, scanned, certified, and digitally routed to the operations unit to process the request. The paper version is scheduled for shredding after 30 days. To protect sensitive member data, all mailed original documents never leave the administrative services department.***

## Section VII. Results - POLICE

### 2. Hire additional staff

Response: As of June 2017, POLICE had a backlog of about 5,400 calculations to be finalized, once union contracts have been settled. They have added two employees to assist with the backlog, but are mostly clearing the backlog through rededication of staff. Even with the staff enhancements, it is expected to be three years before all of the calculations will be finalized. POLICE is considering utilizing more of a batch approach to future finalizations to speed the process. ***Second Engagement Update – The backlog has been reduced to about 4,100 calculations as of February 2019. POLICE continues to rededicate staff to reduce the backlog while keeping up with the approximately 1,600 new calculations each year.***

### 3. World Trade Center election data should reside in COPS and WTC data should include an indication of whether, and when, members reclassify their status to WTC accidental disability.

Response: This has been completed.

### 4. POLICE should continue to look for ways to streamline report creation by COPS.

Response: Both POLICE and the OA are happy with the quality of the data and the format in which it is provided.

## Section VIII. Results - FIRE

### General

FIRE employs approximately 25 staff members to administer the FIRE Pension Fund. They utilize an in-house system, Electronic Uniformed Pension System (e-UPS), which houses member data. Corpus funding has recently been established for the pension group. With the corpus funding, an additional eight to ten new employees may be added, with responsibilities ranging from information technology to benefits. Additionally, there may be an office move that will require a change to where systems, currently combined with the Fire Department systems, are housed. ***Second Engagement Update – FIRE moved to a new office location in February 2019, which is separate from the FDNY space. The new location allows FIRE staff members to be centrally located and provides soundproof rooms for member counseling. There are job openings posted for the calculation and buyback units, and an administrative assistant was recently hired to help with developing process manuals, among other tasks. Maintenance of the e-UPS system is still being performed by FDNY IT staff, and FIRE has retained a third-party provider for other IT needs that include day-to-day desktop access, connectivity to FDNY, printing, and selection and maintenance of the online data center.***

FIRE does a good job of outreach to their members, by offering monthly retirement seminars and by placing portals in each station to allow members to review their own data and statements. They have a robust internal audit system in place in a continuing effort to improve data quality and processes. This has resulted in very good quality data being provided to the OA, with fewer questions each year. Now that corpus funding has been put in place, FIRE will build up additional resources to further improve their data quality and security.

### Data Collection and Validation

The e-UPS serves as the member data warehouse for FIRE. Data is entered into e-UPS in three different ways:

1. OPA supplies the payroll data electronically to FIRE on a bi-weekly basis.
2. New members are added through the payroll department via a one-time manual entry that is sent to OPA after entries are reviewed.
3. There are also some supplementary payrolls that are uploaded separately and consolidated in-house. These are for members that miss a regular payroll.

Data is validated through the annual statements provided to members, OA data review for valuation calculations, and member feedback. A portal is provided in each fire station that allows members to verify data, perform estimates and real time calculations for retirement, apply for loans, and update beneficiary information.



## Section VIII. Results - FIRE

Each year, the OA sends FIRE a “seed” file containing member data as of the prior valuation date, and asks FIRE to update the data to the current valuation date. FIRE also provides files containing:

- Terminations
- New Entrants
- Withdrawals
- Employee Contributions and Service
- Military Service
- Transfers
- VSF Members

The data feeds are provided electronically to the OA through an encrypted FTP system.

The OA sends member data questions to FIRE. These are generally questions regarding changes in static data. FIRE experiences fewer data questions each year due to having a better understanding of what the OA is requesting and e-UPS system enhancements. Any data issues that are identified are researched and resolved. If a change to the system is required, it is made and noted in the member’s file. Data verification includes some research in paper files. Data for terminated members is stored in paper files as well as in e-UPS (for members terminated after 2012). Paper files are necessary for possible tier reinstatement and other issues that aren’t currently capable of being tracked in e-UPS. All members have paper files stored on-site.

Retiree data is validated through questionnaires mailed to all retirees annually, requiring the retiree to attest to benefits and notify FIRE of status changes in a timely manner or risk having their benefit payment stopped until the form is received. Death audits are performed bi-monthly through the NYC affirmative action division that provides a death match from Social Security. LexisNexis is also used as a backup system for death audits, and FIRE is considering services of a vendor for death searches. They are also working with banks to be able to reverse electronic payments upon notification a member is deceased. ***Second Engagement Update – In July 2018, FIRE retained the services of PBI for death audits. PBI uses obituaries, death certificates, and governmental records to identify deceased members. FIRE receives a weekly report from PBI that shows on average 10 member deaths. FIRE also uses LexisNexis, but on an individual basis, mainly to check for a death when mail is returned.***

### Benefit Calculations

FIRE estimates that there are 700-900 retirements each year. Members are asked to go through the chain of command process for retirement. Most retirements are for disability, either recommended by the Commissioner, by self-application with doctor advice, or Board recommended if not in the line of duty.



## Section VIII. Results - FIRE

The benefit application process begins with members filling out their paperwork and returning it to the office. Members are strongly encouraged to come to a counseling session for paperwork processing so the benefits group can confirm data and provide retirement information or loan information. There are notaries on-site to assist with certifying election forms.

Typically within 60 days, an estimate is mailed to the member. The member then has 60 days to respond with their election; if no response is received the application goes to the board of trustees to request the maximum payment as the option.

Benefits are calculated in e-UPS. The e-UPS system is used to obtain data for the calculation, as well as any documents the member provides. Once the benefit has been calculated, checked and reviewed in-house, the calculation is sent to the OA for benefit certification. The turnaround time for the OA is usually two weeks, with the calculation sent to OA and returned via messenger. FIRE is working with the OA to set up secure FTP transfer for the calculations. We will review their progress in our next engagement.

***Second Engagement Update – All calculations are being sent to the OA using a secure FTP.***

While most calculations are automated, manual calculations are performed for WTC reclassifications, some death benefits, pre-2012 retirees (their information is not contained in the system), USERRA law changes about imputed overtime, some contract renegotiations, and member transfers. The OA does complete some calculations for FIRE, including transfers to other State plans.

The OA does not have access to the member data in FIRE's internal system. However, since the source data for the e-UPS system is the same as the source data obtained for valuation purposes by the OA, their data is most often consistent with each other.

### Data Security

All visitors must go through security upon entering the building where ID is required. Visitors must pass through metal detectors and be accompanied by an employee to office space. Floors are locked individually, and some can be accessed only by fingerprint scan. Certain employees, depending on seniority level, can come in on weekends and can access only certain floors.

## Section VIII. Results - FIRE

***Second Engagement Update – FIRE has moved to a new location with somewhat different security measures. The new building’s security features include turnstiles in the lobby which require ID cards for passage, a front desk staffed with a security guard, and a requirement for all visitors to be signed in and verified before they are allowed access to any of the floors in the building. An ID card is required to gain access to FIRE’s office space on the 9<sup>th</sup> floor. There is also a reception desk on the 9<sup>th</sup> floor where visitors are checked in. With these several layers of security, FIRE states that no one can enter their space without being announced. While there are no metal detectors on-site at the new office space, FIRE states the old office space was required to have them based on a City requirement to have enhanced security features for emergency personnel. The standard office hours are Monday through Friday, 8am to 6pm. Staff members are only permitted to work outside of standard hours with advance management approval.***

Paper files are stored in a locked area which requires a key for entry. Files for retirees are stored offsite, and are destroyed after 56 years. Now that corpus funding is in place, FIRE would like to go paperless and create a document control system. ***Second Engagement Update – FIRE has retained GRM to implement their product called Visual Vault, whereby historical member files are digitized as read-only files. Certain members of FIRE staff have permission to add new scanned documents to a member’s file. Visual Vault maintains a log of additions and deletions in each member file. Once the historical files are scanned, they are kept onsite (for active members) and in offsite storage at GRM (for retired members). When a new class of firefighters comes in, FIRE will send these files to GRM to digitize. Once the digitization process is completed, the file is returned to FIRE for storage onsite.***

Employees do not have remote access except to view email. FIRE has a clean desk policy, such that any personal information must be locked when the employee is not at their desk. ***Second Engagement Update - Only a select few managers can view email remotely.***

Data is backed up to tape daily. These backup tapes are sent to offsite storage on a weekly basis. In addition to the FIRE security procedures, general New York City security procedures are managed by DoITT.

### Staff Training

Staff members are trained in a classroom setting. There are in-house training sessions and small group discussions on how to handle changes in the law that affect benefits. New employees often train on the job with senior employees on procedures and calculations due to the complexity of the plan design. There is also a procedures manual for employees to reference during and after training. ***Second Engagement Update – FIRE has hired an administrative assistant who will be tasked with creating a more robust training manual. The goal is to have that completed within a year. Fortunately, recent hires at FIRE have come from other City pension systems and have some relevant experience and knowledge, reducing the need for FIRE staff to spend additional time training.***

## Section VIII. Results - FIRE

### Other

FIRE does not currently have its own website. Some information, such as plan summaries and CAFRs, is available on the website of the Comptroller's Office. Member-specific information is available through the secure portal accessible from each fire station.

***Second Engagement Update – FIRE would like to create a website that will contain general information as well as member self-service capabilities but no steps towards developing one have occurred to date. However, active members do have access to specific information through the intranet portals located in fire stations, and retired members can perform self-service transactions through OPA/FISA.***

Legally required benefit statements, usually ready by May 1, are sent electronically through the e-UPS employee portal on an annual basis. The portal provided in each fire station allows members to perform estimates and real time calculations for retirement, loan processing, and beneficiary updates. FIRE is not currently able to track how many members view their statement. Statements are not sent by mail. Some members call with corrections to information on their statement, but FIRE requires that written documentation be submitted. ***Second Engagement Update – FIRE believes that the portal is very well-utilized, and that senior members often show newer members the benefits of using the portal. There are occasional requests for paper statements, but those are generally for personal transactions such as applying for a mortgage. Members seem comfortable with the electronic delivery of the statements.***

### Status of Recommendations from Prior Administrative Reviews

1. Provide corpus funding for FIRE.

Response: This has occurred.

2. WTC election and buy-back service data reside in data files which are separate from FIRE's main database. These data items should reside in FIRE's main database. WTC data should include an indication of whether, and when, members reclassify their status to WTC accidental disability.

Response: The WTC reclassified disability and death data is still stored in a separate physical file. Buy-back service now resides in the main database. ***Second Engagement Update - Several enhancements are in the works for e-UPS, but the capabilities mentioned above are not currently priority items. FDNY IT staff has recently or will be soon updating e-UPS for new actuarial factors, tier reinstatement calculations, enhanced final average earnings calculations, and new laws and lawsuit settlements.***

## Section VIII. Results - FIRE

3. The OA should be given access to actual member data for benefit certification purposes.

Response: The OA does not have access to the FIRE database for benefit certification purposes.

4. Data security can be improved.

Response: Data security is a major concern for FIRE. The recently approved corpus funding has provided extra funds to FIRE which will allow for them to hire their own IT staff instead of borrowing from other departments. ***Second Engagement Update – FIRE is still using the service of FDNY and an outside vendor for their IT needs. They plan to hire their own IT staff, depending on budget constraints.***

## Section IX. Results – OA

### General

The OA employs a staff of approximately forty, with about eighteen in the Valuation Services Division, twelve in the Certification Services Division, and ten in administrative and support roles. There are ten credentialed actuaries in the office. ***Second Engagement Update – four or five new staff members have been hired to help with the increased workload from bringing the valuation processing in-house. One of the new staff members was hired from Buck Consultants (previously known as Conduent), another was hired from WinTech.*** The office follows a “team” structure, whereby each plan has a team assigned to it. All of the members of the team attend the kickoff meeting with the System staff. There is some crossover on the teams to provide backup (for example, since the uniformed plans are very similar, there is natural backup between those teams). They did mention that they are working to have even more crossover among the teams, so that when special projects arise, there are more staffing options.

The OA states that they have excellent working relationships with the Systems. There is very little turnover on either side, so the relationships have become long-term and very solid.

### Data Collection and Validation

Before the plan year begins, the OA sends data request letters to each of the Systems, as well as “seed” files with instructions for updating them. They also send letters directly to OPA and FISA to request salary data for active members and benefit information for retirees. In addition, they send letters directly to outside agencies whose employees are members of one of the Systems (e.g, Transit Authority). The letters are followed by kick-off meetings with each System. The meetings last about an hour, and are intended to ensure that all parties are aware of timing, deadlines, and data needs. ***Second Engagement Update – The OA continues to have the annual data kick-off meetings with each System and finds that the discussion has improved all parties’ understanding of the process. The OA recognizes that if there are changes to requested data written in the letter, the System staff may not notice, so the meetings are an important part of the process to highlight and discuss any differences from the prior year.***

## Section IX. Results – OA

Once the OA receives the member data, they perform several “high-level” checks. Specifically, they look for changes in static data elements like birthdate and gender, invalid dates, and inconsistencies from the prior year (for example, service increasing more than one year). Once any issues from the high-level checks are addressed, more detailed data validation is performed. The OA states that they have very few data questions, and seemingly fewer every year. They attribute that to the Systems gaining better understanding of the OA’s needs, and the Systems having better processes in place to ensure better quality data. Some of the Systems go so far as to add comments and flags to the data files, to pre-empt questions from the OA. ***Second Engagement Update – A recent audit uncovered that NYCERS had been incorrectly coding transfers into the plan as transfers out for many years. Since this was an issue for many years, it was very difficult to identify in any given year. When the problem was identified, the OA reached out to NYCERS and met with their staff to further explain the codes and what they are used for. The OA believes that NYCERS now has a better understanding of their data needs, but will meet with NYCERS more frequently in an effort to eliminate future errors of this type.***

All of the files received by the OA contain both member number and Social Security number. Most of the data reconciliation work uses member number, not Social Security number. However, it is sometimes useful for the OA to have the Social Security number, for example, to identify when retirements have been reclassified or when retirees with joint and survivor benefits have died. ***Second Engagement Update – The OA specifically requested that the Systems NOT provide Social Security numbers with the June 30, 2018 data feeds. However, they discovered that the data reconciliation process was complicated by the lack of a truly unique identifier. While member number is usually reliable, it is not always unique. The OA will return to requesting Social Security numbers in future data requests, but will continue to look for ways to better ensure that the data is secure and protected.***

There is no standardized data process office-wide, because the Systems and data they provide are so different that standardization is not viable.

Once the OA has completed the data reconciliation process, they send the data to the outside actuary (Conduent/Buck). Conduent/Buck does additional review of the data and sends any questions or inconsistencies back to the OA to resolve. ***Second Engagement Update – The OA now performs the valuations of all plans internally, so Conduent/Buck is no longer involved with the pension plans. The OA continues to prepare the data reconciliations and notes that had been provided to Conduent/Buck and uses them for internal checking. In addition, the OA is utilizing data validation tools within the valuation software (ProVal) for an additional layer of checking.***

## Section IX. Results – OA

Based on inquiries from Unions, State Senators, outside consulting firms that work with Unions, and from the Systems themselves, the OA prepares fiscal notes to estimate the cost impact for all possible plan changes. They have had about 40-50 fiscal notes requested in the past year.

### Benefit Calculations

The Certification Services Division certifies approximately 550 calculations each week. Each CSD staff member is trained on at least three Systems, so they can be moved depending on case load. Each case is done, checked, and reviewed before being certified. The process generally takes about two weeks, but no longer than a month. The certifications are done in Excel spreadsheets that contain some VBA programming.

NYCERS and TRS provide most, if not all, of their calculations electronically. The OA has the ability to access the underlying data used in the calculations.

BERS, POLICE, and FIRE provide their calculations on paper. The OA does not have access to the underlying data used in the calculations, so they are able only to check for reasonableness. ***Second Engagement Update – All of the Systems now submit calculations to the OA for certification using the electronic FTP.***

The OA performs, rather than just certifies, any non-standard calculations. Fifty to one hundred calculations per week are considered non-standard (for example, service transfers, death benefits).

The OA estimates that about 3% of cases have errors, although many are minor errors such as the misspelling of the member's name. The OA points out the error to the System, but does not get involved in the correction process if there is one.

There has been discussion over the years about whether the OA could give the Systems "pre-checked" calculation software, to be used for standard cases. This would greatly reduce the OA's workload and improve the turnaround time for the non-standard calculations. This has not been implemented at any System, but all parties seem to be open to the idea. However, the OA did mention that this would be difficult to implement for NYCERS in particular, given the variety of plan provisions. ***Second Engagement Update – There has been no further progress made toward a pre-certified calculation for any System, although the OA is open to the idea. The OA mentioned that it must first be determined whether the law allows for calculations to not be individually certified by the OA.***



## Section IX. Results – OA

### Data Security

All paper files are stored onsite. The OA is running out of filing space, since they have paper files that date back to 1920. They are moving toward becoming a paperless office. This is a City-wide initiative, and something that the Chief Actuary strongly supports. Any paper files that are no longer needed are shredded in-house after being scanned. ***Second Engagement Update – All of the Systems are submitting valuation data and benefit calculations electronically, so there is not much new paper coming in to the OA. Older paper files are being scanned and destroyed daily. Many of the paper files that date back to the 1920s include valuation reports, which are interesting for historical perspective, do not contain sensitive member data, and will be kept.***

The OA does not currently have specific policies related to cell phones or clean desk. They believe that all employees understand the confidential nature of the information in their possession, and trust employees to treat the data with care.

No employees are permitted to tele-commute on a regular basis; only in special cases of inclement weather or special overtime. Only a few select staff members, senior staff and IT, have remote access. The remote access is done via VPN which is managed by DoITT.

A security guard is always onsite in the building lobby. Visitors must be signed in and must show identification before being allowed past the lobby. Employees have access cards that allow them into the building between 7:00 am and 7:00 pm.

Data is backed up to disk every night. Two weeks of backup disks are kept onsite. After two weeks, disks are boxed up and sent to offsite storage (under a City-wide contract). Boxes are kept in offsite storage for ten years. The boxes are rotated back to the OA so the oldest disks can be re-used. The boxes are all sealed closed with a unique zip-tie, so when the boxes are recovered the OA can be sure they were not opened or tampered with. They have never looked at the data on the returned tapes to see if it is intact or usable.

The OA has never run a data breach test internally, but the City does run such tests regularly. The OA is protected by two firewalls; their own and one through Citynet. All desktops and servers are mandated to run the City's software for intrusion protection and virus protection.

***Second Engagement Updates – TRS and POLICE are in the process of upgrading their data management systems. The OA believes TRS and POLICE have done a good job of involving them in the development discussions.***

***FIRE is in the process of relocating their offices. FIRE has added some additional staff recently, but no one that the OA has had dealings with. The OA believes it will take more time to truly see the effects of FIRE's corpus funding.***

## Section IX. Results – OA

*The OA is not aware that any System has implemented the recommendation of death audits for joint annuitants of living retirees. However, the OA stated that there is a surprisingly small percentage of retirees who elect a joint and survivor form of payment, so they would not expect to see a significant reduction in liabilities if this recommendation were implemented.*

*The OA is planning to review their data collection process for FY2019 to look for improvements, purge unnecessary items, and possibly begin collecting additional information to build complete participant data profiles. They mentioned the example of gathering final average earnings and years of service data for retired members. Although this information is not generally needed for the annual valuation, it could be helpful in other situations related to cost studies or litigation.*

### Status of Recommendations from Prior Administrative Reviews

1. Perform all portions of the experience study internally

Response: The OA would not be opposed to doing the experience study in the future, but would need additional staff to take on that additional work. Given the project nature of this work, level staffing would be difficult. However, the OA believes that the City favors having an independent party perform the experience study and review the actuarial assumptions developed by the OA. ***Second Engagement Update – There has been no further consideration of this recommendation, given the City’s preference for an independent study and review.***

2. Prepare formal valuation reports for NYCERS, TRS, and BERS

Response: These valuation reports are currently in the works. The OA should have more of an update on their progress in our next review. However, they currently prepare contribution letters for NYCERS, TRS, and BERS, which they believe contain information which is very similar to what would be contained in a formal valuation report. ***Second Engagement Update – Formal valuation reports are now being prepared for all of the plans. The TRS and BERS reports for 2018 have already been completed and delivered.***

## Section IX. Results – OA

3. Work with BERS to obtain better credited service information

Response: BERS recently implemented a new data management system. During the implementation process, the data was reviewed and cleaned up significantly. We expect that going forward, the data provided by BERS to the OA will be much more accurate. We will look into this further in our next review. ***Second Engagement Update – BERS has gone live with their new data management system and has utilized the new system to prepare the 2018 valuation data for the OA. The OA noted that the 2018 files did include credited service information, which they believe is a significant accomplishment for BERS given the high number of part-time members at BERS.***

4. Prepare for the contribution audit while performing the regular valuation

Response: The prior actuarial auditor, GRS, mentioned that receipt of sample lives from the OA was delayed, and recommended that the OA develop a representative list of sample lives to provide upon request. However, we did not encounter the issue GRS mentioned in this regard. We prefer to select sample lives rather than have a pre-selected set, and when we requested sample life output for our chosen sample, we received the information promptly. We also did not see the need to review as many sample lives, given the full replication nature of the audit. ***Second Engagement Update – We did not pursue this recommendation further, since we did not encounter the same issue that GRS did.***

5. CSD should explore whether using the FTP site will increase efficiency in processing benefit calculations

Response: The Systems that currently provide calculations on paper (BERS, POLICE, and FIRE) are all in the process of upgrading their data management systems. It is expected that electronic transmission of benefit calculations will be much more feasible once the new systems are in place. We will follow up on this in our next review. ***Second Engagement Update – All of the Systems are now sending calculations to the OA electronically. This has improved the efficiency of the certification process.***

## Section IX. Results – OA

6. CSD should reconsider batch processing of recalculations due to contract settlements.

Response: There has been discussion over the years about whether the OA could give the Systems “pre-checked” calculation software, at least to be used for standard cases. This would greatly reduce the OA’s workload and improve the turnaround time for the non-standard calculations. This has not been implemented at any System, but all parties seem to be open to the idea. However, the OA did mention that this would be difficult to implement for NYCERS in particular, given the variety of plan provisions. ***Second Engagement Update – The OA is not sure whether current law allows for anything but individual certification of calculations. This question needs to be resolved before any further resources are devoted to creating a pre-certified calculator.***

## Appendix. Acknowledgements

We express our sincere thanks to the individuals listed below. We are grateful for their assistance and support during the course of the Administrative Review.

### Office of the Actuary

Sherry Chan	Anderson Huynh	Rachel Lu	Vijay Kohli
Michael Samet	Ting Chen	Anna Vishnevetski	Frankie Chen
Paul Birnbaum	Bel Baptista		

### NYCERS

Michael Goldson	Regina Kahney	Elizabeth Reyes	Julet Barnett
Hailey Vaughan	Badar Malik	Craig Thornton	Vilma Ebanks
Dominick Fallucci	Tenaye Wolde	Roy Holder	Ilyse Sisolak
Ellen Carton	John Hartman	Chun Gong	Greta John
<b>Charles Barkley</b>	<b>Ingrid J. Stephen</b>		

### TRS

Kate Chen	Kavita Kanwar	Ameet Chaudhury	Vladimir Liberman
Yuriy Khanutin	M. Ram	Madeline Peters	Carmela Crivelli
John Quadrino	James Sarker	George Guz	Tatiana Pezzoli
Andrew Bradford	Jamie Sutterlin	Igor Tsirkel	Pat Quinn
<b>Valerie Budzik</b>	Jamaira Sanchez-Morales		

### BERS

Michael Sohn	Steven Sebili	Ruby Chua	John Cahalin
J.D. Desmornes	Sanford Rich	Maria Cepin	<b>Martin Davis</b>
<b>Josaias Rodriguez</b>	<b>Iyekeze Ezefili</b>		

### POLICE

John Flynn	Sunny Bavakutly	Jane Lee	Charles Mistretta
Robert Sens-Castet	Tara Braccia	John Como	William Dorney
Nelsi Rodriguez	Sal Locascio	Reynaldo Brigantty	Lisa Offner
Chris Johnson	Andrea Myrie	David Held	<b>Roger Stern</b>
<b>James McLoughlin</b>	Deborah Callender-Edwards		

### FIRE

Yinyu (Winnie) Lin	Natalia Zorina	Albert Connolly	Michael O'Connor
Andrew Lai	Timica Wilson	<b>Michael Sohn</b>	